

VDOİHİ

Bağımlı ve Bir Bağımsız
Olasılıklı Farklı Dizilimli
Kalan Simetrik Olasılık

Cilt 2.1.17

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Dili: Türkçe + Matematik Mantık

Yazar Hakkında

İsmail YILMAZ; Hamzabey Köyü, Yeniçağa, Bolu'da 1973 yılında doğdu. İlkokulu köyünde tamamladıktan sonra, ortaokulu Yeniçağa ortaokulunda tamamladı. Liseyi Ankara Ömer Seyfettin ve Gazi Çiftliği Liselerinde okudu. Lisans eğitimini Çukurova Üniversitesi Fen Edebiyat Fakültesi Fizik bölümünde ve doktora eğitimini Gazi Üniversitesi Eğitim Bilimleri Enstitüsü Fen Bilgisi Eğitimi Anabilim Dalında tamamladı. Fen Bilgisi Eğitiminde; Newton'un hareket yasaları, elektrik ve manyetizmanın prosedürel ve deklaratif bilgi yapılarıyla birlikte matematik mantık yapıları üzerine çalışmalar yapmıştır. Yazarın farklı alanlarda yapmış olduğu çalışmalar arasında ölçme ve değerlendirmeye yönelik çalışmaları da mevcuttur.

Yazar ve VDOİHİ

Yazar doktora tez çalışmasına kadar, dijital makinalarla sayısallaştırılabilen fakat insan tarafından sayısallaştırılmayan verileri, anlamlı en küçük parça (akp)'larına ayırıp skorlandırarak, sayısallaştırma problemini çözmüştür. Anlamlı en küçük parçaların Türkçe kısaltmasını olasılığın birimlendirilebilir olmasından dolayı, olasılığın birimini akp olarak belirlemiştir. Matematiğinin başlangıcı olasılık olan tüm bağımlı değişkenlerde olabileceği gibi aynı zamanda enformasyonunda temeli olasılık olduğundan, enformasyon içeriğinin de doğal birimi akp'dir.

Verilerin objektif lojik simplisitede sayısallaştırılmasıyla Veri Değişkenleri Olasılık ve İhtimal Hesaplama İstatistiği (VDOİHİ) geliştirilmeye başlanmıştır. Doktora tezinin nitel verilerini, bir ilk olarak, -1, 0, 1 skorlarıyla sayısallaştırarak iki tabanlı olasılığı sınıflandırıp; pozitif, negatif (ve negatiflerdeki pozitif skorlar için ayrıca eşitlik tanımlaması yapıp), ilişkisiz ve sıfır skor aşamalarında değerlendirme yöntemi geliştirmiştir. Bu yöntemin tüm kavramlarının; tanım ve formülleriyle sınırları belirlenip, kendi içinde tam bir matematiği geliştirilip, uygulamalarla veri elde edilmiş, verilerin hem değerlendirmeleri hem de bulguların sözel ifadelerini veren yazılım paket programı yapılarak, bir disiplinin tüm yönleri yazar tarafından gerçekleştirilerek doktorasını bilim tarihinde yine bir ilk ile tamamlamıştır. Nitel verilerden elde edilebilecek bulguların sözel ifadelerini veren yazılım paket programı gerçek ve olması gereken yapay zekanın ilk örneğidir.

Yazar, ölçme araçları için madde tekniği tanımlayıp, değerlendirme yöntemlerini belirginleştirilerek, eğitimde ölçme ve değerlendirme için beş yeni boyut aktiflemiştir. Ölçme ve değerlendirmeye, aktif ve pasif değerlendirme tanımlaması yapılarak, matematiği geliştirilmiş ve geliştirilmeye devam edilmektedir. Yazar yaptığı çalışmalarda Problem Çözüm Tekniklerini (PÇT) aktifleyerek; verilenler-istenilenler (Vİ), serbest cisim diyagramı/çizim (SCD), tanım, formül ve işlem aşamalarıyla, eğitimde ölçme ve değerlendirmede beş boyut daha aktiflemiştir. PÇT aşamalarını bilgi düzeyi, çözümlerin sonucunu da başarı düzeyi olarak tanımlayıp, ölçme ve değerlendirme için iki yeni boyut daha kazandırmıştır. Sınıflandırılmış iki tabanlı olasılık yönteminin aşamaları ve negatiflerdeki pozitiflerle, ölçme ve değerlendirmeye beş yeni boyut daha kazandırılmıştır. Verilerin; Shannon eşitliği veya VDOİHİ'de verilen olasılık-ihtimal eşitlikleriyle değerlendirmeyi bilgi

merkezli, matematiksel fonksiyonlarla (lineer, kuvvet, trigonometri “sin, cos, tan, cot, sinh, cosh, tanh, coth”, ln, log, eksponansiyel v.d.) değerlendirmeyi ise birey merkezli değerlendirme, sınırlandırması getirerek, değerlendirmeye iki yeni boyut daha kazandırmıştır. Ayrıca $\frac{a}{b} + \frac{c}{d}$ ve $\frac{a+c}{b+d}$ matematiksel işlemlerinin anlam ve sonuç farklılıklarını, değerlendirme için aktifleyerek, değerlendirmeye iki yeni boyut daha kazandırmıştır. Böylece eğitimde ölçme ve değerlendirmeye; PÇT aşamaları 5×5 , yine PÇT'nin bilgi ve başarı düzeylerinin 2×2 , sınıflandırılmış iki tabanlı olasılık yöntemi 5×5 , bilgi ve birey merkezli ölçme ve değerlendirmeyle 2×2 , matematiksel işlem farklılıklarıyla 2×2 olmak üzere 40.000 yeni boyut kazandırmıştır. Bu boyutlara yukarıda verilen matematiksel fonksiyonlarında dahil edilmesiyle en az (13×13) 6.760.000 yeni boyutun primitif düzeyde, ölçme ve değerlendirmeye, katılabilmesinin yolu yazar tarafından açılmış olmasına karşılık, günümüze kadar yukarıda bahsedilen boyutların ilgi düzeyinde, eğitimde ölçme ve değerlendirmede, tek boyuttan öteye (lineer değerlendirme) geçirilememiştir. Bu noktadan sonra, ölçme ve değerlendirmeye fark istatistiğiyle boyut kazandırılabilmiştir. Fark istatistiğiyle kazandırılan boyutlarında hem ihtimallerden çıkarılacak yeni boyutlar hem de ihtimallerin fark istatistiğinden türetilebilecek boyutların yanında güdük kalacağı kesin! Ölçme ve değerlendirmeye yeni boyutlar kazandırılmasının en önemli amaçları; beynin öğrenme yapısının kesin bir şekilde belirlenebilmesi ve öğretim süreçlerinin bilimsel bir şekilde yapılandırılabilmesidir. Beyinle ilgili VDOİHİ Bağımlı Olasılık Cilt 1'in giriş bölümünde verilenlerin genişletilmesine ileride devam edilecektir. Fakat öğretim süreçlerinin; teorik öngörülerle ve/veya insanın yaratılışına uyma olasılığı son derece düşük doğrusal değerlendirmelerle yapılandırılması, yazar tarafından insanlığa ihanet olarak görüldüğünden, doğru verilerle eğitimin bilimsel niteliklerde yapılandırılabilmesi için, ölçme ve değerlendirmeye yeni boyutlar kazandırılmaktadır.

Günümüze kadar yaşayan dillere 10 kavram bile kazandırabilen hemen hemen yokken, yayınlanan VDOİHİ ciltlerinde (cilt 1, 2.1.1, 2.2.1, 2.3.1 ve 2.3.2) yaklaşık 1000 kavram Türkçeye kazandırılarak ciltlerin dizinlerinde verilmiştir. Bu kavramların tüm sınırları belirlenip, açık ve anlaşılır tanımlarıyla birlikte, eşitlikleri de verilmiştir. Bu düzeyde yani bilimsel düzeyde, bilime kavramlar Türkçe olarak kazandırılmıştır. Yayınlanacak VDOİHİ'lerde bilime Türkçe kazandırılacak kavramların on binler düzeyinde olacağı öngörülmektedir.

VDOİHİ'de verilen eşitlikler aynı zamanda dillerinde eşitlikleridir. Diğer bir ifadeyle dillerin matematik yapıları VDOİHİ ile ortaya çıkarılmıştır. Türkçe ve İngilizcenin olasılık yapıları VDOİHİ'de belirlenerek, formüllerin dillere (ağırlıklı Türkçe) uygulamalarıyla hem dillerin objektif yapıları belirginleştiriliyor hem de makina-insan arası iletişimde, makinaların iletişim kurabilmesinde en üst dil olarak Türkçe geliştiriliyor. İleriki ciltlerde Türkçenin matematik mantık yapısı da verilerek, Türkçe'nin makinaların iletişim dili yapılması öngörülmektedir.

Bilim(de) kesin olanla ilgileni(li)r, yani bilim eşitlik ve/veya yasa üretir veya eşitliklerle konuşur. Bunun mümkün olmadığı durumlarda geçici çözümler üretilebilir. Bu geçici çözümler veya yöntemleri, her hangi bir nedenle bilimsel olamaz. Bilimin yasa veya eşitlik üretimindeki kırılma, Cebirle başlamıştır. Bilimdeki bu kırılma mühendisliğin, teknolojiye

dönüşümünün başlangıcıdır. Bilimdeki kırılma ve mühendisliğin teknolojiye dönüşümü, insanlığın gelişimini hızlandırmakla birlikte, bu alanda çalışanların; ego, öngörüsüzlük, ufuksuzluk ve beceriksizlikleri gibi nedenlerden dolayı, insanlığın gelişimi ivmelendirilemediği gibi bu basiretsizliklerle insanlığa pranga vurmaya bile kısmen başarabilmişlerdir. VDOİHİ ve telifli eserlerinde verilen; değişken belirleme, eşitlik-yasa belirleme ve bunların sözel yorumlarını yapabilen yazılımlarla, ve yapılabilecek benzeri yazılımlarla, insanlığın gelişimi ivmelendirilebileceği gibi isteyen her bireye, gerçeklerin (VDOİHİ Bağımlı Olasılık Cilt 1'in giriş bölümünde tanımlanmıştır) bilgi ve teknolojisine daha kolay ulaşabilme imkanı sağlanmıştır.

Şuana kadar zaruri tüm tanımların, zaruri tüm eşitliklerin ve bunların epistemolojileriyle (0. epistemolojik seviye) en azından 1. epistemolojik seviye bilgilerinin birlikte verildiği ya ilk yada ilk örneklerinden biri VDOİHİ'dir. Bu kapsamda VDOİHİ'de şimdiye kadar yaklaşık 1000 kavramın, bilime kazandırıldığı yukarıda belirtilmiştir. Bu kapsamda yine VDOİHİ'de 5000'in üzerinde orijinal; ilk ve yeni eşitlik geliştirilmiştir. Bu eşitlikler kasıtlı olarak ilk defa dört farklı yapıda birlikte verilmektedir. Bu eşitlikler; a) sabit değişkenli (örneğin; bağımlı olasılıklı farklı dizilimli simetrik olasılık eşitlikleri) b) sabit değişkenli işlem uzunluklu (örneğin; simetrisinin son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık eşitliği) c) hem değişken uzunluklu hem işlem uzunluklu (örneğin; simetrisinin her durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık eşitliği) d) sabit değişkenli zıt işlem uzunluklu (bu eşitlik VDOİHİ cilt 2.1.3'ten itibaren verilecektir. Örneğin; $\sum_{i=5}^n \mp$) yapılar da verilmektedir. Sabit değişkenli eşitliklerle, bilim ve teknolojiye gereksinimlerin çoğunluğu karşılanabilirken, geleceğin bilim ve teknolojisinde ihtiyaç duyulabilecek eşitlik yapıları kasıtlı olarak aktiflenmiş veya geliştirilmiştir.

İnsanın hem öğrenmesinin desteklenmesi hem de bilginin teknolojiyle ilişkisini kurabilmesi için özellikle VDOİHİ Soru Problem İspat Çözümleri ciltlerinde, soru ve problem birbirinden ayrılarak yeniden tanımlanıp sınırları belirlenmiştir. Böylece örnek, soru, problem ve ispat arasındaki farklılıklar belirginleştirilmiştir. Ayrıca yine insanın hem öğrenmesinin desteklenmesi hem de bilginin teknolojiyle ilişkisini daha kesin kurabilmesi için Sertaç ÖZENLİ'nin İlmî Sohbetler eserinin M5-M6 sayfalarında verilen epistemolojik seviye tanımları; örnek, soru, problem ve ispatlara uyarlanmıştır. Böylece; örnek, soru, problem ve ispatların epistemolojileriyle, hem bilgiyle-öğrenme arasında hem de bilgi-teknoloji arasında yeni bir köprü kurulmuştur.

Geride bıraktığımız yüzyılda, özellikle Turing ve Shannon'un katkılarıyla iki tabanlı olasılığa dayalı dijital teknoloji kurulabilmiştir. Kombinasyon eşitliğiyle iki tabanlı simetrik olasılıklar hesaplanabildiğinden, ihtimalleri de kesin olarak hesaplanabilir. İki tabanlı büyük tabanların; bağımsız olasılık, bağımlı olasılık, bağımlı-bağımsız olasılık, bağımlı-bağımlı olasılık veya bağımsız-bağımsız olasılık dağılımlarındaki simetrik olasılıkları VDOİHİ'ye kadar kesin olarak hesaplanamadığından (hatta VDOİHİ'ye kadar olasılığın sınıflandırılması bile yapılmamış/yapılamamıştır), farklı tabanlarda çalışabilecek elektronik teknolojisi kurulamamıştır. VDOİHİ'de verilen eşitliklerle, hem farklı olasılık dağılımlarında hem de her tabanda simetrik olasılıkların olabilecek her türü, hesaplanabilir kılındığından, ihtimalleri de

kesin olarak hesaplanabilir. Böylece VDOİHİ’de verilen eşitliklerle hem istenilen tabanda hem de istenilen dağılım türlerinde çalışabilecek elektronik teknolojinin temel matematiği kurulmuştur. Bundan sonraki aşama bilginin-ürüne dönüşme aşamasıdır. Ayrıca VDOİHİ’de özellikle uyum eşitlikleri kullanılarak farklı dağılım türlerine geçişin yapılabileceği eşitliklerde verilerek, dijital teknoloji yerine kurulacak her tabanda ve/veya her dağılım türünde çalışan teknolojinin istenildiğinde de hem farklı taban hem de farklı dağılım türlerine geçişinin yapılabileceği matematik eşitlikleri de verilmiştir. Böylece tek bir tabana dayalı dijital teknoloji yerine, sonsuz çalışma prensibine dayalı elektronik teknolojinin bilimsel-matematiksel yapısı VDOİHİ ile kurulmuş ve kurulmaya devam etmektedir.

VDOİHİ’de verilen eşitlikler aynı zamanda en küçük biyolojik birimden itibaren anlamlı temel biyolojik birimin “genetiğin” temel matematiğidir. En küçük biyolojik birim olarak DNA alındığında, VDOİHİ’de verilen eşitlikler DNA, RNA, Protein, Gen ve teknolojilerinin temel eşitlikleridir. Bu eşitlikler VDOİHİ’de teorik düzeyde; DNA, RNA, Protein, Gen ve hastalıklarla ilişkilendirilmektedir. Bu eşitlikler gelecekte atom düzeyinden başlanarak en kompleks biyolojik birimlere kadar tüm biyolojik birimlerin laboratuvar ortamlarında üretiminin planlı ve kontrollü yapılabilmesinde ihtiyaç duyulacak temel eşitliklerdir. Böylece bir canlının, örneğin insanın, atom düzeyinden başlanarak laboratuvar ortamında üretilebilir/yapılabilir kılınmasının, matematiksel yapısı ilk defa VDOİHİ’de verilmektedir. Elbette bir insanın laboratuvar ortamında üretilebilir olmasıyla, bunun gerçekleştirilmesi aynı değildir. Gerçekleştirilebilmesi için dini, etik, ahlaki v.d. aşamalarda da doğru kararların verilmesi gerekir. Fakat organların v.b. biyolojik birimlerin laboratuvar ortamında üretilmesinin önünde benzeri aşamaların engel oluşturduğu söylenemez. İhtiyaç halinde bir insanın; organının, sisteminin veya uzvunun v.b. her yönüyle aynısının laboratuvar ortamında üretilmesi veya soyu tükenmiş bir canlının yeniden üretimi veya soyunun son örneği bir canlı türünün devamı VDOİHİ’de verilen eşitlikler kullanılarak sağlanabilir. Biyolojik bir yapının laboratuvar ortamında üretimiyle, örneğin herhangi bir makinanın üretilmesinin İslam açısından aynı değerli olduğunu düşünüyorum. Bu yaradan’ın bize ulaşabilmemiz için verdiği bilgidir. Eğer ulaşılması istenmeseydi, bizim öyle bir imkanımızda olamazdı. Fakat bilginin, bizim ulaşabileceğimiz bilgi olması, yani gerçeğin bilgisi olması, her zaman ve her durumda uygulanabilir olacağı anlamına gelmez. Umarım yapmak ile yaratmak birbirine karıştırılmaz!

VDOİHİ’de hem sonsuz çalışma prensibine dayalı elektronik teknolojinin matematiksel yapısı hem de Telifli eserlerinde ve VDOİHİ’de, ilk defa yapay zeka çağının kapılarını aralayan çalışmalar yapılmıştır. VDOİHİ cilt 2.1.1’in giriş bölümünde yapay zeka ve çağının tanımı yapılarak, kütüphane ve referans bilgileriyle ilişkilendirilmiştir. Daha sonra VDOİHİ ve Telifli eserlerinde insanlığın gelişimini ivmelendirecek; yapay zeka görev kodları, verilerin analizleriyle ait olduğu disiplinin belirlenmesi, verinin analizinden verilen ve istenilenlerin belirlenmesi, değişken analizi, eksik değişkenlerin belirlenmesi, eksik değişkenlerin verilerinin üretimi, değişkenler arası eşitliklerin kurulması ve elde edilen bilgilerin sözel ifadeleriyle bilim ve teknoloji için gerekli bilgiyi üretebilen yazılımlar verilmiştir. Hem bu yazılımlarla hem de benzeri yazılımlarla, bilim insanları tarafından üretilemeyen bilgi ve teknolojilerin isteyen her kişi tarafından üretilebilir olması sağlanmıştır. Ayrıca kütüphane ve referans bilgilerinin üretiminde, olasılık dağılımları üzerinden çalışan makinaların bir olayın

tüm yönlerini (olasılıklarını) kullanmaları sağlanarak, tıpkı insan gibi düşünebilmesi sağlanmıştır. Böylece makinaların özgürce düşünebilmesinin önündeki engeller kaldırılmıştır. Gerçek yapay zeka pahalı deneylere ihtiyacı ortadan kaldırarak, insanlara yaradan'ın tanıdığı eşitliklerin (matematiksel eşitlik değil!), belirli insanlar tarafından saptırılarak, diğerlerinin eşitlik ve özgürlüklerinin gasp edilmesinin önünde güçlü bir engel teşkil edecektir. Bugüne kadar artificial intelligence çalışmalarıyla sadece ve sadece kütüphane bilgisinin bir kısmı üretilebildiği ve kütüphane bilgisi üretebilen teknoloji geliştirildiğinden, bunlar yapay zekanın öncü çalışmalarından öte geçip yapay zeka konumunda düşünülemez. Gerçek yapay zeka hem kütüphane hem de referans bilgisi üretebilir olması gerektiğinden; a) yazar tarafından doktora tez çalışması başta olmak üzere belirli çalışmalarında kütüphane bilgisinin ileri örnekleri başarıldığından, b) ilk defa VDOIHI ve Telifli eserlerinde referans bilgisini üreten yazılımlar başarıldığından ve c) yapay zekanın gereksinim duyabileceği dijital teknoloji yerine, sonsuz çalışma prensibine dayalı elektronik teknolojisinin bilimsel-matematiksel yapısı yazar tarafından geliştirildiğinden, insanlığın bugüne kadar uyguladığı teamüller gereği adlandırmanın da Türkçe yapılması elzem ve adil bir zorunluluktur. Bu nedenle insan biyolojisinin ürünü olmayan zeka “yapay zeka” ve insan biyolojisinin ürünü olmayan zekayla insanlığın gelişiminin ivmelendirildiği zaman periyodu da “yapay zeka çağı” olarak adlandırılmalıdır.

Yazar tarafından VDOIHI'de, Cebirden günümüze; a) bilimsel gelişim, olması gereken veya olabilecek gelişime göre düşük olduğundan, b) teorik çalışmaların omurgasının matematiğe terk edilmesi ve matematikçilerinde üzerlerine düşeni yeterince yerine getirememelerinden dolayı, c) yapay zeka karşısında buhrana düşülmesinin önüne geçilebilmesi ve d) kainatın en kompleks birimi olan insan beynine yakışır bilimsel gelişimin başarılabilmesi için, yasa/eşitliklerin, uyum ve genel yapıları, olasılık üzerinden belirlenmiştir.

Yazar tarafından VDOIHI Bağımlı ve Bir Bağımsız Olasılıklı Büyük Farklı Dizilimli Simetrik Olasılık Cilt 2.2.1'de insanlığın bilimsel ve teknolojik gelişimini ivmelendirebilecek uyum çağının tanımı yapılarak, VDOIHI'de ilk defa yasa/eşitliklerin, olasılık eşitlikleri üzerinden uyum yapıları verilmiştir.

Yazar tarafından VDOIHI Bağımlı ve Bir Bağımsız Olasılıklı Farklı Dizilimsiz Simetrik Olasılık Cilt 2.3.1'de insanlığın bilimsel ve teknolojik gelişimini ivmelendirebilecek genel çağın tanımı yapılarak, VDOIHI'de yasa/eşitliklerin, olasılık eşitlikleri üzerinden genel yapıları verilmiştir.

Yazar tarafından VDOIHI Bağımlı ve Bir Bağımsız Olasılıklı Farklı Dizilimsiz Simetrik Bulunmama Olasılığı Cilt 2.3.2 insanlığın bilimsel ve teknolojik gelişimini ivmelendirebilecek dördüncü bir çağ olarak, gerçek zaman ufku ötesi çağı tanımlanmıştır. Bu çağın tanımlanmasında; Sertaç ÖZENLİ'nin İlmi Sohbetler eserinin R39-R40 sayfalarından yararlanılarak, kapak sayfasındaki ve T21-T22'inci sayfalarında verilen şuuruluğun ork or modelinin özetinin gösterildiği grafikten yararlanılmıştır. Doğada rastlanmayan fakat kuantum sayılarıyla ulaşılabilen atomlara ait bilgilerimiz, gerçek zaman ufku ötesi bilgilerimizin, gerçekleştirilmiş olanlarıdır. Gerçekleştirilebilecek olanlarından biri ise kainatın herhangi bir

yerinde yaşamını sürdüren herhangi bir canlıdan henüz haberdar bile olmadan, var olan genetik bilgi ve matematiğimizle ulaşılabilir olan tüm bilgilerine ulaşılmasıdır.

Özellikle; sonsuz çalışma prensibine dayalı elektronik teknolojisi, yapay zeka, gerçek zaman ufku ötesi bilgilerimizin temel eşitliklerinin verilebilmesi, başlangıçta kurucusu tarafından yapılabileceklerin ilerleyen zamanlarda o disiplinin cazibe merkezine dönüşerek insan kaynaklarının israfının önlenmesi nedenleriyle ve en önemlisi Yaradan'ın bizlere verdiği adaletin insan tarafından saptırılamaması için; VDOİHİ, bugüne kadarki eserlerle kıyaslanamayacak ölçüde daha kapsamlı verilmeye çalışılmaktadır.

Yazar VDOİHİ'nin ciltlerini, Türkçe ve insanlığın tek evrensel dili olan matematik-mantık dillerinde yazmaktadır. Yazar eserlerinden insanlığın aynı niteliklerle yararlanabilmesi için her kişiye eşit mesafede ve anlaşılabilirlikte olan günümüze kadar insanlığın geliştirebildiği yegane evrensel dilde VDOİHİ ciltlerini yazmaya devam edecektir.

VDOİHİ ve telifli eserleri ile bitirilen veya sonu başlatılanlar;

- ✓ VDOİHİ'de dillerin matematiği kurularak, o dil için kendini mihenk taşı gören zavallılar sınıfı
- ✓ Baskın dillerin, dünya dili olabilmesi
- ✓ VDOİHİ ve Telifli eserlerinde verilen eşitlik ve yasa belirleme yazılımlarıyla, gerçeklerden uzak ve ufuksuz sözde akademisyenlere insanlığın tahammülü
- ✓ Bilim ve teknolojide sermayeye olan bağımlılık
- ✓ Sermaye birikiminin gücü
- ✓ Primitif ölçme ve değerlendirme

Sanırım bilgi ve teknolojiye kaderimiz veriyle ilişkilendirilmiş.

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Simge ve Kısaltmalar

n : olay sayısı

n : bağımlı olay sayısı

m : bağımsız olay sayısı

n_i : dağılımın ilk bağımlı durumun bulunabileceği olayın, dağılımın ilk olayından itibaren sırası

n_{ik} : simetride, simetrinin aranacağı durumdan önce bulunan bağımlı durumun (j_{ik} 'da bulunan durum), bir bağımlı ve bir bağımsız olasılıklı dağılımlarda bulunabileceği olayların, ilk olaydan itibaren sırası veya simetrinin iki bağımlı durum arasında bağımsız durumun bulunduğu bağımsız durumdan önceki bağımlı durumun, bir bağımlı ve bir bağımsız olasılıklı dağılımlarda bulunabileceği olayların ilk olaydan itibaren sırası

n_s : simetrinin aranacağı bağımlı durumunun (simetrinin sonuncu bağımlı durumu) bulunabileceği olayların ilk olaya göre sırası

n_{sa} : simetrinin aranacağı bağımlı durumunun bulunabileceği olayların ilk olaya göre sırası veya bağımlı olasılıklı dağılımların j^{sa} 'da bulunan durumun (simetrinin j_{sa} 'daki bağımlı durum) bir bağımlı ve bir bağımsız olasılıklı dağılımlarda bulunabileceği olayların, dağılımın ilk olayından itibaren sırası

l : bağımsız durum sayısı

l : simetrinin bağımsız durum sayısı

l : simetrinin bağımlı durumlarından önce bulunan bağımsız durum sayısı

l : simetrinin bağımlı durumlarından sonra bulunan bağımsız durum sayısı

lk : simetrinin bağımlı durumları arasındaki bağımsız durumların sayısı

j : son olaydan/(alt olay) ilk olaya doğru aranılan olayın sırası

j_i : simetrinin son bağımlı durumunun, bağımlı olasılıklı dağılımlarda bulunabileceği olayların, son olaydan itibaren sırası

j_{sa}^i : simetriyi oluşturan bağımlı durumlar arasında simetrinin son bağımlı durumunun bulunduğu olayın, simetrinin son olayından itibaren sırası ($j_{sa}^i = s$)

j_{ik} : simetrinin ikinci olayındaki durumun, gelebileceği olasılık dağılımlarındaki olayın sırası (son olaydan ilk olaya doğru) veya simetride, simetrinin aranacağı durumdan önce bulunan bağımlı durumun, bağımlı olasılıklı dağılımlarda bulunabileceği olayların, son olaydan itibaren sırası veya simetrinin iki bağımlı durum arasında bağımsız durumun bulunduğu bağımsız durumdan önceki bağımlı durumun bağımlı olasılıklı dağılımlarda bulunabileceği olayların son olaydan itibaren sırası

j_{sa}^{ik} : j_{ik} 'da bulunan durumun simetriyi oluşturan bağımlı durumlar arasında bulunduğu olayın son olaydan itibaren sırası

$j_{X_{ik}}$: simetrisinin ikinci olayındaki durumun, olasılık dağılımlarının son olaydan itibaren bulunabileceği olayın sırası

j_s : simetrisinin ilk bağımlı durumunun, bağımlı olasılıklı dağılımlarda bulunabileceği olayların, son olaydan itibaren sırası

j_{sa}^s : simetriyi oluşturan bağımlı durumlar arasında simetrisinin ilk bağımlı durumunun bulunduğu olayın, simetrisinin son olayından itibaren sırası ($j_{sa}^s = 1$)

j_{sa} : simetriyi oluşturan bağımlı durumlar arasında simetrisinin aranacağı durumun bulunduğu olayın, simetrisinin son olayından itibaren sırası

j^{sa} : j_{sa} 'da bulunan durumun bağımlı olasılıklı dağılımda bulunduğu olayın son olaydan itibaren sırası

D : bağımlı durum sayısı

D_i : olayın durum sayısı

s : simetrisinin bağımlı durum sayısı

s : simetrik durum sayısı. Simetrisinin bağımlı ve bağımsız durum sayısı

n_s : simetrisinin bağımlı olay sayısı

m_I : simetrisinin bağımsız olay sayısı

d : seçim içeriği durum sayısı

m : olasılık

M : olasılık dağılım sayısı

U : uyum eşitliği

u : uyum derecesi

s_i : olasılık dağılımı

S : simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu simetrik olasılık

S^{DS} : bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu kalan simetrik olasılık

$S_{j_s, j_{ik}, j_{sa}}$: simetrisinin ilk ve herhangi iki durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

$S_{i, j_s, j_{ik}, j_{sa}}$: düzgün ve düzgün olmayan simetrisinin ilk ve herhangi iki durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

S_{j_s, j_{ik}, j_i} : simetrisinin ilk herhangi bir ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

S_{i, j_s, j_{ik}, j_i} : düzgün ve düzgün olmayan simetrisinin ilk herhangi bir ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

$S_{D=n}$: bağımlı olay sayısı bağımlı durum sayısına eşit bağımlı olasılıklı "farklı dizilimli" dağılımlarda simetrik olasılık

$S_{D>n}$: bağımlı olay sayısı bağımlı durum sayısından büyük bağımlı olasılıklı "farklı dizilimli" dağılımlarda simetrik olasılık

$S_{D=n<n} \equiv S$: simetri bağımlı durumlardan oluştuğunda, bağımlı ve bir bağımsız olasılıklı dağılımlarda simetrik olasılık

S_0 : bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımsız simetrik olasılık

farklı dizilimli bağımlı-bağımsız durumlu bağımsız kalan simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımsız kalan simetrik olasılık

0S_D : bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımlı durumlu simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımlı simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı simetrik olasılık

${}^0S_D^{DS}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımlı kalan simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımlı kalan simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı kalan simetrik olasılık

S_{j_i} : simetrinin son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

S_{2,j_i} : iki durumlu simetrinin son durumunun bulunabileceği olaylara göre

bağımlı olasılıklı farklı dizilimli simetrik olasılık

S_{i,j_i} : düzgün ve düzgün olmayan simetrinin son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

$S_{i,2,j_i}$: düzgün ve düzgün olmayan iki durumlu simetrinin son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

S_{j_s,j_i} : simetrinin ilk ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

S_{i,j_s,j_i} : düzgün ve düzgün olmayan simetrinin ilk ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

$S_{i,2,j_s,j_i}$: düzgün ve düzgün olmayan iki durumlu simetrinin ilk ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

$S_{j_s,j^{sa}}$: simetrinin ilk ve herhangi bir durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

$S_{i,j_s,j^{sa}}$: düzgün ve düzgün olmayan simetrinin ilk ve herhangi bir durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

S_{j_{ik},j_i} : simetrinin her durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

S_{i,j_{ik},j_i} : düzgün ve düzgün olmayan simetrinin her durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik olasılık

$S_{j_s,sa\Leftarrow}$: simetrisinin durumuna bağımlı bağımlı olasılıklı farklı dizimli simetrik bitişik olasılık

$S_{j_s,sa\Leftarrow}^{DSD}$: simetrisinin durumuna bağımlı bağımlı olasılıklı farklı dizimli düzgün simetrik olasılık

$S_{art,j_s,sa\Leftarrow}$: simetrisinin art arda durumlarına bağımlı bağımlı olasılıklı farklı dizimli simetrik bitişik olasılık

$S_{j_s,art,j_s,sa\Leftarrow}$: simetrisinin ilk durumuna göre herhangi art arda iki durumuna bağımlı bağımlı olasılıklı farklı dizimli simetrik bitişik olasılık

$S_{j_s,j_i\Leftarrow}$: simetrisinin ilk ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizimli simetrik bitişik olasılık

$S_{j_s,j_i\Leftarrow}^{DSD}$: simetrisinin ilk ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizimli düzgün simetrik olasılık

$S_{j_s,j_s,sa\Leftarrow}$: simetrisinin ilk ve herhangi bir durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizimli simetrik bitişik olasılık

$S_{j_s,j_s,sa\Leftarrow}^{DSD}$: simetrisinin ilk ve herhangi bir durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizimli düzgün simetrik olasılık

$S_{j_{ik},j_s,sa\Leftarrow}$: simetrisinin herhangi iki durumuna bağımlı bağımlı olasılıklı farklı dizimli simetrik bitişik olasılık

$S_{j_{ik},j_s,sa\Leftarrow}^{DSD}$: simetrisinin herhangi iki durumuna bağımlı bağımlı olasılıklı farklı dizimli düzgün simetrik olasılık

$S_{j_s,j_{ik},j_s,sa\Leftarrow}$: simetrisinin ilk ve herhangi iki durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizimli simetrik bitişik olasılık

$S_{j_s,j_{ik},j_s,sa\Leftarrow}^{DSD}$: simetrisinin ilk ve herhangi iki durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizimli düzgün simetrik olasılık

$S_{\Leftarrow j_s,j_{ik},j_s,sa\Leftarrow}$: simetrisinin ilk ve herhangi iki durumunun bulunabileceği olaylara göre herhangi iki duruma bağımlı bağımlı olasılıklı farklı dizimli simetrik bitişik olasılık

$S_{j_s,j_{ik},j_i\Leftarrow}$: simetrisinin ilk herhangi bir ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizimli simetrik bitişik olasılık

$S_{j_s,j_{ik},j_i\Leftarrow}^{DSD}$: simetrisinin ilk herhangi bir ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizimli düzgün simetrik olasılık

$S_{\Leftarrow j_s,j_{ik},j_i\Leftarrow}$: simetrisinin ilk herhangi bir ve son durumunun bulunabileceği olaylara göre herhangi iki duruma bağımlı bağımlı olasılıklı farklı dizimli simetrik bitişik olasılık

$S_{j_s,sa\Rightarrow}$: simetrisinin durumuna bağımlı bağımlı olasılıklı farklı dizimli simetrik ayırım olasılığı

$S_{art,j_s,sa\Rightarrow}$: simetrisinin art arda durumlarına bağımlı bağımlı olasılıklı farklı dizimli simetrik ayırım olasılığı

$S_{j_s,art,j_s,sa\Rightarrow}$: simetrisinin ilk durumuna göre herhangi art arda iki durumuna bağımlı bağımlı olasılıklı farklı dizimli simetrik ayırım olasılığı

$S_{j_s, j_i \Rightarrow}$: simetrisinin ilk ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik ayırım olasılığı

$S_{j_s, j^{sa} \Rightarrow}$: simetrisinin ilk ve herhangi bir durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik ayırım olasılığı

$S_{j_{ik}, j^{sa} \Rightarrow}$: simetrisinin herhangi iki durumuna bağlı bağımlı olasılıklı farklı dizilimli simetrik ayırım olasılığı

$S_{j_s, j_{ik}, j^{sa} \Rightarrow}$: simetrisinin ilk ve herhangi iki durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik ayırım olasılığı

$S_{j_s, j_{ik}, j^{sa}}^{DOSD}$: simetrisinin ilk ve herhangi iki durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli düzgün olmayan simetrik olasılık

$S_{\Rightarrow j_s, j_{ik}, j^{sa} \Rightarrow}$: simetrisinin ilk ve herhangi iki durumunun bulunabileceği olaylara göre herhangi iki duruma bağlı bağımlı olasılıklı farklı dizilimli simetrik ayırım olasılığı

$S_{j_s, j_{ik}, j_i \Rightarrow}$: simetrisinin ilk herhangi bir ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik ayırım olasılığı

$S_{j_s, j_{ik}, j_i}^{DOSD}$: simetrisinin ilk herhangi bir ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli düzgün olmayan simetrik olasılık

$S_{\Rightarrow j_s, j_{ik}, j_i \Rightarrow}$: simetrisinin ilk herhangi bir ve son durumunun bulunabileceği olaylara göre herhangi iki duruma bağlı bağımlı olasılıklı farklı dizilimli simetrik ayırım olasılığı

$S_{j_s, sa \Leftrightarrow}$: simetrisinin durumuna bağlı bağımlı olasılıklı farklı dizilimli simetrik bitişik-ayrı olasılığı

$S_{j_s, sa}^{DOSD}$: simetrisinin durumuna bağlı bağımlı olasılıklı farklı dizilimli düzgün olmayan simetrik olasılık

$S_{art, j^{sa} \Leftrightarrow}$: simetrisinin art arda durumlarına bağlı bağımlı olasılıklı farklı dizilimli simetrik bitişik-ayrı olasılığı

$S_{j_s, art, j^{sa} \Leftrightarrow}$: simetrisinin ilk durumuna göre herhangi art arda iki durumuna bağlı bağımlı olasılıklı farklı dizilimli simetrik bitişik-ayrı olasılığı

$S_{j_s, j_i \Leftrightarrow}$: simetrisinin ilk ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik bitişik-ayrı olasılığı

S_{j_s, j_i}^{DOSD} : simetrisinin ilk ve son durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli düzgün olmayan simetrik olasılık

$S_{j_s, j^{sa} \Leftrightarrow}$: simetrisinin ilk ve herhangi bir durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli simetrik bitişik-ayrı olasılığı

$S_{j_s, j^{sa}}^{DOSD}$: simetrisinin ilk ve herhangi bir durumunun bulunabileceği olaylara göre bağımlı olasılıklı farklı dizilimli düzgün olmayan simetrik olasılık

$S_{j_{ik}, j^{sa} \Leftrightarrow}$: simetrisinin herhangi iki durumuna bağlı bağımlı olasılıklı farklı dizilimli simetrik bitişik-ayrı olasılığı

$S_{j_{ik}, j^{sa}}^{DOSD}$: simetrisinin herhangi iki durumuna bağlı bağımlı olasılıklı farklı dizilimli düzgün olmayan simetrik olasılık

S_{BBj_i} : bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımlı durumun simetrisinin son durumuna bağlı simetrik olasılık

$S_{BBj^{sa\leftarrow}}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin bir bağımlı durumuna bağlı simetrik bitişik olasılık

$S_{BBj_{ik},j^{sa\leftarrow}}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin iki bağımlı durumuna bağlı simetrik bitişik olasılık

$S_{BBj_s,j^{sa\leftarrow}}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin ilk ve herhangi bir bağımlı durumuna bağlı simetrik bitişik olasılık

$S_{BBj_s,j_t\leftarrow}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin ilk ve son bağımlı durumuna bağlı simetrik bitişik olasılık

$S_{BBj_s,j_{ik},j^{sa\leftarrow}}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin ilk ve herhangi iki bağımlı durumuna bağlı simetrik bitişik olasılık

$S_{BBj_s,j_{ik},j_t\leftarrow}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin ilk herhangi bir ve son bağımlı durumuna bağlı simetrik bitişik olasılık

$S_{BBj^{sa\Rightarrow}}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin bir bağımlı durumuna bağlı simetrik ayrım olasılığı

$S_{BBj_{ik},j^{sa\Rightarrow}}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin art arda iki bağımlı durumuna bağlı simetrik ayrım olasılığı

$S_{BBj_s,j^{sa\Rightarrow}}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin ilk ve herhangi bir bağımlı durumuna bağlı simetrik ayrım olasılığı

$S_{BBj_s,j_t\Rightarrow}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin ilk ve son bağımlı durumuna bağlı simetrik ayrım olasılığı

S_{BBj_{ik},j_{i_2} : bir bağımlı ve bir bağımsız olasılıklı dağılımın simetrisinin iki bağımlı durumunun simetrik olasılığı

$S_{BBj_s,j_{ik},j^{sa\Rightarrow}}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin ilk ve herhangi iki bağımlı durumuna bağlı simetrik ayrım olasılığı

$S_{BBj_s,j_{ik},j_t\Rightarrow}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın bağımlı-bağımsız-bağımlı durumun simetrisinin ilk herhangi bir ve son bağımlı durumuna bağlı simetrik ayrım olasılığı

$S_{BB(j_{ik})_z,(j_i)_z}$: bir bağımlı ve bir bağımsız olasılıklı dağılımın simetrisinin durumlarının bulunabileceği olaylara göre simetrik olasılık

S^B : bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu simetrik bulunmama olasılığı

durumlu bağımlı kalan düzgün olmayan simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı kalan düzgün olmayan simetrik bulunmama olasılığı

${}^1S_1^1$: bir olay için bir durumun tek simetrik olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımlı tek simetrik olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir olay için bir bağımlı durumun tek simetrik olasılığı

${}^1S_1^{1,B}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir olay için bir bağımlı durumun tek simetrik bulunmama olasılığı

${}_1^1S_1^1$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir dizilimin bağımlı tek simetrik olasılık

${}_D^1S_1^1$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir olay için bağımlı tek simetrik olasılık

${}_0^1S_1^1$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir olay için bağımsız tek simetrik olasılık

${}_0^1S_1^{1,B}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir olay için bağımsız tek simetrik bulunmama olasılığı

${}_{0,1}^1S_1^1$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir dizilimin bağımsız tek simetrik olasılığı

${}_{0,1t}^1S_1^1$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığı

${}_{0,T}^1S_1^1$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılık

S_T : toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu toplam simetrik olasılık

1S : tek simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu tek simetrik olasılık

${}^1S^B$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu tek simetrik bulunmama olasılığı

${}_0S^{BS}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte simetrik olasılık

${}_0S^{DS,BS}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte kalan simetrik olasılık

${}_0S_0^{BS}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız birlikte simetrik olasılık

${}_0S_0^{DS,BS}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız birlikte kalan simetrik olasılık

${}_0S_D^{BS}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı birlikte simetrik olasılık

$S_{0,T}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımsız toplam simetrik olasılık

$S_{D,T}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımlı toplam simetrik olasılık

${}_0S_T$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu toplam simetrik olasılık

${}_0S_{0,T}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımsız toplam simetrik olasılık

${}_0S_{D,T}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımlı toplam simetrik olasılık

${}_0S_T$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu toplam simetrik olasılık

${}_0S_{0,T}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımsız toplam simetrik olasılık eşitliği veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımsız toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımsız toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımsız toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız toplam simetrik olasılık

${}_0S_{D,T}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımlı toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımlı toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımsız toplam simetrik olasılık

durumlu bağımlı toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı toplam simetrik olasılık veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı toplam simetrik olasılık

${}_0S^{BS,B}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte simetrik bulunmama olasılığı

${}_0S^{DS,BS,B}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte kalan simetrik bulunmama olasılığı

${}_0S_0^{BS,B}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız birlikte simetrik bulunmama olasılığı

${}_0S_0^{DS,BS,B}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız birlikte kalan simetrik bulunmama olasılığı

${}_0S_D^{BS,B}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı birlikte simetrik bulunmama olasılığı

${}_0S_D^{DS,BS,B}$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı birlikte kalan simetrik bulunmama olasılığı

S_T^B : bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu toplam simetrik bulunmama olasılığı

$S_{0,T}^B$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımsız toplam simetrik bulunmama olasılığı

$S_{D,T}^B$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımlı toplam simetrik bulunmama olasılığı

${}_0S_T^B$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu toplam simetrik bulunmama olasılığı

${}_0S_{0,T}^B$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımsız toplam simetrik bulunmama olasılığı

${}_0S_{D,T}^B$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımlı toplam simetrik bulunmama olasılığı

${}^0S_T^B$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu toplam simetrik bulunmama olasılığı

${}^0S_{0,T}^B$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımsız toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımsız toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımsız toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımsız toplam simetrik bulunmama

olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımsız toplam simetrik bulunmama olasılığı

${}^0S_{D,T}^B$: bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımlı toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımlı toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı toplam simetrik bulunmama olasılığı veya bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı toplam simetrik bulunmama olasılığı

BAĞIMLI VE BİR BAĞIMSIZ OLASILIKLI FARKLI DİZİLİMLİ DAĞILIMLAR

D

Bağımlı ve Bir Bağımsız Olasılıklı Farklı Dizilimli Dağılımlar

➤ Kalan Simetri

Önceki bölümlerde durum sayısı olay sayısına eşit veya büyük olan bağımlı olasılıklı dağılımların olasılıkları incelendi. Bu bölümde durum sayısı olay sayısından küçük bağımlı olasılık ($D < n$) veya bağımlı ve bir bağımsız durumlu dağılımın olasılıkları incelenecektir. Bağımlı durum sayısı bağımlı olay sayısı eşit, bağımlı durum sayısı bağımlı olay sayısından büyük farklı dizilimli veya farklı dizilimsiz bağımlı durum sayısının bağımlı olay sayısından büyük her bir dağılımına bağımsız olasılıklı seçimle belirlenen bir bağımsız durumun dağılımıyla, bağımlı ve bir bağımsız

olasılıklı dağılımlar elde edilebilir. Bu dağılımlar; bağımlı ve bir bağımsız olasılıklı farklı dizilimli veya bağımlı ve bir bağımsız olasılıklı farklı dizilimsiz dağılımlardır. Durum sayısı olay sayısından küçük olduğunda yapılacak seçimlerde $n - D$ kadar olaya durum belirlenemez. Yapılacak seçimlerde farklı dizilimli ve farklı dizilimsiz dağılımlarda durum belirlenmeyen olayların durumları sıfır (0) ile gösterilebilir. Bir olasılık dağılımında $n - D$ kadar sıfırın veya aynı bağımsız durumun olması, bağımsız olasılıklı seçimlerde, bir dağılımın birden fazla olayında aynı durum belirlenebilmesiyle ilgilidir.

Bu bölümde, yapılacak her bir seçimde bir durumun belirlenebileceği *bağımlı durum sayısı bağımlı olay sayısına eşit* ($D = n$ ve " n : bağımlı olay sayısı") seçimlerle elde edilebilecek, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlar incelenecektir. Bu dağılımlarda bulunabilecek simetrik durumlar, dağılımın başladığı durumlara göre ayrı ayrı incelenecektir. Bağımsız durumla başlayan dağılımlar, bağımsız durumdan/lardan sonraki ilk bağımlı durumuna (olasılık dağılımında soldan sağa ilk bağımlı durum) göre sınıflandırılacaktır. Simetri bağımsız durumla başladığında, aynı yöntemle simetrisinin başladığı bağımlı durum belirlenir.

Olasılık dağılımları; simetrisinin başladığı bağımlı durumla başlayan dağılımlar, simetride bulunmayan bir bağımlı durumla başlayan dağılımlar ve simetride bulunmayan bağımlı durumlarla başlayan dağılımlar olarak sınıflandırılır. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, bağımlı olasılıklı dağılımlarda olduğu gibi simetride

bulunan bağımlı durumlarla başlayan dağılımlardan sadece simetrisinin ilk bağımlı durumuyla başlayan dağılımlarda simetrik durumlar bulunabilir.

Olasılık dağılımları ilk bağımlı durumuna göre sınıflandırılacağından, aynı bağımlı durumla başlayan olasılık dağılımları, iki farklı dağılım türünden oluşabilir. Bu dağılım türleri, bağımsız durumla başlayan dağılımlar ve bağımlı durumla başlayan dağılımlardır. Bağımsız durumla başlayan dağılımların ilk bağımlı durumu, simetrisinin ilk bağımlı durumu olan dağılımlar, simetrisinin ilk bağımlı durumuyla başlayan dağılımlar olarak alınır. Eğer bağımsız durumla başlayan dağılımların ilk bağımlı durumu, simetride bulunmayan aynı bir bağımlı durum olan dağılımlar, simetride bulunmayan bir bağımlı durumuyla başlayan dağılımlar olarak alınır. Yada bağımsız durumla başlayan dağılımların ilk bağımlı durumu, simetride bulunmayan bağımlı durumlar olan dağılımların tamamı, simetride bulunmayan bağımlı durumlarla başlayan dağılımlar olarak alınır. Bağımlı durumla başlayan dağılımlardan, bu ilk bağımlı durum, simetrisinin ilk bağımlı durumu olan dağılımlar, simetrisinin ilk bağımlı durumuyla başlayan dağılımlara dahil edilir. Eğer olasılık dağılımlarından, ilk bağımlı durumu, simetride bulunmayan aynı bağımlı durum olan dağılımlar, simetride bulunmayan bir bağımlı durumla başlayan dağılımlara dahil edilir. Eğer olasılık dağılımlarından, ilk bağımlı durumu, simetride bulunmayan bağımlı durumlar olan dağılımların tümü, simetride bulunmayan bağımlı durumlarla başlayan dağılımlara dahil edilir. Bu iki dağılım türü ilk bağımlı durumlarına göre aynı bağımlı durumlu dağılımları oluşturur. İki dağılım türü de aynı bağımlı durumla başlayan dağılımlar altında hem birlikte hem de ayrı ayrı incelenecektir.

Simetri, bağımlı ve/veya bağımsız durumlarının bulunabileceği sıralamaya göre sınıflandırılacaktır. Simetri durumlarına göre; bağımlı durumla başlayıp bağımlı durumla biten (bağımlı-bağımlı veya sadece bağımlı durumlu), bağımsız durumla başlayıp bağımlı durumla biten (bağımsız-bağımlı), bir bağımlı durumla başlayıp bir bağımsız durumla biten (bir bağımlı-bir bağımsız), bağımlı durumla başlayıp bir bağımsız durumla biten (bağımlı-bir bağımsız), bir bağımlı durumla başlayıp bağımsız durumla biten (bir bağımlı-bağımsız), bağımlı durumla başlayıp bağımsız durumla biten (bağımlı-bağımsız) ve bağımsız durumla başlayıp bağımlı durumları bulunup bağımsız durumla biten (bağımsız-bağımlı-bağımsız) yedi farklı simetri incelemesi ayrı ayrı yapılacaktır.

Simetri, durumlarının bulunduğu sıralamaya göre sınıflandırılarak, hem olasılık dağılımlarının başladığı durumlara göre hem de bunların bağımsız durumla başlayan dağılımları ve bağımlı durumla başlayan dağılımlarına göre; simetrik, düzgün simetrik ve düzgün olmayan simetrik olasılıklar olarak incelenecektir. Bu simetrik olasılıkların inceleneceği ciltlerde birlikte simetrik olasılık eşitlikleri de verilecektir.

Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardaki, simetrik ve düzgün simetrik olasılık eşitlikleri hem olasılık dağılım tablo değerlerinden hem de teorik yöntemle çıkarılabilecektir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardaki, düzgün olmayan simetrik olasılıklar ise sadece teorik yöntemlerle çıkarılacaktır. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımların inceleneceği ciltlerde, bulunmama olasılıklarının sadece çıkarılabileceği eşitlikler verilecektir.

SİMETRİDE BULUNMAYAN BAĞIMLI DURUMLARLA BAŞLAYAN DAĞILIMLARIN SİMETRİK OLASILIĞI

Simetri, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda da bulunur. Bu ciltte simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki simetrik olasılığın eşitlik ve tanımları verilecektir. Simetride bulunmayan bağımlı durumlarla başlayan dağılımlar; hem simetride bulunmayan bağımlı durumlarla başlayan hem de bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan oluşur. Bu dağılımlarda kalan simetri; düzgün ve düzgün olmayan simetrik dağılımlarla bulunabilir.

Bağımlı-bağımlı, bağımsız-bağımlı, bir bağımlı-bir bağımsız, bağımlı-bir bağımsız, bir bağımlı-bağımsız, bağımlı-bağımsız ve bağımsız-bağımlı-bağımsız simetrik durumların; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, bağımsız ve/veya bağımlı durumla başlayan dağılımlardaki, simetrik olasılıklar ayrı ayrı incelenecektir. Kalan simetrik olasılıklar; sabit değişkenli, sabit değişkenli işlem uzunluklu, hem değişken uzunluklu hem işlem uzunluklu, sabit değişkenli zıt işlem uzunluklu eşitliklerle verilebilecektir.

Kalan simetrik olasılık, kalan düzgün simetrik olasılık veya kalan düzgün olmayan simetrik olasılık eşitlikleri hem olasılık dağılım tablo değerlerinden hem de teorik yöntemle çıkarılabilir. Sadece bağımsız durumla başlayan veya sadece bağımlı durumla başlayan dağılımların kalan düzgün simetrik olasılık eşitlikleri, kalan düzgün simetrik olasılık eşitlikleriyle de verilecektir. Bu eşitliklere *simetrisiyle ilişkili* eşitlikler denilecektir.

Bağımsız olasılıklı durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki simetrik olasılığın sabit değişkenli işlem uzunluklu eşitliği, aynı şartlı kalan simetrik olasılığın sabit değişkenli işlem uzunluklu eşitliğinde n_i üzerinden toplam alımında n yerine $n - 1$ yazılmasıyla teorik yöntemle elde edilebilecektir. Bağımlı durumla başlayan dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki simetrik olasılığın eşitliği; aynı şartlı kalan simetrik olasılık eşitliğinden, aynı şartlı bağımsız durumlarla başlayan dağılımların kalan simetrik olasılık eşitliğinin farkından teorik yöntemle elde edilebileceği gibi aynı şartlı kalan simetrik olasılığın sabit değişkenli işlem uzunluklu eşitliğinde n_i üzerinden toplam alımında n_i yerine toplam alınmadan n yazılmasıyla da teorik yöntemle elde edilebilecektir.

Bu ciltte bağımlı-bağımlı veya kısaca bağımlı, bağımsız-bağımlı, bir bağımlı-bir bağımsız, bağımlı-bir bağımsız, bir bağımlı-bağımsız, bağımlı-bağımsız, bağımsız-bağımlı-bağımsız veya kısaca bağımsız-bağımsız durumlu simetrilerin, hem bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan ve simetride bulunmayan bağımlı durumlarla başlayan dağılımlar hem bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan hem de simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, kalan simetrik ve kalan simetrik bulunmama olasılığının eşitlikleri ve birlikte kalan simetrik ve birlikte kalan simetrik bulunmama olasılığının eşitlikleri verilecektir.

Simetrisinin başladığı, bittiği durumlardan bağımsız olarak veya simetrisinin bağımlı durumları arasında bağımsız durum bulunmasından bağımsız olarak, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki simetrik olasılık eşitlikleri; aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkından veya aynı şartlı tek kalan simetrik olasılığın, bağımlı durum sayısından, simetrisinin bağımlı durum sayısının farkıyla, çarpımından elde edilebilir. Ayrıca simetrik olasılığın toplam alınan eşitliklerinin ilk terimi, ilk simetrik olasılığı, ikinci terimi ise kalan simetrik olasılığı veren terimler olduğundan, kalan simetrik olasılık eşitlikleri aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime eşit olur. Aynı yöntemlerle simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki düzgün ve düzgün olmayan simetrik olasılık eşitlikleri de elde edilebilir. Fakat cilt 2.1.1’de olasılık dağılımlarının tamamındaki düzgün ve düzgün olmayan simetrik olasılık eşitlikleri verilmediğinden, simetride bulunmayan durumlarla başlayan dağılımlardaki düzgün ve düzgün olmayan simetrik olasılık eşitlikleri; cilt 2.1.3’de verilen tek kalan düzgün ve tek kalan düzgün olmayan simetrik olasılık eşitliklerinin, bağımlı durum sayısından, simetrisinin bağımlı durum sayısının farkının, çarpımından elde edilecektir.

Bağımlı ve bir bağımsız olasılıklı farklı dizilişli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, simetride bulunan bağımlı ve/veya bağımsız durumlara göre; bağımlı durumlu simetri, bağımsız-bağımlı durumlu simetri, bir bağımlı-bir bağımsız durumlu simetri, bağımlı-bir bağımsız durumlu simetri, bir bağımlı-bağımsız durumlu simetri, bağımlı-bağımsız durumlu simetri ve bağımsız-bağımsız durumlu simetrisinin, tanım ve eşitlikleri verilecektir.

BAĞIMLI DURUMLU KALAN SİMETRİ

Simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde $\{1, 2, 3, 4, 5\}$ veya $\{1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilişli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımlı durumla başlayıp bağımlı durumla bittiğinde $\{1, 2, 3, 4, 5\}$ veya $\{1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$$S^{DS} = S - S^{iS}$$

ve eşitliğin sağındaki terimlerin simetrisinin bağımlı durumlardan oluştuğundaki $\{1, 2, 3, 4, 5\}$ eşitleri yazıldığında,

$$S^{DS} = \frac{n!}{i! \cdot s!} - \frac{n!}{i! \cdot (s-1)! \cdot (n-i)}$$

ve $n - i = D$ olacağından

$$S^{DS} = \frac{n!}{i! \cdot s!} \cdot \left(1 - \frac{s}{D}\right)$$

$$S^{DS} = \frac{n!}{i! \cdot s!} \cdot \frac{D-s}{D}$$

veya

$$S^{DS} = \frac{n!}{i! \cdot s!} \cdot \frac{n-s}{n}$$

veya

$$S^{DS} = \frac{n!}{i! \cdot s!} \cdot \frac{n-i-s}{n-i}$$

veya $i = n - n$ olacağından

$$S^{DS} = \frac{n!}{(n-n)! \cdot s!} \cdot \frac{n-s}{n}$$

veya tek kalan simetrik olasılık eşitliğinin $(D-s)$ ile çarpımından,

$$S^{DS} = S^{DST} \cdot (D-s)$$

$$S^{DS} = \frac{n! \cdot (D-s-1)!}{i!} \cdot \left(\sum_{i=s+1}^n \mp \frac{1}{i! \cdot (n-i)!} \right) \cdot (D-s)$$

$$S^{DS} = \frac{n! \cdot (D-s)!}{i!} \cdot \left(\sum_{i=s+1}^n \mp \frac{1}{i! \cdot (n-i)!} \right)$$

veya

$$S^{DS} = \frac{n! \cdot (D-s)!}{(n-n)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{1}{i! \cdot (n-i)!} \right)$$

veya

$$S^{DS} = (D-s)! \cdot \sum_{j=s+1}^n \sum_{(n_i=n)_{n_s=n-j+1}}^{n_i-j+1} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - n - 1)! \cdot (n-j)!}$$

veya simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde ve bağımlı durumları arasında bağımsız durumlar bulunduğunda $\{1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$,

$$S^{DS} = \frac{n! \cdot (D-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right)$$

veya

$$S^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_{1=2}}^{((j_{ik})_{3-1})} \sum_{(j_{ik})_{z=z}}^{(j_i)_{z-1}} \sum_{(j_i)_{z=z+1} \vee z=s \Rightarrow s+1}^{((j_{ik})_{z+2-1} \vee n)}$$

$$\sum_{n_i = n + k}^n \sum_{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{k_i - (j_i)_1 + \vee z = s \Rightarrow n + \sum_{i=1}^{s-1} k_i - (j_i)_1 + 1}^{(n_i - (j_i)_1 + 1)}$$

$$\sum_{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_i)_{z-1} - \sum_{i=z-2}^{k_i} k_i}^{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_i)_{z-1} - \sum_{i=z-2}^{k_i} k_i}$$

$$\sum_{(n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{k_i - (j_{ik})_z \vee z = s \Rightarrow n + \sum_{i=z-1}^{s-1} k_i - (j_{ik})_{z+1}}^{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{k_i} k_i}$$

$$\sum_{((n_s)_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{k_i} k_i)}^{((n_s)_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{k_i} k_i)}$$

$$\sum_{((n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{k_i - (j_i)_z \vee z = s \Rightarrow n + \sum_{i=z}^{s-1} k_i - (j_i)_{z+1}})}^{((n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{k_i - (j_i)_z \vee z = s \Rightarrow n + \sum_{i=z}^{s-1} k_i - (j_i)_{z+1})}$$

$$\frac{(D-s)!}{(D-s - (j_i)_1 + 2)!} \cdot \frac{(D-s - (j_{ik} - j_{sa}^{ik})_z)!}{(D-s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{ik})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D-n)!}$$

$$\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!}$$

$$\frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!}$$

$$\frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımlı durumla başlayıp bağımlı durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu kalan simetrik olasılık S^{DS} ile gösterilecektir.

Simetri bağımlı durumlardan oluştuğunda, kalan simetrik olasılığın, uyum eşitliğiyle ilgisi, tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımından kurulabilir.

$$S^{DS} = S^{DST} \cdot (D - s)$$

$$S^{DS} = U \cdot \frac{(D - 1)!}{s!} \cdot (D - s)$$

eşitliği elde edilir. VDOİHİ cilt 1'de bağımlı olasılıklı farklı dizilimli dağılımlarda (bağımlı durum sayısı, bağımlı olay sayısına eşitliğinde) kalan simetrik olasılık,

$$S_{D=n}^{DS} = \frac{(D - 1)! \cdot (D - s)}{s!}$$

eşit olduğundan,

$$S^{DS} = U \cdot S_{D=n}^{DS}$$

eşitliği elde edilir. Bağımlı olasılıklı farklı dizilimli olasılık dağılım sayısı ile ilişki (bağımlı durum sayısı, bağımlı olay sayısına eşitliğinde) ise,

$$S_{D=n}^{DS} = \frac{(D - 1)! \cdot (D - s)}{s!}$$

$$S_{D=n}^{DS} = D! \cdot \frac{(D - s)}{s! \cdot D}$$

ve

$$M_{D=n} = D!$$

olduğundan

$$S_{D=n}^{DS} = M_{D=n} \cdot \frac{(D - s)}{s! \cdot D}$$

olacağından,

$$S^{DS} = U \cdot M_{D=n} \cdot \frac{(D - s)}{s! \cdot D}$$

eşitliğiyle kurulabilir. VDOİHİ cilt 2.1.1'de simetri bağımlı durumlardan oluştuğunda simetrik olasılık için,

$$S = U \cdot \frac{D!}{s!}$$

eşitliği verilmiştir. Yukarıda verilen $S^{DS} = U \cdot \frac{(D-1)!}{s!} \cdot (D - s)$ eşitliği düzenlendiğinde,

$$S^{DS} = U \cdot \frac{D!}{s!} \cdot \frac{(D - s)}{D}$$

elde edilir. Bu eşitliğin sağındaki ilk iki terim, simetri bağımlı durumlardan oluştuğunda, simetrik olasılığa eşit olacağından, kalan simetrik olasılık için,

$$S^{DS} = S \cdot \frac{(D - s)}{D}$$

eşitliği elde edilir. VDOIHI cilt 2.1.2'de bağımlı ve bir bağımsız olasılıklı farklı dizilimli ilk simetrik olasılık (simetri bağımlı durumlardan oluştuğunda) için,

$$S^{is} = \frac{n!}{(n - D)! \cdot (s - 1)! \cdot D}$$

eşitliği verilmiştir. Yukarıdaki $S^{DS} = \frac{n! \cdot (n-s)}{(n-n)! \cdot s! \cdot n}$ eşitliği düzenlendiğinde,

$$S^{DS} = \frac{n!}{(n - D)! \cdot (s - 1)! \cdot D} \cdot \frac{D - s}{s}$$

ve eşitliğin sağındaki ilk terim ilk simetrik olasılığı vereceğinden,

$$S^{DS} = S^{is} \cdot \frac{D - s}{s}$$

eşitliği elde edilir. VDOIHI cilt 2.1.1'de bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılım sayısı,

$$M = D! \cdot U$$

verilmiştir. Yukarıda elde edilen $S^{DS} = U \cdot \frac{D!}{s!} \cdot \frac{D-s}{D}$ eşitlikle, kalan simetrik olasılıkla, olasılık dağılım sayısının ilişkilendirilebileceğini gösterir. Bu durumda kalan simetrik olasılık için,

$$S^{DS} = M \cdot \frac{D - s}{s! \cdot D}$$

eşitliği elde edilir. $S^{DS} = S \cdot \frac{D-s}{D}$ eşitliğinden,

$$\frac{S}{S^{DS}} = \frac{D}{D - s}$$

eşitliği elde edilir. $S^{DS} = S^{is} \cdot \frac{D-s}{s}$ eşitliğinden,

$$\frac{S^{is}}{S^{DS}} = \frac{s}{D - s}$$

eşitliği elde edilir. Bu yeni eşitlikler, simetrik-simetrik ve simetrik-olasılık dağılım sayıları arasında ilişkilerin kurulabileceğini gösterir.

$$D = n < n \wedge I = k = 0 \wedge s = s \Rightarrow$$

$$S^{DS} = \frac{n! \cdot (D - s)}{(n - D)! \cdot s! \cdot D}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S^{DS} = \frac{n! \cdot (\mathbf{n} - s)}{i! \cdot s! \cdot \mathbf{n}}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S^{DS} = \frac{n! \cdot (n - i - s)}{i! \cdot s! \cdot (n - i)}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S^{DS} = \frac{n! \cdot (\mathbf{n} - s)}{(n - \mathbf{n})! \cdot s! \cdot \mathbf{n}}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S^{DS} = \frac{n! \cdot (D - s)!}{i!} \cdot \left(\sum_{i=s+1}^{\mathbf{n}} \mp \frac{1}{i! \cdot (n - i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S^{DS} = \frac{n! \cdot (D - s)!}{(n - \mathbf{n})!} \cdot \left(\sum_{i=s+1}^{\mathbf{n}} \mp \frac{1}{i! \cdot (n - i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S^{DS} = (D - s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D)}^n \sum_{n_s=D-j+1}^{n_i-j+1}$$

$$\frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D - j)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S^{DS} = (\mathbf{n} - s)! \cdot \sum_{j_i=s+1}^{\mathbf{n}} \sum_{(n_i=\mathbf{n})}^{(n)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_i-j_i+1} \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!}$$

$$\frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \wedge s = 2 \Rightarrow$$

$$S^{DS} = (\mathbf{n} - 2)! \cdot \sum_{j_i=3}^{\mathbf{n}} \sum_{\substack{(n) \\ (n_i=\mathbf{n})}} \sum_{n_s=\mathbf{n}-j_i+1}^{n_i-j_i+1} \frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S^{DS} = \frac{\mathbf{n}! \cdot (D - s)!}{(l - l)!} \cdot \left(\sum_{i=s+1}^{\mathbf{n}} \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (\mathbf{n} - i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S^{DS} = \frac{\mathbf{n}! \cdot (n - l - s)!}{(l - l)!} \cdot \left(\sum_{i=s+1}^{\mathbf{n}} \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (\mathbf{n} - i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S^{DS} = \frac{\mathbf{n}! \cdot (D + l - s)!}{(l - l)!} \cdot \left(\sum_{i=s-l+1}^{\mathbf{n}} \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (\mathbf{n} - i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S^{DS} = (D - s)! \cdot \sum_{j^{sa}=j^{sa}+1}^{n+j^{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j^{sa})} \sum_{\substack{(n) \\ (n_i=\mathbf{n}+\mathbb{k})}} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \frac{(j^{sa} + j_{sa}^{ik} - j^{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j^{sa}+2}^{n+j^{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j^{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}}^n \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$S^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}+1)}^{(j^{sa}+j_{sa}-j_{sa}-1)}$$

$$\sum_{n_i=n+\mathbb{k}}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$S^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{n_i=n+\mathbb{k}}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + (D - s)! \cdot$$

$$\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$S^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\ \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \\ \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\ \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \\ \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\ \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge$$

$$j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
S^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \\
&\sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j_{ik}-1)!}{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
&\frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
&(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
&\sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
&\frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
\end{aligned}$$

$$D = n < n \wedge I = \mathbb{k} = 0 \wedge s = s \vee I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z; z = 1 \Rightarrow$$

$$\begin{aligned}
S^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
&\sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} = 0 \wedge s = s \vee I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z : z = 1 \wedge$$

$$j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{(n-1)} \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}-\mathbb{k}-1} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n
\end{aligned}$$

$$\sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}}$$

$$\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!}$$

$$\frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}$$

$$D = n < n \wedge I = \mathbb{k} = 0 \wedge s = s \vee I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_2 : z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \Rightarrow$$

$$S^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1}$$

$$\sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2}$$

$$\frac{(n-j_s-j_{sa}+1)!}{(n-j_s-s+1)! \cdot (s-j_{sa})!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-\mathbb{k}_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-\mathbb{k}_1)!}$$

$$\frac{(n_{ik}-n_{sa}-\mathbb{k}_2-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-\mathbb{k}_2)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +$$

$$(D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right)$$

$$\sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2}$$

$$\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!}$$

$$\frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{\binom{\mathbf{n}+j_{sa}^{ik}-s}} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{\mathbf{n}+j_{sa}-s} \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{\binom{\mathbf{n}}{n_i=\mathbf{n}+\mathbb{k}}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{\binom{n_{is}+j_s-j_{ik}-\mathbb{k}_1}} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z; z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{\binom{()}{j_{ik}=j_s+j_{sa}^{ik}-1}} \sum_{j^{sa}=j_s+j_{sa}-1} \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{\binom{\mathbf{n}}{n_i=\mathbf{n}+\mathbb{k}}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{\binom{n_{is}+j_s-j_{ik}-\mathbb{k}_1}} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1} \\
& \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +
\end{aligned}$$

$$\begin{aligned}
& (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\cdot)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\
& \sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
& \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
& \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned}
S^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\cdot)} \sum_{j_i=j_s+s-1} \\
& \sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-\mathbb{k}_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-\mathbb{k}_1)!}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\quad)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \quad \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \quad \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right. \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \quad \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\quad)} \sum_{j_i=j_s+s-1}^n \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}-\mathbb{k}_2-1}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \right. \\
& \sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \right. \\
& \sum_{(n_i=n+\mathbb{k})}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \Big)
\end{aligned}$$

$$D = n < n \wedge I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z > 1 \Rightarrow$$

$$S^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{((j_i)_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z+z+1}Vz=s \Rightarrow s+1)}^{((j_{ik})_{z+2-1}Vn)}$$

$$\begin{aligned}
& \sum_{n_i = n + \mathbb{k}}^n \sum_{\substack{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \mathbb{k}_i - (j_i)_1 \forall z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i - (j_i)_1 + 1 \\ (n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i \\ (n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_{ik})_z} \mathbb{k}_i - (j_{ik})_z \forall z = s \Rightarrow n + \sum_{i=z-1}^{s-1} \mathbb{k}_i - (j_{ik})_z + 1 \\ (n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i \\ (n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \forall z = s \Rightarrow n + \sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_z + 1}}^{(n_i - (j_i)_1 + 1)} \\
& \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\
& \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
& \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
& \frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}
\end{aligned}$$

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI DURUMLU KALAN SİMETRİ

Simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde $\{1, 2, 3, 4, 5\}$ veya $\{1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D-s)$ ile çarpımına eşit olur. Simetri bağımlı durumlardan oluştuğunda $\{1, 2, 3, 4, 5\}$, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$$S_0^{DS} = S^{DS} \cdot \left(\frac{{}_0,1tS_1^1 \cdot (D-s)}{{}_0,tS_1^1 \cdot (D-s)} \right)$$

$$S_0^{DS} = S^{DS} \cdot \frac{{}_0,1tS_1^1}{{}_0,7S_1^1}$$

ve eşitliğin sağındaki terimlerin eşitleri yazıldığında,

$$S_0^{DS} = \frac{n!}{(n-D)! \cdot s!} \cdot \frac{D-s}{D} \cdot \left(\frac{\frac{n!}{(n-D)! \cdot D} \cdot \left(1 - \frac{D}{n}\right)}{\frac{n!}{(n-D)!} \cdot \frac{1}{D}} \right)$$

$$S_0^{DS} = \frac{n! \cdot (D-s)}{(n-D)! \cdot s!} \cdot \left(\frac{\frac{n!}{(n-D)! \cdot D} \cdot \left(1 - \frac{D}{n}\right)}{\frac{n!}{(n-D)!}} \right)$$

$$S_0^{DS} = \frac{n! \cdot (D-s)}{(n-D)! \cdot s!} \cdot \left(\frac{1}{D} - \frac{1}{n} \right)$$

veya $n - D = \iota$ olacağından,

$$S_0^{DS} = \frac{n! \cdot (D-s)}{\iota! \cdot s!} \cdot \left(\frac{1}{D} - \frac{1}{n} \right)$$

veya

$$S_0^{DS} = \frac{(n-1)! \cdot (D-s)}{(n-D-1)! \cdot s! \cdot D}$$

veya

$$S_0^{DS} = \frac{(n-1)! \cdot (n-\iota-s)}{(\iota-1)! \cdot s! \cdot (n-\iota)}$$

veya

$$S_0^{DS} = \frac{(n-1)! \cdot (n-s)}{(\iota-1)! \cdot s! \cdot n}$$

veya

$$S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(\iota-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{1}{i! \cdot (n-i)!} \right)$$

veya

$$S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(n-D-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{1}{i! \cdot (n-i)!} \right)$$

veya simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde ve bağımlı durumları arasında bağımsız durumlar bulunduğu $\{1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$,

$$S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^D \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (D-i)!} \right)$$

veya

$$S_0^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z=z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2}-1) \vee n}$$

$$\sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}} \mathbb{k}_i - (j_i)_1 \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} \mathbb{k}_i - (j_i)_1+1}^{(n_i-(j_i)_1+1)}$$

$$\sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}} \mathbb{k}_i}^{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}} \mathbb{k}_i - (j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i - (j_{ik})_z+1}$$

$$\sum_{((n_{ik})_z+(j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}} \mathbb{k}_i)}^{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}} \mathbb{k}_i - (j_i)_z \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_{z+1}}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!}$$

$$\frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!}$$

$$\frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!}$$

$$\frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-1)! \cdot (n-(j_i)_{z=s})!}$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımsız kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarında, simetri bağımlı durumla başlayıp bağımlı durumla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrisinin bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımsız kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımsız kalan simetrik olasılık S_0^{DS} ile gösterilecektir.

Simetri bağımlı durumlardan oluştuğunda, bağımsız durumla başlayıp sonraki ilk bağımlı durumu simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar,

$$S_0^{DS} = S_0 - S_0^{IS}$$

$$S_0^{DS} = {}_{0,1}S_1^1 \cdot S_{D=n} - S_0^{IS} \cdot \frac{{}_{0,1t}S_1^1}{{}_{0,T}S_1^1}$$

ve

$$S_0^{IS} = S_{D=n}^{IS} \cdot U$$

$$\text{ve } S_{D=n}^{IS} = S_{D=n} \cdot \frac{s}{D}, U = \frac{n!}{(n-D)! \cdot D!}$$

$$S_0^{IS} = S_{D=n} \cdot \frac{s}{D} \cdot \frac{n!}{(n-D)! \cdot D!}$$

bu eşitliğin sağı düzenlendiğinde,

$$S_0^{IS} = S_{D=n} \cdot \frac{s}{D} \cdot \frac{(n-1)!}{(n-D-1)! \cdot D!} \cdot \frac{n}{(n-D)}$$

ve ${}_{0,1}S_1^1 = \frac{(n-1)!}{(n-D-1)! \cdot D!}$ olduğundan,

$$S_0^{IS} = {}_{0,1}S_1^1 \cdot S_{D=n} \cdot \frac{s}{D} \cdot \frac{n}{(n-D)}$$

olacağından, bu eşitlik,

$$S_0^{DS} = {}_{0,1}S_1^1 \cdot S_{D=n} - S_0^{IS} \cdot \frac{{}_{0,1t}S_1^1}{{}_{0,T}S_1^1}$$

eşitliğinde yerine yazıldığında,

$$S_0^{DS} = {}_{0,1}S_1^1 \cdot S_{D=n} - {}_{0,1}S_1^1 \cdot S_{D=n} \cdot \frac{{}_{0,1t}S_1^1}{{}_{0,T}S_1^1} \cdot \frac{s}{D} \cdot \frac{n}{(n-D)}$$

$$S_0^{DS} = {}_{0,1}S_1^1 \cdot S_{D=n} \cdot \left(1 - \frac{s}{D} \cdot \frac{n}{(n-D)} \cdot \frac{{}_{0,1t}S_1^1}{{}_{0,T}S_1^1} \right)$$

eşitliği elde edilir.

Simetri bağımlı durumlardan oluştuğunda, bağımsız durumla başlayan dağılımlardaki kalan simetrik olasılığı veren yukarıdaki

$$S_0^{DS} = \frac{(n-1)! \cdot (n-s)}{(l-1)! \cdot s! \cdot n}$$

eşitlikte düzenleme yapıldığında,

$$S_0^{DS} = \frac{n! \cdot (n-s)}{l! \cdot s! \cdot n} \cdot \frac{l}{n}$$

ve eşitliğin sağındaki $\frac{n! \cdot (n-s)}{l! \cdot s! \cdot n}$ terim, simetri bağımlı durumlardan oluştuğundaki kalan simetrik olasılığa eşit olacağından,

$$S_0^{DS} = S^{DS} \cdot \frac{l}{n}$$

veya $l = n - D$ olacağından,

$$S_0^{DS} = S^{DS} \cdot \frac{n - D}{n}$$

eşitlikleri elde edilir. Bu eşitlikte S^{DS} yerine $S^{DS} = U \cdot S_{D=n}^{DS}$ yazıldığında,

$$S_0^{DS} = U \cdot S_{D=n}^{DS} \cdot \frac{l}{n}$$

veya S^{DS} yerine $S^{DS} = U \cdot M_{D=n} \cdot \frac{(D-s)}{s! \cdot D}$ yazıldığında,

$$S_0^{DS} = U \cdot M_{D=n} \cdot \frac{(D-s)}{s! \cdot D} \cdot \frac{l}{n}$$

veya S^{DS} yerine $S^{DS} = U \cdot \frac{D!}{s!} \cdot \frac{(D-s)}{D}$ yazıldığında,

$$S_0^{DS} = U \cdot \frac{D!}{s!} \cdot \frac{(D-s)}{D} \cdot \frac{l}{n}$$

veya S^{DS} yerine $S^{DS} = S \cdot \frac{(D-s)}{D}$ yazıldığında,

$$S_0^{DS} = S \cdot \frac{(D-s)}{D} \cdot \frac{l}{n}$$

veya S^{DS} yerine $S^{DS} = S^{is} \cdot \frac{D-s}{s}$ yazıldığında,

$$S_0^{DS} = S^{is} \cdot \frac{D-s}{s} \cdot \frac{l}{n}$$

veya S^{DS} yerine $S^{DS} = M \cdot \frac{D-s}{s! \cdot D}$ yazıldığında,

$$S_0^{DS} = M \cdot \frac{D-s}{s! \cdot D} \cdot \frac{l}{n}$$

eşitliği elde edilir. Bu yeni eşitlikler, simetrik-simetrik ve simetrik-olasılık dağılım sayıları arasında ilişkilerinde kurulabileceğini gösterir.

$$D = n < n \wedge l = k = 0 \wedge s = s \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (D-s)}{(n-D-1)! \cdot s! \cdot D}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (n-l-s)}{(l-1)! \cdot s! \cdot (n-l)}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (\mathbf{n}-s)}{(l-1)! \cdot s! \cdot \mathbf{n}}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(l-1)!} \cdot \left(\sum_{i=s+1}^n \frac{1}{i! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(n-D-1)!} \cdot \left(\sum_{i=s+1}^n \frac{1}{i! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S_0^{DS} = (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D)}^{n-1} \sum_{n_s=D-j+1}^{n_i-j+1}$$

$$\frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D-j)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S_0^{DS} = (\mathbf{n}-s)! \cdot \sum_{j_i=s+1}^{\mathbf{n}} \sum_{(n_i=\mathbf{n})}^{(\mathbf{n}-1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_i-j_i+1} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!}$$

$$\frac{(n_i - n_s - 1)!}{(j_i-2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \wedge s = 2 \Rightarrow$$

$$S_0^{DS} = (\mathbf{n}-2)! \cdot \sum_{j_i=3}^{\mathbf{n}} \sum_{(n_i=\mathbf{n})}^{(\mathbf{n}-1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_i-j_i+1}$$

$$\frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (D+I-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (D+I-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S_0^{DS} = \frac{(n-1)! \cdot (n-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S_0^{DS} = (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{(n_{sa}=\mathbf{n}-j^{sa}+1)}^{n_i-j^{sa}-\mathbb{k}+1} \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$\begin{aligned}
& (D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
S_0^{DS} &= (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)}^{(n-1)} \sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \\
& \frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n_i-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
& (D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S_0^{DS} = (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1}$$

$$\begin{aligned}
& \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
& S_0^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \\
& \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S_0^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=j^{sa}+1}^{n+j^{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot$$

$$\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot$$

$$\sum_{j^{sa}=j^{sa}+2}^{n+j^{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$S_0^{DS} = (D - s)! \cdot \sum_{j^{sa}=j^{sa}+1}^{n+j^{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot$$

$$\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot$$

$$\frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot$$

$$\frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z; z = 1 \Rightarrow$$

$$S_0^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}$$

$$\sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n+j_{sa}^{ik}-j_{ik}-j_{sa})!}{(n+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa})!} \cdot$$

$$\frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot$$

$$\frac{(n_{ik}-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-\mathbb{k})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +$$

$$(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s}$$

$$\sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot$$

$$\frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge$$

$$j_{ik} = j^{sa} - 1 \Rightarrow$$

$$S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}$$

$$\sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}$$

$$\sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
S_0^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
&\sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
&\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
&(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^{\mathbf{n}} \\
&\sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
&\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge$$

$$j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
S_0^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
&\sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}-\mathbb{k}-1} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!}
\end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n$$

$$\sum_{(n_i=n+k)}^{(n-1)} \sum_{n_{is}=n+k-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-k}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$$D = n < n \wedge I = k = 0 \wedge s = s \vee I = k > 0 \wedge s = s + k \wedge k_2, z = 2 \wedge$$

$$k = k_1 + k_2 \Rightarrow$$

$$S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1}^{()}$$

$$\sum_{(n_i=n+k)}^{(n-1)} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2}$$

$$\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot \frac{(n_{ik} - n_{sa} - k_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - k_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right)$$

$$\begin{aligned}
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
S_0^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\quad)} \sum_{j^{sa}=j_s+j_{sa}-1}^{(\quad)} \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\
& \sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right)
\end{aligned}$$

$$D = n < n \wedge I = \mathbb{k} = 0 \wedge s = s \vee I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_2; z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned}
S_0^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \\
&\quad \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
&\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
&\quad \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
&\quad (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^{\mathbf{n}} \right. \\
&\quad \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
&\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
&\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\quad \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
&\quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^{\mathbf{n}} \\
&\quad \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
&\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
&\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\quad \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \Big)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1}$$

$$\sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}-\mathbb{k}_2-1}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot$$

$$\frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} +$$

$$(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^{\mathbf{n}}$$

$$\sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{\mathbf{n}}$$

$$\sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$$D = n < n \wedge I = k > 0 \wedge s = s + k \wedge k_z : z > 1 \Rightarrow$$

$$S_0^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_{1=2}}^{(j_{ik})_{3-1}} \sum_{(j_{ik})_{z=Z}}^{(j_i)_{z-1}} \sum_{(j_i)_{z=Z+1VZ=s \Rightarrow n}}^{(j_{ik})_{z+Z-1Vn}}$$

$$\sum_{n_i=n+k}^{n-1} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{k_i-(j_i)_1VZ=s \Rightarrow n+\sum_{i=1}^{s-1} k_i-(j_i)_1+1}^{(n_i-(j_i)_1+1)}$$

$$\sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{k_i} k_i}^{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{k_i-(j_{ik})_zVZ=s \Rightarrow n+\sum_{i=z-1}^{s-1} k_i-(j_{ik})_z+1}$$

$$\sum_{((n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{k_i})}^{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{k_i-(j_i)_zVZ=s \Rightarrow n+\sum_{i=z}^{s-1} k_i-(j_i)_z+1}$$

$$\frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - n)!}$$

$$\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!}$$

$$\frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!}$$

$$\frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}$$

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI DURUMLU KALAN SİMETRİ

Simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde $\{1, 2, 3, 4, 5\}$ veya $\{1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, simetrik olasılıklar; kalan simetrik olasılıktan, bağımsız durumlarla başlayan dağılımlardaki kalan simetrik olasılığın farkına veya aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya

aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımlı durumlardan oluştuğunda $\{1, 2, 3, 4, 5\}$, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$$S_D^{DS} = S^{DS} - S_0^{DS}$$

eşitliği elde edilir. Eşitliğin sağındaki S_0^{DS} terimi yerine $S_0^{DS} = S^{DS} \cdot \frac{(n-D)}{n}$ yazıldığında,

$$S_D^{DS} = S^{DS} - S^{DS} \cdot \frac{(n-D)}{n}$$

$$S_D^{DS} = S^{DS} \cdot \frac{D}{n}$$

eşitliği elde edilir. Böylece simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki kalan simetrik olasılıklar; kalan simetrik olasılıkla, *bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımlı simetrik sıra katsayısının* çarpımına eşit olur. Bu eşitliğin sağındaki kalan simetrik olasılığın, simetri bağımlı durumlardan oluştuğundaki eşitleri yazıldığında,

$$S_D^{DS} = \frac{n! \cdot (D-s)}{i! \cdot s! \cdot D} \cdot \frac{D}{n}$$

$$S_D^{DS} = \frac{(n-1)! \cdot (D-s)}{i! \cdot s!}$$

veya $i = n - n$ olacağından,

$$S_D^{DS} = \frac{(n-1)! \cdot (n-s)}{(n-n)! \cdot s!}$$

veya

$$S_D^{DS} = \frac{(n-1)! \cdot (n-i-s)}{i! \cdot s!}$$

veya

$$S_D^{DS} = \frac{(n-1)! \cdot (D-s)! \cdot D}{i!} \cdot \left(\sum_{i=s+1}^n \mp \frac{1}{i! \cdot (n-i)!} \right)$$

veya simetri bağımlı durumla başlayıp, bağımsız durumları bulunup, bağımlı durumla bittiğinde $\{1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$,

$$S_D^{DS} = \frac{n! \cdot (D-s)!}{(i-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+i-I)!}{i! \cdot (i+i)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D-s)!}{(l-l-1)!} \cdot \left(\sum_{i=s+1}^D \mp \frac{(i+l-l-1)!}{i! \cdot (i+l-1)! \cdot (D-i)!} \right)$$

veya

$$S_D^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z=z+1} \forall z=s \Rightarrow s+1)}^{((j_{ik})_{z+2}-1) \forall n}$$

$$\sum_{n_i=n} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{l_{k_i}} l_{k_i}-(j_i)_1 \forall z=s \Rightarrow n+\sum_{i=1}^{s-1} l_{k_i}-(j_i)_1+1}^{(n-(j_i)_1+1)}$$

$$\sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{l_{k_i}} l_{k_i}} \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{l_{k_i}} l_{k_i}-(j_{ik})_z \forall z=s \Rightarrow n+\sum_{i=z-1}^{s-1} l_{k_i}-(j_{ik})_z+1}^{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{l_{k_i}} l_{k_i}}$$

$$\sum_{((n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{l_{k_i}} l_{k_i}-(j_i)_z \forall z=s \Rightarrow n+\sum_{i=z}^{s-1} l_{k_i}-(j_i)_z+1)}^{(n_s)_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{l_{k_i}} l_{k_i}}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!}$$

$$\frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!}$$

$$\frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!}$$

$$\frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-1)! \cdot (n-(j_i)_{z=s})!}$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımlı kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarında, simetri bağımlı durumla başlayıp bağımlı durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımlı kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımlı kalan simetrik olasılık S_D^{DS} ile gösterilecektir.

Yukarıdaki eşitliklerinin farklı yollarla elde edilmesi doğruluğunun kontrolü olacağı için farklı yolla çıkarımları aşağıda verilmiştir.

$$S_D^{DS} = S^{DS} \cdot \left(1 - \frac{{}_{0,1t}S_1^1 \cdot (D-s)}{{}_{0,t}S_1^1 \cdot (D-s)} \right)$$

$$S_D^{DS} = S^{DS} \cdot \left(1 - \frac{{}_{0,1t}S_1^1}{{}_{0,t}S_1^1} \right)$$

eşitliğin sağındaki terimlerin durum sayısı bulunan eşitleri yazıldığında,

$$S_D^{DS} = \frac{n!}{(n-D)! \cdot s!} \cdot \frac{D-s}{D} \cdot \left(1 - \frac{\frac{n!}{(n-D)! \cdot D} \cdot \left(1 - \frac{D}{n}\right)}{\frac{n!}{(n-D)!} \cdot \frac{1}{D}} \right)$$

$$S_D^{DS} = \frac{n!}{(n-D)! \cdot s!} \cdot \frac{D-s}{D} \cdot \left(\frac{D}{n} \right)$$

$$S_D^{DS} = \frac{(n-1)! \cdot (D-s)}{(n-D)! \cdot s!}$$

veya yukarıdaki eşitliğin sağındaki terimlerin bir dağılımın bağımsız durum sayısı ile ilişkili eşitleri yazıldığında,

$$S_D^{DS} = S^{DS} \cdot \left(1 - \frac{{}_{0,1t}S_1^1}{{}_{0,t}S_1^1} \right)$$

$$S_D^{DS} = \frac{n!}{l! \cdot s!} \cdot \frac{n-l-s}{n-l} \cdot \left(1 - \frac{\frac{(n-1)!}{(l-1)! \cdot (n-l)}}{\frac{n!}{l! \cdot (n-l)}} \right)$$

$$S_D^{DS} = \frac{n!}{l! \cdot s!} \cdot \frac{n-l-s}{n-l} \cdot \left(\frac{n-l}{n} \right)$$

$$S_D^{DS} = \frac{(n-1)! \cdot (n-l-s)}{l! \cdot s!}$$

eşitlikleri yukarıda verilen iki eşitlikle aynıdır.

$$D = n < n \wedge l = \mathbb{k} = 0 \wedge s = s \Rightarrow$$

$$S_D^{DS} = \frac{(n-1)! \cdot (n-l-s)}{l! \cdot s!}$$

$$D = n < n \wedge l = \mathbb{k} = 0 \wedge s = s \Rightarrow$$

$$S_D^{DS} = \frac{(n-1)! \cdot (n-s)}{(n-n)! \cdot s!}$$

$$D = n < n \wedge l = \mathbb{k} = 0 \wedge s = s \Rightarrow$$

$$S_D^{DS} = \frac{(n-1)! \cdot (D-s)! \cdot D}{i!} \cdot \left(\sum_{i=s+1}^n \mp \frac{1}{i! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S_D^{DS} = \frac{(n-1)! \cdot (D-s)! \cdot D}{(n-\mathbf{n})!} \cdot \left(\sum_{i=s+1}^n \mp \frac{1}{i! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S_D^{DS} = (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_s=D-j+1)}^{n-j+1} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n-n_s-1)!}{(j-2)! \cdot (n-n_s-j+1)!} \cdot \frac{(n_s-1)!}{(n_s+j-D-1)! \cdot (D-j)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \Rightarrow$$

$$S_D^{DS} = (\mathbf{n}-s)! \cdot \sum_{j_i=s+1}^{\mathbf{n}} \sum_{(n_i=\mathbf{n})}^{()} \sum_{n_s=\mathbf{n}-j_i+1}^{n_i-j_i+1} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n-n_s-1)!}{(j_i-2)! \cdot (n-n_s-j_i+1)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \wedge s = 2 \Rightarrow$$

$$S_D^{DS} = (\mathbf{n}-2)! \cdot \sum_{j_i=3}^{\mathbf{n}} \sum_{(n_i=\mathbf{n})}^{()} \sum_{n_s=\mathbf{n}-j_i+1}^{n_i-j_i+1} \frac{(j_i-2)!}{(j_i-3)!} \cdot \frac{(n-n_s-1)!}{(j_i-2)! \cdot (n-n_s-j_i+1)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S_D^{DS} = \frac{\mathbf{n}! \cdot (D-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^D \mp \frac{(i+l-I)!}{i! \cdot (i+i)! \cdot (D-i)!} \right) - \frac{(n-1)! \cdot (D-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^D \mp \frac{(i+l-I-1)!}{i! \cdot (i+i-1)! \cdot (D-i)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(I-I)!} \cdot \left(\sum_{i=s-I+1}^D \mp \frac{(i+I-I)!}{i! \cdot (i+I)! \cdot (D-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D+I-s)!}{(I-I-1)!} \cdot \left(\sum_{i=s-I+1}^D \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (D-i)!} \right)$$

$$D = n < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S_D^{DS} = \frac{n! \cdot (n-s)!}{(I-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+I-I)!}{i! \cdot (i+I)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n-s)!}{(I-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = \mathbb{k} > 0 \Rightarrow$$

$$S_D^{DS} = \frac{n! \cdot (n+I-s)!}{(I-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+I-I)!}{i! \cdot (i+I)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n+I-s)!}{(I-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S_D^{DS} = (D-s)! \cdot \sum_{j^{sa}=j^{sa}+1}^{n+j^{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{(n_i=n)} \sum_{n_{sa}=n-j^{sa}+1}^{n-j^{sa}-\mathbb{k}+1} \frac{(j^{sa}+j_{sa}^{ik}-j_{sa}-2)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!}$$

$$\frac{(n-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +$$

$$(D-s)! \cdot \sum_{j^{sa}=j^{sa}+2}^{n+j^{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)} \sum_{n_i=n} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!}$$

$$\frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!}$$

$$\frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1} \binom{()}{n-j^{sa}-\mathbb{k}+1}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1} \binom{()}{n-j^{sa}-\mathbb{k}+1}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n)}^{()} \sum_{n_{sa}=n-j^{sa}+1}^{n-j^{sa}-\mathbb{k}+1} \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{n_{sa}=n-j^{sa}+1} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}+j_{sa}^{ik}-j_{sa})} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{n_{sa}=n-j^{sa}+1} \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + (D - s)! \cdot$$

$$\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{n_{ik}-\mathbb{k}-1} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}-\mathbb{k}-1}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s}$$

$$\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!}$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge$$

$$j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \\
&\sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \\
&\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!} + \\
&(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
&\sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
&\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z : z = 1 \Rightarrow$$

$$\begin{aligned}
S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
&\sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge s = s \vee I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge$$

$$j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}-\mathbb{k}-1} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n
\end{aligned}$$

$$\sum_{(n_i=n)} \binom{(\quad)}{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1} \sum_{n-j_s+1} \binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)} \sum_{n_{ik}+j_{ik}-j_i-\mathbb{k}} \binom{(n_{ik}+j_{ik}-j_i-\mathbb{k})}{n_s=\mathbf{n}-j_i+1}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_2 : z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \Rightarrow$$

$$S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \binom{(\quad)}{(j_{ik}=j_s+j_{jsa}^{ik}-1)} \sum_{j^{sa}=j_s+j_{jsa}-1}$$

$$\sum_{(n_i=n)} \binom{(\quad)}{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1} \sum_{n-j_s+1} \binom{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)}{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)} \sum_{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \binom{(n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2)}{n_{sa}=\mathbf{n}-j^{sa}+1}$$

$$\frac{(n - j_s - j_{jsa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{jsa})!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!}$$

$$\frac{(n_{ik} - n_{sa} - \mathbb{k}_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k}_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \binom{(\quad)}{(j_{ik}=j_s+j_{jsa}^{ik}-1)} \sum_{j^{sa}=j_{ik}+j_{jsa}-j_{jsa}^{ik}+1} \binom{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)}{n_{sa}=\mathbf{n}-j^{sa}+1} \right)$$

$$\sum_{(n_i=n)} \binom{(\quad)}{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1} \sum_{n-j_s+1} \binom{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)}{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)} \sum_{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \binom{(n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2)}{n_{sa}=\mathbf{n}-j^{sa}+1}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{jsa}^{ik} + 1)! \cdot (j_{jsa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{jsa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{jsa}^{ik} - 1)!}$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\begin{aligned}
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}
\end{aligned}$$

$$D = n < n \wedge I = \mathbb{k} = 0 \wedge s = s \vee I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z; z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1} \\
& \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +
\end{aligned}$$

$$\begin{aligned}
& (D - s)! \cdot \left(\sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\cdot)} \sum_{j^{sa}=j_{ik}+2}^{\mathbf{n}+j_{sa}-s} \right. \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} \right) + \\
& \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(\mathbf{n}+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{\mathbf{n}+j_{sa}-s} \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} = 0 \wedge \mathbf{s} = s \vee I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned}
S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\cdot)} \sum_{j_i=j_s+s-1} \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-\mathbb{k}_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-\mathbb{k}_1)!}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\cdot)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
& \quad \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \quad \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \quad \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \right. \\
& \quad \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right. \\
& \quad \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \quad \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \quad \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)
\end{aligned}$$

$$D = n < n \wedge I = \mathbb{k} = 0 \wedge s = s \vee I = \mathbb{k} > 0 \wedge s = s + \mathbb{k} \wedge \mathbb{k}_z: z = 2 \wedge$$

$$\mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_s+s-1}^n \\
& \quad \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}-\mathbb{k}_2-1}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_{ik}+2}^{\mathbf{n}} \right. \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{\mathbf{n}} \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \Big)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} \wedge \mathbb{k}_z: z > 1 \Rightarrow$$

$$S_D^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{((j_i)_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_z-1} \sum_{((j_i)_z=z+1 \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2}-1 \vee \mathbf{n})}$$

$$\begin{aligned}
& \sum_{n_i=n} \sum_{\substack{(n-(j_i)_1+1) \\ (n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^k k_i-(j_i)_1 \forall z=s \Rightarrow n+\sum_{i=1}^{s-1} k_i-(j_i)_1+1}} \\
& \sum_{\substack{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^k k_i \\ (n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^k k_i-(j_{ik})_z \forall z=s \Rightarrow n+\sum_{i=z-1}^{s-1} k_i-(j_{ik})_z+1}} \\
& \sum_{\substack{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^k k_i \\ (n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^k k_i-(j_i)_z \forall z=s \Rightarrow n+\sum_{i=z}^{s-1} k_i-(j_i)_z+1}} \\
& \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\
& \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \\
& \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \\
& \frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-1)! \cdot (n-(j_i)_{z=s})!}
\end{aligned}$$

Örnek D61; İnsanın belirli bir DNA'sındaki bir kromozomunun bir ipliğindeki azotlu bazlarından adenin (A), guanin (G) ve sitozinin (C) farklı dizimli ve üç timinin (T) bağımsız olasılıklı özel bir dağılımından oluşsun. Bir iplikteki azotlu bazların dağılımlarında AC'nin simetrik diziliminin belirli bir hastalıkla ilgisi bulunsun. AC'nin timin ile başlayıp sonraki ilk farklı dizimli azotlu bazı adenin olmayan ve adeninden farklı azotlu bazlarla başlayan dağılımlardaki simetrik olasılığı; adeninden farklı azotlu bazlarla başlayan dağılımlardaki olasılığın yarısından az olması durumunda genetik taşıyıcılık, eşit ve fazla olması durumunda rahatsızlıklara neden oluyorsa veya timin ile başlayıp sonraki ilk farklı dizimli azotlu bazı adenin olmayan azotlu bazlarla başlayan dağılımlardaki olasılığının yarısından az olması durumunda hastalık oluşmuyorsa, bu dağılıma sahip kişinin hastalığın taşıyıcısı veya rahatsızlığını yaşıyor olduğunu belirleyiniz?

$$D = 3, n = 6, t = 3 \text{ ve } s = 2 \Rightarrow S^{DS} = ?, S_0^{DS} = ?, S_D^{DS} = ?, S^{DS} ? \frac{S_D^{DS}}{2} \text{ veya } S^{DS} ? \frac{S_0^{DS}}{2}$$

Bu örnekte $S_D^{DS} = ?, S^{DS} ? \frac{S_D^{DS}}{2}$ veya $S^{DS} ? \frac{S_0^{DS}}{2}$ ilişkilerinin örneğin çözümünde kurulması gerektiğinden 4. seviyeden problemidir.

$$S^{DS} < \frac{S_0^{DS}}{2} \Rightarrow \text{sağlıklı}$$

$$S_D^{DS} = 10$$

$$S^{DS} < \frac{S_D^{DS}}{2} \Rightarrow \text{genetik taşıyıcı}$$

$$S^{DS} ? \frac{S_D^{DS}}{2}$$

$$S^{DS} \geq \frac{S_D^{DS}}{2} \Rightarrow \text{rahatsızlık}$$

$$20 ? \frac{10}{2}$$

$$20 > 5$$

$$S^{DS} = \frac{n!}{i! \cdot s!} \cdot \frac{n-i-s}{n-i}$$

$$S^{DS} > \frac{S_D^{DS}}{2}$$

$$S^{DS} = \frac{6!}{3! \cdot 2!} \cdot \frac{6-3-2}{6-3}$$

$$S^{DS} = 20$$

$$S^{DS} ? \frac{S_0^{DS}}{2}$$

$$20 ? \frac{10}{2}$$

$$20 > 5$$

$$S_0^{DS} = \frac{(n-1)!}{(i-1)! \cdot s!} \cdot \frac{n-i-s}{n-i}$$

$$S_0^{DS} = \frac{(6-1)!}{(3-1)! \cdot 2!} \cdot \frac{6-3-2}{6-3}$$

$$S^{DS} > \frac{S_0^{DS}}{2}$$

$$S_0^{DS} = 10$$

$$S_D^{DS} = \frac{(n-1)! \cdot (n-i-s)}{i! \cdot s!}$$

$S^{DS} > \frac{S_D^{DS}}{2}$ ve $S^{DS} > \frac{S_0^{DS}}{2}$ olduğundan bu kişi hastalığında rahatsızlık yaşamaktadır.

$$S_D^{DS} = \frac{(6-1)! \cdot (6-3-2)}{3! \cdot 2!}$$

BAĞIMSIZ-BAĞIMLI DURUMLU KALAN SİMETRİ

Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde $\{0, 0, 0, 1, 2, 3, 4, 5\}$ veya $\{0, 0, 0, 1, 2, \mathbf{0}, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde $\{0, 0, 0, 1, 2, 3, 4, 5\}$ veya $\{0, 0, 0, 1, 2, \mathbf{0}, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5\}$, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}_0S^{DS} = {}_0S - {}_0S^{IS}$$

ve eşitliğin sağındaki terimlerin simetrisinin bağımlı durumları arasında bağımsız durum bulunmadığındaki $\{0, 0, 0, 1, 2, 3, 4, 5\}$ eşitleri yazıldığında,

$${}_0S^{DS} = \frac{n!}{(s+i)!} \cdot \frac{(s+i-I)!}{s! \cdot (i-I)!} - \frac{(n-I)!}{(i-I)! \cdot (n-i)!} \cdot \frac{1}{(s-1)!}$$

$${}_0S^{DS} = \frac{n!}{(s+i)!} \cdot \frac{(s+i-I)!}{s! \cdot (i-I)!} - \frac{(n-I)!}{(i-I)! \cdot D} \cdot \frac{1}{(s-1)!}$$

$${}_0S^{DS} = \frac{1}{s! \cdot (i-I)!} \cdot \left(\frac{n! \cdot (s+i-I)!}{(s+i)!} - \frac{(n-I)! \cdot s}{D} \right)$$

veya $i = n - D$ olacağından,

$${}_0S^{DS} = \frac{1}{s! \cdot (n-D-I)!} \cdot \left(\frac{n! \cdot (s+n-D-I)!}{(s+i)!} - \frac{(n-I)! \cdot s}{D} \right)$$

veya $s = s - I$ olacağından,

$${}_0S^{DS} = \frac{1}{(s-I)! \cdot (i-I)!} \cdot \left(\frac{n! \cdot (s+i-2 \cdot I)!}{(s+i-I)!} - \frac{(n-I)! \cdot (s-I)}{D} \right)$$

veya $D = n - i$ olacağından,

$${}_0S^{DS} = \frac{1}{(s-I)! \cdot (i-I)!} \cdot \left(\frac{n! \cdot (s+i-2 \cdot I)!}{(s+i-I)!} - \frac{(n-I)! \cdot (s-I)}{n-i} \right)$$

veya $D = n - i$ olacağından,

$${}_0S^{DS} = \frac{1}{s! \cdot (l-I)!} \cdot \left(\frac{n! \cdot (s+l-I)!}{(s+l)!} - \frac{(n-I)! \cdot s}{n-l} \right)$$

veya

$${}_0S^{DS} = \frac{n!}{l!} \cdot \frac{l!}{(s+l-I)!} \cdot \frac{(s+l-2 \cdot I)!}{(s-I)! \cdot (l-I)!} - \frac{(n-I)!}{(l-I)! \cdot (n-l)} \cdot \frac{1}{(s-I-1)!}$$

veya

$${}_0S^{DS} = \frac{n!}{(s-I)! \cdot (n-D-I)!} \cdot \left(\frac{(n+s-D-2 \cdot I)!}{(n+s-D-I)!} - \frac{(D-1)! \cdot (2 \cdot n - D - l - I)! \cdot (s-I)}{(n-l)! \cdot (2 \cdot n - l - D)!} \right)$$

veya eşitliğin sağındaki terimlerin bir dağılımın bağımsız durum sayısı ile ilişkili eşitleri yazıldığında,

$${}_0S^{DS} = \frac{n!}{(s-I)! \cdot (l-I)!} \cdot \left(\frac{(s+l-2 \cdot I)!}{(s+l-I)!} - \frac{(n-I)! \cdot (s-I)}{n! \cdot (n-l)} \right)$$

veya simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde ve bağımlı durumları arasında bağımsız durum bulunduğu $\{0, 0, 0, 1, 2, \mathbf{0}, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5\}$,

$$\begin{aligned} {}_0S^{DS} &= (D-s) \cdot \prod_{z=2}^s \sum_{((j_i)_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z+2}-1) \vee n}^{((j_i)_{z+2}-1) \vee n} \\ &\quad \sum_{n_i=n+l \wedge n}^{n-l \wedge n} \sum_{(n_i-(j_i)_1) (\wedge - (l-(n-n_i))) + 1}^{(n_i-(j_i)_1) (\wedge - (l-(n-n_i))) + 1} \\ &\quad \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{l-1} \mathbb{k}_i-(j_i)_1 \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} \mathbb{k}_i-(j_i)_1+1}^{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{l-1} \mathbb{k}_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i-(j_{ik})_z+1} \\ &\quad \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{l-1} \mathbb{k}_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i-(j_{ik})_z+1}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{l-1} \mathbb{k}_i} \\ &\quad \sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{l-1} \mathbb{k}_i-(j_i)_z \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} \mathbb{k}_i-(j_i)_{z+1}}^{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{l-1} \mathbb{k}_i} \\ &\quad \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\ &\quad \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \end{aligned}$$

$$\frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \cdot \frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}$$

eşitlikleri elde edilir. Bu eşitliklere, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarında, simetri bağımsız durumla başlayıp bağımlı durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu kalan simetrik olasılık ${}_0S^{DS}$ ile gösterilecektir.

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S^{DS} = \frac{1}{s! \cdot (l - I)!} \cdot \left(\frac{n! \cdot (s + l - I)!}{(s + l)!} - \frac{(n - I)! \cdot s}{D} \right)$$

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S^{DS} = \frac{1}{s! \cdot (n - D - I)!} \cdot \left(\frac{n! \cdot (s + n - D - I)!}{(s + l)!} - \frac{(n - I)! \cdot s}{D} \right)$$

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S^{DS} = \frac{1}{(s - I)! \cdot (l - I)!} \cdot \left(\frac{n! \cdot (s + l - 2 \cdot I)!}{(s + l - I)!} - \frac{(n - I)! \cdot (s - I)}{D} \right)$$

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S^{DS} = \frac{1}{(s - I)! \cdot (l - I)!} \cdot \left(\frac{n! \cdot (s + l - 2 \cdot I)!}{(s + l - I)!} - \frac{(n - I)! \cdot (s - I)}{n - l} \right)$$

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S^{DS} = \frac{1}{s! \cdot (l - I)!} \cdot \left(\frac{n! \cdot (s + l - I)!}{(s + l)!} - \frac{(n - I)! \cdot s}{n - l} \right)$$

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S^{DS} = \frac{n!}{l!} \cdot \frac{l!}{(s + l - I)!} \cdot \frac{(s + l - 2 \cdot I)!}{(s - I)! \cdot (l - I)!} - \frac{(n - I)!}{(l - I)! \cdot (n - l)} \cdot \frac{1}{(s - I - 1)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \Rightarrow$$

$${}_0S^{DS} = \frac{n!}{(s-I)! \cdot (n-D-I)!} \cdot$$

$$\left(\frac{(n+s-D-2 \cdot I)!}{(n+s-D-I)!} - \frac{(D-1)! \cdot (2 \cdot n - D - I - I)! \cdot (s-I)}{(n-I)! \cdot (2 \cdot n - I - D)!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \Rightarrow$$

$${}_0S^{DS} = \frac{n!}{(s-I)! \cdot (I-I)!} \cdot \left(\frac{(s+I-2 \cdot I)!}{(s+I-I)!} - \frac{(n-I)! \cdot (s-I)}{n! \cdot (n-I)} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \Rightarrow$$

$$\begin{aligned}
{}_0S^{DS} &= (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D)}^{n-\mathbb{1}} \sum_{n_s=D-j+1}^{n_i-j+1} \\
&\frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D-j)!} + \\
&(D-s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{j_s a}^{ik}-1)}^{(D+j_{j_s a}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{j_s a}^{ik}} \\
&\sum_{(n_i=n-\mathbb{1}+1)}^{(n)} \sum_{n_{is}=D-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=D-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=D-j_i+1}^{n_{ik}+j_{ik}-j_i} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{j_s a}^{ik} + 1)! \cdot (j_{j_s a}^{ik} - 2)!} \cdot \\
&\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
&\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - D - 1)! \cdot (D - j_i)!} + \\
&(D-s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{j_s a}^{ik}-1)}^{(D+j_{j_s a}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{j_s a}^{ik}+1}^D \\
&\sum_{(n_i=n-\mathbb{1}+1)}^{(n)} \sum_{n_{is}=D-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=D-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=D-j_i+1}^{n_{ik}+j_{ik}-j_i}
\end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - D - 1)! \cdot (D - j_i)!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \wedge s = 2 \Rightarrow$$

$${}_0S^{DS} = (D - 2)! \cdot \sum_{j=3}^D \sum_{\substack{n_i = D \\ (n_i = D)}}^{n - \mathbb{1}} \sum_{n_s = D - j + 1}^{n_i - j + 1}$$

$$\frac{(j - 2)!}{(j - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j - 2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D - j)!} +$$

$$(D - 2)! \cdot \sum_{j_s=2}^{D-1} \sum_{(j_{ik}=j_s)} \sum_{j_i=j_s+1}$$

$$\sum_{\substack{(n) \\ (n_i = n - \mathbb{1} + 1)}}^{n_i - j_s - (\mathbb{1} - (n - n_i)) + 1} \sum_{n_{is} = D - j_s + 1}^{()} \sum_{(n_{ik} = n_{is})} \sum_{n_s = D - j_i + 1}^{n_{is} - 1}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - D - 1)! \cdot (D - j_i)!} +$$

$$(D - 2)! \cdot \sum_{j_s=2}^{D-1} \sum_{(j_{ik}=j_s)}^{()} \sum_{j_i=j_s+2}^D$$

$$\sum_{\substack{(n) \\ (n_i = n - \mathbb{1} + 1)}}^{n_i - j_s - (\mathbb{1} - (n - n_i)) + 1} \sum_{n_{is} = D - j_s + 1}^{()} \sum_{(n_{ik} = n_{is})} \sum_{n_s = D - j_i + 1}^{n_{ik} + j_s - j_i}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot$$

$$\frac{(n_{is} - n_s - 1)!}{(j_i - j_s - 1)! \cdot (n_{is} + j_s - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - D - 1)! \cdot (D - j_i)!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{1} + \mathbb{k} \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$${}_0S^{DS} = (D - s)! \cdot \left(\sum_{j^{sa} = j_{sa} + 1}^{n + j_{sa} - s} \sum_{(j_{ik} = j^{sa} + j_{sa}^{ik} - j_{sa})} \sum_{(n_i = n + \mathbb{k})}^{(n - \mathbb{1})} \sum_{n_{sa} = n - j^{sa} + 1}^{n_i - j^{sa} - \mathbb{k} + 1} \right)$$

$$\begin{aligned}
& \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \\
& \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) + \\
& (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right. \\
& \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right)
\end{aligned}$$

$$\begin{aligned}
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \Big) \\
& D = \mathbf{n} < n \wedge I = l + k \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow \\
& {}_0S^{DS} = (D-s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+k)}^{(n-l)} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-k+1} \right. \\
& \frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{sa}-k-1)!}{(j^{sa}-2)! \cdot (n_i-n_{sa}-j^{sa}-k+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \\
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-k-1} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j_{ik}-1)!}{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \left. \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) +
\end{aligned}$$

$$\begin{aligned}
& (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{\mathbf{n}+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
& \quad \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \quad \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
& \quad \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} + \right. \\
& \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
& \quad \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \quad \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \quad \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \quad \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
& {}_0S^{DS} = (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{\mathbf{n}+j_{sa}-s} \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \right. \\
& \quad \frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \quad \left. \frac{(n_i-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n_i-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} + \right. \\
& \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}
\end{aligned}$$

$$\begin{aligned}
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l-k-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-k-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n+j_{sa}^{ik}-j_{ik}-j_{sa})!}{(n+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa})!} \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
& \frac{(n_{ik}-n_{sa}-k-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-k)!} \\
& \left. \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
& (D-s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+l}^{n-l} \sum_{(n_{ik}=n+l-k-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \right. \\
& \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \\
& \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l-k-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-k-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!}
\end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} + \mathbb{k} \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}_0S^{DS} &= (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-\mathbb{1})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \right. \\ &\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \\ &\sum_{(n_i=\mathbf{n}-\mathbb{1}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \\ &(D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}}^{n-\mathbb{1}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\ &\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\ &\left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \end{aligned}$$

$$\begin{aligned}
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \Big) \\
D = n < n \wedge I = l + k \wedge s = s + I \wedge k_z: z = 1 \Rightarrow \\
& {}_0S^{DS} = (D-s)! \cdot \\
& \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})}^{n-l} \sum_{n_i=n+l}^{(n_i-j_{ik}+1)} \sum_{(n_{ik}=n+l-j_{ik}+1)}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{n_{sa}=n-j^{sa}+1} \right) \\
& \frac{(j^{sa}+j_{sa}^{ik}-j_{sa}-2)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
& \frac{(n_{ik}-n_{sa}-k-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-k)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n+j_{sa}^{ik}-j_{ik}-j_{sa})!}{(n+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \\
& \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \\
& (D - s)! \cdot \\
& \left(\sum_{j^{sa}=j_{sa}+2}^{\mathbf{n}+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \left. \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \right) \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{l} + \mathbb{k} \wedge s = s + I \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}_0S^{DS} = & (D-s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \right. \\
& \frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
& \left. \frac{(n_{ik}-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-\mathbb{k})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \right. \\
& \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \right. \\
& \sum_{(n_i=n-1+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s-(1-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j_{ik}-1)!}{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \left. \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
& (D-s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
& \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
& \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \right. \\
& \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right)
\end{aligned}$$

$$\frac{\sum_{(n_i = \mathbf{n} - \mathbb{1} + 1)}^{(n)} \sum_{n_{is} = \mathbf{n} + \mathbb{k} - j_s + 1}^{n_i - j_s - (\mathbb{1} - (n - n_i)) + 1} \sum_{(n_{ik} = \mathbf{n} + \mathbb{k} - j_{ik} + 1)}^{(n_{is} + j_s - j_{ik})} \sum_{n_{sa} = \mathbf{n} - j^{sa} + 1}^{n_{ik} + j_{ik} - j^{sa} - \mathbb{k}}}{(j_{ik} - j_s - 1)!} \cdot \frac{(n - j^{sa})!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}{(n_{is} - n_{ik} - 1)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{1} \wedge \mathbf{s} = s + \mathbb{1} \vee$$

$$I = \mathbb{1} + \mathbb{k} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbb{k} \wedge \mathbb{k}_Z: Z = 1 \Rightarrow$$

$${}_0S^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik} = j_s + j_{sa}^{ik} - 1)}^{(n + j_{sa}^{ik} - s)} \sum_{j^{sa} = j_{ik} + j_{sa} - j_{sa}^{ik}} \right) \frac{\sum_{(n_i = \mathbf{n} + \mathbb{k})}^{(n - \mathbb{1})} \sum_{n_{is} = \mathbf{n} + \mathbb{k} - j_s + 1}^{n_i - j_s + 1} \sum_{(n_{ik} = \mathbf{n} + \mathbb{k} - j_{ik} + 1)}^{(n_{is} + j_s - j_{ik})} \sum_{n_{sa} = \mathbf{n} - j^{sa} + 1}^{n_{ik} + j_{ik} - j^{sa} - \mathbb{k}}}{(j_{ik} - j_s - 1)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!}{(n_{is} - n_{ik} - 1)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik} = j_s + j_{sa}^{ik} - 1)}^{(n + j_{sa}^{ik} - s)} \sum_{j^{sa} = j_{ik} + j_{sa} - j_{sa}^{ik}} \frac{\sum_{(n_i = \mathbf{n} - \mathbb{1} + 1)}^{(n)} \sum_{n_{is} = \mathbf{n} + \mathbb{k} - j_s + 1}^{n_i - j_s - (\mathbb{1} - (n - n_i)) + 1} \sum_{(n_{ik} = \mathbf{n} + \mathbb{k} - j_{ik} + 1)}^{(n_{is} + j_s - j_{ik})} \sum_{n_{sa} = \mathbf{n} - j^{sa} + 1}^{n_{ik} + j_{ik} - j^{sa} - \mathbb{k}}}{(j_{ik} - j_s - 1)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!}{(n_{is} - n_{ik} - 1)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \\
& \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\mathbf{n}+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{\mathbf{n}+j_{sa}-s} \right. \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\mathbf{n}+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{\mathbf{n}+j_{sa}-s} \\
& \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} \wedge \mathbf{s} = s + \mathbb{l} \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}_0S^{Ds} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \right. \\
&\quad \sum_{(n_i=n+\mathbb{k})}^{(n-\mathbb{l})} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
&\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \\
&\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
&\quad \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right. \\
&\quad \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \right. \\
&\quad \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
&\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \\
&\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
&\quad \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) + \\
&\quad (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\
&\quad \sum_{(n_i=n+\mathbb{k})}^{(n-\mathbb{l})} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j^{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} \wedge \mathbf{s} = s + \mathbb{l} \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
{}_0S^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \right) \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}
\end{aligned}$$

$$\begin{aligned}
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{i_s}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{i_k}=\mathbf{n}+\mathbb{k}-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{i_k}+j_{i_k}-j_i-\mathbb{k}} \\
& \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \\
& \frac{(n_{i_k}-n_s-\mathbb{k}-1)!}{(j_i-j_{i_k}-1)! \cdot (n_{i_k}+j_{i_k}-n_s-j_i-\mathbb{k})!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!} \Big) + \\
& (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+j_{s_a}^{i_k}-1)}^{(n+j_{s_a}^{i_k}-s)} \sum_{j_i=j_{i_k}+s-j_{s_a}^{i_k}+1}^n \right. \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-\mathbb{l})} \sum_{n_{i_s}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{i_k}=\mathbf{n}+\mathbb{k}-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{i_k}+j_{i_k}-j_i-\mathbb{k}} \\
& \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(j_i-j_{i_k}-1)!}{(j_i+j_{s_a}^{i_k}-j_{i_k}-s)! \cdot (s-j_{s_a}^{i_k}-1)!} \\
& \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \\
& \frac{(n_{i_k}-n_s-1)!}{(j_i-j_{i_k}-1)! \cdot (n_{i_k}+j_{i_k}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!} \Big) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+j_{s_a}^{i_k}-1)}^{(n+j_{s_a}^{i_k}-s)} \sum_{j_i=j_{i_k}+s-j_{s_a}^{i_k}+1}^n \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{i_s}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{i_k}=\mathbf{n}+\mathbb{k}-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{i_k}+j_{i_k}-j_i-\mathbb{k}} \\
& \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(j_i-j_{i_k}-1)!}{(j_i+j_{s_a}^{i_k}-j_{i_k}-s)! \cdot (s-j_{s_a}^{i_k}-1)!} \\
& \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \\
& \frac{(n_{i_k}-n_s-1)!}{(j_i-j_{i_k}-1)! \cdot (n_{i_k}+j_{i_k}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!} \Big)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge I = \mathbb{1} \wedge \mathbf{s} = s + \mathbb{1} \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{1} + \mathbf{k} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{k} \wedge \mathbf{k}_z: z = 1 \wedge$$

$$j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned} {}_0S^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \right. \\ &\quad \sum_{(n_i=n+\mathbf{k})}^{(n-1)} \sum_{n_{is}=n+\mathbf{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbf{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}-\mathbf{k}-1} \\ &\quad \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \right. \\ &\quad \left. \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \right. \\ &\quad \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \right. \\ &\quad \sum_{(n_i=n-\mathbb{1}+1)}^{(n)} \sum_{n_{is}=n+\mathbf{k}-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbf{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}-\mathbf{k}-1} \\ &\quad \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \right. \\ &\quad \left. \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right) + \\ &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \right. \\ &\quad \sum_{(n_i=n+\mathbf{k})}^{(n-1)} \sum_{n_{is}=n+\mathbf{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbf{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbf{k}} \end{aligned}$$

$$\begin{aligned}
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l-k-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-k-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge k = 0 \wedge I = l \wedge s = s + l \vee$$

$$I = l + k \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k \wedge k_z: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = l + k \wedge s > 1 \wedge l > 0 \wedge k_2 > 0 \wedge k_1 = 0 \wedge s = s + l + k \wedge$$

$$k_z: z = 1 \wedge k = k_2 \Rightarrow$$

$$\begin{aligned}
{}_0S^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \right) \\
& \sum_{(n_i=n+k)}^{(n-l)} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
& \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - \mathbb{k}_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k}_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{\binom{(\)}{j_{ik}=j_s+j_{sa}^{ik}-1}} \sum_{j^{sa}=j_s+j_{sa}-1} \\
& \sum_{\binom{(\)}{n_i=n-l+1}} \sum_{n_i=j_s-(l-(n-n_i))+1} \sum_{\binom{(\)}{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}} \sum_{\binom{(\)}{n_{ik}=n+\mathbb{k}_2-j_{ik}+1}} \sum_{\binom{(\)}{n_{sa}=n-j^{sa}+1}} \\
& \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \frac{(n_{ik} - n_{sa} - \mathbb{k}_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k}_2)!} \cdot \\
& \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{\binom{(\)}{j_{ik}=j_s+j_{sa}^{ik}-1}} \sum_{n+j_{sa}-s} \right) \\
& \sum_{\binom{(\)}{n_i=n+l}} \sum_{n_i=j_s+1} \sum_{\binom{(\)}{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}} \sum_{\binom{(\)}{n_{ik}=n+\mathbb{k}_2-j_{ik}+1}} \sum_{\binom{(\)}{n_{sa}=n-j^{sa}+1}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{\binom{(\)}{j_{ik}=j_s+j_{sa}^{ik}-1}} \sum_{n+j_{sa}-s}
\end{aligned}$$

$$\begin{aligned}
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+k_1+k_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
& \sum_{(n_i=\mathbf{n}+k)}^{(n-l)} \sum_{n_{is}=\mathbf{n}+k_1+k_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+k_1+k_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot
\end{aligned}$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge I = \mathbb{1} \wedge \mathbf{s} = s + \mathbb{1} \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{1} + \mathbf{k} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{k} \wedge$$

$$\mathbf{k}_z: z = 2 \wedge \mathbf{k} = \mathbf{k}_1 + \mathbf{k}_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{1} + \mathbf{k} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k}_2 > 0 \wedge \mathbf{k}_1 = 0 \wedge$$

$$\mathbf{s} = s + \mathbb{1} + \mathbf{k} \wedge \mathbf{k}_z: z = 1 \wedge \mathbf{k} = \mathbf{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}_0S^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \right) \\ &\sum_{(n_i=n+\mathbf{k})}^{(n-\mathbb{1})} \sum_{n_{is}=n+\mathbf{k}_1+\mathbf{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbf{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbf{k}_2-1} \\ &\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbf{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbf{k}_1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\ &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\ &\sum_{(n_i=n-\mathbb{1}+1)}^{(n)} \sum_{n_{is}=n+\mathbf{k}_1+\mathbf{k}_2-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbf{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbf{k}_2-1} \\ &\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbf{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbf{k}_1)!} \end{aligned}$$

$$\begin{aligned}
& \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{\mathbf{n}+j_{sa}-s} \right. \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-l)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \quad \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \quad \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{\mathbf{n}+j_{sa}-s} \\
& \quad \sum_{(n_i=\mathbf{n}-l+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \quad \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \quad \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(\mathbf{n}+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{\mathbf{n}+j_{sa}-s} \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-l)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}
\end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = l \wedge s = s + l \vee$$

$$I = l + k \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k \wedge k_z: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = l + k \wedge s > 1 \wedge l > 0 \wedge k_2 > 0 \wedge k_1 = 0 \wedge s = s + l + k \wedge$$

$$k_z: z = 1 \wedge k = k_2 \Rightarrow$$

$$\begin{aligned}
{}_0S^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \right) \\
& \sum_{(n_i=n+k)}^{(n-l)} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot \\
& \frac{(n_{ik} - n_s - k_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1}
\end{aligned}$$

$$\begin{aligned}
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - l_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - l_1)!} \\
& \frac{(n_{ik} - n_s - l_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - l_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
& \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-s)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n
\end{aligned}$$

$$\begin{aligned}
 & \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-l_{k_2}} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-l_{k_2}} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}
 \end{aligned}$$

$$D = n < n \wedge l_k = 0 \wedge I = l \wedge s = s + l \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = l + k \wedge s > 1 \wedge l > 0 \wedge l_k > 0 \wedge s = s + l + k \wedge$$

$$l_{k_2}: z = 2 \wedge l_k = l_{k_1} + l_{k_2} \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = l + k \wedge s > 1 \wedge l > 0 \wedge l_{k_2} > 0 \wedge l_{k_1} = 0 \wedge$$

$$s = s + l + k \wedge l_{k_2}: z = 1 \wedge l_k = l_{k_2} \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
 {}_0S^{DS} &= (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\quad)} \sum_{j_i=j_s+s-1} \right) \\
 & \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n-j_i+1}^{n_{ik}-l_{k_2}-1}
 \end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \quad \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\quad)} \sum_{j_i=j_s+s-1}^{\quad} \\
& \quad \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}-\mathbb{k}_2-1} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \quad \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \quad (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\quad)} \sum_{j_i=j_{ik}+2}^{\mathbf{n}} \right. \\
& \quad \left. \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-l)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \right. \\
& \quad \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right. \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \quad \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\quad)} \sum_{j_i=j_{ik}+2}^{\mathbf{n}} \\
& \quad \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
& \sum_{(n_i=n+l_k)}^{(n-1)} \sum_{n_{is}=n+l_{k_1}+l_{k_2}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_{k_2}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-l_{k_2}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l_{k_1}+l_{k_2}-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_{k_2}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-l_{k_2}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}
\end{aligned}$$

$$D = n < n \wedge I = l + k \wedge s = s + I \wedge k_z: z > 1 \Rightarrow$$

$${}_0S^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{((j_i)_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_z=z+1 \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2}-1 \vee n)}$$

$$\begin{aligned}
& \sum_{n_i = n + k \wedge n - l + 1}^{n - l \wedge n} \sum_{\substack{(n_i - (j_i)_1)^{\wedge - (l - (n - n_i))} + 1 \\ (n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{k_i} k_i - (j_i)_1 \forall z = s \Rightarrow n + \sum_{i=1}^{s-1} k_i - (j_i)_1 + 1}} \\
& \sum_{\substack{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{k_i} k_i \\ (n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{k_i} k_i - (j_{ik})_z \forall z = s \Rightarrow n + \sum_{i=z-1}^{s-1} k_i - (j_{ik})_z + 1}} \\
& \sum_{\substack{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{k_i} k_i \\ (n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{k_i} k_i - (j_i)_z \forall z = s \Rightarrow n + \sum_{i=z}^{s-1} k_i - (j_i)_z + 1}} \\
& \frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa}^{ik})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{ik})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - n)!} \\
& \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
& \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
& \frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}
\end{aligned}$$

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMSIZ-BAĞIMLI DURUMLU KALAN SİMETRİ

Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde $\{0, 0, 0, 1, 2, 3, 4, 5\}$ veya $\{0, 0, 0, 1, 2, \mathbf{0, 0, 0}, 3, 4, \mathbf{0, 0, 5}\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde $\{0, 0, 0, 1, 2, 3, 4, 5\}$ veya $\{0, 0, 0, 1, 2, \mathbf{0, 0, 0}, 3, 4, \mathbf{0, 0, 5}\}$, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}_0S_0^{DS} = {}_0S_0 - {}_0S_0^{IS}$$

ve eşitliğin sağındaki terimlerin simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde ve simetrisinin bağımlı durumları arasında bağımsız durum bulunmadığındaki $\{0, 0, 0, 1, 2, 3, 4, 5\}$, eşitleri yazıldığında,

$${}_0S_0^{DS} = \frac{(n-1)!}{(l+s-1)!} \cdot \frac{(l+s-l)!}{s! \cdot (l-l)!} - \frac{(n-l)!}{(l-l)! \cdot (n-l)} \cdot \frac{1}{(s-1)!}$$

$${}_0S_0^{DS} = \frac{n!}{(l-l)! \cdot s!} \cdot \left(\frac{(l+s-l)!}{(l+s-1)! \cdot n} - \frac{(n-l)! \cdot s}{n! \cdot (n-l)} \right)$$

veya $s = s - l$ olduğundan,

$${}_0S_0^{DS} = \frac{n!}{(l-l)! \cdot (s-l)!} \cdot \left(\frac{(l+s-2 \cdot l)!}{(l+s-l-1)! \cdot n} - \frac{(n-l)! \cdot (s-l)}{n! \cdot (n-l)} \right)$$

veya

$${}_0S_0^{DS} = \frac{(n-1)!}{(s-l)! \cdot (n-D-l)!} \cdot \left(\frac{(n+s-D-2 \cdot l)!}{(n+s-D-l-1)!} - \frac{(D-1)! \cdot (2 \cdot n - D - l - l)! \cdot (s-l)}{(n-l)! \cdot (2 \cdot n - l - D - 1)!} \right)$$

veya

$${}_0S_0^{DS} = \frac{(n-1)!}{(s-l)! \cdot (l-l)!} \cdot \left(\frac{(s+l-2 \cdot l)!}{(s+l-l-1)!} - \frac{(n-l)! \cdot (s-l)}{(n-1)! \cdot (n-l)} \right)$$

veya eşitliğin sağındaki terimlerin simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde ve simetrisinin bağımlı durumları arasında bağımsız durum bulunduğu $\{0, 0, 0, 1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$, eşitleri yazıldığında,

$${}_0S_0^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{((j_{ik})_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z+2-1} \vee n)}^{((j_i)_{z+2-1} \vee n)} \sum_{n_i=n+l \wedge n-l+1}^{n-l \wedge n-1} \sum_{((n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{l_k} l_{k_i} - (j_i)_1 \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} l_{k_i} - (j_i)_1+1)}^{(n_i - (j_i)_1 (\wedge - (l - (n - n_i))) + 1)} \sum_{((n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{l_k} l_{k_i} - (j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} l_{k_i} - (j_{ik})_z+1)}^{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{l_k} l_{k_i}}$$

$$\frac{\binom{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i}}{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i} \mathbb{k}_i - (j_i)_z \vee z = s \Rightarrow \mathbf{n} + \sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_{z+1}}}{\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-\mathbf{n})!}} \cdot \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \cdot \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \cdot \frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - \mathbf{n} - 1)! \cdot (\mathbf{n} - (j_i)_{z=s})!}$$

Not: n_i üzerinden $n-1$ 'e alınacak toplam teriminde n_{ik} toplamının üst sınırında $-(\mathbb{1} - (n - n_i))$ teriminin olması gerekeceği gibi $\frac{(n_i - (n_{ik})_1 - 1)!}{((j_{ik})_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_{ik})_1 + 1)!}$ teriminde $(n_i - (n_{ik})_1 - 1)$ ve $(n_i - (n_{ik})_1 - (j_{ik})_1 + 1)$ terimlerinde de $-(\mathbb{1} - (n - n_i))$ olması gerekeceği unutulmamalıdır!

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımsız kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp bağımlı durumla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımsız kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımsız kalan simetrik olasılık ${}_0S_0^{DS}$ ile gösterilecektir.

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \Rightarrow$$

$${}_0S_0^{DS} = \frac{n!}{(i-I)! \cdot s!} \cdot \left(\frac{(i+s-I)!}{(i+s-1)! \cdot n} - \frac{(n-I)! \cdot s}{n! \cdot (n-i)} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \Rightarrow$$

$${}_0S_0^{DS} = \frac{n!}{(i-I)! \cdot (s-I)!} \cdot \left(\frac{(i+s-2 \cdot I)!}{(i+s-I-1)! \cdot n} - \frac{(n-I)! \cdot (s-I)}{n! \cdot (n-i)} \right)$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \Rightarrow$$

$${}_0S_0^{DS} = \frac{(n-1)!}{(s-I)! \cdot (n-D-I)!}$$

$$\left(\frac{(n+s-D-2 \cdot I)!}{(n+s-D-I-1)!} - \frac{(D-1)! \cdot (2 \cdot n - D - l - I)! \cdot (s-I)}{(n-l)! \cdot (2 \cdot n - l - D - 1)!} \right)$$

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S_0^{DS} = \frac{(n-1)!}{(s-I)! \cdot (l-I)!} \cdot \left(\frac{(s+l-2 \cdot I)!}{(s+l-I-1)!} - \frac{(n-I)! \cdot (s-I)}{(n-1)! \cdot (n-l)} \right)$$

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$$\begin{aligned} {}_0S_0^{DS} &= (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D)}^{n-l} \sum_{n_s=D-j+1}^{n_i-j+1} \\ &\frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D-j)!} + \\ &(D-s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(D+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\ &\sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=D-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=D-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - D - 1)! \cdot (D - j_i)!} + \\ &(D-s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(D+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^D \\ &\sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=D-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=D-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - D - 1)! \cdot (D - j_i)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \wedge s = 2 \Rightarrow$$

$$\begin{aligned} {}_0S_0^{DS} &= (D - 2)! \cdot \sum_{j=3}^D \sum_{(n_i=D)}^{n-\mathbb{1}} \sum_{n_s=D-j+1}^{n_i-j+1} \\ &\frac{(j-2)!}{(j-3)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D - j)!} + \\ &\quad (D-2)! \cdot \sum_{j_s=2}^{D-1} \sum_{(j_{ik}=j_s)} \sum_{j_i=j_s+1}^{D-1} \\ &\quad \sum_{(n_i=n-\mathbb{1}+1)}^{(n-1)} \sum_{n_{is}=D-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=n_{is})} \sum_{n_s=D-j_i+1}^{n_{is}-1} \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - D - 1)! \cdot (D - j_i)!} + \\ &\quad (D-2)! \cdot \sum_{j_s=2}^{D-1} \sum_{(j_{ik}=j_s)} \sum_{j_i=j_s+2}^D \\ &\quad \sum_{(n_i=n-\mathbb{1}+1)}^{(n-1)} \sum_{n_{is}=D-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=n_{is})} \sum_{n_s=D-j_i+1}^{n_{ik}+j_s-j_i} \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - D - 1)! \cdot (D - j_i)!} \\ &\quad \frac{(n_{is} - n_s - 1)!}{(j_i - j_s - 1)! \cdot (n_{is} + j_s - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - D - 1)! \cdot (D - j_i)!} \end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} + \mathbb{k} \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned} {}_0S_0^{DS} &= (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{(n_i=n+\mathbb{k})}^{(n-\mathbb{1})} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \right. \\ &\quad \left. \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \right) \end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \\
& \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) + \\
& (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}
\end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{l} + \mathbb{k} \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}_0S_0^{DS} &= (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+\mathbb{k})}^{(n-\mathbb{l})} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \right) \cdot \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\ &\quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \\ &\quad \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\ &\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\ &\quad (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right) \cdot \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right)
\end{aligned}$$

$$D = n < n \wedge I = l + k \wedge s = s + I \wedge k_z: z = 1 \Rightarrow$$

$$\begin{aligned}
& {}_0S_0^{DS} = (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+k)}^{(n-l)} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-k+1} \right) \\
& \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{sa} - k - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - k + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \\
& \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \\
(D - s)! \cdot & \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-1+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s-(1-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} + \mathbb{k} \wedge s = s + I \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_0^{DS} &= (D-s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \right. \\
&\quad \frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\quad \frac{(n_i-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n_i-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
&\quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \\
&\quad \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
&\quad \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j_{ik}-1)!}{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \cdot \\
&\quad \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
&\quad \left. \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
&\quad (D-s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
&\quad \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\quad \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
&\quad \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \right. \\
&\quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
&\quad \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}
\end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} + \mathbb{k} \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned} & \left(\sum_{j^{sa}=j_{sa}+1}^{\mathbf{n}+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{n_i=\mathbf{n}+\mathbb{k}}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right) \cdot {}_0S_0^{DS} = (D - s)! \cdot \\ & \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\ & \sum_{(n_i=n-\mathbb{1}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(\mathbf{n} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \Big) + \\ & (D - s)! \cdot \end{aligned}$$

$$\begin{aligned}
& \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right) \\
& \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
& \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right) \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \Big)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_0^{DS} &= (D-s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \right) \\
& \frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j_{ik} - 1)!}{(\mathbf{n} + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \\
& (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}}^{n-\mathbb{l}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot
\end{aligned}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge I = \mathbb{1} \wedge \mathbf{s} = s + \mathbb{1} \vee$$

$$I = \mathbb{1} + \mathbf{k} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{k} \wedge \mathbf{k}_z : z = 1 \Rightarrow$$

$$\begin{aligned} {}_0S_0^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \right. \\ &\quad \sum_{(n_i=\mathbf{n}+\mathbf{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbf{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbf{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbf{k}} \\ &\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\quad \frac{(n_{ik} - n_{sa} - \mathbf{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbf{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &\quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\ &\quad \sum_{(n_i=\mathbf{n}-\mathbb{1}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbf{k}-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbf{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbf{k}} \\ &\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\quad \frac{(n_{ik} - n_{sa} - \mathbf{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbf{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \Big) + \end{aligned}$$

$$\begin{aligned}
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbf{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbf{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbf{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbf{k}} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \quad \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \quad \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\
& \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
& \quad \sum_{(n_i=\mathbf{n}-\mathbf{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbf{k}-j_s+1}^{n_i-j_s-(\mathbf{l}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbf{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbf{k}} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \quad \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \quad \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbf{k} = 0 \wedge I = \mathbb{1} \wedge \mathbf{s} = s + \mathbb{1} \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{1} + \mathbf{k} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{k} \wedge \mathbf{k}_z : z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}_0S_0^{D\mathbf{s}} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \right)$$

$$\begin{aligned}
& \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_{i_s}=\mathbf{n}+l-k-j_s+1}^{n_i-j_s+1} \sum_{(n_{i_k}=\mathbf{n}+l-k-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k})} \sum_{n_{s_a}=\mathbf{n}-j^{s_a}+1}^{n_{i_k}-l-k-1} \\
& \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(\mathbf{n}-j_{i_k}-1)!}{(\mathbf{n}+j_{s_a}-j_{i_k}-s-1)! \cdot (s-j_{s_a})!} \cdot \\
& \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \\
& \frac{(n_{s_a}-1)!}{(n_{s_a}+j^{s_a}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{s_a})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+j_{s_a}^{i_k}-1)}^{(n+j_{s_a}^{i_k}-s)} \sum_{j^{s_a}=j_{i_k}+1} \\
& \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{i_s}=\mathbf{n}+l-k-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{i_k}=\mathbf{n}+l-k-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k})} \sum_{n_{s_a}=\mathbf{n}-j^{s_a}+1}^{n_{i_k}-l-k-1} \\
& \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(\mathbf{n}-j_{i_k}-1)!}{(\mathbf{n}+j_{s_a}-j_{i_k}-s-1)! \cdot (s-j_{s_a})!} \cdot \\
& \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \\
& \frac{(n_{s_a}-1)!}{(n_{s_a}+j^{s_a}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{s_a})!} \Big) + \\
& (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+j_{s_a}^{i_k}-1)}^{(n+j_{s_a}^{i_k}-s)} \sum_{j^{s_a}=j_{i_k}+2}^{n+j_{s_a}-s} \right. \\
& \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_{i_s}=\mathbf{n}+l-k-j_s+1}^{n_i-j_s+1} \sum_{(n_{i_k}=\mathbf{n}+l-k-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k})} \sum_{n_{s_a}=\mathbf{n}-j^{s_a}+1}^{n_{i_k}+j_{i_k}-j^{s_a}-l-k} \\
& \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(\mathbf{n}-j^{s_a})!}{(\mathbf{n}+j_{s_a}-j^{s_a}-s)! \cdot (s-j_{s_a})!} \cdot \\
& \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \\
& \frac{(n_{i_k}-n_{s_a}-1)!}{(j^{s_a}-j_{i_k}-1)! \cdot (n_{i_k}+j_{i_k}-n_{s_a}-j^{s_a})!} \cdot \frac{(n_{s_a}-1)!}{(n_{s_a}+j^{s_a}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{s_a})!} \Big) +
\end{aligned}$$

$$\begin{aligned}
& \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\mathbf{n}+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{\mathbf{n}+j_{sa}-s} \\
& \sum_{(n_i=n-\mathbb{1}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{1} \wedge \mathbf{s} = s + \mathbb{1} \vee$$

$$I = \mathbb{1} + \mathbb{k} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbb{k} \wedge \mathbb{k}_z; z = 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_0^{D\mathbf{s}} &= (D-s)! \cdot \left(\sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\mathbf{n}+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \right. \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-\mathbb{1})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \left. \frac{(n_{ik}-n_s-\mathbb{k}-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-\mathbb{k})!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!} \right) +
\end{aligned}$$

$$\begin{aligned}
& \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\mathbf{n}+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
& \sum_{(n_i=n-\mathbb{1}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}}
\end{aligned}$$

$$\begin{aligned}
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \Big) + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^{\mathbf{n}} \right. \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^{\mathbf{n}} \\
& \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \Big)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} \wedge \mathbf{s} = s + \mathbb{l} \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge$$

$$j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_0^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \right. \\
&\quad \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}-l-1} \\
&\quad \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \right. \\
&\quad \left. \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \right. \\
&\quad \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}-l-1} \\
&\quad \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \right. \\
&\quad \left. \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right) + \\
&\quad (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2} \right. \\
&\quad \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \\
&\quad \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right)
\end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n$$

$$\sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l-k-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-k-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-k}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$D = n < n \wedge k = 0 \wedge I = l \wedge s = s + l \vee$

$I = l + k \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k \wedge k_z: z = 2 \wedge k = k_1 + k_2 \vee$

$I = l + k \wedge s > 1 \wedge l > 0 \wedge k_2 > 0 \wedge k_1 = 0 \wedge s = s + l + k \wedge$

$k_z: z = 1 \wedge k = k_2 \Rightarrow$

$${}_0S_0^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \right)$$

$$\sum_{(n_i=n+k)}^{(n-l)} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2}$$

$$\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot$$

$$\frac{(n_{ik} - n_{sa} - k_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - k_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$\begin{aligned}
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\
& \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_2} \\
& \frac{(n-j_s-j_{sa}+1)!}{(n-j_s-s+1)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-l_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-l_1)!} \cdot \\
& \frac{(n_{ik}-n_{sa}-l_2-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-l_2)!} \cdot \\
& \left. \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
& (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\
& \sum_{(n_i=n+l)}^{(n-1)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_2}
\end{aligned}$$

$$\begin{aligned}
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
& \sum_{(n_i=n+l_k)}^{(n-1)} \sum_{n_{is}=n+l_{k_1}+l_{k_2}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_{k_2}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_{k_2}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l_{k_1}+l_{k_2}-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_{k_2}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_{k_2}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot
\end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} \wedge \mathbf{s} = s + \mathbb{l} \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge$$

$$\mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}_0S_0^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{ik}^{sa}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \right. \\ &\quad \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1} \\ &\quad \left. \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \right) \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \\ &\quad \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &\quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{ik}^{sa}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\ &\quad \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1} \\ &\quad \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \\ &\quad \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \Bigg) + \end{aligned}$$

$$\begin{aligned}
 & (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\
 & \quad \sum_{(n_i=n+lk)}^{(n-1)} \sum_{n_{is}=n+lk_1+lk_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+lk_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-lk_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-lk_2} \\
 & \quad \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
 & \quad \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \quad \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
 & \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
 & \quad \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+lk_1+lk_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+lk_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-lk_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-lk_2} \\
 & \quad \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
 & \quad \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \quad \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
 & \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
 & \quad \sum_{(n_i=n+lk)}^{(n-1)} \sum_{n_{is}=n+lk_1+lk_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+lk_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-lk_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-lk_2} \\
 & \quad \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
 & \quad \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot
 \end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_{k_2}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} \wedge \mathbf{s} = s + \mathbb{l} \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned}
& {}_0S_0^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\cdot)} \sum_{j_i=j_s+s-1} \right) \\
& \sum_{(n_i=n+l_k)}^{(n-l)} \sum_{n_{is}=n+l_1+l_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-l_{k_2}} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - l_{k_1} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - l_{k_1})!} \cdot \\
& \frac{(n_{ik} - n_s - l_{k_2} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - l_{k_2})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\cdot)} \sum_{j_i=j_s+s-1}
\end{aligned}$$

$$\begin{aligned}
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \\
 & \frac{(n_{ik} - n_s - k_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \Big) + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{(n-s+1)} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
 & \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-s)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n
 \end{aligned}$$

$$\begin{aligned}
& \sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
& \sum_{(n_i=n-1+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s-(1-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}
\end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{1} \wedge s = s + \mathbb{1} \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{1} + \mathbb{k} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{1} + \mathbb{k} \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{1} + \mathbb{k} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge$$

$$s = s + \mathbb{1} + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_0^{DS} &= (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\quad)} \sum_{j_i=j_s+s-1} \right) \\
& \sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}-\mathbb{k}_2-1}
\end{aligned}$$

$$\begin{aligned}
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
 & \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}-\mathbb{k}_2-1} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
 & \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \left. \sum_{(n_i=n+\mathbb{k})}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \right) \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot
 \end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{\mathbf{n}} \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{\mathbf{n}} \\
& \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n_i-j_s-(\mathbb{l}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z > 1 \Rightarrow$$

$${}_0S_0^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{((j_i)_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_z=z+1 \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2-1 \vee \mathbf{n}})}$$

$$\begin{aligned}
& \sum_{n_i = \mathbb{N} + \mathbb{k} \wedge n - \mathbb{l} + 1}^{n - \mathbb{l} \wedge n - 1} \sum_{\substack{(n_i - (j_i)_1) (\wedge - (\mathbb{l} - (n - n_i))) + 1 \\ (n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \forall z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i - (j_i)_1 + 1}} \\
& \sum_{\substack{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \\ (n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_{ik})_z} \forall z = s \Rightarrow n + \sum_{i=z-1}^{s-1} \mathbb{k}_i - (j_{ik})_z + 1}} \\
& \sum_{\substack{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \\ (n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z} \forall z = s \Rightarrow n + \sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_z + 1}} \\
& \frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa}^{ik})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{ik})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - n)!} \\
& \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
& \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
& \frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}
\end{aligned}$$

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMSIZ-BAĞIMLI DURUMLU KALAN SİMETRİ

Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde $\{0, 0, 0, 1, 2, 3, 4, 5\}$ veya $\{0, 0, 0, 1, 2, \mathbf{0, 0, 0}, 3, 4, \mathbf{0, 0, 5}\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, simetrik olasılıklar; kalan simetrik olasılıktan, bağımsız durumlarla başlayan dağılımlardaki kalan simetrik olasılığın farkına veya aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde $\{0, 0, 0, 1, 2, 3, 4, 5\}$ veya $\{0, 0, 0, 1, 2, \mathbf{0, 0, 0}, 3, 4, \mathbf{0, 0, 5}\}$, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}_0S_D^{DS} = {}_0S_D - {}_0S_D^{IS}$$

ve eşitliğin sağındaki ${}_0S_D^{IS} = 0$ olduğundan,

$${}_0S_D^{DS} = {}_0S_D$$

ve eşitliğin sağındaki terimlerin simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde ve simetrisinin bağımlı durumları arasında bağımsız durum bulunmadığındaki $\{0, 0, 0, 1, 2, 3, 4, 5\}$, eşitleri yazıldığında,

$${}_0S_D^{DS} = \frac{(n-1)!}{(n-D)!} \cdot \frac{l!}{(l+s-I)!} \cdot \frac{(l+s-2 \cdot I)! \cdot (n-l-s+I)}{(s-I)! \cdot (l-I)!}$$

veya

$${}_0S_D^{DS} = \frac{(n-1)!}{(s+l-I)!} \cdot \frac{(s+l-2 \cdot I)! \cdot (n-l-s+I)}{(s-I)! \cdot (l-I)!}$$

veya $s = s + I$ olacağından,

$${}_0S_D^{DS} = \frac{(n-1)!}{(s+l)!} \cdot \frac{(s+l-I)! \cdot (n-l-s)}{s! \cdot (l-I)!}$$

veya

$${}_0S_D^{DS} = \frac{(n-1)!}{(n+s-D-I)!} \cdot \frac{(n+s-D-2 \cdot I)! \cdot (D-s+I)}{(s-I)! \cdot (n-D-I)!}$$

veya

$${}_0S_D^{DS} = \frac{(n-1)!}{(s-I)! \cdot (n-D-I)!} \cdot \frac{(n+s-D-2 \cdot I)! \cdot (D-s+I)}{(n+s-D-I)!}$$

veya

$${}_0S_D^{DS} = \frac{(n-1)!}{(s-I)! \cdot (l-I)!} \cdot \frac{(s+l-2 \cdot I)! \cdot (n-l-s+I)}{(s+l-I)!}$$

veya eşitliğin sağındaki terimlerin simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde ve simetrisinin bağımlı durumları arasında bağımsız durum bulunduğu $\{0, 0, 0, 1, 2, \mathbf{0}, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5\}$, eşiti yazıldığında,

$${}_0S_D^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{((j_i)_{i=2})}^{((j_{ik})_{i=3-1})} \sum_{(j_{ik})_{z=z}}^{(j_i)_{z-1}} \sum_{((j_i)_{z=z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2-1} \vee n)} \sum_{n_i=n}^{(n-(j_{i1})-(1-(n-n_i))+1)} \sum_{(n_{ik})_{z=(n_s)_2+(j_i)_2+\sum_{i=1}^k k_i-(j_{i1}) \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} k_i-(j_{i1})+1}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^k k_i} \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^k k_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} k_i-(j_{ik})_{z+1}}$$

$$\begin{aligned}
& \frac{\binom{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^1 k_i}{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z} k_i - (j_i)_z \vee z = s \Rightarrow n + \sum_{i=z}^{s-1} k_i - (j_i)_{z+1}}}{\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z + (j_{ik})_z - (j_{ik}-j_{sa}^{ik})_z + 1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!}} \\
& \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \cdot \\
& \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \cdot \\
& \frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}
\end{aligned}$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımlı kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp bağımlı durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımlı kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımlı kalan simetrik olasılık ${}_0S_D^{DS}$ ile gösterilecektir.

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S_D^{DS} = \frac{(n-1)!}{(s-l)! \cdot (n-D-l)!} \cdot \frac{(n+s-D-2 \cdot l)! \cdot (D+l-s)}{(n+s-D-l)!}$$

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S_D^{DS} = \frac{(n-1)!}{(s-l)! \cdot (l-l)!} \cdot \frac{(s+l-2 \cdot l)! \cdot (n+l-l-s)}{(s+l-l)!}$$

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S_D^{DS} = \frac{(n-1)!}{(n-D)!} \cdot \frac{l!}{(l+s-l)!} \cdot \frac{(l+s-2 \cdot l)! \cdot (n+l-l-s)}{(s-l)! \cdot (l-l)!}$$

$$D = n < n \wedge I = l \wedge k = 0 \wedge s = s + l \Rightarrow$$

$${}_0S_D^{DS} = \frac{(n-1)!}{(s+l-l)!} \cdot \frac{(s+l-2 \cdot l)! \cdot (n+l-l-s)}{(s-l)! \cdot (l-l)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \Rightarrow$$

$${}_0S_D^{DS} = \frac{(n-1)!}{(s+l)!} \cdot \frac{(s+l-I)! \cdot (n-l-s)}{s! \cdot (l-I)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \Rightarrow$$

$${}_0S_D^{DS} = \frac{(n-1)!}{(n+s-D-I)!} \cdot \frac{(n+s-D-2 \cdot I)!}{(s-I)! \cdot (n-D-I)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \Rightarrow$$

$$\begin{aligned} {}_0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(D+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\ &\sum_{(n_i=n)}^{(n-j_s-\mathbb{1}+1)} \sum_{n_{is}=D-j_s+1}^{(n_{is}+j_s-j_{ik})} \sum_{(n_{ik}=D-j_{ik}+1)}^{n_{ik}+j_{ik}-j_i} \sum_{n_s=n-j_i+1} \\ &\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\ &\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\ &\frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-D-1)! \cdot (D-j_i)!} + \\ &(D-s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(D+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^D \\ &\sum_{(n_i=n)}^{(n-j_s-\mathbb{1}+1)} \sum_{n_{is}=D-j_s+1}^{(n_{is}+j_s-j_{ik})} \sum_{(n_{ik}=D-j_{ik}+1)}^{n_{ik}+j_{ik}-j_i} \sum_{n_s=n-j_i+1} \\ &\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \\ &\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\ &\frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-D-1)! \cdot (D-j_i)!} \end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} \wedge s = 2 \Rightarrow$$

$${}_0S_D^{DS} = (D-2)! \cdot \sum_{j_s=2}^{D-1} \sum_{(j_{ik}=j_s)} \sum_{j_i=j_s+1} \\ \sum_{(n_i=n)} \sum_{n_{is}=D-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=n_{is})} \sum_{n_s=D-j_i+1}^{n_{is}-1} \\ \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-D-1)! \cdot (D-j_i)!} +$$

$$(D-2)! \cdot \sum_{j_s=2}^{D-1} \sum_{(j_{ik}=j_s)} \sum_{j_i=j_s+2}^D \\ \sum_{(n_i=n)} \sum_{n_{is}=D-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=n_{is})} \sum_{n_s=D-j_i+1}^{n_{ik}+j_s-j_i} \\ \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \\ \frac{(n_{is}-n_s-1)!}{(j_i-j_s-1)! \cdot (n_{is}+j_s-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-D-1)! \cdot (D-j_i)!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} \wedge \mathbf{s} = \mathbf{s} + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$${}_0S_D^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\ \sum_{(n_i=n)} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n+j_{sa}^{ik}-j_{ik}-j_{sa})!}{(n+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa})!} \\ \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\ \frac{(n_{ik}-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-\mathbb{k})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +$$

$$(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s}$$

$$\begin{aligned}
& \sum_{(n_i=n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} \\
D = \mathbf{n} < n \wedge I = \mathbb{l} + \mathbb{k} \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow \\
& {}_0S_D^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \\
& \sum_{(n_i=n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j_{ik}-1)!}{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} + \\
& (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
& \sum_{(n_i=n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot
\end{aligned}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge I = \mathbb{l} + \mathbb{k} \wedge s = s + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned} {}_0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\ &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \end{aligned}$$

$$D = n < n \wedge I = \mathbb{l} + \mathbb{k} \wedge s = s + I \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j_{ik}-1)!}{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
&\frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
&(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
&\frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} \wedge \mathbf{s} = s + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n+j_{sa}^{ik}-j_{ik}-j_{sa})!}{(n+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa})!}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}
\end{aligned}$$

$$D = n < n \wedge I = \mathbb{l} + \mathbb{k} \wedge s = s + I \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +
\end{aligned}$$

$$\begin{aligned}
& (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} \wedge \mathbf{s} = s + \mathbb{l} \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge \mathbb{k}_z : z = 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n+j_{sa}^{ik}-j_{ik}-j_{sa})!}{(n+j_{sa}-j_{ik}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-\mathbb{k})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +
\end{aligned}$$

$$\begin{aligned}
& (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}
\end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge I = \mathbb{1} \wedge \mathbf{s} = s + \mathbb{1} \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{1} + \mathbf{k} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{k} \wedge \mathbf{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}_0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \sum_{(n_i=n)}^{\binom{(\cdot)}{n_i=n}} \sum_{n_{is}=n+\mathbf{k}-j_s+1}^{n-j_s-\mathbb{1}+1} \sum_{(n_{ik}=n+\mathbf{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbf{k}-1} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \sum_{(n_i=n)}^{\binom{(\cdot)}{n_i=n}} \sum_{n_{is}=n+\mathbf{k}-j_s+1}^{n_i-j_s-\mathbb{1}+1} \sum_{(n_{ik}=n+\mathbf{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbf{k}} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} \wedge \mathbf{s} = s + \mathbb{l} \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned} {}_0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\ &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} \wedge \mathbf{s} = s + \mathbb{l} \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}-k-1} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \\
&\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
&\frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \\
&(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \\
&\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
&\frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}
\end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = l \wedge s = s + l \vee$$

$$I = l + k \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k \wedge k_z: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = l + k \wedge s > 1 \wedge l > 0 \wedge k_2 > 0 \wedge k_1 = 0 \wedge s = s + l + k \wedge$$

$$k_z: z = 1 \wedge k = k_2 \Rightarrow$$

$$\begin{aligned}
{}_0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2}
\end{aligned}$$

$$\begin{aligned}
& \frac{(\mathbf{n} - j_s - j_{sa} + 1)!}{(\mathbf{n} - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \frac{(n_{ik} - n_{sa} - \mathbb{k}_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k}_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{\binom{(\quad)}{(j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{\substack{\mathbf{n}+j_{sa}-s \\ j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}} \right. \\
& \left. \sum_{\binom{(\quad)}{(n_i=n)}} \sum_{\substack{n-j_s-\mathbb{l}+1 \\ n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}} \sum_{\substack{(n_{is}+j_s-j_{ik}-\mathbb{k}_1) \\ (n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}} \sum_{\substack{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2 \\ n_{sa}=\mathbf{n}-j^{sa}+1}} \right) \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \left(\sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{\binom{(\quad)}{(j_{ik}=j_s+j_{sa}^{ik})}} \sum_{\substack{\mathbf{n}+j_{sa}-s \\ j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}} \right. \\
& \left. \sum_{\binom{(\quad)}{(n_i=n)}} \sum_{\substack{n-j_s-\mathbb{l}+1 \\ n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}} \sum_{\substack{(n_{is}+j_s-j_{ik}-\mathbb{k}_1) \\ (n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}} \sum_{\substack{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2 \\ n_{sa}=\mathbf{n}-j^{sa}+1}} \right) \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \Big)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} \wedge \mathbf{s} = s + \mathbb{l} \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge$$

$$\mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}_0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} j^{sa=j_s+j_{sa}-1} \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1} \\ &\frac{(n-j_s-j_{sa}+1)!}{(n-j_s-s+1)! \cdot (s-j_{sa})!} \cdot \\ &\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-\mathbb{k}_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-\mathbb{k}_1)!} \cdot \\ &\frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\ &(D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\ &\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\ &\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\ &\frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\ &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \end{aligned}$$

$$\begin{aligned} & \sum_{(n_i=n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\ & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\ & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\ & \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!} \right) \end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} \wedge \mathbf{s} = s + \mathbb{l} \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{l} + \mathbb{k} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned} {}_0 S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{j_i=j_s+s-1}^{(n_{ik}+j_{ik}-j_i-\mathbb{k}_2)} \\ & \sum_{(n_i=n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\ & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-\mathbb{k}_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-\mathbb{k}_1)!} \cdot \\ & \frac{(n_{ik}-n_s-\mathbb{k}_2-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-\mathbb{k}_2)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (n-j_i)!} + \\ & (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\ & \left. \sum_{(n_i=n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \right. \\ & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\ & \left. \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \right) \end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)
\end{aligned}$$

$$D = n < n \wedge k = 0 \wedge l = l \wedge s = s + l \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = l + k \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k \wedge$$

$$k_z: z = 2 \wedge k = k_1 + k_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = l + k \wedge s > 1 \wedge l > 0 \wedge k_2 > 0 \wedge k_1 = 0 \wedge$$

$$s = s + l + k \wedge k_z: z = 1 \wedge k = k_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
& {}_0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k_2-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+1}^{n_{ik}-k_2-1} \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot \\
& \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \right)
\end{aligned}$$

$$\begin{aligned}
 & \sum_{(n_i=n)}^{()} \sum_{n_{i_s}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{i_s}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \\
 & \frac{(n-n_{i_s}-1)!}{(j_s-2)! \cdot (n-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{i_s}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
 & \sum_{(n_i=n)}^{()} \sum_{n_{i_s}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+1)}^{(n_{i_s}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \\
 & \frac{(n-n_{i_s}-1)!}{(j_s-2)! \cdot (n-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{i_s}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!}
 \end{aligned}$$

$D = \mathbf{n} < n \wedge I = \mathbb{l} + \mathbb{k} \wedge s = s + I \wedge \mathbb{k}_z; z > 1 \Rightarrow$

$$\begin{aligned}
 {}_0S_D^{DS} &= (D-s) \cdot \prod_{z=2}^s \sum_{(j_{i1}=2)}^{(j_{ik})_{z-1}} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z=z+1} \vee z=s \Rightarrow s+1}^{((j_{ik})_{z+2-1} \vee n)} \\
 & \sum_{n_i=n} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i} \mathbb{k}_i - (j_i)_1 \vee z=s \Rightarrow \mathbf{n} + \sum_{i=1}^{s-1} \mathbb{k}_i - (j_i)_1 + 1}^{(n-(j_i)_1 - (\mathbb{l} - (n-n_i)) + 1)} \\
 & \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i - (j_{ik})_z \vee z=s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} \mathbb{k}_i - (j_{ik})_z + 1}^{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i} \\
 & \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z}^{\mathbb{k}_i} \mathbb{k}_i - (j_i)_z \vee z=s \Rightarrow \mathbf{n} + \sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_z + 1}^{((n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i)}
 \end{aligned}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \cdot \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-1)! \cdot (n-(j_i)_{z=s})!}$$

Örnek D62¹; DNA'nın çift ipliğinin ayrılması, DNA'nın kopyalanması veya protein üretimine neden olur. DNA'nın birden çok genden oluştuğu kabul edilir. İnsanın belirli bir hücresinin bir gen ipliği adenin (A), guanin (G) ve sitozinin (C) farklı dizilimi ve iki timinin (T) bu üç azotlu bazın olasılık dağılımlarına bağımsız olasılıkla dağılımından oluşsun. Bu DNA'nın bölünmesinin, kopyalanma veya protein üretimiyle sonuçlanmasına TTC simetrik diziliminin karar verdiğini kabul edelim. Bu simetrik yapı aynı zamanda kopyalanma orijini olsun. DNA bölünmesini 2 özel protein başlatsın. Bu proteinlerden 1 nolu protein replikasyon orijinine geldiğinde simetrik olasılık, timinle başlayıp sonra ilk sitozinin bulunmadığı ve sitozinden farklı azotlu bazlarla başlayan dağılımlardaki simetrik olasılığın iki katından fazla ise kopyalanma değilse protein üretimiyle, 2 nolu protein geldiğinde de tersi süreçle DNA bölünmesi gerçekleşsin. a) Bu durumda replikasyon orijinine 1 nolu protein geldiğinde DNA bölünmesi nasıl sonuçlanır? b) 2 nolu protein geldiğinde DNA bölünmesi nasıl sonuçlanır?

her gen için $D = 3, n = 5, l = 2, l = 2$ ve $s = 3 \Rightarrow$

$${}_0S = ?, {}_0S^{DS} = ? \quad a) {}_0S?2 \cdot {}_0S^{DS} \quad b) {}_0S?2 \cdot {}_0S^{DS}$$

Bu örnekte ${}_0S?2 \cdot {}_0S^{DS}$ ilişkisi örneğin çözümünde kurulması gerektiğinden bu 3. seviyeden problemdir.

1 nolu protein $\wedge {}_0S > 2 \cdot {}_0S^{DS} \Rightarrow$ kopyalanma

1 nolu protein $\wedge {}_0S \leq 2 \cdot {}_0S^{DS} \Rightarrow$ protein

¹ DNA'nın kopyalanma veya protein üretimi için Campel, N. A. ve Reece J. B. "Biyoloji", ss: 292-320 bakılabilir

2 nolu protein $\wedge {}_0S < 2 \cdot {}_0S^{DS} \Rightarrow$ kopyalanma

2 nolu protein $\wedge {}_0S \geq 2 \cdot {}_0S^{DS} \Rightarrow$ protein

$${}_0S = \frac{n!}{(n+s-D-1)!} \cdot \frac{(n+s-D-2 \cdot 1)!}{(s-1)! \cdot (n-D-1)!}$$

$${}_0S = \frac{5!}{(5+3-3-2)!} \cdot \frac{(5+3-3-2 \cdot 2)!}{(3-2)! \cdot (5-3-2)!}$$

$${}_0S = 20$$

$${}_0S^{DS} = \frac{n!}{(s-1)! \cdot (t-1)!} \cdot \left(\frac{(t+s-2 \cdot 1)!}{(t+s-1)!} - \frac{(n-1)! \cdot (s-1)}{n! \cdot (n-1)} \right)$$

$${}_0S^{DS} = \frac{5!}{(3-2)! \cdot (3-2)!} \cdot \left(\frac{(2+3-2 \cdot 2)!}{(2+3-2)!} - \frac{(5-2)! \cdot (3-2)}{5! \cdot (5-2)} \right)$$

$${}_0S^{DS} = 18$$

a)

$${}_0S \geq 2 \cdot {}_0S^{DS}$$

$$20 \geq 2 \cdot 18$$

$$20 < 36$$

${}_0S < 2 \cdot {}_0S^{DS}$ ve 1 nolu protein $\wedge {}_0S \leq 2 \cdot {}_0S^{DS} \Rightarrow$ protein olması gerekeceğinden kopyalanma orijinine 1 nolu protein geldiğinde DNA'dan protein üretim süreci başlar.

b)

$${}_0S \geq 2 \cdot {}_0S^{DS}$$

$$20 \geq 2 \cdot 18$$

$$20 < 36$$

${}_0S < 2 \cdot {}_0S^{DS}$ ve 2 nolu protein $\wedge {}_0S < 2 \cdot {}_0S^{DS} \Rightarrow$ kopyalanma olması gerekeceğinden kopyalanma orijinine 2 nolu protein geldiğinde DNA'da kendini kopyalama işlemi başlar.

Örnek D63²; DNA'nın çift ipliğinin ayrılması, DNA'nın kopyalanması veya protein üretimine neden olur. DNA'nın birden çok genden oluştuğu kabul edilir. İnsanın belirli bir hücresinin bir gen ipliği adenin (A), guanin (G) ve sitozinin (C) farklı dizilimi ve iki timinin (T) bu üç azotlu bazın olasılık dağılımlarına bağımsız olasılıkla dağılımından oluşsun. Bu DNA'nın bölünmesinin, kopyalanma veya protein üretimiyle sonuçlanmasına TTC simetrik diziliminin karar verdiğini kabul edelim. Bu simetrik yapı aynı zamanda kopyalanma orijini olsun. DNA bölünmesini 2 özel protein başlatsın. Bu proteinlerden 1 nolu protein replikasyon orijinine geldiğinde simetrik olasılık, timinle başlayıp sonra ilk sitozinin bulunmadığı ve sitozinden farklı azotlu bazlarla başlayan dağılımlardaki simetrik olasılığın iki katından fazla ise kopyalanma değilse protein üretimiyle, 2 nolu protein geldiğinde de tersi süreçle DNA bölünmesi gerçekleşsin. a) Bu durumda replikasyon orijinine 1 nolu protein geldiğinde DNA bölünmesinde timinle başlayıp sonra ilk sitozinin bulunmadığı dağılımların katkısı nedir? b) replikasyon orijinine 1 nolu protein geldiğinde DNA bölünmesinde A ve G'ile başlayan dağılımların katkısı nedir? c) replikasyon orijinine 2 nolu protein geldiğinde DNA bölünmesinde timinle başlayıp sonra ilk sitozinin bulunmadığı dağılımların katkısı nedir? d) replikasyon orijinine 2 nolu protein geldiğinde DNA bölünmesinde A ve G'ile başlayan dağılımların katkısı nedir? (${}_0S = 20$ ve ${}_0S^{DS} = 18$ ise)

her gen için $D = 3, n = 5, l = 2, I = 2, s = 3, {}_0S = 20$ ve ${}_0S^{DS} = 18 \Rightarrow$

${}_0S_0^{DS} = ?, {}_0S_D^{DS} = ?$ a) ${}_0S ? 2 \cdot {}_0S^{DS}$ ve $2 \cdot {}_0S_0^{DS} = ?$ b) ${}_0S ? 2 \cdot {}_0S^{DS}$ ve $2 \cdot {}_0S_D^{DS} = ?$

c) ${}_0S ? 2 \cdot {}_0S^{DS}$ ve $2 \cdot {}_0S_0^{DS} = ?$ ve d) ${}_0S ? 2 \cdot {}_0S^{DS}$ ve $2 \cdot {}_0S_D^{DS} = ?$

Bu örnekte ${}_0S ? 2 \cdot {}_0S_0^{DS}$ ilişkisi örneğin çözümünde kurulması gerektiğinden bu 4. seviyeden problemdir.

1 nolu protein $\wedge {}_0S > 2 \cdot {}_0S^{DS} \Rightarrow$ kopyalanma

1 nolu protein $\wedge {}_0S \leq 2 \cdot {}_0S^{DS} \Rightarrow$ protein

2 nolu protein $\wedge {}_0S < 2 \cdot {}_0S^{DS} \Rightarrow$ kopyalanma

² DNA'nın kopyalanma veya protein üretimi için Campel, N. A. ve Reece J. B. "Biyoloji", ss: 292-320 bakılabilir

2 nolu protein \wedge ${}_0S \geq 2 \cdot {}_0S^{DS} \Rightarrow$ protein

$${}_0S_0^{DS} = \frac{(n-1)!}{(s-1)! \cdot (i-1)!} \cdot \left(\frac{(s+i-2 \cdot I)!}{(s+i-I-1)!} - \frac{(n-1)! \cdot (s-I)}{(n-1)! \cdot (n-i)} \right)$$

$${}_0S_0^{DS} = \frac{(5-1)!}{(3-2)! \cdot (2-2)!} \cdot \left(\frac{(3+2-2 \cdot 2)!}{(3+2-2-1)!} - \frac{(5-2)! \cdot (3-2)}{(5-1)! \cdot (5-2)} \right)$$

$${}_0S_0^{DS} = 10$$

$${}_0S_D^{DS} = \frac{(n-1)! \cdot (n-i-s+I)}{(s-1)! \cdot (i-1)!} \cdot \frac{(s+i-2 \cdot I)!}{(s+i-I)!}$$

$${}_0S_D^{DS} = \frac{(5-1)! \cdot (5-2-3+2)}{(3-2)! \cdot (2-2)!} \cdot \frac{(3+2-2 \cdot 2)!}{(3+2-2)!}$$

$${}_0S_D^{DS} = 8$$

a)

$${}_0S \geq 2 \cdot {}_0S^{DS}$$

$$20 \geq 2 \cdot 18$$

$$20 < 36$$

$$2 \cdot {}_0S_0^{DS} = 2 \cdot 10 = 20$$

${}_0S < 2 \cdot {}_0S^{DS}$ ve 1 nolu protein \wedge ${}_0S \leq 2 \cdot {}_0S^{DS} \Rightarrow$ protein olması gerekeceğinden kopyalanma orijinine 1 nolu protein geldiğinde DNA'dan protein üretim süreci başlar. Bu protein üretim sürecinin başlamasına timinle başlayıp sonra ilk sitozinin bulunmadığı dağılımların katkısı 20'dir.

b)

$${}_0S \geq 2 \cdot {}_0S^{DS}$$

$$20 \geq 2 \cdot 18$$

$$20 < 36$$

$$2 \cdot {}_0S_D^{DS} = 2 \cdot 8 = 16$$

${}_0S < 2 \cdot {}_0S^{DS}$ ve 1 nolu protein $\wedge {}_0S \leq 2 \cdot {}_0S^{DS} \Rightarrow$ protein olması gerekeceğinden kopyalanma orijinine 1 nolu protein geldiğinde DNA'dan protein üretim süreci başlar. Bu protein üretim sürecinin başlamasına A ve G ile başlayan dağılımların katkısı 16'dır.

c)

$${}_0S? 2 \cdot {}_0S^{DS}$$

$$20? 2 \cdot 18$$

$$20 < 36$$

$$2 \cdot {}_0S_0^{DS} = 2 \cdot 10 = 20$$

${}_0S < 2 \cdot {}_0S^{DS}$ ve 2 nolu protein $\wedge {}_0S < 2 \cdot {}_0S^{DS} \Rightarrow$ kopyalanma olması gerekeceğinden kopyalanma orijinine 2 nolu protein geldiğinde DNA'da kendini kopyalama işlemi başlar. Kopyalanma başlamasında timinle başlayıp sonra ilk sitozinin bulunmadığı dağılımların katkısı 20'dir.

d)

$${}_0S? 2 \cdot {}_0S^{DS}$$

$$20? 2 \cdot 18$$

$$20 < 36$$

$$2 \cdot {}_0S_D^{DS} = 2 \cdot 8 = 16$$

${}_0S < 2 \cdot {}_0S^{DS}$ ve 2 nolu protein $\wedge {}_0S < 2 \cdot {}_0S^{DS} \Rightarrow$ kopyalanma olması gerekeceğinden kopyalanma orijinine 2 nolu protein geldiğinde DNA'da kendini kopyalama işlemi başlar. Kopyalanma başlamasında A ve G ile başlayan dağılımların katkısı 16'dır.

BİR BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde $\{1, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde, simetride bulunmayan bağımlı durumla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}^0S^{DS} = \frac{n! \cdot (D - 1)!}{(l - 1)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n - i)! \cdot (i + l)} \right)$$

veya

$${}^0S^{DS} = \frac{n! \cdot (n - l - 1)!}{(l - 1)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n - i)! \cdot (i + l)} \right)$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu kalan simetrik olasılığı ${}^0S^{DS}$ ile gösterilecektir.

$$D = n < n \wedge l = l = 1 \wedge s = 2 \Rightarrow$$

$${}^0S^{DS} = \frac{n! \cdot (D - 1)!}{(l - 1)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n - i)! \cdot (i + l)} \right)$$

$$D = n < n \wedge l = l = 1 \wedge s = 2 \Rightarrow$$

$${}^0S^{DS} = \frac{n! \cdot (n - l - 1)!}{(l - 1)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n - i)! \cdot (i + l)} \right)$$

$$D = n < n \wedge I = I = 1 \wedge s = 2 \Rightarrow$$

$${}_0S^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{(n_i=D+1)}^n \sum_{n_s=D-j+2}^{n_i-j+1} \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D-j)!}$$

$$D = n < n \wedge I = I = 1 \wedge s = 2 \Rightarrow$$

$${}_0S^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{(n_i=D+1)}^n \sum_{n_s=D-j+2}^{n_i-j+1} \sum_{(i=2)}^{(n-j+1)} \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j - D - 2)! \cdot (D-j)!} + \frac{(n_s - i - 1)!}{(n_s + j - D - 2)! \cdot (D-j-i+1)!} \right)$$

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BİR BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde $\{1, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde $\{1, 0\}$, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}_0S_0^{DS} = \frac{(n-1)! \cdot (D-1)!}{(l-2)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n-i)! \cdot (i+l-1)} \right)$$

veya

$${}_0S_0^{DS} = \frac{(n-1)! \cdot (n-l-1)!}{(l-2)!} \cdot \left(\sum_{i=2}^{n-l} \mp \frac{1}{i! \cdot (n-l-i)! \cdot (i+l-1)} \right)$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımsız kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımsız kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımsız kalan simetrik olasılığı ${}^0S_0^{DS}$ ile gösterilecektir.

$$D = n < n \wedge I = I = 1 \wedge s = 2 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-1)!}{(l-2)!} \cdot \left(\sum_{i=2}^n \frac{1}{i! \cdot (n-i)! \cdot (i+l-1)} \right)$$

$$D = n < n \wedge I = I = 1 \wedge s = 2 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n-l-1)!}{(l-2)!} \cdot \left(\sum_{i=2}^{n-l} \frac{1}{i! \cdot (n-l-i)! \cdot (i+l-1)} \right)$$

$$D = n < n \wedge I = I = 1 \wedge s = 2 \Rightarrow$$

$${}^0S_0^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{(n_i=D+1)}^{n-1} \sum_{n_s=D-j+2}^{n_i-j+1} \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D-j)!}$$

$$D = n < n \wedge I = I = 1 \wedge s = 2 \Rightarrow$$

$${}^0S_0^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{(n_i=D+1)}^{n-1} \sum_{n_s=D-j+2}^{n_i-j+1} \sum_{i=2}^{D-j+1} \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot$$

$$\left(\frac{(n_s - 2)!}{(n_s + j - D - 2)! \cdot (D-j)!} + \frac{(n_s - i - 1)!}{(n_s + j - D - 2)! \cdot (D-j-i+1)!} \right)$$

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BİR BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde $\{1, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, simetrik olasılıklar; kalan simetrik olasılıktan, bağımsız durumlarla başlayan dağılımlardaki kalan simetrik olasılığın farkına veya aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde $\{1, 0\}$, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}_0S_D^{DS} = \frac{n! \cdot (D-1)!}{(l-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n-i)! \cdot (i+l)} \right) - \frac{(n-1)! \cdot (D-1)!}{(l-2)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n-i)! \cdot (i+l-1)} \right)$$

veya

$${}_0S_D^{DS} = \frac{n! \cdot (n-l-1)!}{(l-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n-i)! \cdot (i+l)} \right) - \frac{(n-1)! \cdot (n-l-1)!}{(l-2)!} \cdot \left(\sum_{i=2}^{n-l} \mp \frac{1}{i! \cdot (n-l-i)! \cdot (i+l-1)} \right)$$

eşitliği elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımlı kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımlı kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılığı ${}_0S_D^{DS}$ ile gösterilecektir.

$$D = n < n \wedge l = l = 1 \wedge s = 2 \Rightarrow$$

$${}_0S_D^{DS} = \frac{n! \cdot (D-1)!}{(l-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n-i)! \cdot (i+l)} \right) -$$

$$\frac{(n-1)! \cdot (D-1)!}{(l-2)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n-i)! \cdot (i+l-1)} \right)$$

$$D = n < n \wedge l = l = 1 \wedge s = 2 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (n-l-1)!}{(l-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{1}{i! \cdot (n-i)! \cdot (i+l)} \right) -$$

$$\frac{(n-1)! \cdot (n-l-1)!}{(l-2)!} \cdot \left(\sum_{i=2}^{n-l} \mp \frac{1}{i! \cdot (n-l-i)! \cdot (i+l-1)} \right)$$

$$D = n < n \wedge l = l = 1 \wedge s = 2 \Rightarrow$$

$${}^0S_D^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{n_s=D-j+2}^{n-j+1}$$

$$\frac{(n-n_s-1)!}{(j-2)! \cdot (n-n_s-j+1)!} \cdot \frac{(n_s-1)!}{(n_s+j-D-1)! \cdot (D-j)!}$$

$$D = n < n \wedge l = l = 1 \wedge s = 2 \Rightarrow$$

$${}^0S_D^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{n_s=D-j+2}^{n-j+1} \sum_{i=2}^{D-j+1}$$

$$\frac{(n-n_s-1)!}{(j-2)! \cdot (n-n_s-j+1)!} \cdot$$

$$\left(\frac{(n_s-2)!}{(n_s+j-D-2)! \cdot (D-j)!} + \frac{(n_s-i-1)!}{(n_s+j-D-2)! \cdot (D-j-i+1)!} \right)$$

BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde $\{1, 2, 3, 4, 5, \mathbf{0}\}$ veya $\{1, 2, \mathbf{0}, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5, \mathbf{0}\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde $\{1, 2, 3, 4, 5, \mathbf{0}\}$ veya $\{1, 2, \mathbf{0}, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5, \mathbf{0}\}$, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$$S^{DS} = \frac{n! \cdot (D - s)!}{(l - l)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

ve eşitliğin sağındaki terimlerin simetrisinin bağımlı durumları arasında bağımsız durum bulunmadığındaki $\{1, 2, 3, 4, 5, \mathbf{0}\}$ eşitleri yazıldığında $(l = 1)$,

$${}_0S^{DS} = \frac{n! \cdot (D - s)!}{(l - 1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i + l - 1)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

veya

$${}_0S^{DS} = \frac{n! \cdot (n - l - s)!}{(l - 1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i + l - 1)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

veya

$${}_0S^{DS} = \frac{n! \cdot (D - s + 1)!}{(l - 1)!} \cdot \left(\sum_{i=s}^n \mp \frac{(i + l - 1)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

veya simetri bağımlı durumla başlayıp, bağımsız durumlar bulunup, son bağımlı durumdan sonra bir bağımsız durumla bittiğinde $\{1, 2, \mathbf{0}, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5, \mathbf{0}\}$,

$${}_0S^{DS} = \frac{n! \cdot (D - s)!}{(l - l)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

veya

$${}_0S^{DS} = \frac{n! \cdot (n - l - s)!}{(l - l)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

veya

$$\begin{aligned}
{}^0S^{DS} &= (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \vee z=s \Rightarrow s+1}^{((j_{ik})_{z+2}-1) \vee \mathbf{n}} \\
&\quad \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^n \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i-(j_i)_1} \vee z=s \Rightarrow \mathbf{n}+\sum_{i=1}^{s-1} \mathbb{k}_i-(j_i)_1+2}^{(n_i-(j_i)_1+1)} \\
&\quad \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i-(j_{ik})_z} \vee z=s \Rightarrow \mathbf{n}+\sum_{i=z-1}^{s-1} \mathbb{k}_i-(j_{ik})_{z+2}}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}_i}} \\
&\quad \sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}_i-(j_i)_z} \vee z=s \Rightarrow \mathbf{n}+\sum_{i=z}^{s-1} \mathbb{k}_i-(j_i)_{z+2}}^{((n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}_i})} \\
&\quad \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{\mathbb{k}})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{\mathbb{k}})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-\mathbf{n})!} \\
&\quad \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \\
&\quad \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \\
&\quad \frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-\mathbf{n}-1)! \cdot (\mathbf{n}-(j_i)_{z=s})!}
\end{aligned}$$

veya

$$\begin{aligned}
{}^0S^{DS} &= (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \vee z=s \Rightarrow s+1}^{((j_{ik})_{z+2}-1) \vee \mathbf{n}} \\
&\quad \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^n \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i-(j_i)_1} \vee z=s \Rightarrow \mathbf{n}+\sum_{i=1}^{s-1} \mathbb{k}_i-(j_i)_1+2}^{(n_i-(j_i)_1+1)} \\
&\quad \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i-(j_{ik})_z} \vee z=s \Rightarrow \mathbf{n}+\sum_{i=z-1}^{s-1} \mathbb{k}_i-(j_{ik})_{z+2}}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}_i}}
\end{aligned}$$

$$\begin{aligned}
& \sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}_i-(j_i)_z \vee z=s} \mathbb{k}_i-(j_i)_z+2} \binom{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i}{(n_s)_z} \sum_{i=2}^{n-(j_i)_{z=s+1}} \\
& \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\
& \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \\
& \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \\
& \left(\frac{((n_s)_{z=s}-2)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-2)! \cdot (n-(j_i)_{z=s})!} + \right. \\
& \left. \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-2)! \cdot (n-(j_i)_{z=s}-i+1)!} \right)
\end{aligned}$$

$j = D = n$ olduğunda i 'li terimler hesaplamaya dahil edilmez!

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bir bağımsız durumlu kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli dağılımlarda, simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bir bağımsız durumlu kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bir bağımsız durumlu kalan simetrik olasılık ${}^0S^{DS}$ ile gösterilecektir.

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \vee I = \mathbb{k} + 1 \wedge \mathbb{k} > 0 \wedge$$

$$s = s + \mathbb{k} + 1 \Rightarrow$$

$${}^0S^{DS} = \frac{n! \cdot (D-s)!}{(i-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+i-I)!}{i! \cdot (i+i)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \vee I = \mathbb{k} + 1 \wedge \mathbb{k} > 0 \wedge$$

$$s = s + \mathbb{k} + 1 \Rightarrow$$

$${}_0S^{DS} = \frac{n! \cdot (n - l - s)!}{(l - l)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge l = \mathbf{l} = 1 \wedge s = s + 1 \vee l = \mathbb{k} + 1 \wedge \mathbb{k} > 0 \wedge$$

$$s = s + \mathbb{k} + 1 \Rightarrow$$

$${}_0S^{DS} = \frac{n! \cdot (D + l - s)!}{(l - l)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge l = \mathbf{l} = 1 \wedge s = s + 1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}_0S^{DS} = (D - s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D+1)}^n \sum_{n_s=D-j+2}^{n_i-j+1} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D - j)!}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge l = \mathbf{l} = 1 \wedge s = s + 1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}_0S^{DS} = (D - s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D+1)}^n \sum_{n_s=D-j+2}^{n_i-j+1} \sum_{i=2}^{D-j+1} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j - D - 2)! \cdot (D - j)!} + \frac{(n_s - i - 1)!}{(n_s + j - D - 2)! \cdot (D - j - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge l = \mathbf{l} = 1 \wedge s = s + 1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}_0S^{DS} = (n - s)! \cdot \sum_{j_i=s+1}^n \sum_{(n_i=n+1)}^{(n)} \sum_{n_s=n-j_i+2}^{n_i-j_i+1} \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge l = \mathbf{l} = 1 \wedge s = s + 1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}_0S^{DS} = (n - s)! \cdot \sum_{j_i=s+1}^n \sum_{(n_i=n+1)}^{(n)} \sum_{n_s=n-j_i+2}^{n_i-j_i+1} \sum_{(i=2)}^{(n-j_i+1)}$$

$$\frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \wedge \mathbb{k} = 0 \wedge s = 2 \Rightarrow$$

$${}^0S^{DS} = (n - 2)! \cdot \sum_{j_i=3}^n \sum_{\binom{n}{n_i=n+1}} \sum_{n_s=n-j_i+2}^{n_i-j_i+1}$$

$$\frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \wedge \mathbb{k} = 0 \wedge s = 2 \Rightarrow$$

$${}^0S^{DS} = (n - 2)! \cdot \sum_{j_i=3}^n \sum_{\binom{n}{n_i=n+1}} \sum_{n_s=n-j_i+2}^{n_i-j_i+1} \sum_{(i=2)}^{(n-j_i+1)}$$

$$\frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z : z = 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{\binom{n}{n_i=n+\mathbb{k}+1}} \sum_{n_{sa}=n-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1}$$

$$\frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}+1}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!}$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \\ &\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+1}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ &\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\ &\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \\ &\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=2)}^{(n-j^{sa}+1)} \\ &\frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \\ &\frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \\ &\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right) + \end{aligned}$$

$$(D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+k+1}^n \sum_{(n_{ik}=n+k-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{(i=2)}^{(n-j^{sa}+1)}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = k + 1 \wedge s = s + k + 1 \wedge$$

$$k_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+k+1)}^{(n)} \sum_{n_s=n-j^{sa}+2}^{n_i-j^{sa}-k+1} \sum_{(i=2)}^{(n-j^{sa}+1)}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!}$$

$$\frac{(n_i - n_s - k - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - k + 1)!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right) +$$

$$(D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n+k+1}^n \sum_{(n_{ik}=n+k-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{(i=2)}^{(n-j^{sa}+1)}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
{}^0S^{DS} &= (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \\
&\frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n_i-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n_i-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!} + \\
&(D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^n \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
&\frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
&\frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}^0S^{DS} &= (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \\
&\frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n_i-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n_i-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!} + \\
&(D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^n \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!}
\end{aligned}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j^{sa}=s+1}^n \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_s=n-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right) + (D - s)! \cdot \sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+\mathbb{k}+1}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j^{sa}=s+1}^n \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_s=n-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot$$

$$\frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right) + (D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{\mathbf{n}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_2 : z = 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=j_{sa}+1}^{\mathbf{n}+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{\mathbf{n}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + (D - s)! \cdot$$

$$\sum_{j^{sa}=j_{sa}+2}^{\mathbf{n}+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{\mathbf{n}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!}$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}+1}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}-\mathbb{k}-1} \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+1}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{n_i=n+\mathbb{k}+1}^n \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right) + (D - s)!$$

$$\sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{\mathbf{n}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)!$$

$$\sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{\mathbf{n}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right) + (D - s)!$$

$$\sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{\mathbf{n}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right)$$

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$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\ &\sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\ &\sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \\ &\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \end{aligned}$$

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$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\ &\sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

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$${}^0S^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}-\mathbb{k}-1}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} +$$

$$\begin{aligned}
& (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
& \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}
\end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z = z = 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
& \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=2)}^{(n-j_i+1)} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_s-\mathbb{k}-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-\mathbb{k})!} \cdot \\
& \left(\frac{(n_s-2)!}{(n_s+j_i-n-2)! \cdot (n-j_i)!} + \frac{(n_s-i-1)!}{(n_s+j_i-n-2)! \cdot (n-j_i-i+1)!} \right) +
\end{aligned}$$

$$\begin{aligned}
& (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
& \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=2)}^{(n-j_i+1)}
\end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot$$

$$\left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right)$$

$$D = n < n \wedge k = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = k + 1 \wedge s > 1 \wedge k > 0 \wedge I = 1 \wedge s = s + k + 1 \wedge$$

$$k_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{(n)}$$

$$\sum_{(n_i=n+k+1)}^{(n)} \sum_{n_{is}=n+k-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+k-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}-k-1} \sum_{(i=2)}^{(n-j_i+1)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right) +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n$$

$$\sum_{(n_i=n+k+1)}^{(n)} \sum_{n_{is}=n+k-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+k-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=2)}^{(n-j_i+1)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge \mathbf{s} = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1}^{()} \\ &\sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\ &\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \\ &\frac{(n_{ik} - n_{sa} - \mathbb{k}_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k}_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!} + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\ &\sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \\ &\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
& \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right)
\end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge$$

$$s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\quad)} \sum_{j^{sa}=j_s+j_{sa}-1} \\
& \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}-\mathbb{k}_2-1} \\
& \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!}
\end{aligned}$$

$$\begin{aligned}
& \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\)} \sum_{j^{sa}=j_{ik}+2}^{\mathbf{n}+j_{sa}-s} \right. \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \quad \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\
& \quad \left. \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(\mathbf{n}+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{\mathbf{n}+j_{sa}-s} \right. \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \quad \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\)} \sum_{j_i=j_s+s-1}$$

$$\begin{aligned}
 & \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{i_s}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{i_s}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
 & \frac{(n_i - n_{i_s} - 1)!}{(j_s - 2)! \cdot (n_i - n_{i_s} - j_s + 1)!} \cdot \frac{(n_{i_s} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{i_s} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
 & \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right. \\
 & \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{i_s}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{i_s}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{i_s} - 1)!}{(j_s - 2)! \cdot (n_i - n_{i_s} - j_s + 1)!} \cdot \frac{(n_{i_s} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{i_s} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 & \sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{i_s}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{i_s}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{i_s} - 1)!}{(j_s - 2)! \cdot (n_i - n_{i_s} - j_s + 1)!} \cdot \frac{(n_{i_s} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{i_s} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)
 \end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge$$

$$s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_s+s-1} \\ &\sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{ik}-\mathbb{k}_2-1} \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\ &\frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_{ik}+2}^n \right. \\ &\sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\ &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\ &\sum_{(n_i=n+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)$$

$$D = n < n \wedge k = 0 \wedge l = 1 \wedge s = s + 1 \vee$$

$$I = k + 1 \wedge s > 1 \wedge k > 0 \wedge l = 1 \wedge s = s + k + 1 \wedge k_z: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = k + 1 \wedge s > 1 \wedge k_2 > 0 \wedge k_1 = 0 \wedge l = 1 \wedge s = s + k + 1 \wedge$$

$$k_z: z = 1 \wedge k = k_2 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1}^{()} \\ &\sum_{(n_i=n+k+1)}^{(n)} \sum_{n_{is}=n+k_1+k_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=2)}^{(n-j_i+1)} \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot \frac{(n_{ik} - n_s - k_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k_2)!} \\ &\left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right) + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\ &\sum_{(n_i=n+k+1)}^{(n)} \sum_{n_{is}=n+k_1+k_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=2)}^{(n-j_i+1)} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \right) \end{aligned}$$

$$\begin{aligned}
& \left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^{\mathbf{n}} \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=2)}^{(n-j_i+1)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \\
& \left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge \mathbf{s} = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\)} \sum_{j_i=j_s+s-1} \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}-\mathbb{k}_2-1} \sum_{(i=2)}^{(n-j_i+1)} \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right) +
\end{aligned}$$

$$\begin{aligned}
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \sum_{(n_i=n+k_1+1)}^{(n)} \sum_{n_{is}=n+k_1+k_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=2)}^{(n-j_i+1)} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \right) \\
 & \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
 & \sum_{(n_i=n+k_1+1)}^{(n)} \sum_{n_{is}=n+k_1+k_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=2)}^{(n-j_i+1)} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \right) \\
 & \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right)
 \end{aligned}$$

$$D = n < n \wedge s > 1 \wedge I = k + 1 \wedge s = s + k + 1 \wedge k_z: z > 1 \Rightarrow$$

$${}^0S^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{((j_{i1})_1=2)}^{((j_{ik})_{z-1})} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z+z+1}vz=s \Rightarrow s+1)}^{((j_{ik})_{z+2-1}v_n)}$$

$$\begin{aligned}
& \sum_{n_i = \mathbf{n} + \mathbb{k} + 1}^n \sum_{\substack{(n_i - (j_i)_1 + 1) \\ (n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \mathbb{k}_i - (j_i)_1 \forall z = s \Rightarrow \mathbf{n} + \sum_{i=1}^{s-1} \mathbb{k}_i - (j_i)_1 + 2}} \\
& \sum_{\substack{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i \\ (n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_{ik})_z} \mathbb{k}_i - (j_{ik})_z \forall z = s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} \mathbb{k}_i - (j_{ik})_z + 2}} \\
& \sum_{\substack{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i \\ (n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \forall z = s \Rightarrow \mathbf{n} + \sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_z + 2}} \\
& \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-\mathbf{n})!} \\
& \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
& \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
& \frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - \mathbf{n} - 1)! \cdot (\mathbf{n} - (j_i)_{z=s})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z : z > 1 \Rightarrow$$

$$\begin{aligned}
& {}_0 S^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \forall z = s \Rightarrow s+1}^{(j_{ik})_{z+2} - 1 \forall \mathbf{n}} \\
& \sum_{n_i = \mathbf{n} + \mathbb{k} + 1}^n \sum_{\substack{(n_i - (j_i)_1 + 1) \\ (n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \mathbb{k}_i - (j_i)_1 \forall z = s \Rightarrow \mathbf{n} + \sum_{i=1}^{s-1} \mathbb{k}_i - (j_i)_1 + 2}} \\
& \sum_{\substack{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i \\ (n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_{ik})_z} \mathbb{k}_i - (j_{ik})_z \forall z = s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} \mathbb{k}_i - (j_{ik})_z + 2}} \\
& \sum_{\substack{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i \\ (n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \forall z = s \Rightarrow \mathbf{n} + \sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_z + 2}} \sum_{i=2}^{\mathbf{n} - (j_i)_{z=s} + 1}
\end{aligned}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \cdot \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \left(\frac{((n_s)_{z=s}-2)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-2)! \cdot (n-(j_i)_{z=s})!} + \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-2)! \cdot (n-(j_i)_{z=s}-i+1)!} \right)$$

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde $\{1, 2, 3, 4, 5, \mathbf{0}\}$ veya $\{1, 2, \mathbf{0}, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5, \mathbf{0}\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşliğinin $(D-s)$ ile çarpımına eşit olur. Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D+I-s)!}{(I-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(I-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n+l-l-s)!}{(l-l-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-l-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n-l-s)!}{(l-l-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-l-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya simetri bağımlı durumla başlayıp, bağımsız durumlar bulunup, son bağımlı durumdan sonra bir bağımsız durumla bittiğinde $\{1, 2, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5, \mathbf{0}\}$,

$$\begin{aligned} {}^0S_0^{DS} &= (D-s) \cdot \prod_{z=2}^s \sum_{((j_{i1})_1=2)}^{((j_{ik})_{z-1})} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z+z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+z-1} \vee n)} \\ &\quad \sum_{n_i=n+k+1}^{n-1} \sum_{((n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{k_i-(j_i)_1} \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} k_i-(j_i)_1+2)}^{(n_i-(j_i)_1+1)} \\ &\quad \sum_{((n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{k_i-(j_{ik})_z} \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} k_i-(j_{ik})_z+2)}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{k_i}} \\ &\quad \sum_{((n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{k_i-(j_i)_z} \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} k_i-(j_i)_z+2)}^{((n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{k_i})} \\ &\quad \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^k)_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^k)_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\ &\quad \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \\ &\quad \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \\ &\quad \frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-1)! \cdot (n-(j_i)_{z=s})!} \end{aligned}$$

veya

$$\begin{aligned}
{}^0S_0^{DS} &= (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z=Z+1} \vee Z=s \Rightarrow s+1}^{((j_{ik})_{z+2-1} \vee n)} \\
&\quad \sum_{n_i=n+\mathbb{k}+1}^{n-1} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}} \mathbb{k}_i - (j_i)_1 \vee Z=s \Rightarrow n+\sum_{i=1}^{s-1} \mathbb{k}_i - (j_i)_1+2}^{(n_i-(j_i)_1+1)} \\
&\quad \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}} \mathbb{k}_i - (j_{ik})_z \vee Z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i - (j_{ik})_z+2}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}} \mathbb{k}_i} \\
&\quad \sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}} \mathbb{k}_i - (j_i)_z \vee Z=s \Rightarrow n+\sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_z+2}^{((n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}} \mathbb{k}_i)} \sum_{i=2}^{n-(j_i)_{z=s+1}} \\
&\quad \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\
&\quad \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \\
&\quad \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \\
&\quad \left(\frac{((n_s)_{z=s}-2)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-2)! \cdot (n-(j_i)_{z=s})!} + \right. \\
&\quad \left. \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-2)! \cdot (n-(j_i)_{z=s}-i+1)!} \right)
\end{aligned}$$

$j = D = n$ olduğunda i 'li terimler hesaplamaya dahil edilmez!

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımsız kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımsız kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımsız kalan simetrik olasılık ${}^0S_0^{DS}$ ile gösterilecektir.

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \vee I = \mathbb{k} + 1 \wedge \mathbb{k} > 0 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + 1 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D+I-s)!}{(i-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+i-I-1)!}{i! \cdot (i+i-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge \mathbf{s} = s + 1 \vee I = \mathbb{k} + 1 \wedge \mathbb{k} > 0 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + 1 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+i-I-1)!}{i! \cdot (i+i-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge \mathbf{s} = s + 1 \vee I = \mathbb{k} + 1 \wedge \mathbb{k} > 0 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + 1 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(i-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+i-I-1)!}{i! \cdot (i+i-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge \mathbf{s} = s + 1 \vee I = \mathbb{k} + 1 \wedge \mathbb{k} > 0 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + 1 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n+I-i-s)!}{(i-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+i-I-1)!}{i! \cdot (i+i-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge \mathbf{s} = s + 1 \vee I = \mathbb{k} + 1 \wedge \mathbb{k} > 0 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + 1 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n-i-s)!}{(i-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+i-I-1)!}{i! \cdot (i+i-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge \mathbf{s} = s + 1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}^0S_0^{DS} = (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D+1)}^{n-1} \sum_{n_s=D-j+2}^{n_i-j+1}$$

$$\frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D-j)!}$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge \mathbf{s} = s + 1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}^0S_0^{DS} = (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D+1)}^{n-1} \sum_{n_s=D-j+2}^{n_i-j+1} \sum_{i=2}^{D-j+1}$$

$$\frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j - D - 2)! \cdot (D - j)!} + \frac{(n_s - i - 1)!}{(n_s + j - D - 2)! \cdot (D - j - i + 1)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}^0S_0^{DS} = (n-s)! \cdot \sum_{j_i=s+1}^n \sum_{(n_i=n+1)}^{(n-1)} \sum_{n_s=n-j_i+1}^{n_i-j_i+1} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i-2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}^0S_0^{DS} = (n-s)! \cdot \sum_{j_i=s+1}^n \sum_{(n_i=n+1)}^{(n-1)} \sum_{n_s=n-j_i+2}^{n_i-j_i+1} \sum_{(i=2)}^{(n-j_i+1)} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i-2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \wedge \mathbb{k} = 0 \wedge s = 2 \Rightarrow$$

$${}^0S_0^{DS} = (n-2)! \cdot \sum_{j_i=3}^n \sum_{(n_i=n+1)}^{(n-1)} \sum_{n_s=n-j_i+2}^{n_i-j_i+1} \frac{(j_i-2)!}{(j_i-3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i-2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \wedge \mathbb{k} = 0 \wedge s = 2 \Rightarrow$$

$${}^0S_0^{DS} = (n-2)! \cdot \sum_{j_i=3}^n \sum_{(n_i=n+1)}^{(n-1)} \sum_{n_s=n-j_i+2}^{n_i-j_i+1} \sum_{(i=2)}^{(n-j_i+1)} \frac{(j_i-2)!}{(j_i-3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i-2)! \cdot (n_i - n_s - j_i + 1)!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned} {}^0S_0^{DS} &= (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \\ &\quad \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\quad \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &\quad (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ &\quad \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\ &\quad \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\ &\quad \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \end{aligned}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_0^{DS} &= (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \\ &\quad \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\quad \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &\quad (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \end{aligned}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_s=n-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right) + (D - s)! \cdot \sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge$$

$$j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_s=n-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=2)}^{(n-j^{sa}+1)}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right) + (D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z : z = 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{\mathbf{n}+j_{sa}-s} \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{\mathbf{n}+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}-2)}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+1}^{n-1} \sum_{(n_i-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j^{sa}=s+1}^n \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_s=n-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=2)}^{(n-j^{sa}+1)}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!}$$

$$\frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right) +$$

$$(D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot$$

$$\frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot$$

$$\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right) +$$

$$(D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=j_{sa}+1}^{\mathbf{n}+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\begin{aligned}
& \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}
\end{aligned}$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_0^{DS} &= (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)}^{(j_{sa}^{ik}-1)} \sum_{n_i=n+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}-\mathbb{k}-1} \\
& \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}
\end{aligned}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{n_i=n+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right) \cdot (D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right) + (D - s)!$$

$$\sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_i-j_{ik}+1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (\mathbf{n} - j^{sa} - i + 1)!} \right)$$

$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = 1 \wedge \mathbf{s} = s + 1 \vee$

$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z : z = 1 \Rightarrow$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_s-j_{sa}^{ik}} \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(\mathbf{n} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_s-j_{sa}^{ik}+1}^{n+j_{sa}-s}$$

$$\frac{\sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{(j_{ik}-j_s-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!}{(n-j^{sa})!} \cdot \frac{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!}{(n_i-n_{is}-1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}+j_s-n_{ik}-j_{ik})!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z : z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{Ds} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n-s+1}$$

$$\frac{\sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}-\mathbb{k}-1}}{(j_{ik}-j_s-1)!} \cdot \frac{(n-j_{ik}-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!}{(n_i-n_{is}-1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}+j_s-n_{ik}-j_{ik})!}{(n_{sa}-1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!} +$$

$$(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s}$$

$$\frac{\sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{(j_{ik}-j_s-1)!} \cdot \frac{(n-j^{sa})!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!}{(n_i-n_{is}-1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}+j_s-n_{ik}-j_{ik})!}{(n_{sa}-1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!} +$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge k = 0 \wedge I = 1 \wedge s = s + 1 \vee$$

$$I = k + 1 \wedge s > 1 \wedge k > 0 \wedge I = 1 \wedge s = s + k + 1 \wedge k_z: z = 1 \Rightarrow$$

$$\begin{aligned} {}^0S_0^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\ &\sum_{(n_i=n+k+1)}^{(n-1)} \sum_{n_{is}=n+k-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+k-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_s - k - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\ &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\ &\sum_{(n_i=n+k+1)}^{(n-1)} \sum_{n_{is}=n+k-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+k-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = k + 1 \wedge s > 1 \wedge k > 0 \wedge I = 1 \wedge s = s + k + 1 \wedge$$

$$\mathbb{k}_Z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_0^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
&\sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}-\mathbb{k}-1} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
&\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
&(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
&\sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
&\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}
\end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_Z: z = 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_0^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{\mathbb{k}}-1)}^{(n+j_{sa}^{\mathbb{k}}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{\mathbb{k}}} \\
&\sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=2)}^{(n-j_i+1)}
\end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - k - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right) + (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \sum_{(n_i=n+k+1)}^{(n-1)} \sum_{n_{is}=n+k-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+k-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=2)}^{(n-j_i+1)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right)$$

$$D = n < n \wedge k = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = k + 1 \wedge s > 1 \wedge k > 0 \wedge I = 1 \wedge s = s + k + 1 \wedge$$

$$k_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{(n-1)} \sum_{(n_i=n+k+1)}^{(n-1)} \sum_{n_{is}=n+k-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+k-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}-k-1} \sum_{(i=2)}^{(n-j_i+1)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right) + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
& \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=2)}^{(n-j_i+1)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \\
& \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right)
\end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned}
& {}^0S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\)} \sum_{j^{sa}=j_s+j_{sa}-1} \\
& \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot
\end{aligned}$$

$$\begin{aligned}
 & \frac{(n_{ik} - n_{sa} - \mathbb{k}_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k}_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\
 & \quad \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
 & \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \quad \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\
 & \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 & \quad \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\
 & \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
 & \quad \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
 & \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \quad \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\
 & \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 & \quad \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
 \end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge$$

$$s = s + \mathbb{k} + 1 \wedge \mathbb{k}_2: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_0^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\ &\sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}-\mathbb{k}_2-1} \\ &\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \\ &\frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\ &\sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\ &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\ &\sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge \mathbf{s} = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right)$$

$$\begin{aligned} & \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{i_s}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{i_k}=n+\mathbb{k}_2-j_{i_k}+2)}^{(n_{i_s}+j_s-j_{i_k}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{i_k}+j_{i_k}-j_i-\mathbb{k}_2} \\ & \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(j_i-j_{i_k}-1)!}{(j_i+j_{s_a}^{i_k}-j_{i_k}-s)! \cdot (s-j_{s_a}^{i_k}-1)!} \cdot \\ & \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \cdot \\ & \left. \frac{(n_{i_k}-n_s-1)!}{(j_i-j_{i_k}-1)! \cdot (n_{i_k}+j_{i_k}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} \right) \end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{i_k} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{i_k} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge$$

$$s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{i_k} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned} & {}^0S_0^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+s-2)}^{(\)} \sum_{j_i=j_s+s-1} \\ & \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{i_s}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{i_k}=n+\mathbb{k}_2-j_{i_k}+2)}^{(n_{i_s}+j_s-j_{i_k}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{i_k}-\mathbb{k}_2-1} \\ & \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-\mathbb{k}_1-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k}-\mathbb{k}_1)!} \cdot \\ & \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \\ & (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+s-2)}^{(\)} \sum_{j_i=j_{i_k}+2}^n \right. \\ & \left. \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{i_s}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{i_k}=n+\mathbb{k}_2-j_{i_k}+2)}^{(n_{i_s}+j_s-j_{i_k}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{i_k}+j_{i_k}-j_i-\mathbb{k}_2} \right. \\ & \left. \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-s+2)! \cdot (s-3)!} \right) \end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$D = n < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \vee$

$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$

$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge$

$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{\mathbb{k}}-1)}^{(\)} \sum_{j_i=j_s+s-1} \sum_{(n_i=n+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=2)}^{(n-j_i+1)}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right) +$$

$$\begin{aligned}
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right. \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbf{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbf{k}_1+\mathbf{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbf{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbf{k}_2} \sum_{(i=2)}^{(n-j_i+1)} \\
& \quad \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
& \quad \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \quad \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \\
& \quad \left. \left(\frac{(n_s-2)!}{(n_s+j_i-\mathbf{n}-2)! \cdot (\mathbf{n}-j_i)!} + \frac{(n_s-i-1)!}{(n_s+j_i-\mathbf{n}-2)! \cdot (\mathbf{n}-j_i-i+1)!} \right) + \right. \\
& \quad \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right. \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbf{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbf{k}_1+\mathbf{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbf{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbf{k}_2} \sum_{(i=2)}^{(n-j_i+1)} \\
& \quad \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
& \quad \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \quad \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \\
& \quad \left. \left(\frac{(n_s-2)!}{(n_s+j_i-\mathbf{n}-2)! \cdot (\mathbf{n}-j_i)!} + \frac{(n_s-i-1)!}{(n_s+j_i-\mathbf{n}-2)! \cdot (\mathbf{n}-j_i-i+1)!} \right) \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbf{k} = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbf{k} + 1 \wedge s > 1 \wedge \mathbf{k} > 0 \wedge I = 1 \wedge s = s + \mathbf{k} + 1 \wedge$$

$$\mathbf{k}_z: z = 2 \wedge \mathbf{k} = \mathbf{k}_1 + \mathbf{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbf{k} + 1 \wedge s > 1 \wedge \mathbf{k}_2 > 0 \wedge \mathbf{k}_1 = 0 \wedge I = 1 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S_0^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1} \\
 &\sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}-\mathbb{k}_2-1} \sum_{(i=2)}^{(n-j_i+1)} \\
 &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
 &\left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right) + \\
 &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^{\mathbf{n}} \right. \\
 &\sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=2)}^{(n-j_i+1)} \\
 &\left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \right) + \\
 &\left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right) + \\
 &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{\mathbf{n}} \\
 &\sum_{(n_i=\mathbf{n}+\mathbb{k}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=2)}^{(n-j_i+1)} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!}
 \end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z > 1 \Rightarrow$$

$$\begin{aligned} {}^0S_0^{DS} &= (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+2}=z+1}^{(j_{ik})_{z+2}-1} \sum_{n_i=\mathbf{n}+\mathbb{k}+1}^{n-1} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i-(j_i)_1} \mathbb{k}_i - (j_i)_1}^{(n_i-(j_i)_1+1)} \sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i}^{(n_i-(j_i)_1+1)} \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i-(j_{ik})_z} \mathbb{k}_i - (j_{ik})_z}^{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i} \sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}_i-(j_i)_z} \mathbb{k}_i - (j_i)_z}^{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i} \\ &\frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa}^{ik})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{ik})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - \mathbf{n})!} \\ &\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \cdot \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\ &\frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - \mathbf{n} - 1)! \cdot (\mathbf{n} - (j_i)_{z=s})!} \end{aligned}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z > 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+2}=z+1}^{(j_{ik})_{z+2}-1}$$

$$\begin{aligned}
& \sum_{n_i=n+\mathbb{k}+1}^{n-1} \binom{(n_i-(j_i)_1+1)}{\binom{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}} \mathbb{k}_i-(j_i)_1 \forall z=s \Rightarrow n+\sum_{i=1}^{s-1} \mathbb{k}_i-(j_i)_1+2}} \\
& \sum_{\binom{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}} \mathbb{k}_i}{\binom{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}} \mathbb{k}_i-(j_{ik})_z \forall z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i-(j_{ik})_z+2}} \\
& \sum_{\binom{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}} \mathbb{k}_i}{\binom{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}} \mathbb{k}_i-(j_i)_z \forall z=s \Rightarrow n+\sum_{i=z}^{s-1} \mathbb{k}_i-(j_i)_z+2}} \sum_{i=2}^{n-(j_i)_{z=s}+1} \\
& \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{\binom{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{\binom{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!}} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\
& \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \\
& \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \\
& \left(\frac{((n_s)_{z=s}-2)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-2)! \cdot (n-(j_i)_{z=s})!} + \right. \\
& \left. \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-2)! \cdot (n-(j_i)_{z=s}-i+1)!} \right)
\end{aligned}$$

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde $\{1, 2, 3, 4, 5, \mathbf{0}\}$ veya $\{1, 2, \mathbf{0}, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5, \mathbf{0}\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, simetrik olasılıklar; kalan simetrik olasılıktan, bağımsız durumlarla başlayan dağılımlardaki kalan simetrik olasılığın farkına veya aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D-s)$ ile çarpımına eşit olur. Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}^0S_D^{DS} = {}^0S^{DS} - {}^0S_0^{DS}$$

ve

$${}^0S_D^{DS} = \frac{n! \cdot (D-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (D-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (n-l-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D+I-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$$\begin{aligned}
 {}^0S_D^{DS} &= (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_z=z+1 \vee z=s \Rightarrow s+1}^{((j_{ik})_{z+2}-1) \vee n} \\
 &\quad \sum_{n_i=n}^{(n-(j_i)_1+1)} \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=1}^{z-1} \mathbb{k}_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=1}^{z-1} \mathbb{k}_i-(j_i)_z+2}^{(n-(j_i)_1+1)} \\
 &\quad \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1} \mathbb{k}_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i-(j_{ik})_z+2}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2} \mathbb{k}_i} \\
 &\quad \sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z} \mathbb{k}_i-(j_i)_z \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} \mathbb{k}_i-(j_i)_{z+2}}^{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1} \mathbb{k}_i} \\
 &\quad \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{\mathbb{k}})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{\mathbb{k}})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\
 &\quad \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \\
 &\quad \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \\
 &\quad \frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-1)! \cdot (n-(j_i)_{z=s})!}
 \end{aligned}$$

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$$\begin{aligned}
 {}^0S_D^{DS} &= (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_z=z+1 \vee z=s \Rightarrow s+1}^{((j_{ik})_{z+2}-1) \vee n} \\
 &\quad \sum_{n_i=n}^{(n-(j_i)_1+1)} \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=1}^{z-1} \mathbb{k}_i-(j_i)_z \vee z=s \Rightarrow n+\sum_{i=1}^{z-1} \mathbb{k}_i-(j_i)_z+2}^{(n-(j_i)_1+1)} \\
 &\quad \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1} \mathbb{k}_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i-(j_{ik})_z+2}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2} \mathbb{k}_i}
 \end{aligned}$$

$$\begin{aligned}
& \sum_{\substack{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \\ (n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i} - (j_i)_z \vee z = s \Rightarrow n + \sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_z + 2}} \sum_{i=2}^{n - (j_i)_{z=s+1}} \\
& \frac{(D-s)!}{(D-s - (j_i)_1 + 2)!} \cdot \frac{(D-s - (j_{ik} - j_{sa}^{ik})_z)!}{(D-s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{ik})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D-n)!} \\
& \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \cdot \\
& \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \cdot \\
& \left(\frac{((n_s)_{z=s} - 2)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 2)! \cdot (n - (j_i)_{z=s})!} + \right. \\
& \left. \frac{((n_s)_{z=s} - i - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 2)! \cdot (n - (j_i)_{z=s} - i + 1)!} \right)
\end{aligned}$$

$j = D = n$ olduğunda i 'li terimler hesaplamaya dahil edilmez!

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bir bağımsız durumlu bağımlı kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli dağılımlarda, simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bir bağımsız durumlu bağımlı kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bir bağımsız durumlu bağımlı kalan simetrik olasılık ${}^0S_D^{DS}$ ile gösterilecektir.

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \vee I = \mathbb{k} + 1 \wedge \mathbb{k} > 0 \wedge$$

$$s = s + \mathbb{k} + 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_D^{DS} &= \frac{n! \cdot (D-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) - \\
& \frac{(n-1)! \cdot (D-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)
\end{aligned}$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \vee I = \mathbb{k} + 1 \wedge \mathbb{k} > 0 \wedge$$

$$s = s + \mathbb{k} + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (D-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \vee I = k + 1 \wedge k > 0 \wedge$$

$$s = s + k + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (n-l-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \vee I = k + 1 \wedge k > 0 \wedge$$

$$s = s + k + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D+I-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \vee I = k + 1 \wedge k > 0 \wedge$$

$$s = s + k + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = I = 1 \wedge s = s + 1 \vee I = k + 1 \wedge k > 0 \wedge$$

$$s = s + k + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (n+I-l-s)!}{(l-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n+l-l-s)!}{(l-l-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-l-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge l = \mathbf{l} = 1 \wedge s = s+1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}^0S_D^{DS} = (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_s=D-j+2)}^{n-j+1}$$

$$\frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n-n_s-1)!}{(j-2)! \cdot (n-n_s-j+1)!} \cdot \frac{(n_s-1)!}{(n_s+j-D-1)! \cdot (D-j)!}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge l = \mathbf{l} = 1 \wedge s = s+1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}^0S_D^{DS} = (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_s=D-j+2)}^{(n-j+1)} \sum_{i=2}^{D-j+1}$$

$$\frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n-n_s-1)!}{(j-2)! \cdot (n-n_s-j+1)!} \cdot$$

$$\left(\frac{(n_s-2)!}{(n_s+j-D-2)! \cdot (D-j)!} + \frac{(n_s-i-1)!}{(n_s+j-D-2)! \cdot (D-j-i+1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge l = \mathbf{l} = 1 \wedge s = s+1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}^0S_D^{DS} = (n-s)! \cdot \sum_{j_i=s+1}^n \sum_{(n_i=n)}^{(\)} \sum_{n_s=n-j_i+2}^{n-j_i+1}$$

$$\frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n-n_s-1)!}{(j_i-2)! \cdot (n-n_s-j_i+1)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge l = \mathbf{l} = 1 \wedge s = s+1 \wedge \mathbb{k} = 0 \Rightarrow$$

$${}^0S_D^{DS} = (n-s)! \cdot \sum_{j_i=s+1}^n \sum_{(n_i=n)}^{(\)} \sum_{n_s=n-j_i+2}^{n-j_i+1} \sum_{(i=2)}^{(n-j_i+1)}$$

$$\frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n-n_s-1)!}{(j_i-2)! \cdot (n-n_s-j_i+1)!} \cdot$$

$$\left(\frac{(n_s-2)!}{(n_s+j_i-n-2)! \cdot (n-j_i)!} + \frac{(n_s-i-1)!}{(n_s+j_i-n-2)! \cdot (n-j_i-i+1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge l = \mathbf{l} = 1 \wedge s = s+1 \wedge \mathbb{k} = 0 \wedge s = 2 \Rightarrow$$

$${}^0S_D^{DS} = (\mathbf{n} - 2)! \cdot \sum_{j_i=3}^{\mathbf{n}} \sum_{(n_i=\mathbf{n})}^{(\)} \sum_{n_s=\mathbf{n}-j_i+2}^{\mathbf{n}-j_i+1}$$

$$\frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n - n_s - 1)!}{(j_i - 2)! \cdot (n - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbf{I} = 1 \wedge \mathbf{s} = s + 1 \wedge \mathbb{k} = 0 \wedge s = 2 \Rightarrow$$

$${}^0S_D^{DS} = (\mathbf{n} - 2)! \cdot \sum_{j_i=3}^{\mathbf{n}} \sum_{(n_i=\mathbf{n})}^{(\)} \sum_{n_s=\mathbf{n}-j_i+2}^{\mathbf{n}-j_i+1} \sum_{(i=2)}^{(\mathbf{n}-j_i+1)}$$

$$\frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n - n_s - 1)!}{(j_i - 2)! \cdot (n - n_s - j_i + 1)!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=j^{sa}+1}^{\mathbf{n}+j^{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j^{sa})} \sum_{(n_i=\mathbf{n})}^{(\)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{\mathbf{n}-j^{sa}-\mathbb{k}+1}$$

$$\frac{(j^{sa} + j_{sa}^{ik} - j^{sa} - 2)!}{(j^{sa} - j^{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j^{sa}+2}^{\mathbf{n}+j^{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j^{sa}-1)} \sum_{n_i=\mathbf{n}}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j^{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!}$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_D^{DS} &= (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2} \binom{(\quad)}{n-j^{sa}-\mathbb{k}+1} \\
&\frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!} + \\
&(D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \\
&\frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$$\begin{aligned}
{}^0S_D^{DS} &= (D-s)! \cdot \\
&\sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{(n_i=n)} \sum_{n_s=\mathbf{n}-j^{sa}+2} \sum_{(i=2)} \binom{(\quad)}{n-j^{sa}-\mathbb{k}+1} \binom{(\quad)}{n-j^{sa}+1} \\
&\frac{(j^{sa}+j_{sa}^{ik}-s-2)!}{(j^{sa}-s-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \\
&\frac{(n-n_s-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n-n_s-j^{sa}-\mathbb{k}+1)!} \cdot \\
&\left(\frac{(n_s-2)!}{(n_s+j^{sa}-\mathbf{n}-2)! \cdot (n-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-\mathbf{n}-2)! \cdot (n-j^{sa}-i+1)!} \right) + \\
&(D-s)! \cdot \\
&\sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \\
&\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!}
\end{aligned}$$

$$\frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = k + 1 \wedge s = s + k + 1 \wedge$$

$$k_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} & {}^0S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n)} \sum_{n_s=n-j^{sa}+2}^{n-j^{sa}-k+1} \sum_{(i=2)}^{n-j^{sa}+1} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \frac{(n - n_s - k - 1)!}{(j^{sa} - 2)! \cdot (n - n_s - j^{sa} - k + 1)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right) + (D - s)! \cdot \sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n} \sum_{(n_{ik}=n+k-j_{ik}+2)}^{(n-j_{ik}+1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{(i=2)}^{n-j^{sa}+1} \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - 2)! \cdot (n - j^{sa} - i + 1)!} \right) \end{aligned}$$

$$D = n < n \wedge s > 1 \wedge I = k + 1 \wedge s = s + k + 1 \wedge k_z: z = 1 \Rightarrow$$

$$\begin{aligned} & {}^0S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n)} \sum_{n_{sa}=n-j^{sa}+2}^{n-j^{sa}-k+1} \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \end{aligned}$$

$$\begin{aligned}
& \frac{(n - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2} \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n)}^{()} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n-j^{sa}-\mathbb{k}+1} \\
& \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& (D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2} \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(n_i=n)} \sum_{n_s=n-j^{sa}+2}^{n-j^{sa}-\mathbb{k}+1} \sum_{(i=2)}^{n-j^{sa}+1} \frac{(j^{sa}-3)!}{(j^{sa}-s-1)! \cdot (s-2)!} \cdot \frac{(n-n_s-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n-n_s-j^{sa}-\mathbb{k}+1)!} \cdot \left(\frac{(n_s-2)!}{(n_s+j^{sa}-n-2)! \cdot (n-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-2)! \cdot (n-j^{sa}-i+1)!} \right) + (D-s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n-j_{ik}+1)} \sum_{n_s=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{n-j^{sa}+1} \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \cdot \left(\frac{(n_s-2)!}{(n_s+j^{sa}-n-2)! \cdot (n-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-2)! \cdot (n-j^{sa}-i+1)!} \right)$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D-s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(n_i=n)} \sum_{n_s=n-j^{sa}+2}^{n-j^{sa}-\mathbb{k}+1} \sum_{(i=2)}^{n-j^{sa}+1} \frac{(j^{sa}-3)!}{(j^{sa}-s-1)! \cdot (s-2)!} \cdot \frac{(n-n_s-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n-n_s-j^{sa}-\mathbb{k}+1)!} \cdot \left(\frac{(n_s-2)!}{(n_s+j^{sa}-n-2)! \cdot (n-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-2)! \cdot (n-j^{sa}-i+1)!} \right) + (D-s)! \cdot$$

$$\sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{(n-j^{sa}+1)} \sum_{(i=2)}^{(n-j^{sa}+1)} \frac{(j_{ik}-2)!}{(j_{ik}-s)! \cdot (s-2)!} \cdot \frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \cdot \left(\frac{(n_s-2)!}{(n_s+j^{sa}-\mathbf{n}-2)! \cdot (\mathbf{n}-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-\mathbf{n}-2)! \cdot (\mathbf{n}-j^{sa}-i+1)!} \right)$$

$$D = \mathbf{n} < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{(n-j^{sa}+1)} \frac{(j^{sa}+j_{sa}^{ik}-j_{sa}-2)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-\mathbb{k})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} + (D-s)! \cdot$$

$$\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{(n-j^{sa}+1)} \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{s} > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}-\mathbb{k}-1} \\
 &\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 &\frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \\
 &\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!} + \\
 &(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
 &\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 &\frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \\
 &\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!}
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{s} > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D - s)! \cdot \\
 &\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n-j_{ik}+1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \\
 &\frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \\
 &\frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \\
 &\left(\frac{(n_s - 2)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - 2)! \cdot (n - j^{sa} - i + 1)!} \right) + \\
 &(D - s)! \cdot
 \end{aligned}$$

$$\begin{aligned}
& \sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n-j_{ik}+1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \\
& \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \cdot \\
& \left(\frac{(n_s-2)!}{(n_s+j^{sa}-\mathbf{n}-2)! \cdot (\mathbf{n}-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-\mathbf{n}-2)! \cdot (\mathbf{n}-j^{sa}-i+1)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
& {}^0 S_D^{DS} = (D-s)! \cdot \\
& \sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n-j_{ik}+1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \\
& \frac{(j^{sa}-3)!}{(j^{sa}-s-1)! \cdot (s-2)!} \cdot \\
& \frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa}-\mathbb{k})!} \cdot \\
& \left(\frac{(n_s-2)!}{(n_s+j^{sa}-\mathbf{n}-2)! \cdot (\mathbf{n}-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-\mathbf{n}-2)! \cdot (\mathbf{n}-j^{sa}-i+1)!} \right) + \\
& (D-s)! \cdot \\
& \sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n-j_{ik}+1)} \sum_{n_s=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=2)}^{(n-j^{sa}+1)} \\
& \frac{(j_{ik}-2)!}{(j_{ik}-s)! \cdot (s-2)!} \cdot \\
& \frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \cdot \\
& \left(\frac{(n_s-2)!}{(n_s+j^{sa}-\mathbf{n}-2)! \cdot (\mathbf{n}-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-\mathbf{n}-2)! \cdot (\mathbf{n}-j^{sa}-i+1)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = 1 \wedge \mathbf{s} = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \cdot \\
&\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
&(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
&\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
&\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge \mathbf{s} = s + 1 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}$$

$$\begin{aligned}
& \sum_{\binom{(\)}{n_i=n}} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{n_{ik}=n+\mathbb{k}-j_{ik}+2}} \sum_{\binom{n_{ik}-\mathbb{k}-1}{n_{sa}=n-j^{sa}+2}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j_{ik}-1)!}{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
& (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{j_{ik}=j_s+j_{sa}^{ik}-1}} \sum_{\binom{n+j_{sa}-s}{j^{sa}=j_{ik}+2}} \\
& \sum_{\binom{(\)}{n_i=n}} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{n_{ik}=n+\mathbb{k}-j_{ik}+2}} \sum_{\binom{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}{n_{sa}=n-j^{sa}+2}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
\end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{j_{ik}=j_s+j_{sa}^{ik}-1}} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
& \sum_{\binom{(\)}{n_i=n}} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{n_{ik}=n+\mathbb{k}-j_{ik}+2}} \sum_{\binom{n_{ik}+j_{ik}-j_i-\mathbb{k}}{n_s=n-j_i+2}} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
& \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!}
\end{aligned}$$

$$\frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n$$

$$\sum_{(n_i=n)}^{\binom{(\quad)}{n_i=n}} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n$$

$$\sum_{(n_i=n)}^{\binom{(\quad)}{n_i=n}} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}-\mathbb{k}-1}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n$$

$$\sum_{(n_i=n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge \mathbf{s} = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$${}^0S_D^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \sum_{(n_i=n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=2)}^{(n-j_i+1)} \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{ik}-n_s-\mathbb{k}-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-\mathbb{k})!} \cdot \left(\frac{(n_s-2)!}{(n_s+j_i-\mathbf{n}-2)! \cdot (\mathbf{n}-j_i)!} + \frac{(n_s-i-1)!}{(n_s+j_i-\mathbf{n}-2)! \cdot (\mathbf{n}-j_i-i+1)!} \right) +$$

$$(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \sum_{(n_i=n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=2)}^{(n-j_i+1)} \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right)$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{(n-1)} \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}-\mathbb{k}-1} \sum_{(i=2)}^{(n-j_i+1)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right) + (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}-j_{ik}+2)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=2)}^{(n-j_i+1)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!}$$

$$\left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right)$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge \mathbf{s} = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge \mathbf{s} > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{k} + 1 \wedge \mathbf{s} > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\ &\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\ &\frac{(n_{ik} - n_{sa} - \mathbb{k}_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k}_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \\ &\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) \end{aligned}$$

$$\frac{\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s}}{\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-k_2}} \cdot \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!})$$

$$D = n < n \wedge k = 0 \wedge I = 1 \wedge s = s + 1 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = k + 1 \wedge s > 1 \wedge k > 0 \wedge I = 1 \wedge s = s + k + 1 \wedge$$

$$k_z: z = 2 \wedge k = k_1 + k_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = k + 1 \wedge s > 1 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I = 1 \wedge$$

$$s = s + k + 1 \wedge k_z: z = 1 \wedge k = k_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\ \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n-j^{sa}+2}^{n_{ik}-k_2-1} \cdot \frac{(n-j_s-j_{sa}+1)!}{(n-j_s-s+1)! \cdot (s-j_{sa})!} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-k_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-k_1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +$$

$$\begin{aligned}
& (D - s)! \cdot \left(\sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\cdot)} \sum_{j^{sa}=j_{ik}+2}^{\mathbf{n}+j_{sa}-s} \right. \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\
& \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(\mathbf{n}+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{\mathbf{n}+j_{sa}-s} \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}-j^{sa}+2}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = 1 \wedge s = s + 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge s = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\cdot)} \sum_{j_i=j_s+s-1}$$

$$\begin{aligned}
 & \sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)}{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}} \sum_{\binom{n_{ik}+j_{ik}-j_i-\mathbb{k}_2}{n_s=\mathbf{n}-j_i+2}} \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-\mathbb{k}_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-\mathbb{k}_1)!} \cdot \\
 & \frac{(n_{ik}-n_s-\mathbb{k}_2-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-\mathbb{k}_2)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!} + \\
 & (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{\binom{(\cdot)}{(j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{\binom{n}{j_i=j_{ik}+s-j_{sa}^{ik}+1}} \right. \\
 & \sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)}{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}} \sum_{\binom{n_{ik}+j_{ik}-j_i-\mathbb{k}_2}{n_s=\mathbf{n}-j_i+2}} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{(j_{ik}=j_s+j_{sa}^{ik})}} \sum_{\binom{n}{j_i=j_{ik}+s-j_{sa}^{ik}}} \\
 & \sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)}{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}} \sum_{\binom{n_{ik}+j_{ik}-j_i-\mathbb{k}_2}{n_s=\mathbf{n}-j_i+2}} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \left. \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!} \right)
 \end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge \mathbf{s} = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_s+s-1} \\ &\sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}-\mathbb{k}_2-1} \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\ &\frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_{ik}+2}^n \right. \\ &\sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\ &\left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \right. \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ &\left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\ &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\ &\sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\ &\left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \end{aligned}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)$$

$$D = n < n \wedge k = 0 \wedge l = 1 \wedge s = s + 1 \vee$$

$$I = k + 1 \wedge s > 1 \wedge k > 0 \wedge l = 1 \wedge s = s + k + 1 \wedge k_z: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = k + 1 \wedge s > 1 \wedge k_2 > 0 \wedge k_1 = 0 \wedge l = 1 \wedge s = s + k + 1 \wedge$$

$$k_z: z = 1 \wedge k = k_2 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{()}{j_{ik}=j_s+j_{sa}^{ik}-1}} \sum_{j_i=j_s+s-1} \sum_{\binom{()}{n_i=n}} \sum_{n_{is}=n+k_1+k_2-j_s+2}^{n-j_s+1} \sum_{\binom{()}{n_{ik}=n+k_2-j_{ik}+2}}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=2)}^{(n-j_i+1)}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot \frac{(n_{ik} - n_s - k_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k_2)!} \cdot \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right) +$$

$$(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{\binom{()}{j_{ik}=j_s+j_{sa}^{ik}-1}} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \sum_{\binom{()}{n_i=n}} \sum_{n_{is}=n+k_1+k_2-j_s+2}^{n-j_s+1} \sum_{\binom{()}{n_{ik}=n+k_2-j_{ik}+2}}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=2)}^{(n-j_i+1)} \right)$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!}$$

$$\begin{aligned}
& \left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^{\mathbf{n}} \\
& \sum_{(n_i=n)}^{(\)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=2)}^{(n-j_i+1)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \\
& \left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = 1 \wedge \mathbf{s} = s + 1 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I = 1 \wedge \mathbf{s} = s + \mathbb{k} + 1 \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + 1 \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I = 1 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + 1 \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\)} \sum_{j_i=j_s+s-1}^{(\)} \\
& \sum_{(n_i=n)}^{(\)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}-j_i+2}^{n_{ik}-\mathbb{k}_2-1} \sum_{(i=2)}^{(n-j_i+1)} \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \left(\frac{(n_s - 2)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - 2)! \cdot (\mathbf{n} - j_i - i + 1)!} \right) +
\end{aligned}$$

$$\begin{aligned}
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=n+k_1+k_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=2)}^{(n-j_i+1)} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \right) \\
 & \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right) + \\
 & \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \right. \\
 & \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=n+k_1+k_2-j_s+2}^{n-j_s+1} \sum_{(n_{ik}=n+k_2-j_{ik}+2)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n-j_i+2}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=2)}^{(n-j_i+1)} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \right) \\
 & \left(\frac{(n_s - 2)!}{(n_s + j_i - n - 2)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - 2)! \cdot (n - j_i - i + 1)!} \right)
 \end{aligned}$$

$$D = n < n \wedge s > 1 \wedge I = k + 1 \wedge s = s + k + 1 \wedge k_z: z > 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{((j_1)_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_z-1} \sum_{((j_i)_z=z+1 \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2}-1 \vee n)}$$

$$\begin{aligned}
& \sum_{n_i=n} \sum_{\substack{(n_i - (j_i)_1 + 1) \\ (n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \mathbb{k}_i - (j_i)_1 \forall z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i - (j_i)_1 + 2}} \\
& \sum_{\substack{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i \\ (n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_{ik})_z} \mathbb{k}_i - (j_{ik})_z \forall z = s \Rightarrow n + \sum_{i=z-1}^{s-1} \mathbb{k}_i - (j_{ik})_z + 2}} \\
& \sum_{\substack{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i \\ (n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \forall z = s \Rightarrow n + \sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_z + 2}} \\
& \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\
& \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
& \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
& \frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}
\end{aligned}$$

$$D = n < n \wedge s > 1 \wedge I = \mathbb{k} + 1 \wedge s = s + \mathbb{k} + 1 \wedge \mathbb{k}_z : z > 1 \Rightarrow$$

$$\begin{aligned}
& {}^0 S_D^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \forall z = s \Rightarrow s+1}^{(j_{ik})_{z+2} - 1 \forall n} \\
& \sum_{n_i=n} \sum_{\substack{(n - (j_i)_1 + 1) \\ (n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \mathbb{k}_i - (j_i)_1 \forall z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i - (j_i)_1 + 2}} \\
& \sum_{\substack{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i \\ (n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_{ik})_z} \mathbb{k}_i - (j_{ik})_z \forall z = s \Rightarrow n + \sum_{i=z-1}^{s-1} \mathbb{k}_i - (j_{ik})_z + 2}} \\
& \sum_{\substack{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i \\ (n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \forall z = s \Rightarrow n + \sum_{i=z}^{s-1} \mathbb{k}_i - (j_i)_z + 2}} \sum_{i=2}^{n - (j_i)_{z=s} + 1}
\end{aligned}$$

$$\begin{aligned}
& \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{\binom{D-s-(j_{ik}-j_{sa}^{ik})_z}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!}}{\binom{D-(j_i)_{z=s}!}{(D-n)!}} \cdot \\
& \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \\
& \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \\
& \left(\frac{((n_s)_{z=s}-2)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-2)! \cdot (n-(j_i)_{z=s})!} + \right. \\
& \left. \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-2)! \cdot (n-(j_i)_{z=s}-i+1)!} \right)
\end{aligned}$$

GÜLDÜNYA

BİR BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}_0S^{DS} = \frac{n! \cdot (D - 1)!}{(l - 1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i + l - 1)!}{i! \cdot (i + 1)! \cdot (n - i)!} \right)$$

veya bu eşitlikteki durum sayısı yerine $D = n - l$ yazıldığında,

$${}_0S^{DS} = \frac{n! \cdot (n - l - 1)!}{(l - 1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i + l - 1)!}{i! \cdot (i + 1)! \cdot (n - i)!} \right)$$

veya $s = s - l$ yazıldığında,

$${}_0S^{DS} = \frac{n! \cdot (D + l - s)!}{(l - 1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i + l - 1)!}{i! \cdot (i + 1)! \cdot (n - i)!} \right)$$

veya

$${}_0S^{DS} = \frac{n! \cdot (n + l - l - s)!}{(l - 1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i + l - 1)!}{i! \cdot (i + 1)! \cdot (n - i)!} \right)$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu kalan simetrik olasılık ${}_0S^{DS}$ ile gösterilecektir.

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S^{DS} = \frac{n! \cdot (D-1)!}{(I-I)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+I-I)!}{i! \cdot (i+I)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S^{DS} = \frac{n! \cdot (n-I-1)!}{(I-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+I-I)!}{i! \cdot (i+I)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S^{DS} = \frac{n! \cdot (D+I-s)!}{(I-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+I-I)!}{i! \cdot (i+I)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S^{DS} = \frac{n! \cdot (n+I-I-s)!}{(I-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+I-I)!}{i! \cdot (i+I)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{(n_i=D+I)}^n \sum_{n_s=D+I-j+1}^{n_i-j+1} \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D-j)!}$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{(n_i=D+I)}^n \sum_{n_s=D+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{(D+I-j)} \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - D - I - 1)! \cdot (D-j)!} + \frac{(n_s - i - 1)!}{(n_s + j - D - I - 1)! \cdot (D+I-j-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BİR BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D+I-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

ve $s = 1$ olacağından,

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-1)!}{(n-D-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-1)!}{(l-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n+l-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n-l-1)!}{(l-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımsız kalan simetrik olasılık eşitliği denir. Bağımlı ve bir

bağımsız olasılıklı farklı dizimli dağılımlarda, simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizimli bir bağımlı-bağımsız durumlu bağımsız kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli bir bağımlı-bağımsız durumlu bağımsız kalan simetrik olasılık ${}^0S_0^{DS}$ ile gösterilecektir.

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D+I-s)!}{(i-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+i-I-1)!}{i! \cdot (i+i-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-1)!}{(n-D-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+i-I-1)!}{i! \cdot (i+i-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-1)!}{(i-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+i-I-1)!}{i! \cdot (i+i-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n+I-i-s)!}{(i-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+i-I-1)!}{i! \cdot (i+i-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_0^{DST} = \frac{(n-1)! \cdot (n-i-1)!}{(i-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+i-I-1)!}{i! \cdot (i+i-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_0^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{(n_i=D+I)}^{n-1} \sum_{n_s=D+I-j+1}^{n_i-j+1}$$

$$\frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D - j)!}$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_0^{DS} &= (D-1)! \cdot \sum_{j=2}^D \sum_{(n_i=D+I)}^{n-1} \sum_{n_s=D+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{D+I-j} \\
&\frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - D - I - 1)! \cdot (D-j)!} + \right. \\
&\left. \frac{(n_s - i - 1)!}{(n_s + j - D - I - 1)! \cdot (D + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)
\end{aligned}$$

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BİR BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilmiş dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, simetrik olasılıklar; kalan simetrik olasılıktan, bağımsız durumlarla başlayan dağılımlardaki kalan simetrik olasılığın farkına veya aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}^0S_D^{DS} = {}^0S^{DS} - {}^0S_0^{DS}$$

ve

$$\begin{aligned}
{}^0S_D^{DS} &= \frac{n! \cdot (D-1)!}{(I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+I-I)!}{i! \cdot (i+I)! \cdot (n-i)!} \right) - \\
&\frac{(n-1)! \cdot (D-1)!}{(n-D-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (n-i)!} \right)
\end{aligned}$$

veya

$$\begin{aligned}
{}^0S_D^{DS} &= \frac{n! \cdot (D-1)!}{(I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+I-I)!}{i! \cdot (i+I)! \cdot (n-i)!} \right) - \\
&\frac{(n-1)! \cdot (D-1)!}{(I-1-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (n-i)!} \right)
\end{aligned}$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (n-l-1)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n-l-1)!}{(l-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D+I-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılık ${}^0S_D^{DS}$ ile gösterilecektir.

$$D = n < n \wedge s = 1 \wedge l = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (D-1)!}{(l-I)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D-1)!}{(n-D-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge l = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (D-1)!}{(l-I)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D-1)!}{(l-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge l = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (n+I-l-s)!}{(l-I)!} \cdot \left(\sum_{i=s-l}^{n-l} \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-l-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-l}^{n-l} \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-l-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge l = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (n-l-1)!}{(l-I)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n-l-1)!}{(l-I-1)!} \cdot \left(\sum_{i=2}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge l = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D+I-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge l = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge l = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (n+I-l-s)!}{(l-I)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_D^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{(n_s=D+I-j+1)}^{n-j+1}$$

$$\frac{(n-n_s-1)!}{(j-2)! \cdot (n-n_s-j+1)!} \cdot \frac{(n_s-1)!}{(n_s+j-D-1)! \cdot (D-j)!}$$

$$D = n < n \wedge s = 1 \wedge I = I \wedge s = I + 1 \Rightarrow$$

$${}^0S_D^{DS} = (D-1)! \cdot \sum_{j=2}^D \sum_{(n_s=D+I-j+1)}^{n-j+1} \sum_{(i=I+1)}^{D+I-j}$$

$$\frac{(n-n_s-1)!}{(j-2)! \cdot (n-n_s-j+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j-D-I-1)! \cdot (D-j)!} + \right.$$

$$\left. \frac{(n_s-i-1)!}{(n_s+j-D-I-1)! \cdot (D+I-j-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}^0S^{DS} = \frac{n! \cdot (D - s)!}{(l - l)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

veya

$${}^0S^{DS} = \frac{n! \cdot (n - l - s)!}{(l - l)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

veya

$${}^0S^{DS} = \frac{n! \cdot (D + l - s)!}{(l - l)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i + l - l)!}{i! \cdot (i + l)! \cdot (n - i)!} \right)$$

veya

$${}^0S^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{((j_i)_{1=2})}^{((j_{ik})_{3-1})} \sum_{(j_{ik})_{z=z}}^{(j_i)_{z-1}} \sum_{((j_i)_{z=z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2-1} \vee n)}$$

$$\sum_{n_i=n+l+I}^n \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{l-1} k_i - (j_i)_1 \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} k_i + I - (j_i)_1 + 1}^{(n_i - (j_i)_1 + 1)}$$

$$\sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{l-1} k_i - (j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} k_i + I - (j_{ik})_z + 1}^{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{l-1} k_i}$$

$$\sum_{((n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{l-1} k_i)}^{(n_s)_z=(n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{l-1} k_i - (j_i)_z \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} k_i + I - (j_i)_{z+1}}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{\binom{D-s-(j_{ik}-j_{sa}^{ik})_z}{z}!}{\binom{D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z}{z}+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \cdot \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-1)! \cdot (n-(j_i)_{z=s})!}$$

veya

$${}^0S^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z=z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2}-1) \vee n} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i-(j_i)_1} \mathbb{k}_i-(j_i)_1 \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} \mathbb{k}_i+I-(j_i)_1+1}^{(n_i-(j_i)_1+1)} \sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i}^{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i-(j_{ik})_z} \mathbb{k}_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i+I-(j_{ik})_{z+1}} \sum_{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i}^{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i} \sum_{i=I+1}^{n+I-(j_i)_{z=s}} \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{\binom{D-s-(j_{ik}-j_{sa}^{ik})_z}{z}!}{\binom{D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z}{z}+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \cdot \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \left(\frac{((n_s)_{z=s}-I-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n-(j_i)_{z=s})!} + \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n+I-(j_i)_{z=s}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

$j = D = n$ olduğunda i 'li terimler hesaplamaya dahil edilmez!

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bağımsız durumlu kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli dağılımlarda, simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumlarla başlayan sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bağımsız durumlu kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bağımsız durumlu kalan simetrik olasılık ${}^0S^{DS}$ ile gösterilecektir.

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge k = 0 \wedge s = s + I \vee$$

$$I = k + I \wedge k > 0 \wedge s = s + k + I \Rightarrow$$

$${}^0S^{DS} = \frac{n! \cdot (D - s)!}{(l - I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i + l - I)!}{i! \cdot (i + i)! \cdot (n - i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge k = 0 \wedge s = s + I \vee$$

$$I = k + I \wedge k > 0 \wedge s = s + k + I \Rightarrow$$

$${}^0S^{DS} = \frac{n! \cdot (n - l - s)!}{(l - I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i + l - I)!}{i! \cdot (i + i)! \cdot (n - i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge k = 0 \wedge s = s + I \vee$$

$$I = k + I \wedge k > 0 \wedge s = s + k + I \Rightarrow$$

$${}^0S^{DS} = \frac{n! \cdot (D + I - s)!}{(l - I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i + l - I)!}{i! \cdot (i + i)! \cdot (n - i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge k = 0 \wedge s = s + I \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D+I)}^n \sum_{n_s=D+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{D+I-j} \frac{(j - 2)!}{(j - s - 1)! \cdot (s - 1)!} \cdot \frac{(n_i - n_s - 1)!}{(j - 2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - D - I - 1)! \cdot (D - j)!} + \right)$$

$$\frac{(n_s - i - 1)!}{(n_s + j - D - I - 1)! \cdot (D + I - j - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + I \Rightarrow$$

$${}^0S^{DS} = (\mathbf{n} - s)! \cdot \sum_{j_i=s+1}^{\mathbf{n}} \sum_{\binom{\mathbf{n}}{n_i=\mathbf{n}+I}} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_i-j_i+1} \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!}$$

$$\frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + I \Rightarrow$$

$${}^0S^{DS} = (\mathbf{n} - s)! \cdot \sum_{j_i=s+1}^{\mathbf{n}} \sum_{\binom{\mathbf{n}}{n_i=\mathbf{n}+I}} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_i-j_i+1} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!}$$

$$\frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + I \wedge s = 2 \Rightarrow$$

$${}^0S^{DS} = (\mathbf{n} - 2)! \cdot \sum_{j_i=3}^{\mathbf{n}} \sum_{\binom{\mathbf{n}}{n_i=\mathbf{n}+I}} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_i-j_i+1} \frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + I \wedge s = 2 \Rightarrow$$

$${}^0S^{DS} = (\mathbf{n} - 2)! \cdot \sum_{j_i=3}^{\mathbf{n}} \sum_{\binom{\mathbf{n}}{n_i=\mathbf{n}+I}} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_i-j_i+1} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right)$$

$$\frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j_i - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{I} = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{(n_i=\mathbf{n}+\mathbb{k}+\mathbf{I})}^{(n)} \sum_{n_{sa}=\mathbf{n}+\mathbf{I}-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \\ &\frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+\mathbf{I}}^n \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+\mathbf{I}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+\mathbf{I}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ &\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\ &\frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\ &\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{I} = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=\mathbf{n}+\mathbb{k}+\mathbf{I})}^{(n)} \sum_{n_{sa}=\mathbf{n}+\mathbf{I}-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \\ &\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+\mathbf{I}}^n \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+\mathbf{I}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+\mathbf{I}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \end{aligned}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$

$$\begin{aligned} & {}^0S^{DS} = (D - s)! \cdot \sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{(n_i=n+\mathbb{k}+I)}^{(n)} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + (D - s)! \cdot \sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \end{aligned}$$

$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S^{DS} = (D - s)! \cdot \\
& \sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n)} \sum_{n_s=\mathbf{n}+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \\
& \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \\
& \frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (n - j^{sa})!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& (D - s)! \cdot \\
& \sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+I}^{\mathbf{n}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (n - j^{sa})!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \\
& \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!} +
\end{aligned}$$

$$(D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+k+I}^n \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k}$$

$$\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}$$

$$D = n < n \wedge I = k + I \wedge s > 1 \wedge I > 1 \wedge k > 0 \wedge s = s + k + I \wedge$$

$$k_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+k+I)}^n \sum_{n_{sa}=n+I-j^{sa}+1}^{n_i-j^{sa}-k+1}$$

$$\frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n_i-n_{sa}-k-1)!}{(j^{sa}-2)! \cdot (n_i-n_{sa}-j^{sa}-k+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +$$

$$(D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+k+I}^n \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k}$$

$$\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}$$

$$D = n < n \wedge I = k + I \wedge s > 1 \wedge I > 1 \wedge k > 0 \wedge s = s + k + I \wedge$$

$$k_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S^{DS} = (D-s)! \cdot$$

$$\begin{aligned}
& \sum_{j^{sa}=s+1}^n \sum_{\binom{n}{n_i=n+\mathbb{k}+I}} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \\
& \frac{(j^{sa}-3)!}{(j^{sa}-s-1)! \cdot (s-2)!} \cdot \\
& \frac{(n_i-n_s-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n_i-n_s-j^{sa}-\mathbb{k}+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \right. \\
& \left. \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
& (D-s)! \cdot \\
& \sum_{j^{sa}=s+2}^n \sum_{\binom{j^{sa}+j_{sa}^{ik}-s-1}{j_{ik}=j_{sa}^{ik}+1}} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{\binom{n_i-j_{ik}+1}{n_{ik}=n+\mathbb{k}+I-j_{ik}+1}} \sum_{\binom{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}{n_s=n+I-j^{sa}+1}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \\
& \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \cdot \\
& \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \right. \\
& \left. \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)
\end{aligned}$$

$$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D-s)! \cdot$$

$$\begin{aligned}
& \sum_{j^{sa}=s+1}^n \sum_{\binom{n}{n_i=n+\mathbb{k}+I}} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \\
& \frac{(j^{sa}-3)!}{(j^{sa}-s-1)! \cdot (s-2)!} \cdot \\
& \frac{(n_i-n_s-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n_i-n_s-j^{sa}-\mathbb{k}+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \right.
\end{aligned}$$

$$\frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} + (D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_Z : Z = 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot$$

$$\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot$$

$$\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} & {}^0S^{DS} = (D - s)! \cdot \\ & \frac{\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1}} (j^{sa} - 3)! \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!}}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ & \frac{\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}} (j_{ik} - 2)! \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!}}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + (D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}+I}^n \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + (D - s)!$$

$$\sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+I}^{\mathbf{n}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(\mathbf{n}+I-j^{sa})} \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_z : z = 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\mathbf{n}+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_s-j_{sa}^{ik}} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(\mathbf{n} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$\begin{aligned}
 & (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
 & \sum_{(n_i=n+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z : z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
 & \sum_{(n_i=n+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j_{ik}-1)!}{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +
 \end{aligned}$$

$$(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s}$$

$$\begin{aligned} & \sum_{(n_i = \mathbf{n} + \mathbf{k} + I)}^{(n)} \sum_{n_{is} = \mathbf{n} + \mathbf{k} + I - j_s + 1}^{n_i - j_s + 1} \sum_{(n_{ik} = \mathbf{n} + \mathbf{k} + I - j_{ik} + 1)}^{(n_{is} + j_s - j_{ik})} \sum_{n_{sa} = \mathbf{n} + I - j^{sa} + 1}^{n_{ik} + j_{ik} - j^{sa} - \mathbf{k}} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ & \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!} \end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbf{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \vee$$

$$I = \mathbf{k} + I \wedge s > 1 \wedge \mathbf{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbf{k} + I \wedge \mathbf{k}_z : z = 1 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik} = j_s + j_{sa}^{ik} - 1)}^{(n + j_{sa}^{ik} - s)} \sum_{j_i = j_{ik} + s - j_{sa}^{ik}} \\ & \sum_{(n_i = \mathbf{n} + \mathbf{k} + I)}^{(n)} \sum_{n_{is} = \mathbf{n} + \mathbf{k} + I - j_s + 1}^{n_i - j_s + 1} \sum_{(n_{ik} = \mathbf{n} + \mathbf{k} + I - j_{ik} + 1)}^{(n_{is} + j_s - j_{ik})} \sum_{n_s = \mathbf{n} + I - j_i + 1}^{n_{ik} + j_{ik} - j_i - \mathbf{k}} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\ & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ & \frac{(n_{ik} - n_s - \mathbf{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbf{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\ & (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik} = j_s + j_{sa}^{ik} - 1)}^{(n + j_{sa}^{ik} - s)} \sum_{j_i = j_{ik} + s - j_{sa}^{ik} + 1}^n \\ & \sum_{(n_i = \mathbf{n} + \mathbf{k} + I)}^{(n)} \sum_{n_{is} = \mathbf{n} + \mathbf{k} + I - j_s + 1}^{n_i - j_s + 1} \sum_{(n_{ik} = \mathbf{n} + \mathbf{k} + I - j_{ik} + 1)}^{(n_{is} + j_s - j_{ik})} \sum_{n_s = \mathbf{n} + I - j_i + 1}^{n_{ik} + j_{ik} - j_i - \mathbf{k}} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\ & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \end{aligned}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = k + I \wedge s > 1 \wedge k > 0 \wedge I > 1 \wedge s = s + k + I \wedge$$

$$k_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\ &\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-k-1} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ &\frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\ &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\ &\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \vee$$

$$I = k + I \wedge s > 1 \wedge k > 0 \wedge I > 1 \wedge s = s + k + I \wedge k_z: z = 1 \Rightarrow$$

$$\begin{aligned}
{}^0S^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
&\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
&\frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
&\frac{(n_{ik}-n_s-\mathbb{k}-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-\mathbb{k})!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-\mathbf{n}-I-1)! \cdot (\mathbf{n}-j_i)!} + \right. \\
&\left. \frac{(n_s-i-1)!}{(n_s+j_i-\mathbf{n}-I-1)! \cdot (\mathbf{n}+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
&(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
&\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
&\frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
&\frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-\mathbf{n}-I-1)! \cdot (\mathbf{n}-j_i)!} + \right. \\
&\left. \frac{(n_s-i-1)!}{(n_s+j_i-\mathbf{n}-I-1)! \cdot (\mathbf{n}+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
 &\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-k-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 &\left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
 &\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
 \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \vee$$

$$I = k + I \wedge s > 1 \wedge k > 0 \wedge I > 1 \wedge s = s + k + I \wedge k_2: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = k + I \wedge s > 1 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge s = s + k + I \wedge$$

$$k_2: z = 1 \wedge k = k_2 \Rightarrow$$

$$\begin{aligned}
{}^0S^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\
&\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
&\frac{(n-j_s-j_{sa}+1)!}{(n-j_s-s+1)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-k_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-k_1)!} \cdot \\
&\frac{(n_{ik}-n_{sa}-k_2-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-k_2)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
&(D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\
&\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
&\frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
&\frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
&\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
&\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot
\end{aligned}$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right)$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = k + I \wedge s > 1 \wedge k > 0 \wedge I > 1 \wedge s = s + k + I \wedge$$

$$k_z: z = 2 \wedge k = k_1 + k_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = k + I \wedge s > 1 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge$$

$$s = s + k + I \wedge k_z: z = 1 \wedge k = k_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \sum_{(n_i=n+k+I)}^{(n)} \sum_{(n_{is}=n+k_1+k_2+I-j_s+1)}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{(n_{sa}=n+I-j^{sa}+1)}^{n_{ik}-k_2-1} \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \sum_{(n_i=n+k+I)}^{(n)} \sum_{(n_{is}=n+k_1+k_2+I-j_s+1)}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{(n_{sa}=n+I-j^{sa}+1)}^{n_{ik}+j_{ik}-j^{sa}-k_2} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \right)$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s}$$

$$\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!})$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1}$$

$$\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!}$$

$$\frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} +$$

$$(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right)$$

$$\begin{aligned}
 & \sum_{(n_i=\mathbf{n}+\mathbf{k}+I)}^{(n)} \sum_{n_{i_s}=\mathbf{n}+\mathbf{k}_1+\mathbf{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{i_k}=\mathbf{n}+\mathbf{k}_2+I-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k}-\mathbf{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{i_k}+j_{i_k}-j_i-\mathbf{k}_2} \\
 & \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(j_i-j_{i_k}-1)!}{(j_i+j_{s_a}^{i_k}-j_{i_k}-s)! \cdot (s-j_{s_a}^{i_k}-1)!} \cdot \\
 & \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \cdot \\
 & \frac{(n_{i_k}-n_s-1)!}{(j_i-j_{i_k}-1)! \cdot (n_{i_k}+j_{i_k}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+j_{s_a}^{i_k})}^{(n+j_{s_a}^{i_k}-s)} \sum_{j_i=j_{i_k}+s-j_{s_a}^{i_k}}^n \\
 & \sum_{(n_i=\mathbf{n}+\mathbf{k}+I)}^{(n)} \sum_{n_{i_s}=\mathbf{n}+\mathbf{k}_1+\mathbf{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{i_k}=\mathbf{n}+\mathbf{k}_2+I-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k}-\mathbf{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{i_k}+j_{i_k}-j_i-\mathbf{k}_2} \\
 & \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(j_i-j_{i_k}-1)!}{(j_i+j_{s_a}^{i_k}-j_{i_k}-s)! \cdot (s-j_{s_a}^{i_k}-1)!} \cdot \\
 & \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \cdot \\
 & \frac{(n_{i_k}-n_s-1)!}{(j_i-j_{i_k}-1)! \cdot (n_{i_k}+j_{i_k}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!}
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \wedge j_{i_k} = j_i - 1 = s - 1 \vee$$

$$I = \mathbf{k} + I \wedge s > 1 \wedge \mathbf{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbf{k} + I \wedge$$

$$\mathbf{k}_z: z = 2 \wedge \mathbf{k} = \mathbf{k}_1 + \mathbf{k}_2 \wedge j_{i_k} = j_i - 1 = s - 1 \vee$$

$$I = \mathbf{k} + I \wedge s > 1 \wedge \mathbf{k}_2 > 0 \wedge \mathbf{k}_1 = 0 \wedge I > 1 \wedge$$

$$\mathbf{s} = s + \mathbf{k} + I \wedge \mathbf{k}_z: z = 1 \wedge \mathbf{k} = \mathbf{k}_2 \wedge j_{i_k} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1}$$

$$\sum_{(n_i=\mathbf{n}+\mathbf{k}+I)}^{(n)} \sum_{n_{i_s}=\mathbf{n}+\mathbf{k}_1+\mathbf{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{i_k}=\mathbf{n}+\mathbf{k}_2+I-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k}-\mathbf{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{i_k}-\mathbf{k}_2-1}$$

$$\begin{aligned}
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
 & \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \sum_{(n_i=n+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \right. \\
 & \sum_{(n_i=n+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \Big)
 \end{aligned}$$

$D = n < n \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \vee$

$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_2: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$

$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge$

$\mathbb{k}_2: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$

$$\begin{aligned}
 {}^0S^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \\
 &\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot \\
 &\frac{(n_{ik} - n_s - k_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k_2)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 &(D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
 &\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 &\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot
 \end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_s+s-1}$$

$$\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}_2-1} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_{ik}+2}^n \right.$$

$$\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n$$

$$\sum_{(n_i=n+k+I)}^{(n)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$D = n < n \wedge I = I + k \wedge s > 1 \wedge I > 1 \wedge k > 0 \wedge s = s + k + I \wedge k_z: z > 1 \Rightarrow$

$${}^0S^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_z=z+1 \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2}-1 \vee n)}$$

$$\sum_{n_i=n+k+I}^n \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{k_i-(j_i)_1 \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} k_i+I-(j_i)_1+1}^{(n_i-(j_i)_1+1)}$$

$$\sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{k_i} (n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{k_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} k_i+I-(j_{ik})_z+1}$$

$$\sum_{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{k_i} (n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{k_i-(j_i)_z \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} k_i+I-(j_i)_{z+1}}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-\mathbf{n})!} \cdot \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-\mathbf{n}-1)! \cdot (\mathbf{n}-(j_i)_{z=s})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbf{I} + \mathbb{k} \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z; z > 1 \Rightarrow$$

$${}^0S^{D\mathbf{s}} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z=Z+1VZ=s \Rightarrow s+1}}^{(j_{ik})_{z+2}-1Vn} \sum_{n_i=\mathbf{n}+\mathbb{k}+I}^n \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i-(j_i)_1VZ=s \Rightarrow \mathbf{n}+\sum_{i=1}^{\mathbb{k}_i+I-(j_i)_1+1}}^{(n_i-(j_i)_1+1)} \sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}_i}} \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i-(j_{ik})_zVZ=s \Rightarrow \mathbf{n}+\sum_{i=z-1}^{\mathbb{k}_i+I-(j_{ik})_z+1}} \sum_{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}_i}} \sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}_i-(j_i)_{zVZ=s \Rightarrow \mathbf{n}+\sum_{i=z}^{\mathbb{k}_i+I-(j_i)_{z+1}}} \sum_{i=I+1}^{\mathbf{n}+I-(j_i)_{z=s}} \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-\mathbf{n})!} \cdot \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \left(\frac{((n_s)_{z=s}-I-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-\mathbf{n}-I-1)! \cdot (\mathbf{n}-(j_i)_{z=s})!} + \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-\mathbf{n}-I-1)! \cdot (\mathbf{n}+I-(j_i)_{z=s}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D+I-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_0^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_{z-1}} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \vee z=s \Rightarrow s+1}^{(j_{ik})_{z+2-1 \vee n}}$$

$$\begin{aligned}
& \sum_{n_i = n + \mathbb{k} + I}^{n-1} \sum_{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \mathbb{k}_i - (j_i)_1 \forall z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i + I - (j_i)_1 + 1}^{(n_i - (j_i)_1 + 1)} \\
& \sum_{(n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \forall z = s \Rightarrow n + \sum_{i=z-1}^{s-1} \mathbb{k}_i + I - (j_i)_z + 1}^{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i} \\
& \sum_{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \forall z = s \Rightarrow n + \sum_{i=z}^{s-1} \mathbb{k}_i + I - (j_i)_z + 1}^{((n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i)} \\
& \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\
& \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
& \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
& \frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}
\end{aligned}$$

veya

$$\begin{aligned}
{}_0S_0^{DS} &= (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_z-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_z=z+1 \forall z=s \Rightarrow s+1}^{(j_{ik})_{z+2} - 1 \forall n} \\
& \sum_{n_i = n + \mathbb{k} + I}^{n-1} \sum_{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \mathbb{k}_i - (j_i)_1 \forall z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i + I - (j_i)_1 + 1}^{(n_i - (j_i)_1 + 1)} \\
& \sum_{(n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \forall z = s \Rightarrow n + \sum_{i=z-1}^{s-1} \mathbb{k}_i + I - (j_i)_z + 1}^{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i} \\
& \sum_{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \forall z = s \Rightarrow n + \sum_{i=z}^{s-1} \mathbb{k}_i + I - (j_i)_z + 1}^{((n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i)} \sum_{i=I+1}^{n+I-(j_i)_{z=s}}
\end{aligned}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{\left(D-s-(j_{ik}-j_{sa}^{ik})_z\right)!}{\left(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1\right)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \cdot$$

$$\frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot$$

$$\frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot$$

$$\left(\frac{((n_s)_{z=s}-I-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n-(j_i)_{z=s})!} + \right.$$

$$\left. \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n+I-(j_i)_{z=s}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

$j = D = n$ olduğunda i 'li terimler hesaplamaya dahil edilmez!

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bağımsız durumlu bağımsız kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli dağılımlarda, simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bağımsız durumlu bağımsız kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı-bağımsız durumlu bağımsız kalan simetrik olasılık ${}^0S_0^{DS}$ ile gösterilecektir.

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge k = 0 \wedge s = s + I \vee$$

$$I = k + I \wedge k > 0 \wedge s = s + k + I \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D+I-s)!}{(I-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge k = 0 \wedge s = s + I \vee$$

$$I = k + I \wedge k > 0 \wedge s = s + k + I \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge k = 0 \wedge s = s + I \vee$$

$$I = k + I \wedge k > 0 \wedge s = s + k + I \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (D-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n+l-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \Rightarrow$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \Rightarrow$$

$${}^0S_0^{DS} = (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D+I)}^{n-1} \sum_{n_s=D+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{D+I-j} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot$$

$$\frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - D - I - 1)! \cdot (D - j)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j - D - I - 1)! \cdot (D + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \Rightarrow$$

$${}^0S_0^{DS} = (n-s)! \cdot \sum_{j_i=s+1}^n \sum_{(n_i=n+I)}^{(n-1)} \sum_{n_s=n+I-j_i+1}^{n_i-j_i+1} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot$$

$$\frac{(n_i - n_s - 1)!}{(j_i-2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \Rightarrow$$

$$\begin{aligned}
 {}^0S_0^{DS} &= (\mathbf{n} - s)! \cdot \sum_{j_i=s+1}^{\mathbf{n}} \sum_{(n_i=\mathbf{n}+I)}^{(n-1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_i-j_i+1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\quad \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!} \cdot \\
 &\quad \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
 &\quad \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + I \wedge s = 2 \Rightarrow$$

$$\begin{aligned}
 {}^0S_0^{DS} &= (\mathbf{n} - 2)! \cdot \sum_{j_i=3}^{\mathbf{n}} \sum_{(n_i=\mathbf{n}+I)}^{(n)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_i-j_i+1} \\
 &\quad \frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + I \wedge s = 2 \Rightarrow$$

$$\begin{aligned}
 {}^0S_0^{DS} &= (\mathbf{n} - 2)! \cdot \sum_{j_i=3}^{\mathbf{n}} \sum_{(n_i=\mathbf{n}+I)}^{(n-1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_i-j_i+1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\quad \frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
 &\quad \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z; z = 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S_0^{DS} &= (D - s)! \cdot \sum_{j^{sa}=j^{sa}+1}^{\mathbf{n}+j^{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j^{sa})} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \\
 &\quad \frac{(j^{sa} + j_{sa}^{ik} - j^{sa} - 2)!}{(j^{sa} - j^{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 &\quad \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +
 \end{aligned}$$

$$\begin{aligned}
& (D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S_0^{DS} = (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)}^{(n-1)} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n_i-j^{sa}-\mathbb{k}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1} \\
& \frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n_i-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} + \\
& (D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
& \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S_0^{DS} = (D-s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-k+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_s - k - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - k + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + (D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+k+I}^{n-1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge I = k + I \wedge s > 1 \wedge I > 1 \wedge k > 0 \wedge s = s + k + I \wedge$$

$$k_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-k+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \frac{(n_i - n_s - k - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - k + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right)$$

$$\frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} +$$

$$(D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n+k+I}^{n-1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{(i=I+1)}^{(n+I-j^{sa})}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} +$$

$$\frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge I = k + I \wedge s > 1 \wedge I > 1 \wedge k > 0 \wedge s = s + k + I \wedge k_z: z = 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_i-j^{sa}-k+1}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot$$

$$\frac{(n_i - n_{sa} - k - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - k + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+k+I}^{n-1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_0^{DS} &= (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \\ &\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\ &(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ &\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\ &\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$$\begin{aligned} {}^0S_0^{DS} &= (D - s)! \cdot \\ &\sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_s=\mathbf{n}+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=I+1)}^{(\mathbf{n}+I-j^{sa})} \\ &\frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \\ &\frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\ &\left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ &(D - s)! \cdot \end{aligned}$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})}$$

$$\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!}$$

$$\frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!}$$

$$\left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

$$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D-s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(n_i=n+\mathbb{k}+I)}^{(n-1)} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=I+1)}^{(n+I-j^{sa})}$$

$$\frac{(j^{sa}-3)!}{(j^{sa}-s-1)! \cdot (s-2)!}$$

$$\frac{(n_i-n_s-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n_i-n_s-j^{sa}-\mathbb{k}+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) +$$

$$(D-s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})}$$

$$\frac{(j_{ik}-2)!}{(j_{ik}-s)! \cdot (s-2)!}$$

$$\frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!}$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot$$

$$\frac{\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{\frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + (D - s)! \cdot$$

$$\frac{\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot$$

$$\frac{\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1}}{(j^{sa}-3)! \cdot (j_{sa}-2)! \cdot (n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n-j^{sa})!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-\mathbb{k})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + (D-s)!$$

$$\frac{\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}-2)}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{(j_{ik}-2)! \cdot (j_{sa}-2)! \cdot (n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n-j^{sa})!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}$$

$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$

${}^0S_0^{DS} = (D-s)!$

$$\frac{\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})}}{(j^{sa}+j_{sa}^{ik}-s-2)!}{(j^{sa}-s-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa}-\mathbb{k})!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} \right) +$$

$$\frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} + (D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z : z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j^{sa})}$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \cdot$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + (D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{(n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1)}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{(n_{sa}=\mathbf{n}+I-j^{sa}+1)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{(n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1)}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{(n_{sa}=\mathbf{n}+I-j^{sa}+1)}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbf{k} + I \wedge \mathbf{s} > 1 \wedge \mathbf{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbf{k} + I \wedge \mathbf{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \sum_{(n_i=n+\mathbf{k}+I)}^{(n-1)} \sum_{n_{is}=n+\mathbf{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbf{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbf{k}-1} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2} \sum_{(n_i=n+\mathbf{k}+I)}^{(n-1)} \sum_{n_{is}=n+\mathbf{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbf{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbf{k}} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \vee$$

$$I = \mathbf{k} + I \wedge \mathbf{s} > 1 \wedge \mathbf{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbf{k} + I \wedge \mathbf{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_0^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
&\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
&\frac{(n_{ik}-n_s-\mathbb{k}-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-\mathbb{k})!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!} + \\
&(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
&\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \\
&\frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
&\frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (\mathbf{n}-j_i)!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_0^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
&\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}-1}
\end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n$$

$$\sum_{(n_i=n+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$D = n < n \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \vee$

$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_z : z = 1 \Rightarrow$

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}$$

$$\sum_{(n_i=n+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} \right) +$$

$$\begin{aligned}
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S_0^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +
\end{aligned}$$

$$\begin{aligned}
 & (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
 & \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)
 \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \vee$$

$$I = k + I \wedge s > 1 \wedge k > 0 \wedge I > 1 \wedge s = s + k + I \wedge k_2: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = k + I \wedge s > 1 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge s = s + k + I \wedge$$

$$k_2: z = 1 \wedge k = k_2 \Rightarrow$$

$$\begin{aligned}
 {}^0S_0^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\
 & \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
 & \frac{(n-j_s-j_{sa}+1)!}{(n-j_s-s+1)! \cdot (s-j_{sa})!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-k_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-k_1)!} \cdot \\
 & \frac{(n_{ik}-n_{sa}-k_2-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-k_2)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
 & (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right)
 \end{aligned}$$

$$\begin{aligned}
& \sum_{(n_i = \mathbf{n} + \mathbb{k} + I)}^{(n-1)} \sum_{n_{is} = \mathbf{n} + \mathbb{k}_1 + \mathbb{k}_2 + I - j_s + 1}^{n_i - j_s + 1} \sum_{(n_{ik} = \mathbf{n} + \mathbb{k}_2 + I - j_{ik} + 1)}^{(n_{is} + j_s - j_{ik} - \mathbb{k}_1)} \sum_{n_{sa} = \mathbf{n} + I - j^{sa} + 1}^{n_{ik} + j_{ik} - j^{sa} - \mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik} = j_s + j_{sa}^{ik})}^{(n + j_{sa}^{ik} - s)} \sum_{j^{sa} = j_{ik} + j_{sa} - j_{sa}^{ik}}^{n + j_{sa} - s} \\
& \sum_{(n_i = \mathbf{n} + \mathbb{k} + I)}^{(n-1)} \sum_{n_{is} = \mathbf{n} + \mathbb{k}_1 + \mathbb{k}_2 + I - j_s + 1}^{n_i - j_s + 1} \sum_{(n_{ik} = \mathbf{n} + \mathbb{k}_2 + I - j_{ik} + 1)}^{(n_{is} + j_s - j_{ik} - \mathbb{k}_1)} \sum_{n_{sa} = \mathbf{n} + I - j^{sa} + 1}^{n_{ik} + j_{ik} - j^{sa} - \mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S_0^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_{sa}=j_s+j_{sa}-1} \\
 &\sum_{(n_i=n+l_k+l)}^{(n-1)} \sum_{n_{is}=n+l_k+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_{sa}=n+l-j_{sa}+1}^{n_{ik}-l_{k_2}-1} \\
 &\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
 &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - l_{k_1} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - l_{k_1})!} \cdot \\
 &\frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\
 &\sum_{(n_i=n+l_k+l)}^{(n-1)} \sum_{n_{is}=n+l_k+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_{sa}=n+l-j_{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_{k_2}} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 &\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
 &\sum_{(n_i=n+l_k+l)}^{(n-1)} \sum_{n_{is}=n+l_k+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_{sa}=n+l-j_{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_{k_2}} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot
 \end{aligned}$$

$$\left(\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned} {}^0S_0^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \\ &\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\ &\frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\ &\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\ &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ &\left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\ &\left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right) \end{aligned}$$

$$\frac{\sum_{(n_i=n+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2}}{(j_{ik}-j_s-1)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!}{(j_i-j_{ik}-1)! \cdot (n_{is}-n_{ik}-1)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}$$

$D = n < n \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$

$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$

$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge$

$s = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$

$${}^0S_0^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1}^{()}$$

$$\frac{\sum_{(n_i=n+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbb{k}_2-1}}{(n_i-n_{is}-1)!} \cdot \frac{(n_{is}-n_{ik}-\mathbb{k}_1-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_s-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-\mathbb{k}_1)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} +$$

$$(D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \right)$$

$$\frac{\sum_{(n_i=n+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2}}{(j_{ik}-j_s-1)!} \cdot \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \vee$

$I = \mathbb{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$

$I = \mathbb{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$

$${}^0S_0^{D\mathbf{s}} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{\mathbb{k}}-1)}^{(\)} \sum_{j_i=j_s+s-1} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$\begin{aligned}
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right. \\
 & \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 & \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \Big)
 \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = k + I \wedge s > 1 \wedge k > 0 \wedge I > 1 \wedge s = s + k + I \wedge$$

$$k_z: z = 2 \wedge k = k_1 + k_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = k + I \wedge s > 1 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge$$

$\mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z : z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$

$$\begin{aligned}
 {}^0S_0^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_s+s-1} \\
 &\sum_{(n_i=\mathbf{n}+\mathbb{k}+\mathbf{I})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+\mathbf{I}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+\mathbf{I}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+\mathbf{I}-j_i+1}^{n_{ik}-\mathbb{k}_2-1} \sum_{(i=\mathbf{I}+1)}^{(n+\mathbf{I}-j_i)} \\
 &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
 &\left(\frac{(n_s - \mathbf{I} - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
 &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j_i - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right) + \\
 &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_{ik}+2}^n \right. \\
 &\sum_{(n_i=\mathbf{n}+\mathbb{k}+\mathbf{I})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+\mathbf{I}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+\mathbf{I}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+\mathbf{I}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=\mathbf{I}+1)}^{(n+\mathbf{I}-j_i)} \\
 &\left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \right. \\
 &\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 &\left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - \mathbf{I} - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \right. \\
 &\left. \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j_i - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right) + \right. \\
 &\left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \right. \\
 &\sum_{(n_i=\mathbf{n}+\mathbb{k}+\mathbf{I})}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+\mathbf{I}-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+\mathbf{I}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+\mathbf{I}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=\mathbf{I}+1)}^{(n+\mathbf{I}-j_i)}
 \end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge I = I + k \wedge s > 1 \wedge I > 1 \wedge k > 0 \wedge s = s + k + I \wedge k_z : z > 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_z-1} \sum_{(j_i)_z=z+1 \vee z=s \Rightarrow s+1}^{(j_{ik})_{z+2}-1 \vee n}$$

$$\sum_{n_i=n+k+I}^{n-1} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{k_i-(j_i)_1 \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} k_i+I-(j_i)_1+1}^{(n_i-(j_i)_1+1)}$$

$$\sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{k_i} (n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{k_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} k_i+I-(j_{ik})_{z+1}}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{k_i} (n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{k_i} (n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{k_i-(j_i)_z \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} k_i+I-(j_i)_{z+1}}$$

$$\frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa}^{ik})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{ik})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - n)!}$$

$$\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!}$$

$$\frac{(n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!}$$

$$\frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}$$

$$D = n < n \wedge I = I + k \wedge s > 1 \wedge I > 1 \wedge k > 0 \wedge s = s + k + I \wedge k_z : z > 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_0^{DS} &= (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+2-1\nu n}}^{((j_{ik})_{z+2-1\nu n})} \\
&\sum_{n_i=n+k+I}^{n-1} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{k_i} k_i - (j_i)_1 \nu z = s \Rightarrow n + \sum_{i=1}^{s-1} k_i + I - (j_i)_1 + 1}^{(n_i - (j_i)_1 + 1)} \\
&\sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{k_i} k_i - (j_{ik})_z \nu z = s \Rightarrow n + \sum_{i=z-1}^{s-1} k_i + I - (j_{ik})_z + 1}^{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{k_i} k_i} \\
&\sum_{(n_s)_z=(n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{k_i} k_i - (j_i)_z \nu z = s \Rightarrow n + \sum_{i=z}^{s-1} k_i + I - (j_i)_z + 1}^{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{k_i} k_i} \sum_{i=I+1}^{n+I - (j_i)_{z=s}} \\
&\frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa}^{ik})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{ik})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - n)!} \\
&\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
&\frac{(n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
&\left(\frac{(n_s)_{z=s} - I - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - I - 1)! \cdot (n - (j_i)_{z=s})!} + \right. \\
&\left. \frac{((n_s)_{z=s} - i - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - I - 1)! \cdot (n + I - (j_i)_{z=s} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, simetrik olasılıklar; kalan simetrik olasılıktan, bağımsız durumlarla başlayan dağılımlardaki kalan simetrik olasılığın farkına veya aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımlı durumla başlayıp,

bağımsız durumlarla bittiğinde, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}^0S_D^{DS} = {}^0S^{DS} - {}^0S_0^{DS}$$

ve

$${}^0S_D^{DS} = \frac{n! \cdot (D-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+i)! \cdot (n-i)!} \right) - \frac{(n-1)! \cdot (D-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (D-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+i)! \cdot (n-i)!} \right) - \frac{(n-1)! \cdot (D-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (n-l-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+i)! \cdot (n-i)!} \right) - \frac{(n-1)! \cdot (n-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+i)! \cdot (n-i)!} \right) - \frac{(n-1)! \cdot (D+I-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+i)! \cdot (n-i)!} \right) - \frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-l+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

veya

$$\begin{aligned}
 {}^0S_D^{DS} &= (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \vee z = s \Rightarrow s+1}^{(j_{ik})_{z+2}-1 \vee n} \\
 &\quad \sum_{n_i=n} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{n-(j_i)_1+1} \mathbb{k}_i - (j_i)_1 \vee z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i + I - (j_i)_1 + 1} \\
 &\quad \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2} \mathbb{k}_i} \mathbb{k}_i - (j_{ik})_z \vee z = s \Rightarrow n + \sum_{i=z-1}^{s-1} \mathbb{k}_i + I - (j_{ik})_z + 1} \\
 &\quad \sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1} \mathbb{k}_i} \mathbb{k}_i - (j_i)_z \vee z = s \Rightarrow n + \sum_{i=z}^{s-1} \mathbb{k}_i + I - (j_i)_z + 1} \\
 &\quad \frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa}^i)_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^i)_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - n)!} \\
 &\quad \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
 &\quad \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
 &\quad \frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}
 \end{aligned}$$

veya

$$\begin{aligned}
 {}^0S_D^{DS} &= (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \vee z = s \Rightarrow s+1}^{(j_{ik})_{z+2}-1 \vee n} \\
 &\quad \sum_{n_i=n} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{n-(j_i)_1+1} \mathbb{k}_i - (j_i)_1 \vee z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i + I - (j_i)_1 + 1} \\
 &\quad \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2} \mathbb{k}_i} \mathbb{k}_i - (j_{ik})_z \vee z = s \Rightarrow n + \sum_{i=z-1}^{s-1} \mathbb{k}_i + I - (j_{ik})_z + 1}
 \end{aligned}$$

$$\begin{aligned}
& \sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^s \mathbb{k}_i-(j_i)_z \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} \mathbb{k}_i+I-(j_i)_{z+1}} \binom{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^s \mathbb{k}_i}{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^s \mathbb{k}_i-(j_i)_z \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} \mathbb{k}_i+I-(j_i)_{z+1}} \sum_{i=I+1}^{n+I-(j_i)_{z=s}} \\
& \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\
& \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \\
& \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \\
& \left(\frac{((n_s)_{z=s}-I-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n-(j_i)_{z=s})!} + \right. \\
& \left. \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n+I-(j_i)_{z=s}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)
\end{aligned}$$

$j = D = n$ olduğunda i 'li terimler hesaplamaya dahil edilmez!

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılık ${}^0S_D^{DS}$ ile gösterilecektir.

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \Rightarrow$$

$$\begin{aligned}
{}^0S_D^{DS} &= \frac{n! \cdot (D-s)!}{(I-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+I-I)!}{i! \cdot (i+I)! \cdot (n-i)!} \right) - \\
& \frac{(n-1)! \cdot (D-s)!}{(n-D-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+I-I-1)!}{i! \cdot (i+I-1)! \cdot (n-i)!} \right)
\end{aligned}$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (D-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (n-l-s)!}{(l-I)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (D+I-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (D+I-s)!}{(l-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \Rightarrow$$

$${}^0S_D^{DS} = \frac{n! \cdot (n+I-l-s)!}{(l-I)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I)!}{i! \cdot (i+l)! \cdot (n-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n+I-l-s)!}{(l-I-1)!} \cdot \left(\sum_{i=s-I+1}^n \mp \frac{(i+l-I-1)!}{i! \cdot (i+l-1)! \cdot (n-i)!} \right)$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_s=D+I-j+1)}^{n-j+1} \sum_{i=I+1}^{D+I-j} \\ &\quad \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \\ &\quad \frac{(n-n_s-1)!}{(j-2)! \cdot (n-n_s-j+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j-D-I-1)! \cdot (D-j)!} + \right. \\ &\quad \left. \frac{(n_s-i-1)!}{(n_s+j-D-I-1)! \cdot (D+I-j-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) \end{aligned}$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (n-s)! \cdot \sum_{j_i=s+1}^n \sum_{(n_i=n)}^{()} \sum_{n_s=n+I-j_i+1}^{n-j_i+1} \\ &\quad \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n-n_s-1)!}{(j_i-2)! \cdot (n-n_s-j_i+1)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} \end{aligned}$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (n-s)! \cdot \sum_{j_i=s+1}^n \sum_{(n_i=n)}^{()} \sum_{n_s=n+I-j_i+1}^{n-j_i+1} \sum_{(i=I+1)}^{(n+I-j_i)} \\ &\quad \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \\ &\quad \frac{(n-n_s-1)!}{(j_i-2)! \cdot (n-n_s-j_i+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\ &\quad \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) \end{aligned}$$

$$D = n < n \wedge I = I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge s = s + I \wedge s = 2 \Rightarrow$$

$${}^0S_D^{DS} = (n-2)! \cdot \sum_{j_i=3}^n \sum_{(n_i=n)}^{()} \sum_{n_s=n+I-j_i+1}^{n-j_i+1}$$

$$\frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n - n_s - 1)!}{(j_i - 2)! \cdot (n - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbf{I} \wedge s = 2 \Rightarrow$$

$${}^0S_D^{DS} = (n - 2)! \cdot \sum_{j_i=3}^{\mathbf{n}} \sum_{(n_i=n)}^{(\quad)} \sum_{n_s=n+I-j_i+1}^{n-j_i+1} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n - n_s - 1)!}{(j_i - 2)! \cdot (n - n_s - j_i + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{(n_i=n)}^{(\quad)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n-j^{sa}-\mathbb{k}+1}$$

$$\frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!}$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n)}^{()} \sum_{n_{sa}=n+I-j^{sa}+1}^{n-j^{sa}-\mathbb{k}+1} \\
 &\frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
 &\frac{(n-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
 &(D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
 &\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
 &\frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \\
 &\frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
 \end{aligned}$$

$$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D-s)! \cdot \\
 &\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{(n_i=n)}^{()} \sum_{n_s=n+I-j^{sa}+1}^{n-j^{sa}-\mathbb{k}+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \\
 &\frac{(j^{sa}+j_{sa}^{ik}-s-2)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \\
 &\frac{(n-n_s-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n-n_s-j^{sa}-\mathbb{k}+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \right. \\
 &\left. \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 &(D-s)! \cdot \\
 &\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})}
 \end{aligned}$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$D = n < n \wedge I = k + I \wedge s > 1 \wedge I > 1 \wedge k > 0 \wedge s = s + k + I \wedge$

$k_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n)} \sum_{n_s=n+I-j^{sa}+1}^{n-j^{sa}-k+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \frac{(n - n_s - k - 1)!}{(j^{sa} - 2)! \cdot (n - n_s - j^{sa} - k + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + (D - s)! \cdot \sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z : z = 1 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n)}^{(\quad)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n-j^{sa}-\mathbb{k}+1} \\ &\frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\ &\frac{(n-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} + \\ &(D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ &\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\ &\frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\ &\frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \\ &\frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z : z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D-s)! \cdot \sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n)}^{(\quad)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n-j^{sa}-\mathbb{k}+1} \\ &\frac{(j^{sa}-3)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)!} \cdot \frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\ &\frac{(n-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} + \\ &(D-s)! \cdot \sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\ &\frac{(j_{ik}-2)!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)!} \cdot \frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \end{aligned}$$

$$\frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$$\begin{aligned} & {}^0S_D^{DS} = (D - s)! \cdot \\ & \sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(n_i=n)}^{(\)} \sum_{n_s=n+I-j^{sa}+1}^{n-j^{sa}-\mathbb{k}+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \\ & \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \\ & \frac{(n - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\ & \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ & (D - s)! \cdot \\ & \sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{ik}+j_{ik}-j^{sa}-\mathbb{k})} \sum_{n_s=n+I-j^{sa}+1}^{(n+I-j^{sa})} \sum_{(i=I+1)} \\ & \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\ & \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \\ & \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\ & \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{\binom{()}{n_i=n}} \sum_{n_s=n+I-j^{sa}+1}^{n-j^{sa}-\mathbb{k}+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j^{sa}-3)!}{(j^{sa}-s-1)! \cdot (s-2)!} \cdot \frac{(n-n_s-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n-n_s-j^{sa}-\mathbb{k}+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + (D-s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{\binom{(j^{sa}-2)}{j_{ik}=s}} \sum_{n_i=n} \sum_{\binom{(n-j_{ik}+1)}{n_{ik}=n+\mathbb{k}+I-j_{ik}+1}} \sum_{\binom{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}{n_s=n+I-j^{sa}+1}} \sum_{\binom{(n+I-j^{sa})}{(i=I+1)}} \frac{(j_{ik}-2)!}{(j_{ik}-s)! \cdot (s-2)!} \cdot \frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_z : z = 1 \Rightarrow$

$${}^0S_D^{DS} = (D-s)! \cdot$$

$$\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{\binom{j_{ik}=j_{sa}+j_{sa}^{ik}-j_{sa}}{n_i=n}} \sum_{\binom{(n-j_{ik}+1)}{n_{ik}=n+\mathbb{k}+I-j_{ik}+1}} \sum_{\binom{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}{n_{sa}=n+I-j^{sa}+1}} \frac{(j^{sa}+j_{sa}^{ik}-j_{sa}-2)!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-\mathbb{k})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +$$

$(D - s)! \cdot$

$$\frac{\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}-\mathbb{k}}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{(j_{ik}-2)! \cdot (j_{sa}^{ik}-1)! \cdot (j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(n-j^{sa})! \cdot (n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \frac{\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}-1)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1}}{(j^{sa}-3)! \cdot (j_{sa}-2)! \cdot (n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n-j^{sa})!}{(n-n_{ik}-1)! \cdot (j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-\mathbb{k})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +$$

$$(D - s)! \cdot \frac{\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n}^{(n-j_{ik}+1)} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{(j_{ik}-2)! \cdot (j_{sa}-2)! \cdot (n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n-j^{sa})!}{(j_{ik}-2)! \cdot (n-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_Z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{n_i=n} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + (D - s)! \cdot$$

$$\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge I = \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_Z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot$$

$$\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j^{sa})}$$

$$\begin{aligned}
& \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \\
& \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \cdot \\
& \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& (D - s)! \cdot \\
& \sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n-j_{ik}+1)} \sum_{n_s=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \\
& \frac{(n - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n - n_{ik} - j_{ik} + 1)!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_z : z = 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_s-j_{sa}^{ik}} \\
& \sum_{(n_i=n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}
\end{aligned}$$

$$\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s}$$

$$\sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_z : z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s}$$

$$\sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j_{ik} - 1)!}{(\mathbf{n} + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s}$$

$$\begin{aligned} & \sum_{\binom{(\)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}} \sum_{\binom{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}{n_{sa}=\mathbf{n}+I-j^{sa}+1}} \\ & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\ & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\ & \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (n-j^{sa})!} \end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z : z = 1 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{(j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\ & \sum_{\binom{(\)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}} \sum_{\binom{n_{ik}+j_{ik}-j_i-\mathbb{k}}{n_s=\mathbf{n}+I-j_i+1}} \\ & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\ & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\ & \frac{(n_{ik}-n_s-\mathbb{k}-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-\mathbb{k})!} \cdot \frac{(n_s-1)!}{(n_s+j_i-\mathbf{n}-1)! \cdot (n-j_i)!} + \\ & (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{(j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\ & \sum_{\binom{(\)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}} \sum_{\binom{n_{ik}+j_{ik}-j_i-\mathbb{k}}{n_s=\mathbf{n}+I-j_i+1}} \\ & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\ & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \end{aligned}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = k + I \wedge s > 1 \wedge k > 0 \wedge I > 1 \wedge s = s + k + I \wedge$$

$$k_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\ &\sum_{\binom{()}{(n_i=n)}} \sum_{n_{is}=n+k+I-j_s+1}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=n+k+I-j_{ik}+1)}} \sum_{\binom{n_{ik}-k-1}{n_s=n+I-j_i+1}} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ &\frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\ &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\ &\sum_{\binom{()}{(n_i=n)}} \sum_{n_{is}=n+k+I-j_s+1}^{n-j_s+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=n+k+I-j_{ik}+1)}} \sum_{\binom{n_{ik}+j_{ik}-j_i-k}{n_s=n+I-j_i+1}} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \vee$$

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{}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
&\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
&\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
&(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
&\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
&\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
&\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

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$$\begin{aligned}
 {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
 &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-k-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 &\left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
 &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
 \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \vee$$

$$I = k + I \wedge s > 1 \wedge k > 0 \wedge I > 1 \wedge s = s + k + I \wedge k_2: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = k + I \wedge s > 1 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge s = s + k + I \wedge$$

$$k_2: z = 1 \wedge k = k_2 \Rightarrow$$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\
 &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
 &\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
 &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot \\
 &\frac{(n_{ik} - n_{sa} - k_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - k_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\
 &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 &\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 &\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
 &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot
 \end{aligned}$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right)$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = k + I \wedge s > 1 \wedge k > 0 \wedge I > 1 \wedge s = s + k + I \wedge$$

$$k_z: z = 2 \wedge k = k_1 + k_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = k + I \wedge s > 1 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge$$

$$s = s + k + I \wedge k_z: z = 1 \wedge k = k_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1}^{()} \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-k_2-1} \\ &\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\ &\left. \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \right) \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{k} + I \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned}
& {}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right)
\end{aligned}$$

$$\begin{aligned}
 & \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 & \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}
 \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = I \wedge s = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = k + I \wedge s > 1 \wedge k > 0 \wedge I > 1 \wedge s = s + k + I \wedge$$

$$k_z: z = 2 \wedge k = k_1 + k_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = k + I \wedge s > 1 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge$$

$$s = s + k + I \wedge k_z: z = 1 \wedge k = k_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1}$$

$$\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}-k_2-1}$$

$$\begin{aligned}
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_{ik}+2}^n \right. \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \right. \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \Big)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbf{I} \wedge \mathbf{s} = s + \mathbf{I} \vee$$

$$I = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{I} > 1 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_2: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge \mathbf{I} > 1 \wedge \mathbf{s} = s + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_2: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \\
 &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-k_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-k_1)!} \cdot \\
 &\frac{(n_{ik}-n_s-k_2-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-k_2)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 &\left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 &(D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
 &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 &\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 &\frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 &\left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot
 \end{aligned}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = I \wedge \mathbf{s} = s + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_s+s-1}$$

$$\sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbb{k}_2-1} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_{ik}+2}^n \right.$$

$$\sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right)$$

$$\begin{aligned}
 & \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{(n_i=n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=I+1)}^n \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
 \end{aligned}$$

$$D = n < n \wedge I = I + \mathbb{k} \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{k} + I \wedge \mathbb{k}_z; z > 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_z=z+1 \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2}-1 \vee n)} \\
 & \sum_{n_i=n} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i-(j_i)_1 \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} \mathbb{k}_i+I-(j_i)_1+1)}^{(n-(j_i)_1+1)} \\
 & \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i+I-(j_{ik})_z+1}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}_i}} \\
 & \sum_{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}_i}} \\
 & \sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}_i-(j_i)_z \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} \mathbb{k}_i+I-(j_i)_z+1}
 \end{aligned}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-\mathbf{n})!}$$

$$\frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!}$$

$$\frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!}$$

$$\frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-\mathbf{n}-1)! \cdot (\mathbf{n}-(j_i)_{z=s})!}$$

$$D = \mathbf{n} < n \wedge I = I + \mathbb{k} \wedge s > 1 \wedge I > 1 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{k} + I \wedge \mathbb{k}_z: z > 1 \Rightarrow$$

$${}^0S_D^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1}+1Vz=s \Rightarrow s+1}^{(j_{ik})_{z+2}-1Vn}$$

$$\sum_{n_i=n} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i-(j_i)_1} \mathbb{k}_i - (j_i)_1 V z = s \Rightarrow \mathbf{n} + \sum_{i=1}^{s-1} \mathbb{k}_i + I - (j_i)_1 + 1}$$

$$\sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i}$$

$$(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i} - (j_{ik})_z V z = s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} \mathbb{k}_i + I - (j_{ik})_z + 1$$

$$\sum_{(n_{ik})_z+(j_{ik})_z-(j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i}$$

$$\sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}_i} - (j_i)_z V z = s \Rightarrow \mathbf{n} + \sum_{i=z}^{s-1} \mathbb{k}_i + I - (j_i)_z + 1} \sum_{i=I+1}^{\mathbf{n}+I-(j_i)_{z=s}}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-\mathbf{n})!}$$

$$\frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!}$$

$$\frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!}$$

$$\left(\frac{((n_s)_{z=s}-I-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-\mathbf{n}-I-1)! \cdot (\mathbf{n}-(j_i)_{z=s})!} + \right.$$

$$\left. \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-\mathbf{n}-I-1)! \cdot (\mathbf{n}+I-(j_i)_{z=s}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

Örnek D64; DNA kopyalanmasında Helikalas proteini, kopyalanma çatalında ikili sarmalı tersine döndürerek eski iki zincire ayırır¹. 100 genden oluşan özel bir DNA'nın bir geninin bir ipliği adenin (A), guanin (G) ve sitozinin (C) farklı dizilimi ve beş timinin (T) bu üç azotlu bazın olasılık dağılımlarına bağımsız olasılıkla dağılımından oluşsun. Bir iplikteki GCTTT simetrisi kopyalanma çatalı olsun. Kopyalanma çatalları, timinle başlayıp ilk farklı dizilimli azotu bazı guaninden farklı azotlu bazlar olan dağılımlardaki ve guaninden farklı azotlu bazlarla başlayan dağılımlardaki kopyalanma çatallarından iki katından fazla ise, helikalas proteini bu çatalda kopyalanma hatası, tersi ise bu çatalda kopyalanmayı tersine döndürerek eski iki zincire ayırabilsin. Helikalas proteini kopyalanma hatası mı veya eski iki zincir mi oluşturur?

DNA = 100 gen, her gen için $D = 3, n = 8, \iota = 5, I = 3$ ve $s = 5 \Rightarrow$

$${}_0S = ?, {}_0S^{DS} = ? \text{ ve } {}_0S? 2 \cdot {}_0S^{DS}$$

Bu örnekte ${}_0S? 2 \cdot {}_0S^{DS}$ ilişkisi örneğin çözümünde kurulması gerektiğinden bu 3. seviyeden problemdir.

$${}_0S > 2 \cdot {}_0S^{DS} \Rightarrow \text{kopyalanma hatası}$$

$${}_0S < 2 \cdot {}_0S^{DS} \Rightarrow \text{kopyalanma(eski iki zincir)}$$

$${}_0S = \frac{n!}{(n+s-D-I)!} \cdot \frac{(n+s-D-2 \cdot I)!}{(s-I)! \cdot (n-D-I)!}$$

$${}_0S = \frac{8!}{(8+5-3-3)!} \cdot \frac{(8+5-3-2 \cdot 3)!}{(5-3)! \cdot (8-3-3)!}$$

$${}_0S = 48$$

$${}_0S^{DS} = \frac{n!}{(s+\iota-I)!} \cdot \frac{(s+\iota-2 \cdot I)!}{(s-I)! \cdot (\iota-I)!}$$

$$\frac{n! \cdot (n-\iota-s+I)!}{(\iota-I)!} \cdot \left(\sum_{i=s-I}^{n-\iota} \mp \frac{(\iota-I+i)!}{i! \cdot (\iota+i)! \cdot (n-\iota-i)!} \right)$$

$${}_0S^{DS} = \frac{8!}{(5+5-3)!} \cdot \frac{(5+5-2 \cdot 3)!}{(5-3)! \cdot (5-3)!}$$

¹ DNA'nın kopyalanması için Campel, N. A. ve Reece J. B. "Biyoloji", ss: 292-301 bakılabilir

$$\frac{8! \cdot (8 - 5 - 5 + 3)!}{(5 - 3)!} \cdot \left(\sum_{i=5-3}^{8-5} \mp \frac{(5 - 3 + i)!}{i! \cdot (5 + i)! \cdot (8 - 5 - i)!} \right)$$

$${}^0S^{DS} = \frac{8!}{7!} \cdot \frac{4!}{2! \cdot 2!} - \frac{8! \cdot 1!}{2!} \cdot \left(\sum_{i=2}^3 \mp \frac{(2 + i)!}{i! \cdot (5 + i)! \cdot (3 - i)!} \right)$$

$${}^0S^{DS} = 48 - \frac{8!}{2!} \cdot \left(\frac{(2 + 2)!}{2! \cdot (5 + 2)! \cdot (3 - 2)!} - \frac{(2 + 3)!}{3! \cdot (5 + 3)! \cdot (3 - 3)!} \right)$$

$${}^0S^{DS} = 48 - \frac{8!}{2!} \cdot \left(\frac{4!}{2! \cdot 7! \cdot 1!} - \frac{5!}{3! \cdot 8! \cdot 0!} \right)$$

$${}^0S^{DS} = 48 - \frac{8! \cdot 4!}{2! \cdot 2! \cdot 7! \cdot 1!} + \frac{8! \cdot 5!}{2! \cdot 3! \cdot 8! \cdot 0!}$$

$${}^0S^{DS} = 48 - 48 + 10$$

$${}^0S^{DS} = 10$$

$${}^0S? 2 \cdot {}^0S^{DS}$$

$$48? 2 \cdot 10$$

$$48 > 20$$

${}^0S > 2 \cdot {}^0S^{DS}$ ve ${}^0S > 2 \cdot {}^0S^{DS} \Rightarrow$ kopyalanma hatası olduğundan DNA'nın kopyalanma çatalına gelen helikalas proteini eski iki zincir oluşumunu başlatır.

Örnek D65; DNA kopyalanmasında Helikalas proteini, kopyalanma çatalında ikili sarmalı tersine döndürerek eski iki zincire ayırır². 100 genden oluşan özel bir DNA'nın bir geninin bir ipliği adenin (A), guanin (G) ve sitozinin (C) farklı dizilimi ve beş timinin(T) bu üç azotlu bazın olasılık dağılımlarına bağımsız olasılıkla dağılımından oluşsun. Bir iplikteki GCTTT simetrisi kopyalanma çatalı olsun. Kopyalanma çatalları, timinle başlayıp ilk farklı dizilimli azotu bazı guaninden farklı azotlu bazlar olan dağılımlardaki ve guaninden farklı azotlu bazlarla başlayan dağılımlardaki kopyalanma çatallarından iki katından fazla ise, helikalas proteini bu çatalda kopyalanma hatası, tersi ise bu çatalda kopyalanmayı tersine döndürerek eski iki zincire ayırabilsin. Helikalas proteini kopyalanma hatası mı veya eski iki zincir mi oluşturmasında, timinle başlayıp ilk farklı diziliminin azotlu bazı adenin olan ve adeninle başlayan dağılımların katkısı nedir?(${}^0S = 48$ ve ${}^0S^{DS} = 10$ ise)

² DNA'nın kopyalanması için Campel, N. A. ve Reece J. B. "Biyoloji", ss: 292-301 bakılabilir

$DNA = 100$ gen, her gen için $D = 3, n = 8, \iota = 5, I = 3, s = 5, {}_0S = 48$ ve ${}^0S^{DS} = 10 \Rightarrow$

$${}^0S_0^{DS} = ?, {}^0S_D^{DS} = ? \text{ ve } {}_0S? \cdot 2 \cdot {}^0S^{DS}, 2 \cdot {}^0S_0^{DS} = ? \text{ ve } 2 \cdot {}^0S_D^{DS} = ?$$

Bu örnekte ${}_0S? \cdot 2 \cdot {}^0S^{DS}$ ilişkisi örneğin çözümünde kurulması gerektiğinden bu 3. seviyeden problemdir.

$${}_0S > 2 \cdot {}^0S^{DS} \Rightarrow \text{kopyalanma hatası}$$

$${}_0S < 2 \cdot {}^0S^{DS} \Rightarrow \text{kopyalanma(eski iki zincir)}$$

$${}^0S_0^{DS} = \frac{(n-1)! \cdot (n-\iota-s+I)!}{(\iota-I-1)!} \cdot \left(\sum_{i=s-I+1}^{n-\iota} \mp \frac{(\iota-I+i-1)!}{i! \cdot (\iota+i-1)! \cdot (n-\iota-i)!} \right)$$

$${}^0S_0^{DS} = \frac{(8-1)! \cdot (8-5-5+3)!}{(5-3-1)!} \cdot \left(\sum_{i=5-3+1}^{8-5} \mp \frac{(5-3+i-1)!}{i! \cdot (5+i-1)! \cdot (8-5-i)!} \right)$$

$${}^0S_0^{DS} = \frac{7! \cdot 1!}{1!} \cdot \left(\sum_{i=3}^3 \mp \frac{(1+i)!}{i! \cdot (4+i)! \cdot (3-i)!} \right)$$

$${}^0S_0^{DS} = \frac{7! \cdot 1!}{1!} \cdot \frac{4!}{3! \cdot 7! \cdot 0!}$$

$${}^0S_0^{DS} = 4$$

$${}^0S_D^{DS} = \frac{n! \cdot (n-\iota-s+I)!}{(\iota-I)!} \cdot \left(\sum_{i=s-I+1}^{n-\iota} \mp \frac{(\iota-I+i)!}{i! \cdot (\iota+i)! \cdot (n-\iota-i)!} \right) -$$

$$\frac{(n-1)! \cdot (n-\iota-s+I)!}{(\iota-I-1)!} \cdot \left(\sum_{i=s-I+1}^{n-\iota} \mp \frac{(\iota-I+i-1)!}{i! \cdot (\iota+i-1)! \cdot (n-\iota-i)!} \right)$$

$${}^0S_D^{DS} = \frac{8! \cdot (8-5-5+3)!}{(5-3)!} \cdot \left(\sum_{i=5-3+1}^{8-5} \mp \frac{(5-3+i)!}{i! \cdot (5+i)! \cdot (8-5-i)!} \right) -$$

$$\frac{(8-1)! \cdot (8-5-5+3)!}{(5-3-1)!} \cdot \left(\sum_{i=5-3+1}^{8-5} \mp \frac{(5-3+i-1)!}{i! \cdot (5+i-1)! \cdot (8-5-i)!} \right)$$

$${}^0S_D^{DS} = \frac{8! \cdot 1!}{2!} \cdot \left(\sum_{i=3}^3 \mp \frac{(2+i)!}{i! \cdot (5+i)! \cdot (3-i)!} \right) - \frac{7! \cdot 1!}{1!} \cdot \left(\sum_{i=3}^3 \mp \frac{(1+i)!}{i! \cdot (4+i)! \cdot (3-i)!} \right)$$

$${}^0S_D^{DS} = \frac{8!}{2!} \cdot \frac{5!}{3! \cdot 8! \cdot 0!} - \frac{7! \cdot 4!}{3! \cdot 7! \cdot 0!}$$

$${}^0S_D^{DS} = 6$$

$$2 \cdot {}^0S_0^{DS} = 2 \cdot 4 = 8$$

$$2 \cdot {}^0S_D^{DS} = 2 \cdot 6 = 12$$

$${}^0S > 2 \cdot {}^0S^{DS}$$

$$48 > 2 \cdot 10$$

$$48 > 20$$

${}^0S > 2 \cdot {}^0S^{DS}$ ve ${}^0S > 2 \cdot {}^0S^{DS} \Rightarrow$ kopyalanma hatası olduğundan DNA'nın kopyalanma çatalına gelen helikolas proteini eski iki zincir oluşumunu başlatır. Eski zincir oluşumun başlamasında timinle başlayıp ilk farklı dizilimli azotu bazı adenin olan dağılımların katkısı 8 ve adenin başlayan dağılımların katkısı ise 12 dir.

BAĞIMSIZ-BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde $\{0, 0, 1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{0, 0, 1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$$\begin{aligned}
 {}^0S^{DS} &= (D - s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D+I)}^{n-l} \sum_{n_s=D+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{D+I-j} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \\
 &\quad \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - D - I - 1)! \cdot (D - j)!} + \right. \\
 &\quad \left. \frac{(n_s - i - 1)!}{(n_s + j - D - I - 1)! \cdot (D + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 &\quad (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=n-l+1)}^n \sum_{n_s=D+I-j+1}^{n_i-j-(l-(n-n_i))+1} \sum_{(i=I+1)}^{(D+I-j)} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \\
 &\quad \frac{(n_i - n_s - (l - (n - n_i)) - 1)!}{(j-2)! \cdot (n_i - n_s - j - (l - (n - n_i)) + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - D - I - 1)! \cdot (D - j)!} + \right. \\
 &\quad \left. \frac{(n_s - i - 1)!}{(n_s + j - D - I - 1)! \cdot (D + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)
 \end{aligned}$$

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$$\begin{aligned}
 {}^0S^{DS} &= (n - s)! \cdot \left(\sum_{j_i=s+1}^n \sum_{(n_i=n+I)}^{(n-l)} \sum_{n_s=n+I-j_i+1}^{n_i-j_i+1} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \right. \\
 &\quad \frac{(n_i - n_s - 1)!}{(j_i-2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 &\quad \left. \sum_{j_i=s+1}^n \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_s=n+I-j_i+1}^{n_i-j_i-(l-(n-n_i))+1} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \right.
 \end{aligned}$$

$$\frac{(n_i - n_s - (\mathbb{1} - (n - n_i)) - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i - (\mathbb{1} - (n - n_i)) + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

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$$\begin{aligned} {}^0S^{DS} = & (n - s)! \cdot \left(\sum_{j_i=s+1}^n \sum_{(n_i=n+1)}^{(n-1)} \sum_{n_s=n+I-j_i+1}^{n_i-j_i+1} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!} \cdot \right. \\ & \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\ & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ & \sum_{j_i=s+1}^n \sum_{(n_i=n-1+1)}^{(n)} \sum_{n_s=n+I-j_i+1}^{n_i-j_i-(\mathbb{1}-(n-n_i))+1} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!} \cdot \\ & \frac{(n_i - n_s - (\mathbb{1} - (n - n_i)) - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i - (\mathbb{1} - (n - n_i)) + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\ & \left. \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \right) \end{aligned}$$

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$$\begin{aligned} {}^0S^{DS} = & (D - s) \cdot \prod_{z=2}^s \sum_{((j_i)_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z+z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2-1} \vee n)} \\ & \sum_{n_i=n+\mathbb{k}+I \wedge n-1+1}^{n-1 \wedge n} \sum_{((n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i-(j_i)_1 \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} \mathbb{k}_i+I-(j_i)_1+1)}^{(n_i-(j_i)_1(\wedge-(\mathbb{1}-(n-n_i)))+1)} \\ & \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i+I-(j_{ik})_z+1}^{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}_i}} \\ & \sum_{((n_{ik})_z+(j_{ik})_z-(j_i)_{z-1}-\sum_{i=z-1}^{\mathbb{k}_i})}^{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}_i-(j_i)_{z+1} \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} \mathbb{k}_i+I-(j_i)_{z+1}} \end{aligned}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{\binom{D-s-(j_{ik}-j_{sa}^{ik})_z}{z}!}{\binom{D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z}{z}+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \cdot \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \frac{((n_s)_{z=s}-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-1)! \cdot (n-(j_i)_{z=s})!}$$

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$${}^0S^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z=z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2}-1) \vee n} \sum_{n_i=n+k+I \wedge n-l+1}^{n-l \wedge n} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{k_i-(j_i)_1 \vee z=s \Rightarrow n+\sum_{i=1}^{s-1} k_i+I-(j_i)_1+1}}^{(n_i-(j_i)_1 \wedge (l-(n-n_i)))_1+1} \sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{k_i}} \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{k_i-(j_{ik})_z \vee z=s \Rightarrow n+\sum_{i=z-1}^{s-1} k_i+I-(j_{ik})_z+1}} \sum_{((n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{k_i})} \sum_{((n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{k_i-(j_i)_z \vee z=s \Rightarrow n+\sum_{i=z}^{s-1} k_i+I-(j_i)_{z+1})} \sum_{i=I+1}^{n+I-(j_i)_{z=s}} \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{\binom{D-s-(j_{ik}-j_{sa}^{ik})_z}{z}!}{\binom{D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z}{z}+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \cdot \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \left(\frac{((n_s)_{z=s}-I-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n-(j_i)_{z=s})!} + \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n+I-(j_i)_{z=s}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

Not: n_i üzerinden n 'ye alınacak toplam teriminde n_{ik} toplamının üst sınırında $-(\mathbb{1} - (n - n_i))$ teriminin olması gerekeceği gibi $\frac{(n_i - (n_{ik})_1 - 1)!}{((j_{ik})_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_{ik})_1 + 1)!}$ teriminde $(n_i - (n_{ik})_1 - 1)$ ve $(n_i - (n_{ik})_1 - (j_{ik})_1 + 1)$ terimlerinde de $-(\mathbb{1} - (n - n_i))$ olması gerekeceği unutulmamalıdır!

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu kalan simetrik olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu kalan simetrik olasılık ${}^0S^{DS}$ ile gösterilecektir.

$$D = n < n \wedge I = \mathbb{1} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge k = 0 \wedge s = s + \mathbb{1} + I \Rightarrow$$

$$\begin{aligned}
{}^0S^{DS} &= (D - s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D+I)}^{n-\mathbb{1}} \sum_{n_s=D+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{D+I-j} \\
&\quad \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \\
&\quad \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - D - I - 1)! \cdot (D - j)!} + \right. \\
&\quad \left. \frac{(n_s - i - 1)!}{(n_s + j - D - I - 1)! \cdot (D + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
&\quad (D - s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(D+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
&\quad \sum_{(n_i=n-\mathbb{1}+1)}^{(n)} \sum_{n_{is}=D+I-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=D+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=I+1)}^{(D+I-j_i)} \\
&\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
&\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}
\end{aligned}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - D - I - 1)! \cdot (D - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - D - I - 1)! \cdot (D + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$(D - s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(D+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^D$$

$$\sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=D+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=D+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=D+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=I+1)}^{(D+I-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - D - I - 1)! \cdot (D - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - D - I - 1)! \cdot (D + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge I = l + I \wedge s > 1 \wedge I > 1 \wedge l > 0 \wedge k = 0 \wedge s = s + l + I \Rightarrow$$

$${}^0S^{DS} = (n - s)! \cdot \left(\sum_{j_i=s+1}^n \sum_{(n_i=n+I)}^{(n-l)} \sum_{n_s=n+I-j_i+1}^{n_i-j_i+1} \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \right.$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n$$

$$\sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i}$$

$$\begin{aligned}
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^{\mathbf{n}} \\
& \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{1} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} + I \Rightarrow$$

$$\begin{aligned}
{}_0S^{DS} &= (\mathbf{n} - s)! \cdot \left(\sum_{j_i=s+1}^{\mathbf{n}} \sum_{(n_i=\mathbf{n}+I)}^{(n-l)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_i-j_i+1} \sum_{(i=I+1)}^{(n+I-j_i)} \right. \\
& \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \\
& \left. \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \right. \\
& \left. \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \right. \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^{\mathbf{n}}
\end{aligned}$$

$$\begin{aligned}
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=l+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=l+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{1} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} + I \wedge s = 2 \Rightarrow$$

$${}^0S^{DS} = (\mathbf{n}-2)! \cdot \left(\sum_{j_i=3}^{\mathbf{n}} \sum_{(n_i=n+I)}^{(n-l)} \sum_{n_s=n+I-j_i+1}^{n_i-j_i+1} \right.$$

$$\left. \frac{(j_i-2)!}{(j_i-3)!} \cdot \frac{(n_i-n_s-1)!}{(j_i-2)! \cdot (n_i-n_s-j_i+1)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \right.$$

$$\frac{\sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{(n)} \sum_{j_i=j_s+1}^n}{\sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=n+l-j_i+1}^{n_{is}-1}} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} +$$

$$\frac{\sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_s-j_i}} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_s - 1)!}{(j_i - j_s - 1)! \cdot (n_{is} + j_s - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$D = n < n \wedge I = l + I \wedge s > 1 \wedge I > 1 \wedge l > 0 \wedge k = 0 \wedge s = s + l + I \wedge s = 2 \Rightarrow$

$${}^0S^{DS} = (n - 2)! \cdot \left(\sum_{j_i=3}^n \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_s=n+l-j_i+1}^{n_i-j_i+1} \sum_{(i=l+1)}^{(n+l-j_i)} \right) \cdot \frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$\sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{(n)} \sum_{j_i=j_s+1}^n \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=n+l-j_i+1}^{n_{is}-1} \sum_{(i=l+1)}^{(n+l-j_i)} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.$$

$$\frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} +$$

$$\sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{()} \sum_{j_i=j_s+2}^n$$

$$\sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_s-j_i} \sum_{(i=l+1)}^{(n+l-j_i)}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_s - 1)!}{(j_i - j_s - 1)! \cdot (n_{is} + j_s - n_s - j_i)!} \cdot$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge I = l + k + I \wedge s > 1 \wedge I > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k + I \wedge$$

$$k_z: z = 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{(n_i=n+k+l)}^{(n-l)} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_i-j^{sa}-k+1} \right.$$

$$\frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot$$

$$\frac{(n_i - n_{sa} - k - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - k + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}$$

$$\sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \\
& \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \\
(D - s)! \cdot & \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
& \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \right. \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S^{DS} &= (D-s)! \cdot \left(\frac{\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1}}{(j^{sa}-3)!} \cdot \frac{(n-j^{sa})!}{(j^{sa}-j_{sa}-1)! \cdot (j_{sa}-2)! \cdot (n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \right. \\
 &\quad \left. \frac{(n_i-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-2)! \cdot (n_i-n_{sa}-j^{sa}-\mathbb{k}+1)!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \right. \\
 &\quad \left. \frac{\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1}}{(j_{ik}-j_s-1)!} \cdot \frac{(n-j_{ik}-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)! \cdot (n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \right. \\
 &\quad \left. \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
 &\quad (D-s)! \cdot \left(\frac{\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{(j_{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(j_{ik}-j_{sa})! \cdot (j_{sa}-2)! \cdot (n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \right. \\
 &\quad \left. \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right. \\
 &\quad \left. \frac{\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{(j_{ik}-j_s-1)!} \cdot \frac{(n-j_{ik}-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)! \cdot (n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \right. \\
 &\quad \left. \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right)
 \end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$D = \mathbf{n} < n \wedge I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$

$$\begin{aligned} & {}^0S^{DS} = (D - s)! \cdot \\ & \left(\sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(j_{ik}=j_{sa}+j_{sa}^{ik}-s)} \sum_{(n_i=\mathbf{n}+\mathbb{k}+\mathbf{I})}^{(n-\mathbb{l})} \sum_{(n_s=\mathbf{n}+\mathbf{I}-j^{sa}+1)}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=\mathbf{I}+1)}^{(n+\mathbf{I}-j^{sa})} \frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - \mathbf{I} - 1)!}{(n_s + j^{sa} - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right) + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+\mathbf{I}-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+\mathbf{I}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+\mathbf{I}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=\mathbf{I}+1)}^{(n+\mathbf{I}-j_i)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \left(\frac{(n_s - \mathbf{I} - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j_i - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right) \right) \end{aligned}$$

$$\begin{aligned}
 & (D - s)! \cdot \\
 & \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+k+I}^{n-1} \sum_{(n_i=n+k+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
 & \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
 & \sum_{(n_i=n-1+1)}^{(n)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s-(1-(n-n_i))+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \Big)
 \end{aligned}$$

$$D = n < n \wedge I = \mathbb{1} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{1} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot$$

$$\left(\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-k+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right)$$

$$\begin{aligned}
 & \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \\
 & \frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
 & \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & (D - s)! \cdot \\
 & \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
 & \left. \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \right. \\
 & \left. \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \right. \\
 & \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +
 \end{aligned}$$

$$\begin{aligned}
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l(n+I-j_i)} \sum_{(i=I+1)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
 \end{aligned}$$

$D = \mathbf{n} < n \wedge I = l + k + I \wedge s > 1 \wedge I > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k + I \wedge$

$k_z: z = 1 \Rightarrow$

$$\begin{aligned}
 {}_0S^{DS} &= (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_i-j^{sa}-k+1} \right. \\
 & \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{sa} - k - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - k + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}
 \end{aligned}$$

$$\begin{aligned}
 & \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \\
 & \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \\
 & (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
 & \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
 & \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
 & \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 & \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
 \end{aligned}$$

$D = \mathbf{n} < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$

$$\begin{aligned}
 {}^0S^{DS} &= (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \right. \\
 &\quad \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 &\quad \left. \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right. \\
 &\quad \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \right. \\
 &\quad \left. \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \right. \\
 &\quad \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \right. \\
 &\quad \left. \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \right. \\
 &\quad \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) + \\
 &\quad (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
 &\quad \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 &\quad \left. \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \right. \\
 &\quad \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right. \\
 &\quad \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\
 &\quad \left. \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
 &\quad \left. \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \right. \\
 &\quad \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) +
 \end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!}$$

$D = \mathbf{n} < n \wedge I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$

$$\begin{aligned} & {}^0S^{DS} = (D - s)! \cdot \\ & \left(\sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(n_i=n+\mathbb{k}+\mathbf{I})}^{(n-\mathbb{l})} \sum_{(n_s=n+\mathbf{I}-j^{sa}+1)}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=\mathbf{I}+1)}^{(n+\mathbf{I}-j^{sa})} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - \mathbf{I} - 1)!}{(n_s + j^{sa} - \mathbf{n} - \mathbf{I} - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - \mathbf{I} - 1)! \cdot (n + \mathbf{I} - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right) + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \frac{(n)}{(n_i=n-\mathbb{l}+1)} \sum_{(n_{is}=n+\mathbb{k}+\mathbf{I}-j_s+1)}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+\mathbf{I}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{(n_s=n+\mathbf{I}-j_i+1)}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=\mathbf{I}+1)}^{(n+\mathbf{I}-j_i)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \left(\frac{(n_s - \mathbf{I} - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (n - j_i)!} + \right) \end{aligned}$$

$$\begin{aligned}
 & \left. \left(\frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \right) + \\
 & (D - s)! \cdot \\
 & \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik})}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
 & \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \\
 & \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
 & \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \right)
 \end{aligned}$$

$$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot$$

$$\begin{aligned}
& \left(\sum_{j^{sa}=s+1}^n \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-k+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
& \quad \left. \frac{(j^{sa}-3)!}{(j^{sa}-s-1)! \cdot (s-2)!} \right. \\
& \quad \frac{(n_i-n_s-k-1)!}{(j^{sa}-2)! \cdot (n_i-n_s-j^{sa}-k+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \right. \\
& \quad \left. \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
& \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{(n-1)} \\
& \quad \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-k-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \quad \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \\
& \quad \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \quad \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
& \quad \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
& \quad (D-s)! \cdot \\
& \quad \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n+k+I}^{n-1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
& \quad \left. \frac{(j_{ik}-2)!}{(j_{ik}-s)! \cdot (s-2)!} \right. \\
& \quad \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \cdot \\
& \quad \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \right.
\end{aligned}$$

$$\begin{aligned} & \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\ & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-lk(n+I-j_i)} \sum_{(i=I+1)}^{(n)} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\ & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\ & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \end{aligned}$$

$$D = n < n \wedge I = l + lk + I \wedge s > 1 \wedge I > 1 \wedge l > 0 \wedge lk > 0 \wedge s = s + l + lk + I \wedge$$

$$lk_z: z = 1 \Rightarrow$$

$$\begin{aligned} & {}^0S^{DS} = (D - s)! \cdot \\ & \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{lk}-j_{sa})} \sum_{n_i=n+l+I}^{n-l} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-lk} \right. \\ & \frac{(j^{sa} + j_{sa}^{lk} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{lk} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\ & \left. \frac{(n_{ik} - n_{sa} - lk - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - lk)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right. \\ & \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{lk}-1)}^{(n+j_{sa}^{lk}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{lk}} \right) \end{aligned}$$

$$\begin{aligned}
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{i_s}=\mathbf{n}+\mathbf{k}+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{i_k}=\mathbf{n}+\mathbf{k}+I-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{i_k}+j_{i_k}-j_i-\mathbf{k}} \\
 & \frac{(j_{i_k} - j_s - 1)!}{(j_{i_k} - j_s - j_{s_a}^{i_k} + 1)! \cdot (j_{s_a}^{i_k} - 2)!} \cdot \frac{(n_i - n_{i_s} - 1)!}{(j_s - 2)! \cdot (n_i - n_{i_s} - j_s + 1)!} \cdot \frac{(n_{i_s} - n_{i_k} - 1)!}{(j_{i_k} - j_s - 1)! \cdot (n_{i_s} + j_s - n_{i_k} - j_{i_k})!} \\
 & \frac{(n_{i_k} - n_s - \mathbf{k} - 1)!}{(j_i - j_{i_k} - 1)! \cdot (n_{i_k} + j_{i_k} - n_s - j_i - \mathbf{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
 & \frac{(D - s)!}{\left(\sum_{j_{s_a}=j_{s_a}+2}^{\mathbf{n}+j_{s_a}-s} \sum_{(j_{i_k}=j_{s_a}^{i_k}+1)}^{(j_{s_a}+j_{s_a}^{i_k}-j_{s_a}-1)} \sum_{n_i=\mathbf{n}+\mathbf{k}+I}^{n-l} \sum_{(n_{i_k}=\mathbf{n}+\mathbf{k}+I-j_{i_k}+1)}^{(n_i-j_{i_k}+1)} \sum_{n_{s_a}=\mathbf{n}+I-j_{s_a}+1}^{n_{i_k}+j_{i_k}-j_{s_a}-\mathbf{k}} \right)} \\
 & \frac{(j_{i_k} - 2)!}{(j_{i_k} - j_{s_a}^{i_k} - 1)! \cdot (j_{s_a}^{i_k} - 1)!} \cdot \frac{(j_{s_a} - j_{i_k} - 1)!}{(j_{s_a} + j_{s_a}^{i_k} - j_{i_k} - j_{s_a})! \cdot (j_{s_a} - j_{s_a}^{i_k} - 1)!} \\
 & \frac{(n - j_{s_a})!}{(n + j_{s_a} - j_{s_a} - s)! \cdot (s - j_{s_a})!} \cdot \frac{(n_i - n_{i_k} - 1)!}{(j_{i_k} - 2)! \cdot (n_i - n_{i_k} - j_{i_k} + 1)!} \\
 & \frac{(n_{i_k} - n_{s_a} - 1)!}{(j_{s_a} - j_{i_k} - 1)! \cdot (n_{i_k} + j_{i_k} - n_{s_a} - j_{s_a})!} \cdot \frac{(n_{s_a} - 1)!}{(n_{s_a} + j_{s_a} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_{s_a})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+j_{s_a}^{i_k}-1)}^{(n+j_{s_a}^{i_k}-s)} \sum_{j_i=j_{i_k}+s-j_{s_a}^{i_k}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{i_s}=\mathbf{n}+\mathbf{k}+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{i_k}=\mathbf{n}+\mathbf{k}+I-j_{i_k}+1)}^{(n_{i_s}+j_s-j_{i_k})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{i_k}+j_{i_k}-j_i-\mathbf{k}} \\
 & \frac{(j_{i_k} - j_s - 1)!}{(j_{i_k} - j_s - j_{s_a}^{i_k} + 1)! \cdot (j_{s_a}^{i_k} - 2)!} \cdot \frac{(j_i - j_{i_k} - 1)!}{(j_i + j_{s_a}^{i_k} - j_{i_k} - s)! \cdot (s - j_{s_a}^{i_k} - 1)!} \\
 & \frac{(n_i - n_{i_s} - 1)!}{(j_s - 2)! \cdot (n_i - n_{i_s} - j_s + 1)!} \cdot \frac{(n_{i_s} - n_{i_k} - 1)!}{(j_{i_k} - j_s - 1)! \cdot (n_{i_s} + j_s - n_{i_k} - j_{i_k})!} \\
 & \frac{(n_{i_k} - n_s - 1)!}{(j_i - j_{i_k} - 1)! \cdot (n_{i_k} + j_{i_k} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot$$

$$\begin{aligned} & \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{1}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \right. \\ & \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\ & \left. \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right. \\ & \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \right. \\ & \left. \sum_{(n_i=n-\mathbb{1}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \right. \\ & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \right. \\ & \left. \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \right. \\ & \left. \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right) + \\ & (D - s)! \cdot \end{aligned}$$

$$\begin{aligned} & \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{1}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\ & \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\ & \left. \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \right) \end{aligned}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n$$

$$\sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\left(\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)$$

$D = n < n \wedge I = l + k + I \wedge s > 1 \wedge I > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k + I \wedge$

$k_z: z = 1 \wedge j_{sa} = s \Rightarrow$

${}^0S^{DS} = (D - s)! \cdot$

$$\left(\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{n_i=n+k+l}^{n-1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right)$$

$$\frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - k - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - k)!} \cdot$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right)$$

$$\frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \Big)^+$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}$$

$$\begin{aligned}
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-l-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-l)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & (D-s)! \cdot \\
 & \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+l+I}^{n-l} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
 & \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot
 \end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \right)$$

$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$

$$\begin{aligned} & {}^0S^{DS} = (D - s)! \cdot \\ & \left(\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right) \cdot \\ & \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \\ & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \cdot \\ & \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\ & \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\ & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ & \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right) \end{aligned}$$

$$\begin{aligned}
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j_i - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right) + \\
 & \qquad \qquad \qquad (D - s)! \cdot \\
 & \left(\sum_{j^{sa}=s+2}^{\mathbf{n}} \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=\mathbf{n}+\mathbb{k}+\mathbf{I}}^{n-\mathbb{l}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+\mathbf{I}-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=\mathbf{n}+\mathbf{I}-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=\mathbf{I}+1)}^{(\mathbf{n}+\mathbf{I}-j^{sa})} \right. \\
 & \qquad \qquad \qquad \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \\
 & \qquad \qquad \qquad \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - \mathbf{I} - 1)!}{(n_s + j^{sa} - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\
 & \qquad \qquad \qquad \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right) + \\
 & \qquad \qquad \qquad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^{\mathbf{n}} \\
 & \qquad \qquad \qquad \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+\mathbf{I}-j_s+1}^{n_i-j_s-(\mathbb{l}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+\mathbf{I}-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+\mathbf{I}-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=\mathbf{I}+1)}^{(\mathbf{n}+\mathbf{I}-j_i)} \\
 & \qquad \qquad \qquad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - \mathbf{I} - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
 & \qquad \qquad \qquad \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j_i - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right) \Big)
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge \mathbf{I} = \mathbb{l} + \mathbf{I} \wedge \mathbf{s} = s + \mathbb{l} + \mathbf{I} \vee$$

$$\mathbf{I} = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge \mathbf{s} > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{I} > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z : z = 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \right. \\
 &\quad \sum_{(n_i=n+k+l)}^{(n-l)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \\
 &\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \\
 &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 &\quad \frac{(n_{ik} - n_{sa} - k - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - k)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 &\quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
 &\quad \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \\
 &\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \\
 &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 &\quad \frac{(n_{ik} - n_{sa} - k - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - k)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \Big) + \\
 &\quad (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\
 &\quad \sum_{(n_i=n+k+l)}^{(n-l)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k}
 \end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_k} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge \mathbf{l} = \mathbb{1} + \mathbf{I} \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{I} \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{1} + \mathbf{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k} > 0 \wedge \mathbf{I} > 1 \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{k} + \mathbf{I} \wedge$$

$$\mathbf{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-l_k-1} \right)$$

$$\begin{aligned}
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}-k-1} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\
 & \left. \sum_{(n_i=n+k+l)}^{(n-l)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \right) \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s}
 \end{aligned}$$

$$\frac{\sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k}} \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!})$$

$$D = n < n \wedge k = 0 \wedge l = l + l \wedge s = s + l + l \vee$$

$$I = l + k + l \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge l > 1 \wedge s = s + l + k + l \wedge k_z: z = 1 \Rightarrow$$

$${}^0S^{DS} = (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \sum_{(n_i=n+k+l)}^{(n-l)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{ik}-n_s-k-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-k)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \right)$$

$$\begin{aligned}
& \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \Bigg)^+ \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
& \quad \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \quad \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \right)^+ \\
& \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
& \quad \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \quad \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge \mathbf{s} = s + \mathbb{l} + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \right)$$

$$\begin{aligned}
 & \sum_{(n_i=n+l+1)}^{(n-l)} \sum_{n_{is}=n+l+1-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l+1-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}-l-1} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l+1-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+1-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}-l-1} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \left. \sum_{(n_i=n+l+1)}^{(n-l)} \sum_{n_{is}=n+l+1-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l+1-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \right) \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} +
 \end{aligned}$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)$$

$D = n < n \wedge k = 0 \wedge l = l + I \wedge s = s + l + I \vee$

$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge I > 1 \wedge s = s + l + k + I \wedge k_z : z = 1 \Rightarrow$

$${}^0S^{Ds} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \sum_{(n_i=n+k+l)}^{(n-l)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=l+1)}^{(n+l-j_i)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - k - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \right)$$

$$\begin{aligned}
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-l-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-l)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
 & \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot
 \end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge \mathbf{s} = s + \mathbb{l} + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$

$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$

$${}^0S^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{(n-1)} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{(n-1)} \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \right)$$

$$\begin{aligned}
 & \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \right. \\
 & \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \right. \\
 & \left. \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \right. \\
 & \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \sum_{(n_i=n-1+1)}^{(n)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s-(1-(n-n_i))+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \right. \\
 & \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \right. \\
 & \left. \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \right)
 \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = 1 + I \wedge s = s + 1 + IV$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\quad)} \sum_{j^{sa}=j_s+j_{sa}-1} \right. \\ &\quad \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\ &\quad \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\ &\quad \left. \frac{(n_{ik} - n_{sa} - \mathbb{k}_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k}_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!} + \right. \\ &\quad \sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\quad)} \sum_{j^{sa}=j_s+j_{sa}-1} \\ &\quad \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\ &\quad \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\ &\quad \frac{(n_{ik} - n_{sa} - \mathbb{k}_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k}_2)!} \cdot \\ &\quad \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (n - j^{sa})!} \right) + \\ &= (D - s)! \cdot \left(\sum_{j_s=2}^{\mathbf{n}-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\quad)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{\mathbf{n}+j_{sa}-s} \right) \end{aligned}$$

$$\begin{aligned}
 & \sum_{\substack{(n-l) \\ (n_i=n+l+k+l)}} \sum_{n_i=j_s+1}^{n_i-j_s+1} \sum_{\substack{(n_{is}+j_s-j_{ik}-l_{k_1}) \\ (n_{ik}=n+l_{k_2}+l-j_{ik}+1)}} \sum_{\substack{n_{ik}+j_{ik}-j^{sa}-l_{k_2} \\ n_{sa}=n+l-j^{sa}+1}} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{\substack{(n) \\ (n_i=n-l+1)}} \sum_{\substack{n_i-j_s-(l-(n-n_i))+1 \\ n_{is}=n+l_{k_1}+l_{k_2}+l-j_s+1}} \sum_{\substack{(n_{is}+j_s-j_{ik}-l_{k_1}) \\ (n_{ik}=n+l_{k_2}+l-j_{ik}+1)}} \sum_{\substack{n_{ik}+j_{ik}-j^{sa}-l_{k_2} \\ n_{sa}=n+l-j^{sa}+1}} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{\substack{(\quad) \\ (j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{\substack{n+j_{sa}-s \\ j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}} \\
 & \sum_{\substack{(n-l) \\ (n_i=n+l+k+l)}} \sum_{n_i=j_s+1}^{n_i-j_s+1} \sum_{\substack{(n_{is}+j_s-j_{ik}-l_{k_1}) \\ (n_{ik}=n+l_{k_2}+l-j_{ik}+1)}} \sum_{\substack{n_{ik}+j_{ik}-j^{sa}-l_{k_2} \\ n_{sa}=n+l-j^{sa}+1}} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{\substack{(n+j_{sa}^{ik}-s) \\ (j_{ik}=j_s+j_{sa}^{ik})}} \sum_{\substack{n+j_{sa}-s \\ j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}} \\
 & \sum_{\substack{(n-l) \\ (n_i=n+l+k+l)}} \sum_{n_i=j_s+1}^{n_i-j_s+1} \sum_{\substack{(n_{is}+j_s-j_{ik}-l_{k_1}) \\ (n_{ik}=n+l_{k_2}+l-j_{ik}+1)}} \sum_{\substack{n_{ik}+j_{ik}-j^{sa}-l_{k_2} \\ n_{sa}=n+l-j^{sa}+1}} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot
 \end{aligned}$$

$$\begin{aligned}
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-\mathbb{1}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{1} + \mathbf{I} \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{I} \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{I} > 1 \wedge \mathbf{s} = s + \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge \mathbf{I} > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}^0S^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\quad)} \sum_{j^{sa}=j_s+j_{sa}-1} \right. \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-\mathbb{1})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1}
\end{aligned}$$

$$\begin{aligned}
 & \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
 & \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\
 & \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1} \\
 & \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
 & \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\
 & \sum_{(n_i=n+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s}
 \end{aligned}$$

$$\begin{aligned}
 & \sum_{\substack{(n) \\ (n_i=n-l+1)}} \sum_{n_i=j_s-(l-(n-n_i))+1} \sum_{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{ik}+j_{ik}-j^{sa}-k_2} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})} \sum_{j^{sa}=j_{ik}+1}^{(n+j_{sa}^{ik}-s)} \sum_{n+j_{sa}-s} \\
 & \sum_{\substack{(n-l) \\ (n_i=n+l+1)}} \sum_{n_i=j_s+1} \sum_{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{ik}+j_{ik}-j^{sa}-k_2} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})} \sum_{j^{sa}=j_{ik}+1}^{(n+j_{sa}^{ik}-s)} \sum_{n+j_{sa}-s} \\
 & \sum_{\substack{(n) \\ (n_i=n-l+1)}} \sum_{n_i=j_s-(l-(n-n_i))+1} \sum_{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{ik}+j_{ik}-j^{sa}-k_2} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + \mathbf{I} \wedge \mathbf{s} = \mathbf{s} + \mathbb{l} + \mathbf{I} \vee$$

$$I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge \mathbf{s} > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{I} > 1 \wedge \mathbf{s} = \mathbf{s} + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge \mathbf{s} > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge \mathbf{I} > 1 \wedge$$

$$\mathbf{s} = \mathbf{s} + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \right. \\ &\quad \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\ &\quad \left. \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\ &\quad \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \right. \\ &\quad \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\ &\quad \left. \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \right) + \\ &\quad (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^{\mathbf{n}} \right. \\ &\quad \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\ &\quad \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \right) \end{aligned}$$

$$\begin{aligned}
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k_1+k_2+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 & \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+k_1+k_2+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k_1+k_2+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2}
 \end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge I = \mathbb{l} + \mathbf{I} \wedge \mathbf{s} = s + \mathbb{l} + \mathbf{I} \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbf{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbf{k} > 0 \wedge \mathbf{I} > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbf{k} + \mathbf{I} \wedge$$

$$\mathbf{k}_z: z = 2 \wedge \mathbf{k} = \mathbf{k}_1 + \mathbf{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbf{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbf{k}_2 > 0 \wedge \mathbf{k}_1 = 0 \wedge \mathbf{I} > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{l} + \mathbf{k} + \mathbf{I} \wedge \mathbf{k}_z: z = 1 \wedge \mathbf{k} = \mathbf{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1} \sum_{(n=\mathbf{n}+\mathbf{k}+I)}^{(n-\mathbb{l})} \sum_{(n_{is}=\mathbf{n}+\mathbf{k}_1+\mathbf{k}_2+I-j_s+1)}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbf{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{(n_s=\mathbf{n}+I-j_i+1)}^{n_{ik}-\mathbf{k}_2-1} \right) \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbf{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbf{k}_1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1} \sum_{(n_i=n-\mathbb{l}+1)}^{(n)} \sum_{(n_{is}=\mathbf{n}+\mathbf{k}_1+\mathbf{k}_2+I-j_s+1)}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbf{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{(n_s=\mathbf{n}+I-j_i+1)}^{n_{ik}-\mathbf{k}_2-1} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbf{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbf{k}_1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} +$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n$$

$$\sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+k_1+k_2+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\left(\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)$$

$$D = n < n \wedge k = 0 \wedge l = l + I \wedge s = s + l + I \vee$$

$$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge I > 1 \wedge s = s + l + k + I \wedge$$

$$k_z: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge$$

$$s = s + l + k + I \wedge k_z: z = 1 \wedge k = k_2 \Rightarrow$$

$${}_0S^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_s^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \right)$$

$$\sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+k_1+k_2+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=l+1)}^{(n+l-j_i)}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!}$$

$$\frac{(n_{ik} - n_s - k_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k_2)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$\begin{aligned}
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l_1+l_2+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \sum_{(i=l+1)}^{(n+l-j_i)} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - l_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - l_1)!} \cdot \\
 & \frac{(n_{ik} - n_s - l_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - l_2)!} \cdot \left(\frac{(n_s - l - 1)!}{(n_s + j_i - n - l - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - l - 1)! \cdot (n + l - j_i - i)!} \cdot \frac{(i - 1)!}{(l - 1)! \cdot (i - l)!} \right) + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
 & \sum_{(n_i=n+l+1)}^{(n-l)} \sum_{n_{is}=n+l_1+l_2+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \sum_{(i=l+1)}^{(n+l-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - l - 1)!}{(n_s + j_i - n - l - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - l - 1)! \cdot (n + l - j_i - i)!} \cdot \frac{(i - 1)!}{(l - 1)! \cdot (i - l)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l_1+l_2+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \sum_{(i=l+1)}^{(n+l-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot
 \end{aligned}$$

$$\begin{aligned}
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 & \sum_{(n_i=n+l_k+I)}^{(n-l)} \sum_{n_{is}=n+l_k+l_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_k+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l_{k_2}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l_k+l_2+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_k+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l_{k_2}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.
 \end{aligned}$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge \mathbf{s} = s + \mathbb{l} + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned} {}^0S^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_s+s-1} \right) \\ &\sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{i_s}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{i_s}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}_2-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\ &\frac{(n_i - n_{i_s} - 1)!}{(j_s - 2)! \cdot (n_i - n_{i_s} - j_s + 1)!} \cdot \frac{(n_{i_s} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{i_s} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\ &\left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\ &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\cdot)} \sum_{j_i=j_s+s-1} \\ &\sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n)} \sum_{n_{i_s}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{i_s}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}_2-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\ &\frac{(n_i - n_{i_s} - 1)!}{(j_s - 2)! \cdot (n_i - n_{i_s} - j_s + 1)!} \cdot \frac{(n_{i_s} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{i_s} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\ &\left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\ &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \Bigg) + \end{aligned}$$

$$\begin{aligned}
 & (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+l_1+l_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l_{k_2}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \left. \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \right. \\
 & \left. \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \right. \\
 & \left. \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \right. \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \\
 & \sum_{(n_i=n-l+1)}^{(n)} \sum_{n_{is}=n+l_1+l_2+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l_{k_2}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \left. \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \right. \\
 & \left. \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \right. \\
 & \left. \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \right. \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
 & \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+l_1+l_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l_{k_2}} \sum_{(i=I+1)}^{(n+I-j_i)}
 \end{aligned}$$

$$\begin{aligned}
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{\substack{(n) \\ (n_i = \mathbf{n} - \mathbb{l} + 1)}} \sum_{\substack{n_i - j_s - (\mathbb{l} - (\mathbf{n} - n_i)) + 1 \\ n_{is} = \mathbf{n} + \mathbb{k}_1 + \mathbb{k}_2 + I - j_s + 1}} \sum_{\substack{(n_{is} + j_s - j_{ik} - \mathbb{k}_1) \\ (n_{ik} = \mathbf{n} + \mathbb{k}_2 + I - j_{ik} + 1)}} \sum_{\substack{(n_{ik} + j_{ik} - j_i - \mathbb{k}_2) \\ n_s = \mathbf{n} + I - j_i + 1}} \sum_{\substack{(n + I - j_i) \\ (i = I + 1)}} \sum_{j_s=2}^{\mathbf{n} - s + 1} \sum_{(j_{ik} = j_s + s - 1)}^{(\mathbf{n} - 1)} \sum_{j_i = j_{ik} + 1}^{\mathbf{n}} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
 \end{aligned}$$

$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$
 $\mathbb{k}_z: z > 1 \Rightarrow$

$$\begin{aligned}
 {}^0S^{DS} &= (D - s) \cdot \prod_{z=2}^s \sum_{((j_i)_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z=z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2} - 1 \vee \mathbf{n})} \\
 & \sum_{n_i = \mathbf{n} + \mathbb{k} + I \wedge \mathbf{n} - \mathbb{l} + 1}^{n - \mathbb{l} \wedge \mathbf{n}} \sum_{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1 \vee z = s \Rightarrow \mathbf{n} + \sum_{i=1}^{s-1} \mathbb{k}_i + I - (j_i)_1 + 1}}^{(n_i - (j_i)_1 (\wedge - (\mathbb{l} - (\mathbf{n} - n_i))) + 1)} \\
 & \sum_{(n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_{ik})_z \vee z = s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} \mathbb{k}_i + I - (j_{ik})_z + 1}^{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i}
 \end{aligned}$$

$$\frac{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i}{\sum_{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i} \mathbb{k}_i - (j_i)_z \vee z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i + I - (j_i)_{z+1}}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!}$$

$$\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!}$$

$$\frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!}$$

$$\frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}$$

$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z: z > 1 \Rightarrow$

$${}^0S^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_z=z+1 \vee z=s \Rightarrow s+1}^{(j_{ik})_{z+2}-1 \vee n}$$

$$\sum_{n_i=n+\mathbb{k}+I \wedge n-\mathbb{l}+1}^{n-\mathbb{l} \wedge n} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i} \mathbb{k}_i - (j_i)_1 \vee z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i + I - (j_i)_1 + 1}$$

$$\sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i} \sum_{(n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i - (j_{ik})_z \vee z = s \Rightarrow n + \sum_{i=z-1}^{s-1} \mathbb{k}_i + I - (j_{ik})_{z+1}}$$

$$\sum_{(n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}_i} \mathbb{k}_i - (j_i)_z \vee z = s \Rightarrow n + \sum_{i=z}^{s-1} \mathbb{k}_i + I - (j_i)_{z+1}} \sum_{i=I+1}^{n+I-(j_i)_{z=s}}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!}$$

$$\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!}$$

$$\frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!}$$

$$\left(\frac{((n_s)_{z=s} - I - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - I - 1)! \cdot (n - (j_i)_{z=s})!} + \frac{((n_s)_{z=s} - i - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - I - 1)! \cdot (n + I - (j_i)_{z=s} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMSIZ-BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde $\{0, 0, 1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{0, 0, 1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}^0S_0^{DS} = (D - s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D+I)}^{n-1} \sum_{n_s=D+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{D+I-j} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - D - I - 1)! \cdot (D - j)!} + \frac{(n_s - i - 1)!}{(n_s + j - D - I - 1)! \cdot (D + I - j - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + (D - s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=n-1+1)}^{n-1} \sum_{n_s=D+I-j+1}^{n_i-j-(1-(n-n_i))+1} \sum_{(i=I+1)}^{D+I-j} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i - n_s - (1 - (n - n_i)) - 1)!}{(j-2)! \cdot (n_i - n_s - j - (1 - (n - n_i)) + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - D - I - 1)! \cdot (D - j)!} + \frac{(n_s - i - 1)!}{(n_s + j - D - I - 1)! \cdot (D + I - j - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

veya

$${}^0S_0^{DS} = (n - s)! \cdot$$

$$\left(\sum_{j_i=s+1}^n \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_s=n+l-j_i+1}^{n_i-j_i+1} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n_i-n_s-1)!}{(j_i-2)! \cdot (n_i-n_s-j_i+1)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \sum_{j_i=s+1}^n \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_s=n+l-j_i+1}^{n_i-j_i-(l-(n-n_i))+1} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n_i-n_s-(l-(n-n_i)))!}{(j_i-2)! \cdot (n_i-n_s-j_i-(l-(n-n_i))+1)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} \right)$$

veya

$${}^0S_0^{DS} = (n-s)! \cdot$$

$$\left(\sum_{j_i=s+1}^n \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_s=n+l-j_i+1}^{n_i-j_i+1} \sum_{(i=l+1)}^{(n+l-j_i)} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n_i-n_s-1)!}{(j_i-2)! \cdot (n_i-n_s-j_i+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \sum_{j_i=s+1}^n \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_s=n+l-j_i+1}^{n_i-j_i-(l-(n-n_i))+1} \sum_{(i=l+1)}^{(n+l-j_i)} \frac{(j_i-1)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n_i-n_s-(l-(n-n_i))-1)!}{(j_i-2)! \cdot (n_i-n_s-j_i-(l-(n-n_i))+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) \right)$$

veya

$${}^0S_0^{DS} = (D-s) \cdot \prod_{z=2}^s \sum_{((j_i)_{i=2})}^{((j_{ik})_{k=3-1})} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z=z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2-1} \vee n)}$$

$$\sum_{n_i = \mathbf{n} + \mathbb{k} + \mathbf{I} \wedge n - \mathbb{l} + 1}^{n - \mathbb{l} \wedge n - 1} \sum_{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \mathbb{k}_i - (j_i)_1 \vee z = s \Rightarrow \mathbf{n} + \sum_{i=1}^{s-1} \mathbb{k}_i + \mathbf{I} - (j_i)_1 + 1} \left(n_i - (j_i)_1 (\wedge - (\mathbb{l} - (n - n_i))) + 1 \right)$$

$$\sum_{(n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \vee z = s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} \mathbb{k}_i + \mathbf{I} - (j_i)_z + 1} \left((n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i \right)$$

$$\sum_{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \vee z = s \Rightarrow \mathbf{n} + \sum_{i=z}^{s-1} \mathbb{k}_i + \mathbf{I} - (j_i)_z + 1} \left((n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i \right)$$

$$\frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - \mathbf{n})!}$$

$$\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!}$$

$$\frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!}$$

$$\frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - \mathbf{n} - 1)! \cdot (\mathbf{n} - (j_i)_{z=s})!}$$

veya

$${}^0S_0^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_z=z+1 \vee z = s \Rightarrow s+1}^{(j_{ik})_{z+2} - 1 \vee \mathbf{n}}$$

$$\sum_{n_i = \mathbf{n} + \mathbb{k} + \mathbf{I} \wedge n - \mathbb{l} + 1}^{n - \mathbb{l} \wedge n - 1} \sum_{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \mathbb{k}_i - (j_i)_1 \vee z = s \Rightarrow \mathbf{n} + \sum_{i=1}^{s-1} \mathbb{k}_i + \mathbf{I} - (j_i)_1 + 1} \left(n_i - (j_i)_1 (\wedge - (\mathbb{l} - (n - n_i))) + 1 \right)$$

$$\sum_{(n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \vee z = s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} \mathbb{k}_i + \mathbf{I} - (j_i)_z + 1} \left((n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \mathbb{k}_i \right)$$

$$\sum_{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z} \mathbb{k}_i - (j_i)_z \vee z = s \Rightarrow \mathbf{n} + \sum_{i=z}^{s-1} \mathbb{k}_i + \mathbf{I} - (j_i)_z + 1} \left((n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \mathbb{k}_i \right)$$

$$\sum_{i=I+1}^{n+I-(j_i)_{z=s}}$$

$$\frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{\left(D-s-(j_{ik}-j_{sa}^{ik})_z\right)!}{\left(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1\right)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \cdot \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \left(\frac{((n_s)_{z=s}-I-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n-(j_i)_{z=s})!} + \frac{((n_s)_{z=s}-i-1)!}{((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n+I-(j_i)_{z=s}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)$$

Not: n_i üzerinden $n-1$ 'e alınacak toplam teriminde n_{ik} toplamının üst sınırında $-(\mathbb{1}-(n-n_i))$ teriminin olması gerekeceği gibi $\frac{(n_i-(n_{ik})_1-1)!}{((j_{ik})_1-2)! \cdot (n_i-(n_{ik})_1-(j_{ik})_1+1)!}$ teriminde $(n_i-(n_{ik})_1-1)$ ve $(n_i-(n_{ik})_1-(j_{ik})_1+1)$ terimlerinde de $-(\mathbb{1}-(n-n_i))$ olması gerekeceği unutulmamalıdır!

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımsız kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp bağımsız durumlarla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımsız kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımsız kalan simetrik olasılık ${}^0S_0^{DS}$ ile gösterilecektir.

$$D = n < n \wedge I = \mathbb{1} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge s = s + \mathbb{1} + I \Rightarrow$$

$${}^0S_0^{DS} = (D-s)! \cdot \sum_{j=s+1}^D \sum_{(n_i=D+I)}^{n-\mathbb{1}} \sum_{n_s=D+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{D+I-j} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n_i-n_s-1)!}{(j-2)! \cdot (n_i-n_s-j+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j-D-I-1)! \cdot (D-j)!} + \frac{(n_s-i-1)!}{(n_s+j-D-I-1)! \cdot (D+I-j-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) +$$

$$\begin{aligned}
 & (D-s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(D+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=D+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=D+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=I+1)}^{(D+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-D-I-1)! \cdot (D-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-D-I-1)! \cdot (D+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & (D-s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(D+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^D \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=D+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=D+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=D+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=I+1)}^{(D+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-D-I-1)! \cdot (D-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-D-I-1)! \cdot (D+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)
 \end{aligned}$$

$D = \mathbf{n} < n \wedge I = \mathbb{1} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} + I \Rightarrow$

$${}^0S_0^{DS} = (\mathbf{n} - s)! \cdot \left(\sum_{j_i=s+1}^{\mathbf{n}} \sum_{(n_i=\mathbf{n}+I)}^{(n-l)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_i-j_i+1} \right)$$

$$\begin{aligned}
 & \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!} \cdot \\
 & \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!}
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbf{I} \Rightarrow$$

$${}^0S_0^{DS} = (\mathbf{n} - s)! \cdot \left(\sum_{j_i=s+1}^{\mathbf{n}} \sum_{(n_i=n+l)}^{(n-l)} \sum_{n_s=n+l-j_i+1}^{n_i-j_i+1} \sum_{(i=l+1)}^{(n+l-j_i)} \right)$$

$$\begin{aligned}
 & \frac{(j_i - 2)!}{(j_i - s - 1)! \cdot (s - 1)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \\
 & \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right.
 \end{aligned}$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j_i - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{I} = \mathbb{1} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{I} \wedge s = 2 \Rightarrow$$

$${}^0S_0^{DS} = (\mathbf{n} - 2)! \cdot \left(\sum_{j_i=3}^{\mathbf{n}} \sum_{(n_i=\mathbf{n}+\mathbf{I})}^{(n-\mathbb{1})} \sum_{n_s=\mathbf{n}+\mathbf{I}-j_i+1}^{n_i-j_i+1} \right.$$

$$\left. \frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \right.$$

$$\sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{(n)} \sum_{j_i=j_s+1}^{\mathbf{n}}$$

$$\sum_{(n_i=\mathbf{n}-\mathbb{1}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbf{I}-j_s+1}^{n_i-j_s-(\mathbb{1}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=\mathbf{n}+\mathbf{I}-j_i+1}^{n_{is}-1}$$

$$\left. \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \right.$$

$$\sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{()} \sum_{j_i=j_s+2}^{\mathbf{n}}$$

$$\sum_{(n_i=\mathbf{n}-\mathbb{1}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbf{I}-j_s+1}^{n_i-j_s-(\mathbb{1}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=\mathbf{n}+\mathbf{I}-j_i+1}^{n_{ik}+j_s-j_i}$$

$$\left. \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \right.$$

$$\left. \frac{(n_{is} - n_s - 1)!}{(j_i - j_s - 1)! \cdot (n_{is} + j_s - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{I} = \mathbb{1} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{I} \wedge s = 2 \Rightarrow$$

$${}^0S_0^{DS} = (\mathbf{n} - 2)! \cdot \left(\sum_{j_i=3}^{\mathbf{n}} \sum_{(n_i=\mathbf{n}+\mathbf{I})}^{(n-\mathbb{1})} \sum_{n_s=\mathbf{n}+\mathbf{I}-j_i+1}^{n_i-j_i+1} \sum_{(i=\mathbf{I}+1)}^{(n+\mathbf{I}-j_i)} \right.$$

$$\left. \frac{(j_i - 2)!}{(j_i - 3)!} \cdot \frac{(n_i - n_s - 1)!}{(j_i - 2)! \cdot (n_i - n_s - j_i + 1)!} \cdot \left(\frac{(n_s - \mathbf{I} - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j_i - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right) +$$

$$\begin{aligned}
 & \sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{(n)} \sum_{j_i=j_s+1} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=n+l-j_i+1}^{n_{is}-1} \sum_{(i=l+1)}^{(n+l-j_i)} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \left(\frac{(n_s - l - 1)!}{(n_s + j_i - n - l - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - l - 1)! \cdot (n + l - j_i - i)!} \cdot \frac{(i - 1)!}{(l - 1)! \cdot (i - l)!} \right) + \\
 & \sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{()} \sum_{j_i=j_s+2}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_s-j_i} \sum_{(i=l+1)}^{(n+l-j_i)} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_s - 1)!}{(j_i - j_s - 1)! \cdot (n_{is} + j_s - n_s - j_i)!} \cdot \\
 & \left(\frac{(n_s - l - 1)!}{(n_s + j_i - n - l - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - l - 1)! \cdot (n + l - j_i - i)!} \cdot \frac{(i - 1)!}{(l - 1)! \cdot (i - l)!} \right)
 \end{aligned}$$

$D = n < n \wedge l = l + k + l \wedge s > 1 \wedge l > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k + l \wedge$

$k_z: z = 1 \Rightarrow$

$$\begin{aligned}
 {}^0S_0^{Ds} &= (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j^{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j_{sa})} \sum_{(n_i=n+k+l)}^{(n-l)} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_i-j^{sa}-k+1} \right. \\
 & \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \left. \frac{(n_i - n_{sa} - k - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - k + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) +
 \end{aligned}$$

$$\begin{aligned}
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-lk} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n+j_{sa}^{ik}-j_{ik}-j_{sa})!}{(n+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa})!} \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{ik}-n_{sa}-lk-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-lk)!} \\
 & \left. \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
 & (D-s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=n+l+I}^{n-l} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-lk} \right. \\
 & \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \\
 & \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \\
 & \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \\
 & \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-lk} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!}
 \end{aligned}$$

$$\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)$$

$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge$

$\mathbb{k}_z : z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$

$${}^0S_0^{DS} = (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \frac{(n-1)}{\sum_{(n_i=n-\mathbb{l}+1)}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1}} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{(n_{is}+j_s-j_{ik})} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{n_{ik}-\mathbb{k}-1} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \right)$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s}$$

$$\sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j^{sa})!}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge I = l + k + I \wedge s > 1 \wedge I > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k + I \wedge$$

$$k_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot$$

$$\left(\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-s)} \sum_{(n_i=n+k+l)}^{(n-l)} \sum_{n_s=n+l-j^{sa}+1}^{n_i-j^{sa}-k+1} \sum_{(i=I+1)}^{(n+l-j^{sa})} \right)$$

$$\frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n_i - n_s - k - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - k + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}$$

$$\begin{aligned}
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_s-l-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-l)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & (D-s)! \cdot \\
 & \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{lk}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+l+I}^{n-l} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
 & \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \\
 & \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{lk}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{lk}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot
 \end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} & {}^0S_0^{DS} = (D - s)! \cdot \\ & \left(\sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(j_{ik}=j^{sa}-1)} \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-k+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \right. \\ & \frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right. \\ & \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{(n-1)} \sum_{(n_i=n-1+1)}^{(n-1)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ & \left. \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \right) + \end{aligned}$$

$$\begin{aligned}
 & (D - s)! \cdot \\
 & \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
 & \qquad \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \\
 & \qquad \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right. \\
 & \qquad \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \qquad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
 & \sum_{(n_i=n-1+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(1-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \qquad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \qquad \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \Big)
 \end{aligned}$$

$$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S_0^{DS} &= (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+\mathbb{k}+I)}^{(n-1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \right. \\
 & \qquad \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \Big)
 \end{aligned}$$

$$\begin{aligned}
 & \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
 & \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \\
 & \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) + \\
 & (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j_{sa}-1)} \sum_{n_i=\mathbf{n}+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
 & \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
 & \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
 & \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}
 \end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$D = \mathbf{n} < n \wedge I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$

$${}^0S_0^{DS} = (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(n_i=n+\mathbb{k}+I)}^{(n-1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_{sa} - j^{sa} - \mathbb{k} + 1)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \frac{(n-1)}{\sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)}} \frac{n_i-j_s-(\mathbb{l}-(n-n_i))+1}{\sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{(n-1)}} \frac{(n_{is}+j_s-j_{ik})}{\sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})}} \frac{n_{ik}-\mathbb{k}-1}{\sum_{n_{sa}=n+I-j^{sa}+1}^{(n_{ik}-\mathbb{k}-1)}} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) + (D - s)! \cdot \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right)$$

$$\frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_k}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = n < n \wedge I = l + k + I \wedge s > 1 \wedge I > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k + I \wedge$$

$$k_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \left(\sum_{j^{sa}=s+1}^n \sum_{(n_i=n+k+I)}^{(n-l)} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-k+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \frac{(n_i - n_s - k - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - k + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \right)$$

$$\begin{aligned}
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{ik}-n_s-k-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-k)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & (D-s)! \cdot
 \end{aligned}$$

$$\begin{aligned}
 & \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+k+I}^{n-l} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
 & \frac{(j_{ik}-2)!}{(j_{ik}-j_{sa}^{ik}-1)! \cdot (j_{sa}^{ik}-1)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \\
 & \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \\
 & \left. \frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) +
 \end{aligned}$$

$$\begin{aligned}
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=I+1)}^{(n+I-j_i)}
 \end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot$$

$$\left(\sum_{j^{sa}=s+1}^{\mathbf{n}} \sum_{(n_i=n+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_s=n+I-j^{sa}+1}^{n_i-j^{sa}-\mathbb{k}+1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right.$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot$$

$$\frac{(n_i - n_s - \mathbb{k} - 1)!}{(j^{sa} - 2)! \cdot (n_i - n_s - j^{sa} - \mathbb{k} + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}$$

$$\sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.$$

$$\begin{aligned}
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \hspace{15em} (D - s)! \cdot \\
 & \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
 & \hspace{15em} \frac{(j_{ik} - 2)!}{(j_{ik} - s)! \cdot (s - 2)!} \cdot \\
 & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \\
 & \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
 & \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \hspace{15em} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \Big)
 \end{aligned}$$

$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z = 1 \Rightarrow$

${}^0S_0^{DS} = (D - s)! \cdot$

$$\begin{aligned}
 & \left(\sum_{j^{sa}=j^{sa}+1}^{n+j^{sa}-s} \sum_{(j_{ik}=j^{sa}+j_{sa}^{ik}-j^{sa})} \sum_{n_i=n+k+I}^{n-l} \sum_{(n_i-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \right. \\
 & \frac{(j^{sa} + j_{sa}^{ik} - j_{sa} - 2)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
 & \left. \frac{(n_{ik} - n_{sa} - k - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - k)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right. \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \left. \frac{(n_{ik} - n_s - k - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \right) \\
 & (D - s)! \cdot \\
 & \left(\sum_{j^{sa}=j^{sa}+2}^{n+j^{sa}-s} \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-j^{sa}-1)} \sum_{n_i=n+k+I}^{n-l} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k} \right. \\
 & \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
 & \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right)
 \end{aligned}$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n$$

$$\sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$D = \mathbf{n} < n \wedge I = l + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge l > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + l + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$

${}^0S_0^{DS} = (D - s)! \cdot$

$$\left(\sum_{j_{sa}=j_{sa}+1}^{n+j_{sa}-s} \sum_{(j_{ik}=j^{sa}-1)}^{n-l} \sum_{n_i=\mathbf{n}+\mathbb{k}+I}^{n-l} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \right)$$

$$\frac{(j^{sa} - 3)!}{(j^{sa} - j_{sa} - 1)! \cdot (j_{sa} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(\mathbf{n} + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!}$$

$$\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}$$

$$\sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}-1}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!}$$

$$\begin{aligned}
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \left. \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right) + \\
 & (D - s)! \cdot \\
 & \left(\sum_{j^{sa}=j_{sa}+2}^{n+j_{sa}-s} \sum_{(j_{ik}=j_{sa})}^{(j^{sa}-2)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \right. \\
 & \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa})! \cdot (j_{sa} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
 & \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right. \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
 & \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)
 \end{aligned}$$

$$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot$$

$$\left(\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}+j_{sa}^{\mathbb{k}}-s)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right)$$

$$\begin{aligned}
 & \frac{(j^{sa} + j_{sa}^{ik} - s - 2)!}{(j^{sa} - s - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - \mathbb{k})!} \cdot \\
 & \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
 & \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & (D - s)! \cdot \\
 & \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=j_{sa}^{ik}+1)}^{(j^{sa}+j_{sa}^{ik}-s-1)} \sum_{n_i=n+\mathbb{k}+I}^{n-\mathbb{l}} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\
 & \frac{(j_{ik} - 2)!}{(j_{ik} - j_{sa}^{ik} - 1)! \cdot (j_{sa}^{ik} - 1)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \\
 & \left. \frac{(n_{ik} - n_s - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right. \right.
 \end{aligned}$$

$$\begin{aligned} & \left(\frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\ & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \sum_{(i=I+1)}^{(n+I-j_i)} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\ & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\ & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \end{aligned}$$

$$D = n < n \wedge I = l + k + I \wedge s > 1 \wedge I > 1 \wedge l > 0 \wedge k > 0 \wedge s = s + l + k + I \wedge$$

$$k_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} & {}^0S_0^{DS} = (D - s)! \cdot \\ & \left(\sum_{j^{sa}=s+1}^n \sum_{(j_{ik}=j^{sa}-1)} \sum_{n_i=n+l+I}^{n-l} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}-k-1} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right. \\ & \left. \frac{(j^{sa} - 3)!}{(j^{sa} - s - 1)! \cdot (s - 2)!} \cdot \frac{(n_i - n_{ik} - 1)!}{(j_{ik} - 2)! \cdot (n_i - n_{ik} - j_{ik} + 1)!} \cdot \frac{(n_{ik} - n_s - k - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j^{sa} - k)!} \cdot \right. \\ & \left. \left(\frac{(n_s - I - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n - j^{sa})!} + \right. \right. \\ & \left. \left. \frac{(n_s - i - 1)!}{(n_s + j^{sa} - n - I - 1)! \cdot (n + I - j^{sa} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \right) \end{aligned}$$

$$\begin{aligned}
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-l-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & (D-s)! \cdot \\
 & \left(\sum_{j^{sa}=s+2}^n \sum_{(j_{ik}=s)}^{(j^{sa}-2)} \sum_{n_i=n+l+I}^{n-1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_i-j_{ik}+1)} \sum_{n_s=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l} \sum_{(i=I+1)}^{(n+I-j^{sa})} \right) \\
 & \frac{(j_{ik}-2)!}{(j_{ik}-s)! \cdot (s-2)!} \cdot \\
 & \frac{(n_i-n_{ik}-1)!}{(j_{ik}-2)! \cdot (n_i-n_{ik}-j_{ik}+1)!} \cdot \\
 & \frac{(n_{ik}-n_s-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j^{sa})!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n-j^{sa})!} + \right. \\
 & \left. \frac{(n_s-i-1)!}{(n_s+j^{sa}-n-I-1)! \cdot (n+I-j^{sa}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \sum_{(i=I+1)}^{(n+I-j_i)}
 \end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge \mathbf{s} = s + \mathbb{l} + I \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \right)$$

$$\sum_{(n_i=n+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}$$

$$\sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \\
& \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\
& \sum_{(n_i=\mathbf{n}-1+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(1-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{1} + \mathbf{I} \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{I} \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{1} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{1} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_0^{D_s} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \right. \\ &\quad \sum_{(n_i=n+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\ &\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ &\quad \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right. \\ &\quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1} \\ &\quad \sum_{(n_i=n-\mathbb{1}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{1}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\ &\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j_{ik} - 1)!}{(n + j_{sa} - j_{ik} - s - 1)! \cdot (s - j_{sa})!} \cdot \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ &\quad \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right) + \\ &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\ &\quad \sum_{(n_i=n+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \end{aligned}$$

$$\begin{aligned}
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge s = s + \mathbb{l} + I \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S_0^{D_s} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \right) \\
& \sum_{(n_i=n+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} +
\end{aligned}$$

$$\begin{aligned}
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-lk} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
 & \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{ik}-n_s-lk-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-lk)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \\
 & (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
 & \left. \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-lk} \right. \\
 & \left. \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \right. \\
 & \left. \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \right. \\
 & \left. \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \right. \\
 & \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
 & \left. \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-lk} \right. \\
 & \left. \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \right)
 \end{aligned}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \right)$$

$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + \mathbf{I} \wedge \mathbf{s} = s + \mathbb{l} + \mathbf{I} \wedge j_{ik} = j_i - 1 = s - 1 \vee$

$I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$

$${}^0S_0^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \right) +$$

$$\begin{aligned}
 & (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \quad \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \\
 & \quad \left. \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \right. \\
 & \quad \left. + \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} \right) \\
 & \quad \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \quad \sum_{(n_i=n-1+1)}^{(n-1)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s-(1-(n-n_i))+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \\
 & \quad \left. \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \right) \\
 & \quad \left. \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} \right)
 \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = 1 + I \wedge s = s + 1 + I \vee$$

$$I = 1 + k + I \wedge s > 1 \wedge 1 > 0 \wedge k > 0 \wedge I > 1 \wedge s = s + 1 + k + I \wedge k_z: z = 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S_0^{DS} &= (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right. \\
 & \quad \sum_{(n_i=n+k+I)}^{(n-1)} \sum_{n_{is}=n+k+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \quad \left. \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \right)
 \end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right. \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right.
\end{aligned}$$

$$\begin{aligned} & \left(\frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\ & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l} \sum_{(i=I+1)}^{(n+I-j_i)} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\ & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\ & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = l + I \wedge s = s + l + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge I > 1 \wedge s = s + l + k + I \wedge$$

$$k_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_0^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \right. \\ & \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+l+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-k-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\ & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ & \left. \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \right. \end{aligned}$$

$$\begin{aligned}
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
& \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbf{k}+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbf{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbf{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \right. \\
& \sum_{(n_i=\mathbf{n}+\mathbf{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbf{k}+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbf{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbf{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n
\end{aligned}$$

$$\sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-k} \sum_{(i=l+1)}^{(n+l-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge k = 0 \wedge I = l + I \wedge s = s + l + I \vee$$

$$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge I > 1 \wedge s = s + l + k + I \wedge$$

$$k_z: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge$$

$$s = s + l + k + I \wedge k_z: z = 1 \wedge k = k_2 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1}$$

$$\sum_{(n_i=n+k+l)}^{(n-l)} \sum_{n_{is}=n+k_1+k_2+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2}$$

$$\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!}$$

$$\frac{(n_{ik} - n_{sa} - k_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - k_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1}$$

$$\begin{aligned}
& \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k_1+k_2+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
& \frac{(n-j_s-j_{sa}+1)!}{(n-j_s-s+1)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-k_1-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik}-k_1)!} \cdot \\
& \frac{(n_{ik}-n_{sa}-k_2-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-k_2)!} \cdot \\
& \left. \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
& (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\
& \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+k_1+k_2+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
& \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
& \frac{(n_i-n_{is}-1)!}{(j_s-2)! \cdot (n_i-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
& \left. \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k_1+k_2+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \\
& \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot
\end{aligned}$$

$$\begin{aligned}
 & \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
 & \sum_{(n_i=n+l_k+I)}^{(n-l)} \sum_{n_{is}=n+l_k+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_k)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_k} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l_k+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_k+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_k)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_k} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 & \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot
 \end{aligned}$$

$$\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge \mathbf{s} = s + \mathbb{l} + I \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_0^{DS} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \right. \\ &\quad \sum_{(n_i=n+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1} \\ &\quad \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\ &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \\ &\quad \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \right. \\ &\quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\ &\quad \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1} \\ &\quad \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\ &\quad \left. \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \right. \\ &\quad \left. \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right) + \end{aligned}$$

$$\begin{aligned}
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\
 & \sum_{(n_i=n+l_k+l)}^{(n-l)} \sum_{n_{is}=n+l_{k_1}+l_{k_2}+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_{k_2}+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_{k_2}} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l_{k_1}+l_{k_2}+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_{k_2}+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_{k_2}} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
 & \sum_{(n_i=n+l_k+l)}^{(n-l)} \sum_{n_{is}=n+l_{k_1}+l_{k_2}+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_{k_2}+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_{k_1})} \sum_{n_{sa}=n+l-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-l_{k_2}} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot
 \end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(\mathbf{n} - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + \mathbf{I} \wedge \mathbf{s} = s + \mathbb{l} + \mathbf{I} \vee$$

$$I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{I} > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge \mathbf{I} > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned}
& {}^0S_0^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\quad)} \sum_{j_i=j_s+s-1}^{(\quad)} \right. \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \left. \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \right. \\
& \left. \frac{(n_{ik} - n_s - \mathbb{k}_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k}_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(\quad)} \sum_{j_i=j_s+s-1}^{(\quad)} \right)
\end{aligned}$$

$$\begin{aligned}
 & \sum_{\substack{(n-1) \\ (n_i=n-l+1)}} \sum_{n_i=j_s-(l-(n-n_i))+1} \sum_{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{ik}+j_{ik}-j_i-k_2} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \\
 & \frac{(n_{ik} - n_s - k_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \right. \\
 & \sum_{\substack{(n-l) \\ (n_i=n+l+1)}} \sum_{n_i=j_s+1} \sum_{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{ik}+j_{ik}-j_i-k_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
 & \sum_{\substack{(n-1) \\ (n_i=n-l+1)}} \sum_{n_i=j_s-(l-(n-n_i))+1} \sum_{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{ik}+j_{ik}-j_i-k_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n
 \end{aligned}$$

$$\begin{aligned}
& \sum_{(n_i=n+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{i_s=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{i_k=n+\mathbb{k}_2+I-j_{i_k}+1)}^{(n_{i_s+j_s-j_{i_k}-\mathbb{k}_1})} \sum_{n_s=n+I-j_i+1}^{n_{i_k+j_{i_k}-j_i-\mathbb{k}_2}} \\
& \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(j_i-j_{i_k}-1)!}{(j_i+j_{s_a}^{i_k}-j_{i_k}-s)! \cdot (s-j_{s_a}^{i_k}-1)!} \cdot \\
& \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \cdot \\
& \frac{(n_{i_k}-n_s-1)!}{(j_i-j_{i_k}-1)! \cdot (n_{i_k}+j_{i_k}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+j_{s_a}^{i_k})}^{(n+j_{s_a}^{i_k}-s)} \sum_{j_i=j_{i_k}+s-j_{s_a}^{i_k}}^n \\
& \sum_{(n_i=n-\mathbb{l}+1)}^{(n-1)} \sum_{n_{i_s=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(n-n_i))+1} \sum_{(n_{i_k=n+\mathbb{k}_2+I-j_{i_k}+1)}^{(n_{i_s+j_s-j_{i_k}-\mathbb{k}_1})} \sum_{n_s=n+I-j_i+1}^{n_{i_k+j_{i_k}-j_i-\mathbb{k}_2}} \\
& \frac{(j_{i_k}-j_s-1)!}{(j_{i_k}-j_s-j_{s_a}^{i_k}+1)! \cdot (j_{s_a}^{i_k}-2)!} \cdot \frac{(j_i-j_{i_k}-1)!}{(j_i+j_{s_a}^{i_k}-j_{i_k}-s)! \cdot (s-j_{s_a}^{i_k}-1)!} \cdot \\
& \frac{(n_i-n_{i_s}-1)!}{(j_s-2)! \cdot (n_i-n_{i_s}-j_s+1)!} \cdot \frac{(n_{i_s}-n_{i_k}-1)!}{(j_{i_k}-j_s-1)! \cdot (n_{i_s}+j_s-n_{i_k}-j_{i_k})!} \cdot \\
& \frac{(n_{i_k}-n_s-1)!}{(j_i-j_{i_k}-1)! \cdot (n_{i_k}+j_{i_k}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}
\end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge s = s + \mathbb{l} + I \wedge j_{i_k} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{i_k} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge$$

$$s = s + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{i_k} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
{}_0S_0^{DS} &= (D-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{i_k}=j_s+s-2)}^{(\quad)} \sum_{j_i=j_s+s-1} \right. \\
& \sum_{(n_i=n+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{i_s=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{i_k=n+\mathbb{k}_2+I-j_{i_k}+1)}^{(n_{i_s+j_s-j_{i_k}-\mathbb{k}_1})} \sum_{n_s=n+I-j_i+1}^{n_{i_k}-\mathbb{k}_2-1}
\end{aligned}$$

$$\begin{aligned}
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
 & \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}-\mathbb{k}_2-1} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
 & \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \sum_{(n_i=n+\mathbb{k}+l)}^{(n-l)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+l-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+\mathbb{k}_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+l-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+\mathbb{k}_2+l-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+l-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!}
 \end{aligned}$$

$$\begin{aligned}
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{\mathbf{n}} \\
& \sum_{(n_i=\mathbf{n}+\mathbb{k}+I)}^{(n-\mathbb{l})} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^{\mathbf{n}} \\
& \sum_{(n_i=\mathbf{n}-\mathbb{l}+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n_i-j_s-(\mathbb{l}-(\mathbf{n}-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge \mathbf{s} = s + \mathbb{l} + I \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \Rightarrow$$

$$\begin{aligned}
 {}^0S_0^{D_S} &= (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \right. \\
 &\quad \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+l_1+l_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - l_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - l_1)!} \cdot \\
 &\quad \frac{(n_{ik} - n_s - l_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - l_2)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 &\quad \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 &\quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1} \\
 &\quad \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+l_1+l_2+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - l_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - l_1)!} \cdot \\
 &\quad \frac{(n_{ik} - n_s - l_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - l_2)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 &\quad \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \Bigg) + \\
 &\quad (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\
 &\quad \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_{is}=n+l_1+l_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 &\quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
 &\quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \Bigg)
 \end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \quad \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
& \quad \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=\mathbf{n}+k_1+k_2+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=\mathbf{n}+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \quad \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \quad \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& \quad \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-s)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
& \quad \sum_{(n_i=\mathbf{n}+k+I)}^{(n-l)} \sum_{n_{is}=\mathbf{n}+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=\mathbf{n}+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \quad \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\
& \quad \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \quad \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \quad \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +
\end{aligned}$$

$$\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n$$

$$\sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = n < n \wedge k = 0 \wedge I = l + I \wedge s = s + l + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge I > 1 \wedge s = s + l + k + I \wedge$$

$$k_z: z = 2 \wedge k = k_1 + k_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge$$

$$s = s + l + k + I \wedge k_z: z = 1 \wedge k = k_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S_0^{DS} = (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(\quad)} \sum_{j_i=j_s+s-1}$$

$$\sum_{(n_i=n+k+I)}^{(n-l)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}-k_2-1} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!}$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$\begin{aligned}
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1} \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_i=n+l_1+l_2+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}-l_2-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - l_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - l_1)!} \cdot \\
 & \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \right. \\
 & \sum_{(n_i=n+l+I)}^{(n-l)} \sum_{n_i=n+l_1+l_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \right. \\
 & \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \right. \\
 & \left. \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \right. \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_i=n+l_1+l_2+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+l_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-l_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-l_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right)
 \end{aligned}$$

$$\begin{aligned}
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
 & \sum_{(n_i=n+k_1+I)}^{(n-I)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
 & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
 & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
 & \sum_{(n_i=n-l+1)}^{(n-1)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n_i-j_s-(l-(n-n_i))+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
 & \frac{(n_i - n_{is} - 1)!}{(j_s - 2)! \cdot (n_i - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.
 \end{aligned}$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z > 1 \Rightarrow$

$$\begin{aligned}
 {}^0S_0^{DS} &= (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \vee z = s \Rightarrow s+1}^{(j_{ik})_{z+2} - 1 \vee n} \\
 &\sum_{n_i = n + \mathbb{k} + I \wedge n - \mathbb{l} + 1}^{n - \mathbb{l} \wedge n - 1} \sum_{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1 \vee z = s \Rightarrow n + \sum_{i=1}^{s-1} \mathbb{k}_i + I - (j_i)_1 + 1}}^{(n_i - (j_i)_1 (\wedge - (\mathbb{l} - (n - n_i))) + 1)} \\
 &\sum_{(n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_{ik})_z \vee z = s \Rightarrow n + \sum_{i=z-1}^{s-1} \mathbb{k}_i + I - (j_{ik})_z + 1}}^{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i}} \\
 &\sum_{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{\mathbb{k}_i - (j_i)_z \vee z = s \Rightarrow n + \sum_{i=z}^{s-1} \mathbb{k}_i + I - (j_i)_z + 1}}^{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i}} \\
 &\frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa}^{ik})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{ik})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - n)!} \\
 &\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
 &\frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
 &\frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}
 \end{aligned}$$

$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z > 1 \Rightarrow$

$${}^0S_0^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \vee z = s \Rightarrow s+1}^{(j_{ik})_{z+2} - 1 \vee n}$$

$$\begin{aligned}
 & \sum_{n_i = \mathbf{n} + \mathbf{k} + \mathbf{I} \wedge n-1}^{n-1 \wedge n-1} \sum_{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^k k_i - (j_i)_1 \vee z = s \Rightarrow \mathbf{n} + \sum_{i=1}^{s-1} k_i + \mathbf{I} - (j_i)_1 + 1}^{(n_i - (j_i)_1 (\wedge - (1 - (n - n_i))) + 1)} \\
 & \sum_{(n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^k k_i - (j_i)_z \vee z = s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} k_i + \mathbf{I} - (j_i)_z + 1}^{(n_{ik})_{z-1} + (j_i)_{z-1} - (j_i)_z - \sum_{i=z-2}^k k_i} \\
 & \sum_{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^k k_i - (j_i)_z \vee z = s \Rightarrow \mathbf{n} + \sum_{i=z}^{s-1} k_i + \mathbf{I} - (j_i)_z + 1}^{(n_{ik})_z + (j_i)_z - (j_i)_z - \sum_{i=z-1}^k k_i} \sum_{i=1}^{\mathbf{n} + \mathbf{I} - (j_i)_{z=s}} \\
 & \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-\mathbf{n})!} \\
 & \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
 & \frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
 & \left(\frac{((n_s)_{z=s} - \mathbf{I} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} - (j_i)_{z=s})!} + \right. \\
 & \left. \frac{((n_s)_{z=s} - i - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - (j_i)_{z=s} - i)!} \cdot \frac{(i-1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right)
 \end{aligned}$$

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMSIZ-BAĞIMSIZ DURUMLU KALAN SİMETRİ

Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde $\{0, 0, 1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{0, 0, 1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, simetrik olasılıklar; kalan simetrik olasılıktan, bağımsız durumlarla başlayan dağılımlardaki kalan simetrik olasılığın farkına veya aynı şartlı toplam alınan simetrik olasılık eşitliğinin sağındaki ikinci terime veya aynı şartlı simetrik olasılıktan, aynı şartlı ilk simetrik olasılığın farkına veya aynı şartlı tek kalan simetrik olasılık eşitliğinin $(D - s)$ ile çarpımına eşit olur. Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısı için,

$${}^0S_D^{DS} = \frac{n!}{(s+l-I)!} \cdot \frac{(s+l-2 \cdot I)!}{(s-I)! \cdot (l-I)!} \cdot \left(1 - \frac{(l+s-I)}{n} \cdot \frac{(l-I)}{(l+s-2 \cdot I)} \right)$$

veya

$${}^0S_D^{DS} = \frac{n!}{(s+l)!} \cdot \frac{(s+l-I)!}{s! \cdot (l-I)!} \cdot \left(1 - \frac{(l+s)}{n} \cdot \frac{(l-I)}{(l+s-I)} \right)$$

veya

$${}^0S_D^{DS} = \frac{n!}{(n-D)!} \cdot \frac{l!}{(s+l-I)!} \cdot \frac{(s+l-2 \cdot I)!}{(s-I)! \cdot (l-I)!} \cdot \left(1 - \frac{(l+s-I)}{n} \cdot \frac{(l-I)}{(l+s-2 \cdot I)} \right)$$

veya

$${}^0S_D^{DS} = \frac{n!}{(n+s-D-I)!} \cdot \frac{(n+s-D-2 \cdot I)!}{(s-I)! \cdot (n-D-I)!} \cdot \left(1 - \frac{(n+s-D-I)}{n} \cdot \frac{(n-D-I)}{(n+s-D-2 \cdot I)} \right)$$

veya

$${}^0S_D^{DS} = (D-s)! \cdot \sum_{j=s+1}^D \sum_{\substack{(n-j-l+1) \\ (n_s=D+I-j+1)}} \sum_{\substack{D+I-j \\ i=I+1}} \frac{(j-2)!}{(j-s-1)! \cdot (s-1)!} \cdot \frac{(n-n_s-l-1)!}{(j-2)! \cdot (n-n_s-j-l+1)!} \cdot \frac{(n_s-I-1)!}{(n_s+j-D-I-1)! \cdot (D-j)!} + \frac{(n_s-i-1)!}{(n_s+j-D-I-1)! \cdot (D+I-j-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!}$$

veya

$${}^0S_D^{DS} = (n-s)! \cdot \sum_{j_i=s+1}^n \sum_{\substack{(\quad) \\ (n_i=n)}} \sum_{n_s=n+I-j_i+1}^{n-j_i-l+1} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot \frac{(n-n_s-l-1)!}{(j_i-2)! \cdot (n-n_s-j_i-l+1)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}$$

veya

$${}^0S_D^{DS} = (n-s)! \cdot \sum_{j_i=s+1}^n \sum_{\substack{(\quad) \\ (n_i=n)}} \sum_{n_s=n+I-j_i+1}^{n-j_i-l+1} \sum_{i=I+1}^{n+I-j_i} \frac{(j_i-2)!}{(j_i-s-1)! \cdot (s-1)!} \cdot$$

$$\frac{(n - n_s - \mathbb{1} - 1)!}{(j_i - 2)! \cdot (n - n_s - j_i - \mathbb{1} + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$j = D = n$ olduğunda i 'li terimler hesaplamaya dahil edilmez!

veya

$${}^0S_D^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \vee z = s \Rightarrow s+1}^{(j_{ik})_{z+2} - 1 \vee n}$$

$$\sum_{n_i=n}^{(n - (j_i)_1 - (\mathbb{1} - (n - n_i)) + 1)} \sum_{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1}^{z-1} k_i - (j_i)_1 \vee z = s \Rightarrow n + \sum_{i=1}^{s-1} k_i + I - (j_i)_1 + 1}$$

$$\sum_{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{z-1} k_i}^{(n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1}^{z-1} k_i - (j_{ik})_z \vee z = s \Rightarrow n + \sum_{i=z-1}^{s-1} k_i + I - (j_{ik})_{z+1}}$$

$$\sum_{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{z-1} k_i}^{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z}^{z-1} k_i - (j_i)_z \vee z = s \Rightarrow n + \sum_{i=z}^{s-1} k_i + I - (j_i)_{z+1}}$$

$$\frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa}^{ik})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{ik})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - n)!}$$

$$\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!}$$

$$\frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!}$$

$$\frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - n - 1)! \cdot (n - (j_i)_{z=s})!}$$

veya

$${}^0S_D^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{(j_i)_1=2}^{(j_{ik})_3-1} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{(j_i)_{z+1} \vee z = s \Rightarrow s+1}^{(j_{ik})_{z+2} - 1 \vee n}$$

$$\begin{aligned}
& \sum_{n_i=n}^{(n_i-(j_i)_1-(\mathbb{1}-(n-n_i))+1)} \sum_{(n_{ik})_1=(n_s)_2+(j_i)_2+\sum_{i=1}^{\mathbb{k}_i-(j_i)_1} \forall z=s \Rightarrow n+\sum_{i=1}^{s-1} \mathbb{k}_i+I-(j_i)_1+1)} \\
& \sum_{(n_{ik})_{z-1}+(j_{ik})_{z-1}-(j_{ik})_z-\sum_{i=z-2}^{\mathbb{k}_i} (n_{ik})_z=(n_s)_z+(j_i)_z+\sum_{i=z-1}^{\mathbb{k}_i-(j_{ik})_z} \forall z=s \Rightarrow n+\sum_{i=z-1}^{s-1} \mathbb{k}_i+I-(j_{ik})_{z+1}} \\
& \sum_{(n_{ik})_z+(j_{ik})_z-(j_i)_z-\sum_{i=z-1}^{\mathbb{k}_i} (n_s)_z=(n_s)_{z+1}+(j_i)_{z+1}+\sum_{i=z}^{\mathbb{k}_i-(j_i)_z} \forall z=s \Rightarrow n+\sum_{i=z}^{s-1} \mathbb{k}_i+I-(j_i)_{z+1}} \sum_{i=I+1}^{n+I-(j_i)_{z=s}} \\
& \frac{(D-s)!}{(D-s-(j_i)_1+2)!} \cdot \frac{(D-s-(j_{ik}-j_{sa}^{ik})_z)!}{(D-s-(j_i)_z+(j_{ik})_z-(j_{ik}-j_{sa}^{ik})_z+1)!} \cdot \frac{(D-(j_i)_{z=s})!}{(D-n)!} \\
& \frac{(n_i-(n_{ik})_1-1)!}{((j_i)_1-2)! \cdot (n_i-(n_{ik})_1-(j_i)_1+1)!} \cdot \\
& \frac{((n_{ik})_z-(n_s)_z-1)!}{((j_i)_z-(j_{ik})_z-1)! \cdot ((n_{ik})_z+(j_{ik})_z-(n_s)_z-(j_i)_z)!} \cdot \\
& \frac{((n_s)_{z=s}-I-1)!}{(((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n-(j_i)_{z=s})!} + \\
& \frac{((n_s)_{z=s}-i-1)!}{(((n_s)_{z=s}+(j_i)_{z=s}-n-I-1)! \cdot (n+I-(j_i)_{z=s}-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!}
\end{aligned}$$

$j = D = n$ olduğunda i 'li terimler hesaplamaya dahil edilmez!

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunduğu dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı kalan simetrik olasılık ${}^0S_D^{DS}$ ile gösterilecektir.

$$D = n < n \wedge I = I + \mathbb{1} \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge s = s + I + \mathbb{1} \vee$$

$$I = \mathbb{1} + \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{1} + \mathbb{k} + I \Rightarrow$$

$${}^0S_D^{DS} = \frac{n!}{(s+l-I)!} \cdot \frac{(s+l-2 \cdot I)!}{(s-I)! \cdot (l-I)!} \cdot \left(1 - \frac{(l+s-I)}{n} \cdot \frac{(l-I)}{(l+s-2 \cdot I)} \right)$$

$$D = n < n \wedge I = I + \mathbb{1} \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge s = s + I + \mathbb{1} \vee$$

$$I = \mathbb{1} + \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{1} + \mathbb{k} + I \Rightarrow$$

$${}^0S_D^{DS} = \frac{n!}{(s+l)!} \cdot \frac{(s+l-I)!}{s! \cdot (l-I)!} \cdot \left(1 - \frac{(l+s)}{n} \cdot \frac{(l-I)}{(l+s-I)} \right)$$

$$D = n < n \wedge I = I + \mathbb{1} \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge s = s + I + \mathbb{1} \vee$$

$$I = \mathbb{1} + \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{1} + \mathbb{k} + I \Rightarrow$$

$${}^0S_D^{DS} = \frac{n!}{(n-D)!} \cdot \frac{l!}{(s+l-I)!} \cdot \frac{(s+l-2 \cdot I)!}{(s-I)! \cdot (l-I)!} \cdot \left(1 - \frac{(l+s-I)}{n} \cdot \frac{(l-I)}{(l+s-2 \cdot I)} \right)$$

$$D = n < n \wedge I = I + \mathbb{1} \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge s = s + I + \mathbb{1} \vee$$

$$I = \mathbb{1} + \mathbb{k} + I \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{1} + \mathbb{k} + I \Rightarrow$$

$${}^0S_D^{DS} = \frac{n!}{(n+s-D-I)!} \cdot \frac{(n+s-D-2 \cdot I)!}{(s-I)! \cdot (n-D-I)!} \cdot \left(1 - \frac{(n+s-D-I)}{n} \cdot \frac{(n-D-I)}{(n+s-D-2 \cdot I)} \right)$$

$$D = n < n \wedge I = \mathbb{1} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge s = s + \mathbb{1} + I \Rightarrow$$

$${}^0S_D^{DS} = (D-s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(D+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \sum_{(n_i=n)}^{()} \sum_{n_{is}=D+I-j_s+1}^{n-j_s-\mathbb{1}+1} \sum_{(n_{ik}=D+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=I+1)}^{(D+I-j_i)} \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-D-I-1)! \cdot (D-j_i)!} + \right)$$

$$\begin{aligned}
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - D - I - 1)! \cdot (D + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& (D - s)! \cdot \sum_{j_s=2}^{D-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(D+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^D \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=D+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=D+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=D+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=I+1)}^{(D+I-j_i)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - I - 1)!}{(n_s + j_i - D - I - 1)! \cdot (D - j_i)!} + \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - D - I - 1)! \cdot (D + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{1} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge s = s + \mathbb{1} + I \Rightarrow$$

$$\begin{aligned}
& {}^0S_D^{DS} = (n - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^{n_{ik}+j_{ik}-j_i} \right. \\
& \sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=n+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right)
\end{aligned}$$

$$\sum_{(n_i=n)} \sum_{n_{is}=n+I-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=n+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}$$

$D = n < n \wedge I = 1 + I \wedge s > 1 \wedge I > 1 \wedge 1 > 0 \wedge k = 0 \wedge s = s + 1 + I \Rightarrow$

$${}^0S_D^{DS} = (n-s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \sum_{(n_i=n)} \sum_{n_{is}=n+I-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=n+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \sum_{(n_i=n)} \sum_{n_{is}=n+I-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=n+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!} \right)$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \right)$$

$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{1} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} + I \wedge s = 2 \Rightarrow$

$${}^0S_D^{DS} = (\mathbf{n} - 2)! \cdot \left(\sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{(n)} \sum_{j_i=j_s+1}^{(n)} \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+I-j_s+1}^{n-j_s-\mathbb{1}+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=n+I-j_i+1}^{n_{is}-1} \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{()} \sum_{j_i=j_s+2}^n \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+I-j_s+1}^{n-j_s-\mathbb{1}+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_s-j_i} \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_s - 1)!}{(j_i - j_s - 1)! \cdot (n_{is} + j_s - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} \right)$$

$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{1} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} = 0 \wedge \mathbf{s} = s + \mathbb{1} + I \wedge s = 2 \Rightarrow$

$${}^0S_D^{DS} = (\mathbf{n} - 2)! \cdot \left(\sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{(n)} \sum_{j_i=j_s+1}^{(n)} \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+I-j_s+1}^{n-j_s-\mathbb{1}+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=n+I-j_i+1}^{n_{is}-1} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right) \right)$$

$$\frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} +$$

$$\sum_{j_s=2}^{n-1} \sum_{(j_{ik}=j_s)}^{()} \sum_{j_i=j_s+2}^n$$

$$\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+I-j_s+1}^{n-j_s-I+1} \sum_{(n_{ik}=n_{is})}^{()} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_s-j_i} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_s - 1)!}{(j_i - j_s - 1)! \cdot (n_{is} + j_s - n_s - j_i)!} \cdot$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$
 $\mathbb{k}_z: z = 1 \Rightarrow$

$${}^0S_D^{D^S} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}$$

$$\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!}$$

$$\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s}$$

$$\frac{\sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}} \sum_{n_{sa}=n+I-j^{sa}+\mathbb{k}}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!}} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}$$

$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$

$${}^0S_D^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{(j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{j^{sa}=j_{ik}+1} \frac{\sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}} \sum_{n_{sa}=n+I-j^{sa}+\mathbb{k}}^{n_{ik}-\mathbb{k}-1}}{\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j_{ik}-1)!}{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!}} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} +$$

$$(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{(j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s}$$

$$\frac{\sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}} \sum_{n_{sa}=n+I-j^{sa}+\mathbb{k}}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}}{\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!}}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right)$$

$$\frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!}$$

$$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \\
&\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
&\left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
&\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
&(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
&\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \\
&\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
&\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
&\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

$$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$\mathbb{k}_z: z = 1 \Rightarrow$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
 &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+\mathbb{k}}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n + j_{sa}^{ik} - j_{ik} - j_{sa})!}{(n + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa})!} \cdot \\
 &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 &\frac{(n_{ik} - n_{sa} - \mathbb{k} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbb{k})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
 &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+\mathbb{k}}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
 &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
 &\frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \\
 &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
 &\frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!}
 \end{aligned}$$

$$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}$$

$$\begin{aligned}
 & \sum_{\binom{(\quad)}{(n_i=n)}} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}-\mathbb{k}-1} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j_{ik}-1)!}{(n+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \cdot \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
 & (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{(j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{n+j_{sa}-s}^{j^{sa}=j_{ik}+2} \\
 & \sum_{\binom{(\quad)}{(n_i=n)}} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
 & \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
 \end{aligned}$$

$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$
 $\mathbb{k}_z: z = 1 \wedge j_{sa} = s \Rightarrow$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{(j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
 & \sum_{\binom{(\quad)}{(n_i=n)}} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!}
 \end{aligned}$$

$$\frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n$$

$$\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j_{sa}^{ik} - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n$$

$$\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right)$$

$$\begin{aligned}
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

$$D = n < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n
\end{aligned}$$

$$\sum_{\binom{(\quad)}{(n_i=n)} n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1} \sum_{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)} n_s=\mathbf{n}+I-j_i+1} \sum_{n_{ik}+j_{ik}-j_i-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$D = \mathbf{n} < n \wedge I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge I > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$

$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n-1)}{(j_{ik}=j_s+s-2)} j_i=j_{ik}+1} \sum_{\binom{(\quad)}{(n_i=n)} n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1} \sum_{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)} n_s=\mathbf{n}+I-j_i+1} \sum_{n_{ik}+\mathbb{k}-1}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n-1)}{(j_{ik}=j_s+s-2)} j_i=j_{ik}+2} \sum_{\binom{(\quad)}{(n_i=n)} n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1} \sum_{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)} n_s=\mathbf{n}+I-j_i+1} \sum_{n_{ik}+j_{ik}-j_i-\mathbb{k}}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}$$

$$D = \mathbf{n} < n \wedge I = \mathbb{I} + \mathbb{K} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{I} > 0 \wedge \mathbb{K} > 0 \wedge \mathbf{s} = s + \mathbb{I} + \mathbb{K} + \mathbf{I} \wedge$$

$$\mathbb{K}_z: z = 1 \wedge j_{sa} = s \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\ &\sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{K}+I-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{K}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{K}} \sum_{(i=I+1)}^{(n+I-j_i)} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_s - \mathbb{K} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{K})!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\ &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\ &\sum_{(n_i=n)}^{(\cdot)} \sum_{n_{is}=\mathbf{n}+\mathbb{K}+I-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{K}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{K}} \sum_{(i=I+1)}^{(n+I-j_i)} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\ &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge I = \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge I > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{sa} = s \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1} \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{1}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ &(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^{\mathbf{n}} \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{1}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\ &\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{1} + \mathbf{I} \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{I} \vee$$

$$I = \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
{}^0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n+j_{sa}^{ik}-j_{ik}-j_{sa})!}{(n+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
&\frac{(n_{ik}-n_{sa}-\mathbb{k}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa}-\mathbb{k})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!} + \\
&(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \\
&\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}} \\
&\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j^{sa}-j_{ik}-1)!}{(j^{sa}+j_{sa}^{ik}-j_{ik}-j_{sa})! \cdot (j_{sa}-j_{sa}^{ik}-1)!} \cdot \\
&\frac{(n-j^{sa})!}{(n+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
&\frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \cdot \\
&\frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-n-1)! \cdot (n-j^{sa})!}
\end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge s = s + \mathbb{l} + I \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+1}$$

$$\begin{aligned}
 & \sum_{\binom{(\quad)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}} \sum_{\binom{n_{ik}-\mathbb{k}-1}{n_{sa}=\mathbf{n}+I-j^{sa}+1}} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(\mathbf{n}-j_{ik}-1)!}{(\mathbf{n}+j_{sa}-j_{ik}-s-1)! \cdot (s-j_{sa})!} \cdot \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!} + \\
 & (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{(j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{\binom{n+j_{sa}-s}{j^{sa}=j_{ik}+2}} \\
 & \sum_{\binom{(\quad)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}} \sum_{\binom{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}}{n_{sa}=\mathbf{n}+I-j^{sa}+1}} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(\mathbf{n}-j^{sa})!}{(\mathbf{n}+j_{sa}-j^{sa}-s)! \cdot (s-j_{sa})!} \cdot \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!} \\
 & \frac{(n_{ik}-n_{sa}-1)!}{(j^{sa}-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_{sa}-j^{sa})!} \cdot \frac{(n_{sa}-1)!}{(n_{sa}+j^{sa}-\mathbf{n}-1)! \cdot (\mathbf{n}-j^{sa})!}
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge \mathbf{s} = \mathbf{s} + \mathbb{l} + I \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = \mathbf{s} + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{\binom{(n+j_{sa}^{ik}-s)}{(j_{ik}=j_s+j_{sa}^{ik}-1)}} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}} \\
 & \sum_{\binom{(\quad)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{\binom{(n_{is}+j_s-j_{ik})}{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}} \sum_{\binom{n_{ik}+j_{ik}-j_i-\mathbb{k}}{n_s=\mathbf{n}+I-j_i+1}} \\
 & \frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \\
 & \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!}
 \end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_s - \mathbb{k} - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - \mathbb{k})!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \\
& \sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!}
\end{aligned}$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge \mathbf{s} = s + \mathbb{l} + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
& \sum_{\binom{(\cdot)}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_s - 1)!}{(n_s + j_i - \mathbf{n} - 1)! \cdot (\mathbf{n} - j_i)!} + \\
& (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n
\end{aligned}$$

$$\sum_{(n_i=n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}}$$

$$\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-s+2)! \cdot (s-3)!} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!}$$

$$\frac{(n_{ik}-n_s-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i)!} \cdot \frac{(n_s-1)!}{(n_s+j_i-n-1)! \cdot (n-j_i)!}$$

$D = n < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge s = s + \mathbb{l} + I \vee$

$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z; z = 1 \Rightarrow$

$${}^0S_D^{DS} = (D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}$$

$$\sum_{(n_i=n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(n-n_{is}-1)!}{(j_s-2)! \cdot (n-n_{is}-j_s+1)!} \cdot \frac{(n_{is}-n_{ik}-1)!}{(j_{ik}-j_s-1)! \cdot (n_{is}+j_s-n_{ik}-j_{ik})!}$$

$$\frac{(n_{ik}-n_s-\mathbb{k}-1)!}{(j_i-j_{ik}-1)! \cdot (n_{ik}+j_{ik}-n_s-j_i-\mathbb{k})!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j_i-n-I-1)! \cdot (n-j_i)!} + \frac{(n_s-i-1)!}{(n_s+j_i-n-I-1)! \cdot (n+I-j_i-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) +$$

$$(D-s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n$$

$$\sum_{(n_i=n)} \sum_{n_{is}=n+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik}-j_s-1)!}{(j_{ik}-j_s-j_{sa}^{ik}+1)! \cdot (j_{sa}^{ik}-2)!} \cdot \frac{(j_i-j_{ik}-1)!}{(j_i+j_{sa}^{ik}-j_{ik}-s)! \cdot (s-j_{sa}^{ik}-1)!}$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + \mathbf{I} \wedge \mathbf{s} = s + \mathbb{l} + \mathbf{I} \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{I} > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 1 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+1}$$

$$\sum_{\binom{()}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}-\mathbb{k}-1} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right.$$

$$\left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) +$$

$$(D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{(n-1)} \sum_{j_i=j_{ik}+2}^n$$

$$\sum_{\binom{()}{(n_i=n)}} \sum_{n_{is}=\mathbf{n}+\mathbb{k}+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik})} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}} \sum_{(i=I+1)}^{(n+I-j_i)}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot$$

$$\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot$$

$$\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge I = \mathbb{1} + I \wedge \mathbf{s} = s + \mathbb{1} + I \vee$$

$$I = \mathbb{1} + \mathbf{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{k} + I \wedge$$

$$\mathbf{k}_z: z = 2 \wedge \mathbf{k} = \mathbf{k}_1 + \mathbf{k}_2 \vee$$

$$I = \mathbb{1} + \mathbf{k} + I \wedge \mathbf{s} > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k}_2 > 0 \wedge \mathbf{k}_1 = 0 \wedge I > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{1} + \mathbf{k} + I \wedge \mathbf{k}_z: z = 1 \wedge \mathbf{k} = \mathbf{k}_2 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1}^{()} \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbf{k}_1+\mathbf{k}_2+I-j_s+1}^{n-j_s-\mathbb{1}+1} \sum_{(n_{ik}=n+\mathbf{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbf{k}_2} \\ &\frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \cdot \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbf{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbf{k}_1)!} \\ &\frac{(n_{ik} - n_{sa} - \mathbf{k}_2 - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa} - \mathbf{k}_2)!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}+1}^{n+j_{sa}-s} \right. \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbf{k}_1+\mathbf{k}_2+I-j_s+1}^{n-j_s-\mathbb{1}+1} \sum_{(n_{ik}=n+\mathbf{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbf{k}_2} \\ &\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \\ &\left. \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \right) \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \end{aligned}$$

$$\begin{aligned}
& \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j^{sa}=j_{ik}+j_{sa}-j_{sa}^{ik}}^{n+j_{sa}-s} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-\mathbb{k}_2} \\
& \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j^{sa} - j_{ik} - 1)!}{(j^{sa} + j_{sa}^{ik} - j_{ik} - j_{sa})! \cdot (j_{sa} - j_{sa}^{ik} - 1)!} \cdot \\
& \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \\
& \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - \mathbf{n} - 1)! \cdot (\mathbf{n} - j^{sa})!} \right)
\end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + \mathbf{I} \wedge \mathbf{s} = s + \mathbb{l} + \mathbf{I} \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{I} > 1 \wedge \mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge \mathbf{I} > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{l} + \mathbb{k} + \mathbf{I} \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j^{sa} - 1 \Rightarrow$$

$$\begin{aligned}
& {}^0S_D^{D_s} = (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_s+j_{sa}-1} \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_{sa}=\mathbf{n}+I-j^{sa}+1}^{n_{ik}-\mathbb{k}_2-1} \\
& \frac{(n - j_s - j_{sa} + 1)!}{(n - j_s - s + 1)! \cdot (s - j_{sa})!} \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!}
\end{aligned}$$

$$\begin{aligned}
 & \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \\
 & (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j^{sa}=j_{ik}+2}^{n+j_{sa}-s} \right. \\
 & \left. \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \right. \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \right. \\
 & \left. \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \right. \\
 & \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} + \right. \\
 & \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}-s)} \sum_{j^{sa}=j_{ik}+1}^{n+j_{sa}-s} \right. \\
 & \left. \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_{sa}=n+I-j^{sa}+1}^{n_{ik}+j_{ik}-j^{sa}-k_2} \right. \\
 & \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(n - j^{sa})!}{(n + j_{sa} - j^{sa} - s)! \cdot (s - j_{sa})!} \cdot \right. \\
 & \left. \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \right. \\
 & \left. \frac{(n_{ik} - n_{sa} - 1)!}{(j^{sa} - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_{sa} - j^{sa})!} \cdot \frac{(n_{sa} - 1)!}{(n_{sa} + j^{sa} - n - 1)! \cdot (n - j^{sa})!} \right)
 \end{aligned}$$

$$D = n < n \wedge k = 0 \wedge I = l + I \wedge s = s + l + I \vee$$

$$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge I > 1 \wedge s = s + l + k + I \wedge$$

$$k_z: z = 2 \wedge k = k_1 + k_2 \vee$$

$$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge$$

$$s = s + l + k + I \wedge k_z: z = 1 \wedge k = k_2 \Rightarrow$$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_s+s-1}^{()} \\
 &\quad \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \\
 &\quad \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \cdot \\
 &\quad \frac{(n_{ik} - n_s - k_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k_2)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\
 &\quad (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{()} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^{n} \right. \\
 &\quad \left. \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \right. \\
 &\quad \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \right. \\
 &\quad \left. \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \right. \\
 &\quad \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \right. \\
 &\quad \left. \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^{n} \right. \\
 &\quad \left. \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \right. \\
 &\quad \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \right. \\
 &\quad \left. \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \right. \\
 &\quad \left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{k} = 0 \wedge I = \mathbb{1} + I \wedge \mathbf{s} = s + \mathbb{1} + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{1} + \mathbf{k} + I \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k} > 0 \wedge I > 1 \wedge \mathbf{s} = s + \mathbb{1} + \mathbf{k} + I \wedge$$

$$\mathbf{k}_z: z = 2 \wedge \mathbf{k} = \mathbf{k}_1 + \mathbf{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{1} + \mathbf{k} + I \wedge s > 1 \wedge \mathbb{1} > 0 \wedge \mathbf{k}_2 > 0 \wedge \mathbf{k}_1 = 0 \wedge I > 1 \wedge$$

$$\mathbf{s} = s + \mathbb{1} + \mathbf{k} + I \wedge \mathbf{k}_z: z = 1 \wedge \mathbf{k} = \mathbf{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1} \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbf{k}_1+\mathbf{k}_2+I-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=n+\mathbf{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbf{k}_2-1} \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbf{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbf{k}_1)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \right. \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbf{k}_1+\mathbf{k}_2+I-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=n+\mathbf{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbf{k}_2} \\ &\left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \right. \\ &\left. \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} + \right. \\ &\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\ &\sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbf{k}_1+\mathbf{k}_2+I-j_s+1}^{n-j_s-1+1} \sum_{(n_{ik}=n+\mathbf{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbf{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbf{k}_2} \end{aligned}$$

$$\frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \cdot \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \left(\frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \frac{(n_s - 1)!}{(n_s + j_i - n - 1)! \cdot (n - j_i)!} \right)$$

$D = n < n \wedge k = 0 \wedge I = l + I \wedge s = s + l + I \vee$

$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k > 0 \wedge I > 1 \wedge s = s + l + k + I \wedge$

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$I = l + k + I \wedge s > 1 \wedge l > 0 \wedge k_2 > 0 \wedge k_1 = 0 \wedge I > 1 \wedge$

$s = s + l + k + I \wedge k_z: z = 1 \wedge k = k_2 \Rightarrow$

$$\begin{aligned} {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n)} \sum_{j_i=j_s+s-1}^{(n)} \\ &\sum_{(n_i=n)}^{(n)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\ &\frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - k_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - k_1)!} \\ &\frac{(n_{ik} - n_s - k_2 - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i - k_2)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\ &\left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ &(D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik}-1)}^{(n)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}+1}^n \right. \\ &\sum_{(n_i=n)}^{(n)} \sum_{n_{is}=n+k_1+k_2+I-j_s+1}^{n-j_s-l+1} \sum_{(n_{ik}=n+k_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-k_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-k_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\ &\left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \right) \end{aligned}$$

$$\begin{aligned} & \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\ & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\ & \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+j_{sa}^{ik})}^{(n+j_{sa}^{ik}-s)} \sum_{j_i=j_{ik}+s-j_{sa}^{ik}}^n \\ & \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\ & \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - j_{sa}^{ik} + 1)! \cdot (j_{sa}^{ik} - 2)!} \cdot \frac{(j_i - j_{ik} - 1)!}{(j_i + j_{sa}^{ik} - j_{ik} - s)! \cdot (s - j_{sa}^{ik} - 1)!} \cdot \\ & \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\ & \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n - j_i)!} + \right. \\ & \left. \frac{(n_s - i - 1)!}{(n_s + j_i - n - I - 1)! \cdot (n + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) \end{aligned}$$

$$D = n < n \wedge \mathbb{k} = 0 \wedge I = \mathbb{l} + I \wedge s = s + \mathbb{l} + I \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k} > 0 \wedge I > 1 \wedge s = s + \mathbb{l} + \mathbb{k} + I \wedge$$

$$\mathbb{k}_z: z = 2 \wedge \mathbb{k} = \mathbb{k}_1 + \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \vee$$

$$I = \mathbb{l} + \mathbb{k} + I \wedge s > 1 \wedge \mathbb{l} > 0 \wedge \mathbb{k}_2 > 0 \wedge \mathbb{k}_1 = 0 \wedge I > 1 \wedge$$

$$s = s + \mathbb{l} + \mathbb{k} + I \wedge \mathbb{k}_z: z = 1 \wedge \mathbb{k} = \mathbb{k}_2 \wedge j_{ik} = j_i - 1 = s - 1 \Rightarrow$$

$$\begin{aligned} {}^0S_D^{DS} &= (D - s)! \cdot \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_s+s-1} \\ & \sum_{(n_i=n)}^{()} \sum_{n_{is}=n+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=n+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=n+I-j_i+1}^{n_{ik}-\mathbb{k}_2-1} \sum_{(i=I+1)}^{(n+I-j_i)} \end{aligned}$$

$$\begin{aligned}
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - \mathbb{k}_1 - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik} - \mathbb{k}_1)!} \cdot \\
& \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& (D - s)! \cdot \left(\sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-2)}^{()} \sum_{j_i=j_{ik}+2}^n \right. \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j_i - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \\
& \sum_{j_s=2}^{n-s+1} \sum_{(j_{ik}=j_s+s-1)}^{(n-1)} \sum_{j_i=j_{ik}+1}^n \\
& \sum_{(n_i=n)}^{()} \sum_{n_{is}=\mathbf{n}+\mathbb{k}_1+\mathbb{k}_2+I-j_s+1}^{n-j_s-\mathbb{l}+1} \sum_{(n_{ik}=\mathbf{n}+\mathbb{k}_2+I-j_{ik}+1)}^{(n_{is}+j_s-j_{ik}-\mathbb{k}_1)} \sum_{n_s=\mathbf{n}+I-j_i+1}^{n_{ik}+j_{ik}-j_i-\mathbb{k}_2} \sum_{(i=I+1)}^{(n+I-j_i)} \\
& \left. \frac{(j_{ik} - j_s - 1)!}{(j_{ik} - j_s - s + 2)! \cdot (s - 3)!} \right) \cdot \\
& \frac{(n - n_{is} - 1)!}{(j_s - 2)! \cdot (n - n_{is} - j_s + 1)!} \cdot \frac{(n_{is} - n_{ik} - 1)!}{(j_{ik} - j_s - 1)! \cdot (n_{is} + j_s - n_{ik} - j_{ik})!} \cdot \\
& \frac{(n_{ik} - n_s - 1)!}{(j_i - j_{ik} - 1)! \cdot (n_{ik} + j_{ik} - n_s - j_i)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j_i - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j_i)!} + \right.
\end{aligned}$$

$$\left. \left. \left. \frac{(n_s - i - 1)!}{(n_s + j_i - \mathbf{n} - \mathbf{I} - 1)! \cdot (\mathbf{n} + \mathbf{I} - j_i - i)!} \cdot \frac{(i - 1)!}{(\mathbf{I} - 1)! \cdot (i - \mathbf{I})!} \right) \right) \right)$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{I} = \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z > 1 \Rightarrow$$

$$\begin{aligned}
 {}^0S_D^{DS} &= (D - s) \cdot \prod_{z=2}^s \sum_{((j_i)_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z=z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2-1} \vee \mathbf{n})} \\
 &\sum_{n_i=n}^{(n-(j_i)_1 - (\mathbb{1} - (n-n_i)) + 1)} \sum_{((n_{ik})_1=(n_s)_2 + (j_i)_2 + \sum_{i=1}^{\mathbb{k}_i - (j_i)_1} \vee z=s \Rightarrow \mathbf{n} + \sum_{i=1}^{s-1} \mathbb{k}_i + \mathbf{I} - (j_i)_1 + 1)} \\
 &\sum_{((n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2}^{\mathbb{k}_i} \vee z=s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} \mathbb{k}_i + \mathbf{I} - (j_{ik})_z + 1)} \\
 &\sum_{((n_{ik})_z=(n_s)_z + (j_i)_z + \sum_{i=z-1}^{\mathbb{k}_i - (j_{ik})_z} \vee z=s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} \mathbb{k}_i + \mathbf{I} - (j_{ik})_z + 1)} \\
 &\sum_{((n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1}^{\mathbb{k}_i} \vee z=s \Rightarrow \mathbf{n} + \sum_{i=z}^{s-1} \mathbb{k}_i + \mathbf{I} - (j_i)_z + 1)} \\
 &\frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{(D - s - (j_{ik} - j_{sa}^{\mathbf{ik}})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{\mathbf{ik}})_z + 1)!} \cdot \frac{(D - (j_i)_{z=s})!}{(D - \mathbf{n})!} \\
 &\frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
 &\frac{((n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \\
 &\frac{((n_s)_{z=s} - 1)!}{((n_s)_{z=s} + (j_i)_{z=s} - \mathbf{n} - 1)! \cdot (\mathbf{n} - (j_i)_{z=s})!}
 \end{aligned}$$

$$D = \mathbf{n} < \mathbf{n} \wedge \mathbf{I} = \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge s > 1 \wedge \mathbf{I} > 1 \wedge \mathbb{1} > 0 \wedge \mathbb{k} > 0 \wedge \mathbf{s} = s + \mathbb{1} + \mathbb{k} + \mathbf{I} \wedge$$

$$\mathbb{k}_z: z > 1 \Rightarrow$$

$${}^0S_D^{DS} = (D - s) \cdot \prod_{z=2}^s \sum_{((j_i)_1=2)}^{((j_{ik})_3-1)} \sum_{(j_{ik})_z=z}^{(j_i)_{z-1}} \sum_{((j_i)_{z=z+1} \vee z=s \Rightarrow s+1)}^{((j_{ik})_{z+2-1} \vee \mathbf{n})}$$

$$\begin{aligned}
& \sum_{n_i = \mathbf{n}} \frac{\binom{n - (j_i)_1 - (\mathbb{1} - (n - n_i)) + 1}{(n_{ik})_1 = (n_s)_2 + (j_i)_2 + \sum_{i=1} k_i - (j_i)_1 \vee z = s \Rightarrow \mathbf{n} + \sum_{i=1}^{s-1} k_i + I - (j_i)_1 + 1}}{\binom{(n_{ik})_{z-1} + (j_{ik})_{z-1} - (j_{ik})_z - \sum_{i=z-2} k_i}{(n_{ik})_z = (n_s)_z + (j_i)_z + \sum_{i=z-1} k_i - (j_{ik})_z \vee z = s \Rightarrow \mathbf{n} + \sum_{i=z-1}^{s-1} k_i + I - (j_{ik})_{z+1}} \\
& \frac{\binom{(n_{ik})_z + (j_{ik})_z - (j_i)_z - \sum_{i=z-1} k_i}{(n_s)_z = (n_s)_{z+1} + (j_i)_{z+1} + \sum_{i=z} k_i - (j_i)_z \vee z = s \Rightarrow \mathbf{n} + \sum_{i=z}^{s-1} k_i + I - (j_i)_{z+1}}}{\binom{n + I - (j_i)_{z=s}}{i = I + 1}} \\
& \frac{(D - s)!}{(D - s - (j_i)_1 + 2)!} \cdot \frac{\binom{(D - s - (j_{ik} - j_{sa}^{ik})_z)!}{(D - s - (j_i)_z + (j_{ik})_z - (j_{ik} - j_{sa}^{ik})_z + 1)!}}{\binom{(D - (j_i)_{z=s})!}{(D - \mathbf{n})!}} \cdot \frac{(n_i - (n_{ik})_1 - 1)!}{((j_i)_1 - 2)! \cdot (n_i - (n_{ik})_1 - (j_i)_1 + 1)!} \\
& \frac{(n_{ik})_z - (n_s)_z - 1)!}{((j_i)_z - (j_{ik})_z - 1)! \cdot ((n_{ik})_z + (j_{ik})_z - (n_s)_z - (j_i)_z)!} \cdot \frac{((n_s)_{z=s} - I - 1)!}{(((n_s)_{z=s} + (j_i)_{z=s} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - (j_i)_{z=s})!} + \\
& \frac{((n_s)_{z=s} - i - 1)!}{(((n_s)_{z=s} + (j_i)_{z=s} - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - (j_i)_{z=s} - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!}
\end{aligned}$$

BİRLİKTE KALAN SİMETRİK OLASILIK

Simetri bağımsız durumla başlayıp, bir bağımlı durumla bittiğinde $\{0, 0, 0, 1\}$ veya simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, simetrik ve ters simetrik durumların birlikte buldukları dağılımların sayısı; birlikte tek kalan simetrik olasılığın $(D - s)$ ile çarpımına eşit olur. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, birlikte simetrik olasılıklar için,

$${}_0S^{DS,BS} = {}_0S^{DST,BS} \cdot (D - s) = ({}_0S^{DST} + {}_0S^{DST}) \cdot (D - s) - {}_0,1S_1^1 \cdot (D - s)$$

eşitliğin sağındaki terimlerin eşitleri yazıldığında ($s = 1$ için ${}_0S^{DS}$),

$$\begin{aligned} {}_0S^{DS,BS} &= (D - 1)! \cdot \sum_{j=2}^D \sum_{(n_i=D)}^{n-1} \sum_{n_s=D-j+1}^{n_i-j+1} \frac{(n_i - n_s - 1)!}{(j - 2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D - j)!} + \\ &\quad (D - 1)! \cdot \sum_{j=2}^D \sum_{(n_i=n-1+1)}^n \sum_{n_s=D-j+1}^{n_i-j-(1-(n-n_i))+1} \frac{(n_i - n_s - (1 - (n - n_i)) - 1)!}{(j - 2)! \cdot (n_i - n_s - j - (1 - (n - n_i)) + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - D - 1)! \cdot (D - j)!} + \\ &\quad (D - 1)! \cdot \sum_{j=2}^D \sum_{(n_i=D+I)}^n \sum_{n_s=D+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{(D+I-j)} \frac{(n_i - n_s - 1)!}{(j - 2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - D - I - 1)! \cdot (D - j)!} + \right. \\ &\quad \left. \frac{(n_s - i - 1)!}{(n_s + j - D - I - 1)! \cdot (D + I - j - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) - \frac{n! \cdot (D - s)}{(n - D)!} \cdot \frac{1}{D} \end{aligned}$$

veya ilgili yerlerde $D = \mathbf{n} \wedge \mathbf{l} = \mathbf{I}$ dönüşümleri yapıldığında,

$$\begin{aligned}
{}_0S^{DS,BS} &= (n-1)! \cdot \sum_{j=2}^n \sum_{\substack{n-I \\ (n_i=n)}} \sum_{n_s=n-j+1}^{n_i-j+1} \\
&\quad \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - n - 1)! \cdot (n-j)!} + \\
&\quad (n-1)! \cdot \sum_{j=2}^n \sum_{\substack{n \\ (n_i=n-I+1)}} \sum_{n_s=n-j+1}^{n_i-j-(I-(n-n_i))+1} \\
&\quad \frac{(n_i - n_s - (I - (n - n_i)) - 1)!}{(j-2)! \cdot (n_i - n_s - j - (I - (n - n_i)) + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - n - 1)! \cdot (n-j)!} + \\
&\quad (n-1)! \cdot \sum_{j=2}^n \sum_{\substack{n \\ (n_i=n+I)}} \sum_{n_s=n+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{(n+I-j)} \\
&\quad \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n-j)!} + \right. \\
&\quad \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) - \frac{n! \cdot (D-s)}{(n-n)!} \cdot \frac{1}{n}
\end{aligned}$$

veya simetri bağımsız durumla başlayıp, bir bağımlı durumla bittiğinde $\{0, 0, 0, 1\}$ veya simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, simetrik ve ters simetrik durumların birlikte buldukları dağılımların sayısı; aynı şartlı birlikte tek kalan simetrik olasılığın $(D - s)$ ile çarpımına eşit olur. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, birlikte simetrik olasılıklar için,

$$\begin{aligned}
{}_0S^{DS,BS} &= (n-1)! \cdot \sum_{j=2}^n \sum_{\substack{n-I \\ (n_i=n+I)}} \sum_{n_s=n+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{(n+I-j)} \\
&\quad \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n-j)!} + \right. \\
&\quad \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) +
\end{aligned}$$

$$\begin{aligned}
& (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n-I+1)}^n \sum_{n_s=n+I-j+1}^{n_i-j-(I-(n-n_i))+1} \sum_{(i=I+1)}^{(n+I-j)} \\
& \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n - j)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

$$n + I \leq n - 1 \Rightarrow {}_0S^{DS,BS} > 0$$

$$n + I > n - 1 \Rightarrow {}_0S^{DS,BS} = 0$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarında, simetri bir bağımlı ve bağımsız durumlardan oluştuğunda; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik ve ters simetrik durumların birlikte buldukları dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte kalan simetrik olasılık ${}_0S^{DS,BS}$ ile gösterilecektir.

Simetri bağımsız durumla başlayıp, bir bağımlı durumla bittiğinde $\{0, 0, 0, 1\}$ veya simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik ve ters simetrik durumların birlikte buldukları dağılımların sayısı; aynı şartlı birlikte tek kalan simetrik olasılığın $(D - s)$ ile çarpımına eşit olur. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, birlikte simetrik olasılıklar için,

$${}_0S_0^{DS,BS} = {}_0S_0^{DST,BS} \cdot (D - s) = {}_0S_{n_i \Rightarrow n-1}^{DST,BS} \cdot (D - s) - {}_{0,1t}S_1^1 \cdot (D - s)$$

eşitliğin sağındaki terimlerin eşitleri yazıldığında,

$$\begin{aligned}
{}_0S_0^{DS,BS} &= (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n)}^{n-I} \sum_{n_s=n-j+1}^{n_i-j+1} \\
& \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - n - 1)! \cdot (n - j)!} +
\end{aligned}$$

$$\begin{aligned}
& (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n-I+1)}^{n-1} \sum_{n_s=n-j+1}^{n_i-j-(I-(n-n_i))+1} \\
& \frac{(n_i - n_s - (I - (n - n_i)) - 1)!}{(j-2)! \cdot (n_i - n_s - j - (I - (n - n_i)) + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - n - 1)! \cdot (n - j)!} + \\
& (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n+I)}^{n-1} \sum_{n_s=n+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{(n+I-j)} \\
& \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n - j)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) - \frac{(n-1)! \cdot (n-s)}{(n-n-1)! \cdot n}
\end{aligned}$$

veya

$$\begin{aligned}
{}_0S_0^{DS,BS} &= (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n+I)}^{n-1} \sum_{n_s=n+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{(n+I-j)} \\
& \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n - j)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \\
& (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n-I+1)}^{n-1} \sum_{n_s=n+I-j+1}^{n_i-j-(I-(n-n_i))+1} \sum_{(i=I+1)}^{(n+I-j)} \\
& \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n - j)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)
\end{aligned}$$

$$n + I \leq n - \mathbb{1} \Rightarrow {}_0S_0^{DS,BS} > 0$$

$$n + I > n - \mathbb{1} \Rightarrow {}_0S_0^{DS,BS} = 0$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız birlikte kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarında, simetri bir bağımlı ve bağımsız durumlardan oluştuğunda; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar

bulunan dağılımlardan, simetrik ve ters simetrik durumların birlikte buldukları dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımsız birlikte kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımsız birlikte kalan simetrik olasılık ${}_0S_0^{DS,BS}$ ile gösterilecektir.

Simetri bağımsız durumla başlayıp, bir bağımlı durumla bittiğinde $\{0, 0, 0, 1\}$ veya simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, simetrik ve ters simetrik durumların birlikte buldukları dağılımların sayısı; aynı şartlı birlikte tek kalan simetrik olasılığın $(D - s)$ ile çarpımına eşit olur. Bağımlı ve bir bağımsız olasılıklı farklı dizimli dağılımlardan, simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, birlikte simetrik olasılıklar için,

$${}_0S_D^{DS,BS} = {}_0S_D^{DST,BS} \cdot (D - s) = {}_0S_{n_i \Rightarrow n}^{DST,BS} \cdot (D - s) - ({}_{0,T}^1S_1^1 - {}_{0,1t}^1S_1^1) \cdot (D - s)$$

eşitliğin sağındaki terimlerin eşitleri yazıldığında,

$$\begin{aligned} {}_0S_D^{DS,BS} &= (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n)} \sum_{n_s=n-j+1}^{n-j-(I-(n-n))+1} \\ &\quad \frac{(n-n_s-(I-(n-n))-1)!}{(j-2)! \cdot (n-n_s-j-(I-(n-n))+1)!} \cdot \frac{(n_s-1)!}{(n_s+j-n-1)! \cdot (n-j)!} + \\ &\quad (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n)} \sum_{n_s=n+I-j+1}^{n-j+1} \sum_{(i=I+1)}^{(n+I-j)} \\ &\quad \frac{(n-n_s-1)!}{(j-2)! \cdot (n-n_s-j+1)!} \cdot \left(\frac{(n_s-I-1)!}{(n_s+j-n-I-1)! \cdot (n-j)!} + \right. \\ &\quad \left. \frac{(n_s-i-1)!}{(n_s+j-n-I-1)! \cdot (n+I-j-i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) - \\ &\quad \left(\frac{n! \cdot (D-s)}{(n-n)!} \cdot \frac{1}{n} - \frac{(n-1)! \cdot (D-s)}{(n-n-1)! \cdot n} \right) \end{aligned}$$

$$\begin{aligned} {}_0S_D^{DS,BS} &= (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n)} \sum_{n_s=n-j+1}^{n-j-I+1} \\ &\quad \frac{(n-n_s-I-1)!}{(j-2)! \cdot (n-n_s-j-I+1)!} \cdot \frac{(n_s-1)!}{(n_s+j-n-1)! \cdot (n-j)!} + \\ &\quad (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n)} \sum_{n_s=n+I-j+1}^{n-j+1} \sum_{(i=I+1)}^{(n+I-j)} \end{aligned}$$

$$\frac{(n - n_s - 1)!}{(j - 2)! \cdot (n - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n - j)!} + \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) - \frac{(n - 1)! \cdot (n - s)}{(n - n)!}$$

veya

$${}_0S_D^{DS,BS} = (n - 1)! \cdot \sum_{j=2}^n \sum_{(n_i=n)} \sum_{n_s=n+I-j+1}^{n-j-(I-(n-n))+1} \sum_{(i=I+1)}^{(n+I-j)} \frac{(n - n_s - 1)!}{(j - 2)! \cdot (n - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n - j)!} + \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)$$

$$n + I \leq n - 1 \Rightarrow {}_0S_D^{DS,BS} > 0$$

$$n + I > n - 1 \Rightarrow {}_0S_D^{DS,BS} = 0$$

eşitlikleri elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı birlikte kalan simetrik olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarında, simetri bir bağımlı ve bağımsız durumlardan oluştuğunda; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik ve ters simetrik durumların birlikte buldukları dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı birlikte kalan simetrik olasılık** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı birlikte kalan simetrik olasılık ${}_0S_D^{DS,BS}$ ile gösterilecektir.

KALAN SİMETRİK BULUNMAMA OLASILIĞI

VDOİHİ Bağımlı Olasılık Cilt 1’de simetrisinin bulunabileceği olasılık dağılımlarından, simetrik durumların bulunmadığı dağılımların sayısı, *simetrik bulunmama olasılığı* olarak tanımlanmıştır. Simetrik durumlar, simetrisinin ilk durumuyla başlayan dağılımlarda ve simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda bulunabilir. Bağımlı ve bir bağımsız olasılıklı dağılımda (farklı dizimli veya farklı dizilimsiz), simetrik durumların bulunabileceği dağılımlar; a) simetrisinin ilk bağımlı durumuyla başlayan dağılımlarda, b) simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, c) bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetrisinin başladığı bağımlı durum bulunan dağılımlarda ve d) bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda bulunabilir. Simetrisinin ilk bağımlı durumu haricinde diğer bağımlı durumlarıyla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetrisinin ilk durumu haricinde diğer bağımlı durumlar bulunan dağılımlarda simetrik olasılıklar bulunamayacağından, bu dağılımlar bulunmama olasılıklarına dahil edilemez. Böylece tanım gereği simetrik bulunmama olasılıkları, olasılık dağılım sayısından, simetrik olasılığın farkına eşit olamaz ($S^B \neq M - S$). Bağımlı ve bir bağımsız olasılıklı dağılımda (farklı dizimli veya farklı dizilimsiz), kalan simetrik olasılıklar yukarıda tanımlanan b ve c dağılımlarında bulunabilir ($S^{DS,B} \neq M - S^{DS}$). Kalan simetrik bulunmama olasılıkları, bağımlı durumla başlayan simetri için,

$$S^{DS,B} = {}_{0,T}^1S_1^1 \cdot (D - s) - S^{DS}$$

ve bağımsız durumla başlayıp bağımlı durumla biten simetri için,

$${}_0S^{DS,B} = {}_{0,T}^1S_1^1 \cdot (D - s) - {}_0S^{DS}$$

ve bağımlı durumla başlayıp bağımsız durumla biten veya bağımsız durumla başlayıp bağımsız durumla biten simetri için,

$${}_0S^{DS,B} = {}_{0,T}^1S_1^1 \cdot (D - s) - {}_0S^{DS}$$

eşitlikleriyle hesaplanabilir. Bu eşitliklerin sağındaki ${}_{0,T}^1S_1^1 \cdot (D - s)$ terim, bağımlı ve bir bağımsız olasılıklı dağılımlarda kalan simetrik olasılıkların bulunabileceği dağılımların sayısını verir. Bu terim uyum eşitliğiyle, olay sayısı durum sayısına eşit olan bağımlı olasılıklı dağılımlardaki bir olay için bir durumun tek simetrik olasılığıyla, bağımlı durum sayısından simetrisinin bağımlı durum sayısının farkının çarpımının, çarpımına eşit olmalı.

$${}_{0,T}^1S_1^1 \cdot (D - s) \stackrel{?}{=} U \cdot \left({}^1S_{D=n,1}^1 \cdot (D - s) \right)$$

ve burada ${}_{0,T}^1S_1^1 = \frac{n!}{(n-D)!} \cdot \frac{1}{D}$, $U = \frac{n!}{(n-D)! \cdot D!}$ ve ${}^1S_{D=n,1}^1 = (D - 1)!$ eşitleri yazıldığında (buradaki ${}^1S_{D=n,1}^1 \cdot (D - s)$ terim, bağımlı olasılıklı dağılımlarda simetrisinin bağımlı durumlarının bulunabileceği dağılımların sayısını verir),

$$\frac{n!}{(n-D)!} \cdot \frac{1}{D} \cdot (D-s) \stackrel{?}{=} \frac{n!}{(n-D)! \cdot D!} \cdot (D-1)! \cdot (D-s)$$

$$\frac{n!}{(n-D)!} \cdot \frac{1}{D} \cdot (D-s) = \frac{n!}{(n-D)!} \cdot \frac{1}{D} \cdot (D-s)$$

eşitliği sağlanabilir. Bu bize kalan simetrik bulunmama olasılığının, tek kalan simetrik bulunmama olasılığının, bağımlı durum sayısından simetrisinin bağımlı durum sayısının farkının çarpımına eşit olacağını gösterir.

Bağımlı ve bir bağımsız olasılıklı dağılımlardan, bağımsız durumla başlayan dağılımlardaki kalan simetrik bulunmama olasılıkları, bağımlı durumla başlayan simetri için,

$$S_0^{DS,B} = {}_{0,1t}S_1^1 \cdot (D-s) - S_0^{DS}$$

ve bağımsız durumla başlayıp bağımlı durumla biten simetri için,

$${}_0S_0^{DS,B} = {}_{0,1t}S_1^1 \cdot (D-s) - {}_0S_0^{DS}$$

ve bağımlı durumla başlayıp bağımsız durumla biten veya bağımsız durumla başlayıp bağımsız durumla biten simetri için,

$${}_0S_0^{DS,B} = {}_{0,1t}S_1^1 \cdot (D-s) - {}_0S_0^{DS}$$

eşitlikleriyle hesaplanabilir. Bu eşitliklerin sağındaki ${}_{0,1t}S_1^1 \cdot (D-s)$ terim, bağımlı ve bir bağımsız olasılıklı dağılımlardan, bağımsız durumla başlayan dağılımlardaki kalan simetrik olasılıkların bulunabileceği dağılımların sayısını verir. Bu terim bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir dizilimin bağımsız tek simetrik olasılık eşitliğiyle, olay sayısı durum sayısına eşit olan bağımlı olasılıklı dağılımlardaki bir olay için bir durumun tek simetrik olasılığıyla, bağımlı durum sayısından simetrisinin bağımlı durum sayısının farkının çarpımının, çarpımına eşit olmalı.

$${}_{0,1t}S_1^1 \cdot (D-s) \stackrel{?}{=} {}_{0,1t}S_1^1 \cdot \left({}^1S_{D=n,1}^1 \cdot (D-s) \right)$$

ve burada ${}_{0,1t}S_1^1 = \frac{(n-1)!}{(n-D-1)! \cdot D}$, ${}_{0,1t}S_1^1 = \frac{(n-1)!}{(n-D-1)! \cdot D!}$ ve ${}^1S_{D=n,1}^1 = (D-1)!$ eşitleri yazıldığında,

$$\frac{(n-1)!}{(n-D-1)! \cdot D} \cdot (D-s) \stackrel{?}{=} \frac{(n-1)!}{(n-D-1)! \cdot D!} \cdot (D-1)! \cdot (D-s)$$

$$\frac{(n-1)!}{(n-D-1)! \cdot D} \cdot (D-s) \stackrel{?}{=} \frac{(n-1)!}{(n-D-1)! \cdot D} \cdot (D-s)$$

eşitliği sağlanabilir. Bu bize bağımsız durumlarla başlayan dağılımlardaki kalan simetrik bulunmama olasılığının, bağımsız durumlarla başlayan tek kalan simetrik bulunmama olasılığının, bağımlı durum sayısından simetrisinin bağımlı durum sayısının farkının çarpımına eşit olacağını gösterir.

Bağımlı ve bir bağımsız olasılıklı dağılımlardan, bağımlı durumla başlayan dağılımlardaki kalan simetrik bulunmama olasılıkları, bağımlı durumla başlayan simetri için,

$$S_D^{DS,B} = ({}_{0,t}S_1^1 - {}_{0,1t}S_1^1) \cdot (D - s) - S_D^{DS}$$

$$\text{veya } {}_{0,t}S_1^1 = \frac{n!}{(n-D)!} \cdot \frac{1}{D}, \quad {}_{0,1t}S_1^1 = \frac{(n-1)!}{(n-D-1)! \cdot D} \text{ olduğundan,}$$

$$S_D^{DS,B} = \left(\frac{n!}{(n-D)!} \cdot \frac{1}{D} - \frac{(n-1)!}{(n-D-1)! \cdot D} \right) \cdot (D - s) - S_D^{DS}$$

$$S_D^{DS,B} = \frac{(n-1)!}{(n-D)!} \cdot (D - s) - S_D^{DS}$$

veya

$$S_D^{DS,B} = \frac{(n-1)!}{(n-n)!} \cdot (D - s) - S_D^{DS}$$

ve bağımsız durumla başlayıp bağımlı durumla biten simetri için,

$${}_0S_D^{DS,B} = \frac{(n-1)!}{(n-n)!} \cdot (D - s) - {}_0S_D^{DS}$$

ve bağımlı durumla başlayıp bağımsız durumla biten veya bağımsız durumla başlayıp bağımsız durumla biten simetri için,

$${}_0S_D^{DS,B} = \frac{(n-1)!}{(n-n)!} \cdot (D - s) - {}_0S_0^{DS}$$

eşitlikleriyle hesaplanabilir. Bu eşitliklerin sağındaki $\frac{(n-1)!}{(n-n)!} \cdot (D - s)$ terim, bağımlı ve bir bağımsız olasılıklı dağılımlardan, bağımlı durumla başlayan dağılımlardaki kalan simetrik olasılıkların bulunabileceği dağılımların sayısını verir. Bu terim bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir dizilimin bağımlı tek simetrik olasılık eşitliğiyle, olay sayısı durum sayısına eşit olan bağımlı olasılıklı dağılımlardaki bir olay için bir durumun tek simetrik olasılığıyla, bağımlı durum sayısından simetrisinin bağımlı durum sayısının farkının çarpımının, çarpımına eşit olmalı.

$$\frac{(n-1)!}{(n-n)!} \cdot (D - s) \stackrel{?}{=} {}_1S_1^1 \cdot ({}_1S_{D=n,1}^1 \cdot (D - s))$$

ve burada ${}_1S_1^1 = \frac{(n-1)!}{(n-n)! \cdot (n-1)!}$ ve ${}_1S_{D=n,1}^1 = (n-1)!$ eşitleri yazıldığında,

$$\frac{(n-1)!}{(n-n)!} \cdot (D - s) \stackrel{?}{=} \frac{(n-1)!}{(n-n)! \cdot (n-1)!} \cdot (n-1)! \cdot (D - s)$$

$$\frac{(n-1)!}{(n-n)!} \cdot (D - s) = \frac{(n-1)!}{(n-n)!} \cdot (D - s)$$

eşitliği sağlanabilir. Bu bize bağımlı durumlarla başlayan dağılımlardaki kalan simetrik bulunmama olasılığının, bağımlı durumlarla başlayan tek kalan simetrik bulunmama olasılığının, bağımlı durum sayısından simetrisinin bağımlı durum sayısının farkının çarpımına eşit olacağını gösterir.

Kalan düzgün simetrik ve kalan düzgün olmayan simetrik olasılıklarda, kalan simetrik olasılıkların bulunabileceği dağılımlarda bulunabilir. Bu nedenle yukarıda kalan düzgün simetrik olasılığın bulunabileceği dağılımların sayılarını veren eşitlikler, aynı zamanda kalan düzgün simetrik bulunmama ve kalan düzgün olmayan simetrik bulunmama olasılık eşitliklerinin elde edilmesinde kullanılabilir. Aşağıda simetride bulunan bağımlı ve bağımsız durumlara göre kalan simetrik bulunmama olasılıklarının temel eşitlikleri verilmektedir.

BAĞIMLI DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde $\{1, 2, 3, 4, 5\}$ veya $\{1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrisinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$$S^{DS,B} = \frac{1}{0,7S_1} \cdot (D - s) - S^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımlı durumla başlayıp bağımlı durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu kalan simetrik bulunmama olasılığı $S^{DS,B}$ ile gösterilecektir.

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde $\{1, 2, 3, 4, 5\}$ veya $\{1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımsız kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$$S_0^{DS,B} = {}_{0,1t}S_1^1 \cdot (D - s) - S_0^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımsız kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarında, simetri bağımlı durumla başlayıp bağımlı durumla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısına *bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımsız kalan simetrik bulunmama olasılığı* denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımsız kalan simetrik bulunmama olasılığı $S_0^{DS,B}$ ile gösterilecektir.

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde $\{1, 2, 3, 4, 5\}$ veya $\{1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılıktan, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın farkının $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı durumlu bağımlı kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımlı durumla başlayıp, bağımlı durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$$S_D^{DS,B} = ({}_{0,t}S_1^1 - {}_{0,1t}S_1^1) \cdot (D - s) - S_D^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı durumlu bağımlı kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli olasılık dağılımlarında, simetri bağımlı durumla başlayıp bağımlı durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına ***bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı durumlu bağımlı kalan simetrik bulunmama olasılığı*** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı durumlu bağımlı kalan simetrik bulunmama olasılığı $S_D^{DS,B}$ ile gösterilecektir.

GÜLDÜNYA

BAĞIMSIZ-BAĞIMLI DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde $\{0, 0, 0, 1, 2, 3, 4, 5\}$ veya $\{0, 0, 0, 1, 2, \mathbf{0, 0, 0}, 3, 4, \mathbf{0, 0, 5}\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda kalan simetrik bulunmama olasılığı için,

$${}_0S^{DS,B} = {}_{0,T}S_1^1 \cdot (D - s) - {}_0S^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına *bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu kalan simetrik bulunmama olasılığı* denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu kalan simetrik bulunmama olasılığı ${}_0S^{DS,B}$ ile gösterilecektir.

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMSIZ-BAĞIMLI DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde $\{0, 0, 0, 1, 2, 3, 4, 5\}$ veya $\{0, 0, 0, 1, 2, \mathbf{0, 0, 0}, 3, 4, \mathbf{0, 0, 5}\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımsız kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda

simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}_0S_0^{DS,B} = {}_{0,1t}S_1^1 \cdot (D - s) - {}_0S_0^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımsız kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp bağımlı durumla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımsız kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımsız kalan simetrik bulunmama olasılığı ${}_0S_0^{DS,B}$ ile gösterilecektir.

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMSIZ-BAĞIMLI DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde $\{0, 0, 0, 1, 2, 3, 4, 5\}$ veya $\{0, 0, 0, 1, 2, 0, 0, 0, 3, 4, 0, 0, 5\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrisinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılıktan, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın farkının $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımlı kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımsız durumla başlayıp, bağımlı durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}_0S_D^{DS,B} = ({}_{0,t}S_1^1 - {}_{0,1t}S_1^1) \cdot (D - s) - {}_0S_D^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımlı kalan simetrik bulunmama olasılığı denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp bağımlı durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımlı kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımlı durumlu bağımlı kalan simetrik bulunmama olasılığı ${}_0S_D^{DS,B}$ ile gösterilecektir.

BİR BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde $\{1, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrimin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S^{DS,B} = {}_{0,t}^1S_1^1 \cdot (D - s) - {}^0S^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu kalan simetrik bulunmama olasılığı ${}^0S^{DS,B}$ ile gösterilecektir.

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BİR BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde $\{1, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrimin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımsız kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S_0^{DS,B} = {}_{0,1t}^1S_1^1 \cdot (D - s) - {}^0S_0^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımsız kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımsız kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımsız kalan simetrik bulunmama olasılığı ${}^0S_0^{DS,B}$ ile gösterilecektir.

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BİR BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde $\{1, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılıktan, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın farkının $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımlı kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S_D^{DS,B} = ({}_{0,t}S_1^1 - {}_{0,t}S_1^1) \cdot (D - s) - {}^0S_D^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımlı kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp bir bağımsız durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bir bağımsız durumlu bağımlı kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı kalan simetrik bulunmama olasılığı ${}^0S_D^{DS,B}$ ile gösterilecektir.

BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde $\{1, 2, 3, 4, 5, \mathbf{0}\}$ veya $\{1, 2, \mathbf{0, 0, 0}, 3, 4, \mathbf{0, 0, 5}, \mathbf{0}\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S^{DS,B} = {}_{0,T}^1S_1^1 \cdot (D - s) - {}^0S^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu kalan simetrik bulunmama olasılığı ${}^0S^{DS,B}$ ile gösterilecektir.

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde $\{1, 2, 3, 4, 5, \mathbf{0}\}$ veya $\{1, 2, \mathbf{0, 0, 0}, 3, 4, \mathbf{0, 0, 5}, \mathbf{0}\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımsız kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımlı durumla

başlayıp, bir bağımsız durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S_0^{DS,B} = {}_{0,1t}S_1^1 \cdot (D - s) - {}^0S_0^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımsız kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımsız kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımsız kalan simetrik bulunmama olasılığı ${}^0S_0^{DS,B}$ ile gösterilecektir.

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI-BİR BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde $\{1, 2, 3, 4, 5, \mathbf{0}\}$ veya $\{1, 2, \mathbf{0}, \mathbf{0}, \mathbf{0}, 3, 4, \mathbf{0}, \mathbf{0}, 5, \mathbf{0}\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrisinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılıktan, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın farkının $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımlı kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, tek kalan simetrik bulunmama olasılığı için,

$${}^0S_D^{DS,B} = ({}_{0,t}S_1^1 - {}_{0,1t}S_1^1) \cdot (D - s) - {}^0S_D^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımlı kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımlı durumla başlayıp, bir bağımsız durumla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımlı kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bir bağımsız durumlu bağımlı kalan simetrik bulunmama olasılığı ${}^0S_D^{DS,B}$ ile gösterilecektir.

BİR BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S^{DS,B} = {}_{0,r}S_1^1 \cdot (D - s) - {}^0S^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu kalan simetrik bulunmama olasılığı ${}^0S^{DS,B}$ ile gösterilecektir.

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BİR BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımsız kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla

başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S_0^{DS,B} = {}_{0,1t}S_1^1 \cdot (D - s) - {}^0S_0^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımsız kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımsız kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımsız kalan simetrik bulunmama olasılığı ${}^0S_0^{DS,B}$ ile gösterilecektir.

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BİR BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılıktan, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın farkının $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S_D^{DS,B} = ({}_{0,t}S_1^1 - {}_{0,1t}S_1^1) \cdot (D - s) - {}^0S_D^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bir bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı-bağımsız durumlu bağımlı kalan simetrik bulunmama olasılığı ${}^0S_D^{DS,B}$ ile gösterilecektir.

BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S^{DS,B} = {}_{0,r}^1S_1^1 \cdot (D - s) - {}^0S^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu kalan simetrik bulunmama olasılığı ${}^0S^{DS,B}$ ile gösterilecektir.

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımsız kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli

dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S_0^{DS,B} = {}_{0,1t}S_1^1 \cdot (D - s) - {}^0S_0^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımsız kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımsız kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımsız kalan simetrik bulunmama olasılığı ${}^0S_0^{DS,B}$ ile gösterilecektir.

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMLI-BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde $\{1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılıktan, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın farkının $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S_D^{DS,B} = ({}_{0,t}S_1^1 - {}_{0,1t}S_1^1) \cdot (D - s) - {}^0S_D^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımlı durumla başlayıp, bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı-bağımsız durumlu bağımlı kalan simetrik bulunmama olasılığı ${}^0S_D^{DS,B}$ ile gösterilecektir.

BAĞIMSIZ-BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde $\{0, 0, 1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{0, 0, 1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S^{DS,B} = {}_{0,T}^1S_1^1 \cdot (D - s) - {}^0S^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu kalan simetrik bulunmama olasılığı ${}^0S^{DS,B}$ ile gösterilecektir.

BAĞIMSIZ DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMSIZ-BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde $\{0, 0, 1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{0, 0, 1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımsız kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımsız durumla

başlayıp, bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S_0^{DS,B} = {}_{0,1t}S_1^1 \cdot (D - s) - {}^0S_0^{DS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımsız kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp bağımsız durumlarla bittiğinde; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımsız kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımsız kalan simetrik bulunmama olasılığı ${}^0S_0^{DS,B}$ ile gösterilecektir.

BAĞIMLI DURUMLA BAŞLAYAN DAĞILIMLARDA BAĞIMSIZ-BAĞIMSIZ DURUMLU KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde $\{0, 0, 1, 2, 0, 0, 3, 0, 0, 0\}$ veya $\{0, 0, 1, 2, 3, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrinin bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılıktan, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın farkının $(D - s)$ çarpımından, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı kalan simetrik olasılığın çıkarılmasına eşit olur. Simetri bağımsız durumla başlayıp, bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, kalan simetrik bulunmama olasılığı için,

$${}^0S_D^{DS,B} = ({}_{0,t}S_1^1 - {}_{0,1t}S_1^1) \cdot (D - s) - {}^0S_D^{DS}$$

eşitliği elde edilir. Bu eşitliklere bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlarda, simetri bağımsız durumla başlayıp bağımsız durumlarla bittiğinde; simetride bulunmayan bağımlı durumlarla başlayan dağılımlardan, simetrik durumların bulunmadığı dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız-bağımsız durumlu bağımlı kalan simetrik bulunmama olasılığı ${}^0S_D^{DS,B}$ ile gösterilecektir.

BİRLİKTE KALAN SİMETRİK BULUNMAMA OLASILIĞI

Simetri bağımsız durumla başlayıp, bir bağımlı durumla bittiğinde $\{0, 0, 0, 1\}$ veya simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, simetrik ve ters simetrik durumların birlikte bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılığın $(D - s)$ çarpımından, aynı şartlı birlikte kalan simetrik olasılığın çıkarılmasına eşit olur. Bu durumda simetri bağımsız durumla başlayıp, bir bağımlı durumla bittiğinde veya simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, birlikte kalan simetrik bulunmama olasılığı için,

$${}_0S^{DS,BS,B} = {}_{0,T}S_1^1 \cdot (D - s) - {}_0S^{DS,BS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarında, simetri bir bağımlı ve bağımsız durumlardan oluştuğunda; simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardan, simetrik ve ters simetrik durumların birlikte bulunmadıkları dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte kalan simetrik bulunmama olasılığı ${}_0S^{DS,BS,B}$ ile gösterilecektir. Yukarıdaki eşitliğin sağındaki terimlerin eşitleri yazıldığında,

$$\begin{aligned}
{}_0S^{DS,BS,B} &= \frac{n!}{(n-n)!} \cdot \frac{(n-s)}{n} - (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n)}^{n-I} \sum_{n_s=n-j+1}^{n_i-j+1} \\
&\quad \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - n - 1)! \cdot (n - j)!} - \\
&\quad (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n-I+1)}^n \sum_{n_s=n-j+1}^{n_i-j-(I-(n-n_i))+1} \\
&\quad \frac{(n_i - n_s - (I - (n - n_i)) - 1)!}{(j-2)! \cdot (n_i - n_s - j - (I - (n - n_i)) + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - n - 1)! \cdot (n - j)!}
\end{aligned}$$

$$\begin{aligned}
& (n-1)! \cdot \sum_{j=2}^n \sum_{\substack{n \\ (n_i=n+I)}} \sum_{\substack{n_i-j+1 \\ n_s=n+I-j+1}} \sum_{\substack{(n+I-j) \\ (i=I+1)}} \\
& \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n - j)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \frac{n!}{(n-n)!} \cdot \frac{(n-s)}{n}
\end{aligned}$$

veya

$$\begin{aligned}
{}_0S^{DS,BS,B} &= \frac{n!}{(n-n)!} \cdot \frac{(n-s)}{n} - (n-1)! \cdot \sum_{j=2}^n \sum_{\substack{n-I \\ (n_i=n+I)}} \sum_{\substack{n_i-j+1 \\ n_s=n+I-j+1}} \sum_{\substack{(n+I-j) \\ (i=I+1)}} \\
& \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n - j)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) - \\
& (n-1)! \cdot \sum_{j=2}^n \sum_{\substack{n \\ (n_i=n-I+1)}} \sum_{\substack{n_i-j-(I-(n-n_i))+1 \\ n_s=n+I-j+1}} \sum_{\substack{(n+I-j) \\ (i=I+1)}} \\
& \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n - j)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right)
\end{aligned}$$

eşitlikleriyle bağımlı ve bir bağımsız olasılıklı farklı dizilimli birlikte kalan simetrik bulunmama olasılıkları hesaplanabilir.

Simetri bağımsız durumla başlayıp, bir bağımlı durumla bittiğinde $\{0, 0, 0, 1\}$ veya simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, simetrik ve ters simetrik durumların birlikte bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın $(D - s)$ çarpımından, aynı şartlı birlikte kalan simetrik olasılığın çıkarılmasına eşit olur. Bu durumda simetri bağımsız durumla başlayıp, bir bağımlı durumla bittiğinde veya simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, birlikte kalan simetrik bulunmama olasılığı için,

$${}_0S_0^{DS,BS,B} = {}_{0,1t}S_1^1 \cdot (D - s) - {}_0S_0^{DS,BS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız birlikte kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarında, simetri bir bağımlı ve bağımsız durumlardan oluştuğunda; bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlarda, simetrik ve ters simetrik durumların birlikte bulunmadıkları dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız birlikte kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız birlikte kalan simetrik bulunmama olasılığı ${}_0S_0^{DS,BS,B}$ ile gösterilecektir. Yukarıdaki eşitliğin sağındaki terimlerin eşitleri yazıldığında,

$$\begin{aligned} {}_0S_0^{DS,BS,B} &= \frac{(n-1)! \cdot (n-s)}{(n-n-1)! \cdot n} - (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n)}^{n-I} \sum_{n_s=n-j+1}^{n_i-j+1} \\ &\quad \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - n - 1)! \cdot (n-j)!} \\ &\quad (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n-I+1)}^{n-1} \sum_{n_s=n-j+1}^{n_i-j-(I-(n-n_i))+1} \\ &\quad \frac{(n_i - n_s - (I - (n - n_i)) - 1)!}{(j-2)! \cdot (n_i - n_s - j - (I - (n - n_i)) + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - n - 1)! \cdot (n-j)!} \\ &\quad (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n+I)}^{n-1} \sum_{n_s=n+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{(n+I-j)} \\ &\quad \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n-j)!} + \right. \\ &\quad \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) + \frac{(n-1)! \cdot (n-s)}{(n-n-1)! \cdot n} \end{aligned}$$

veya

$$\begin{aligned} {}_0S_0^{DS,BS,B} &= \frac{(n-1)! \cdot (n-s)}{(n-n-1)! \cdot n} - (n-1)! \cdot \sum_{j=2}^n \sum_{(n_i=n+I)}^{n-I} \sum_{n_s=n+I-j+1}^{n_i-j+1} \sum_{(i=I+1)}^{(n+I-j)} \\ &\quad \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - n - I - 1)! \cdot (n-j)!} + \right. \\ &\quad \left. \frac{(n_s - i - 1)!}{(n_s + j - n - I - 1)! \cdot (n + I - j - i)!} \cdot \frac{(i-1)!}{(I-1)! \cdot (i-I)!} \right) - \end{aligned}$$

$$\begin{aligned}
& (\mathbf{n} - 1)! \cdot \sum_{j=2}^{\mathbf{n}} \sum_{(n_i=n-I+1)}^{n-1} \sum_{n_s=n+I-j+1}^{n_i-j-(I-(n-n_i))+1} \sum_{(i=I+1)}^{(n+I-j)} \\
& \frac{(n_i - n_s - 1)!}{(j-2)! \cdot (n_i - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - \mathbf{n} - I - 1)! \cdot (\mathbf{n} - j)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

eşitlikleriyle bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımsız birlikte kalan simetrik bulunmama olasılıkları hesaplanabilir.

Simetri bağımsız durumla başlayıp, bir bağımlı durumla bittiğinde $\{0, 0, 0, 1\}$ veya simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde $\{1, 0, 0, 0\}$, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, simetrik ve ters simetrik durumların birlikte bulunmadığı dağılımların sayısı; bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımın başladığı duruma göre tek simetrik olasılıktan, bağımlı ve bir bağımsız olasılıklı farklı dizilimli bir bağımlı durumun bağımsız tek simetrik olasılığın farkının $(D - s)$ çarpımından, aynı şartlı birlikte kalan simetrik olasılığın çıkarılmasına eşit olur. Bu durumda simetri bağımsız durumla başlayıp, bir bağımlı durumla bittiğinde veya simetri bir bağımlı durumla başlayıp bağımsız durumlarla bittiğinde, bağımlı ve bir bağımsız olasılıklı farklı dizilimli dağılımlardan, simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, birlikte kalan simetrik bulunmama olasılığı için,

$${}_0S_D^{DS,BS,B} = \left({}_{0,t}S_1^1 - {}_{0,1t}S_1^1 \right) \cdot (D - s) - {}_0S_D^{DS,BS}$$

eşitliği elde edilir. Bu eşitliğe bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı birlikte kalan simetrik bulunmama olasılık eşitliği denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarında, simetri bir bağımlı ve bağımsız durumlardan oluştuğunda; simetride bulunmayan bağımlı durumlarla başlayan dağılımlarda, simetrik ve ters simetrik durumların birlikte bulunmadıkları dağılımların sayısına **bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı birlikte kalan simetrik bulunmama olasılığı** denir. Bağımlı ve bir bağımsız olasılıklı farklı dizilimli bağımlı birlikte kalan simetrik bulunmama olasılığı ${}_0S_D^{DS,BS,B}$ ile gösterilecektir. Yukarıdaki eşitliğin sağındaki terimlerin eşitleri yazıldığında,

$$\begin{aligned}
{}_0S_D^{DS,BS,B} &= \frac{(n-1)! \cdot (\mathbf{n} - s)}{(n-D)!} - (\mathbf{n} - 1)! \cdot \sum_{j=2}^{\mathbf{n}} \sum_{(n_i=n)} \sum_{n_s=n-j+1}^{n-j-I+1} \\
& \frac{(n - n_s - I - 1)!}{(j-2)! \cdot (n - n_s - j - I + 1)!} \cdot \frac{(n_s - 1)!}{(n_s + j - \mathbf{n} - 1)! \cdot (\mathbf{n} - j)!} -
\end{aligned}$$

$$\begin{aligned}
& (\mathbf{n} - 1)! \cdot \sum_{j=2}^{\mathbf{n}} \sum_{(n_i=n)} \sum_{n_s=\mathbf{n}+I-j+1}^{n-j+1} \sum_{(i=I+1)}^{(\mathbf{n}+I-j)} \\
& \frac{(n - n_s - 1)!}{(j - 2)! \cdot (n - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - \mathbf{n} - I - 1)! \cdot (n - j)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right) + \frac{(n - 1)! \cdot (\mathbf{n} - s)}{(n - \mathbf{n})!}
\end{aligned}$$

veya

$$\begin{aligned}
{}_0S_D^{DS,BS,B} &= \frac{(n - 1)! \cdot (\mathbf{n} - s)}{(n - D)!} - (\mathbf{n} - 1)! \cdot \sum_{j=2}^{\mathbf{n}} \sum_{(n_i=n)} \sum_{n_s=\mathbf{n}+I-j+1}^{n-j-(I-(n-\mathbf{n}))+1} \sum_{(i=I+1)}^{(\mathbf{n}+I-j)} \\
& \frac{(n - n_s - 1)!}{(j - 2)! \cdot (n - n_s - j + 1)!} \cdot \left(\frac{(n_s - I - 1)!}{(n_s + j - \mathbf{n} - I - 1)! \cdot (n - j)!} + \right. \\
& \left. \frac{(n_s - i - 1)!}{(n_s + j - \mathbf{n} - I - 1)! \cdot (\mathbf{n} + I - j - i)!} \cdot \frac{(i - 1)!}{(I - 1)! \cdot (i - I)!} \right)
\end{aligned}$$

eşitliğiyle bağımlı ve bir bağımsız olasılıklı farklı dizimli bağımlı birlikte kalan simetrik bulunmama olasılıkları hesaplanabilir.

BÖLÜM D KALAN SİMETRİK OLASILIK

ÖZET

KALAN SİMETRİK OLASILIKLAR

- Bağımlı ve bir bağımsız olasılıklı farklı dizimli olasılık dağılımlarından, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; tek kalan simetrik olasılıkların $(D - s)$ ile çarpımına eşit olur.

$$S^{DS} = S^{DST} \cdot (D - s)$$

veya

$${}_0S^{DS} = {}_0S^{DST} \cdot (D - s)$$

veya

$${}^0S^{DS} = {}^0S^{DST} \cdot (D - s)$$

- Bağımlı ve bir bağımsız olasılıklı farklı dizimli olasılık dağılımlarından, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, simetrik olasılıklar; aynı dağılımlardaki tek kalan simetrik olasılıkların $(D - s)$ ile çarpımına eşit olur.

$$S_0^{DS} = S_0^{DST} \cdot (D - s)$$

veya

$${}_0S_0^{DS} = {}_0S_0^{DST} \cdot (D - s)$$

veya

$${}^0S_0^{DS} = {}^0S_0^{DST} \cdot (D - s)$$

- Bağımlı ve bir bağımsız olasılıklı farklı dizimli olasılık dağılımlarından, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, simetrik olasılıklar; aynı dağılımlardaki tek kalan simetrik olasılıkların $(D - s)$ ile çarpımına eşit olur.

$$S_D^{DS} = S_D^{DST} \cdot (D - s)$$

veya

$${}_0S_D^{DS} = {}_0S_D^{DST} \cdot (D - s)$$

veya

$${}^0S_D^{DS} = {}^0S_D^{DST} \cdot (D - s)$$

KALAN DÜZGÜN SİMETRİK OLASILIKLAR

- Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarından, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, düzgün simetrik olasılıklar; tek kalan düzgün simetrik olasılıkların $(D - s)$ ile çarpımına eşit olur.

$$S^{DSS} = S^{DSSST} \cdot (D - s)$$

veya

$${}_0S^{DSS} = {}_0S^{DSSST} \cdot (D - s)$$

veya

$${}^0S^{DSS} = {}^0S^{DSSST} \cdot (D - s)$$

- Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarından, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, düzgün simetrik olasılıklar; aynı dağılımlardaki tek kalan düzgün simetrik olasılıkların $(D - s)$ ile çarpımına eşit olur.

$$S_0^{DSS} = S_0^{DSSST} \cdot (D - s)$$

veya

$${}_0S_0^{DSS} = {}_0S_0^{DSSST} \cdot (D - s)$$

veya

$${}^0S_0^{DSS} = {}^0S_0^{DSSST} \cdot (D - s)$$

- Bağımlı ve bir bağımsız olasılıklı farklı dizilimli olasılık dağılımlarından, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, düzgün simetrik olasılıklar; aynı dağılımlardaki tek kalan düzgün simetrik olasılıkların $(D - s)$ ile çarpımına eşit olur.

$$S_D^{DSS} = S_D^{DSSST} \cdot (D - s)$$

veya

$${}_0S_D^{DSS} = {}_0S_D^{DSSST} \cdot (D - s)$$

veya

$${}^0S_D^{DSS} = {}^0S_D^{DSSST} \cdot (D - s)$$

KALAN DÜZGÜN OLMAYAN SİMETRİK OLASILIKLAR

- Bağımlı ve bir bağımsız olasılıklı farklı dizimli olasılık dağılımlarından, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, düzgün olmayan simetrik olasılıklar; tek kalan düzgün olmayan simetrik olasılıkların $(D - s)$ ile çarpımına eşit olur.

$$S^{DOS} = S^{DOST} \cdot (D - s)$$

veya

$${}_0S^{DOS} = {}_0S^{DOST} \cdot (D - s)$$

veya

$${}^0S^{DOS} = {}^0S^{DOST} \cdot (D - s)$$

- Bağımlı ve bir bağımsız olasılıklı farklı dizimli olasılık dağılımlarından, bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki, düzgün olmayan simetrik olasılıklar; aynı dağılımlardaki tek kalan düzgün olmayan simetrik olasılıkların $(D - s)$ ile çarpımına eşit olur.

$$S_0^{DOS} = S_0^{DOST} \cdot (D - s)$$

veya

$${}_0S_0^{DOS} = {}_0S_0^{DOST} \cdot (D - s)$$

veya

$${}^0S_0^{DOS} = {}^0S_0^{DOST} \cdot (D - s)$$

- Bağımlı ve bir bağımsız olasılıklı farklı dizimli olasılık dağılımlarından, simetride bulunmayan bağımlı durumlarla başlayan dağılımlardaki, düzgün olmayan simetrik olasılıklar; aynı dağılımlardaki tek kalan düzgün olmayan simetrik olasılıkların $(D - s)$ ile çarpımına eşit olur.

$$S_D^{DOS} = S_D^{DOST} \cdot (D - s)$$

veya

$${}_0S_D^{DOS} = {}_0S_D^{DOST} \cdot (D - s)$$

veya

$${}^0S_D^{DOS} = {}^0S_D^{DOST} \cdot (D - s)$$

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bir bağımlı-bağımsız durumda

- bağımlı kalan düzgün simetrik olasılık, 2.1.18.2/549
- bağımlı kalan düzgün olmayan simetrik olasılık, 2.1.22.3/4
- bağımlı kalan simetrik bulunmama olasılığı, 2.1.17/480
- bağımlı kalan düzgün simetrik bulunmama olasılığı, 2.1.18.2/556
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- birlikte kalan düzgün olmayan simetrik olasılık, 2.1.23.1/953
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- bağımlı birlikte kalan simetrik olasılık, 2.1.17/466
- bağımlı birlikte kalan düzgün simetrik olasılık, 2.1.18.3/1185
- bağımlı birlikte kalan düzgün olmayan simetrik olasılık, 2.1.23.3/559
- bağımlı birlikte kalan simetrik bulunmama olasılığı, 2.1.17/488
- bağımlı birlikte kalan düzgün simetrik bulunmama olasılığı, 2.1.18.3/1192
- bağımlı birlikte kalan düzgün olmayan simetrik bulunmama olasılığı, 2.1.23.3/561

VDOİHİ'de Olasılık ve İhtimal konularının tanım ve eşitlikleri verilmektedir. Ayrıca VDOİHİ'de olasılık ve ihtimalin uygulama alanlarına da yer verilmektedir. VDOİHİ konu anlatım ciltleri ve aynı cilt numaraları ile soru, problem ve ispat çözümlerinden oluşmaktadır. Bu cilt, bağımlı ve bir bağımsız olasılıklı farklı dizimli kalan simetrik ve bulunmama olasılıklarının tanım ve eşitliklerinden oluşmaktadır.

VDOİHİ Bağımlı ve Bir Bağımsız Olasılıklı Farklı Dizimli Kalan Simetrik Olasılık kitabında, bağımlı durum sayısı, bağımlı olay sayısına eşit farklı dizimli dağılımlar ve bir bağımsız olasılıklı dağılımla elde edilebilecek yeni olasılık dağılımlarından, simetride bulunmayan bağımlı durumlarla başlayan ve bağımsız durumla başlayıp sonraki ilk bağımlı durumunda simetride bulunmayan bağımlı durumlar bulunan dağılımlardaki; simetrik ve simetrik bulunmama olasılıklarının tanım ve eşitlikleri verilmektedir. Ayrıca bu olasılıkların tanım ve eşitlikleri dağılımın başladığı durumlara göre de verilmektedir.

VDOİHİ'nin diğer ciltlerinde olduğu gibi bu ciltte de verilen kalan simetrik olasılık eşitlikleri hem olasılık tablolarından elde edilen verilerle hem de aynı şartlı simetrik olasılık eşitliklerinden üretilmiştir. Tanım ve eşitliklerin üretilmesinde dış kaynak kullanılmamıştır.