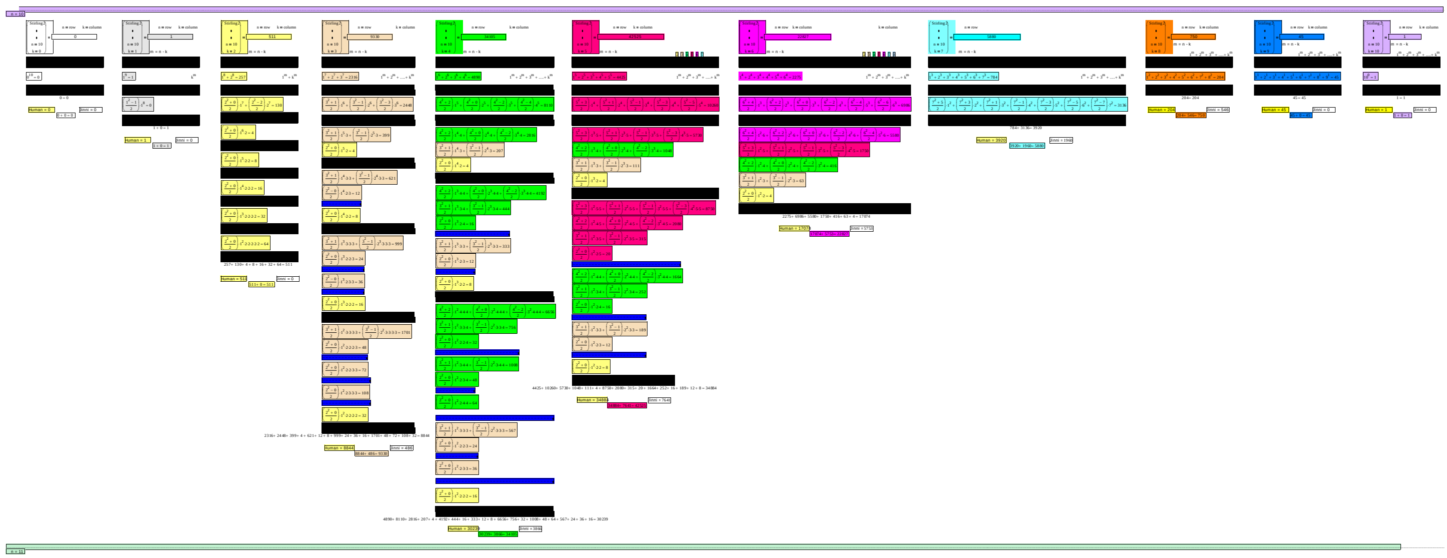
Stirling numbers of the second kind table Algorithm family tree of the Human and Jinni Serajian Asl



Below is a sample of a Human term in Human`s equation:

Base numbers in numerator {variable}

Generation Grade, {variable} for changing the generation

Coefficients between the first and the last coefficients {variable}

$$\left(\frac{6^2+2}{2}\right) * 3^{8} * 4 * 4 * 5 * 5$$

First coefficient (invariable)

Last coefficient as identity of equation (invariable

Below is a sample of Human`s sons set:

$$\left(\frac{3^2+1}{2}\right) * 1^{4} * 3 * 3 + \left(\frac{3^2-1}{2}\right) * 2^{4} * 3 * 3 = 621$$

$$\left(\frac{2^2-0}{2}\right) * 1^{4} * 2 * 3 = 12$$

Stirling numbers of the second kind triangular set of equation packages array

Basis on family tree of the Jinni and Human algorithm

Serajian Asl

Below is a sample of a Jinni term in jinni`s equation:

Base numbers in numerator {invariable}

Coefficients between the first and the last coefficients {variable}

$$(\frac{3^2+3}{2}) * 4 * 5 * 5 * 5 * 5$$

First coefficient (invariable)

Last coefficient as identity of equation (invaria

Below is a sample of Jinni`s sons set:

$$(\frac{1^2+1}{2}) * 2 * 5 * 5 * 5 + (\frac{2^2+2}{2}) * 3 * 5 * 5 * 5 + (\frac{3^2+3}{2}) * 4 * 5 * 5 * 5 = 4375$$

$$(\frac{1^2+1}{2}) * 2 * 4 * 4 * 5 + (\frac{2^2+2}{2}) * 3 * 4 * 4 * 5 = 880$$

$$(\frac{1^2+1}{2}) * 2 * 3 * 3 * 5 = 90$$

Generalized stirling numbers

Magic Cube basis on Stirling numbers (Serajian Asl)

"Figure 1"

n \ *k*	1	2	3	4	5	6	7	8
1	**1**							
2	**1**	**1**						
3	**1**	**3**	**1**					
4	**1**	**7**	**6**	**1**				
5	**1**	**15**	**25**	**10**	**1**			
6	**1**	**31**	**90**	**65**	**15**	**1**		
7	**1**	**63**	**301**	**350**	**140**	**21**	**1**	
8	**1**	**127**	**966**	**1701**	**1050**	**266**	**28**	**1**
9	**1**	**255**	**3025**	**7770**	**6951**	**2646**	**462**	**36**
10	**1**							

By transferring the Stirling triangular array's columns to top of the array, we will have a **squared Array** named **"Stirling numerical squared array"**

"Figure 2"

n \ *k*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
2	**1**	**3**	**6**	**10**	**15**	**21**	**28**	**36**
3	**1**	**7**	**25**	**65**	**140**	**266**	**462**	**750**
4	**1**	**15**	**90**	**350**	**1050**	**2646**	**5880**	**11880**
5	**1**	**31**	**301**	**1701**	**6951**	**22827**	**63987**	**159027**
6	**1**	**63**	**966**	**7770**	42525	**179487**	**627396**	**1899612**
7	**1**	**127**	**3025**	**34105**	**246730**	**1323652**	**5715424**	**20912320**
8	**1**	**255**	**9330**	**145750**	**1379400**	**9321312**	**49329280**	**216627840**
9	**1**							

Each one of the Stirling numbers that locates in rows of **Stirling numerical squared array,** is Equal with a **math relation**
For example series of the numbers which locates in row n=3 of Stirling numerical squared array is as below

{1 , 7 , 25 , 65 , 140 , 266 …. 1155 …}

And each one of the numbers in above series is equal with a equation

"Figure 3"

$$1 = 1\cdot\left(\frac{1^3+1^2}{2}\right)$$

$$7 = 1\cdot\left(\frac{1^3+1^2}{2}\right)+1\cdot\left(\frac{2^3+2^2}{2}\right)$$

$$25 = 1\cdot\left(\frac{1^3+1^2}{2}\right)+1\cdot\left(\frac{2^3+2^2}{2}\right)+1\cdot\left(\frac{3^3+3^2}{2}\right)$$

$$65 = 1\cdot\left(\frac{1^3+1^2}{2}\right)+1\cdot\left(\frac{2^3+2^2}{2}\right)+1\cdot\left(\frac{3^3+3^2}{2}\right)+1\cdot\left(\frac{4^3+4^2}{2}\right)$$

$$140 = 1\cdot\left(\frac{1^3+1^2}{2}\right)+1\cdot\left(\frac{2^3+2^2}{2}\right)+1\cdot\left(\frac{3^3+3^2}{2}\right)+1\cdot\left(\frac{4^3+4^2}{2}\right)+1\cdot\left(\frac{5^3+5^2}{2}\right)$$

$$266 = 1\cdot\left(\frac{1^3+1^2}{2}\right)+1\cdot\left(\frac{2^3+2^2}{2}\right)+1\cdot\left(\frac{3^3+3^2}{2}\right)+1\cdot\left(\frac{4^3+4^2}{2}\right)+1\cdot\left(\frac{5^3+5^2}{2}\right)+1\cdot\left(\frac{6^3+6^2}{2}\right)$$

The set of **parenthesis's coefficients** in up relations make a triangular array as below

"Figure 4"

1							
1	1						
1	1	1					
1	1	1	1				
1	1	1	1	1			
1	1	1	1	1	1		
1	1	1	1	1	1	1	
1	1	1	1	1	1	1	1

The other example, is set of numbers which locates in row n = 4 of Stirling numerical squared array.

{1 , 15 , 90 , 350 , 1050 , 2646 …. 5880}

And each one of the numbers in above series is equal with a math relation

"Figure 5"

$$1 = 1\cdot\left(\frac{1^3+1^2}{2}\right)$$

$$15 = 3\cdot\left(\frac{1^3+1^2}{2}\right)+2\cdot\left(\frac{2^3+2^2}{2}\right)$$

$$90 = 6\cdot\left(\frac{1^3+1^2}{2}\right)+5\cdot\left(\frac{2^3+2^2}{2}\right)+3\cdot\left(\frac{3^3+3^2}{2}\right)$$

$$350 = 10\cdot\left(\frac{1^3+1^2}{2}\right)+9\cdot\left(\frac{2^3+2^2}{2}\right)+7\cdot\left(\frac{3^3+3^2}{2}\right)+4\cdot\left(\frac{4^3+4^2}{2}\right)$$

$$1050 = 15\cdot\left(\frac{1^3+1^2}{2}\right)+14\cdot\left(\frac{2^3+2^2}{2}\right)+12\cdot\left(\frac{3^3+3^2}{2}\right)+9\cdot\left(\frac{4^3+4^2}{2}\right)+5\cdot\left(\frac{5^3+5^2}{2}\right)$$

$$2646 = 21\cdot\left(\frac{1^3+1^2}{2}\right)+20\cdot\left(\frac{2^3+2^2}{2}\right)+18\cdot\left(\frac{3^3+3^2}{2}\right)+15\cdot\left(\frac{4^3+4^2}{2}\right)+11\cdot\left(\frac{5^3+5^2}{2}\right)+6\cdot\left(\frac{6^3+6^2}{2}\right)$$

Set of the **parenthesis's coefficients** in up relations make a triangular array as below

"Figure 6"

Squared array No.3 created on the basis of row *n*=3 in Stirling squared array

"Figure 7"

Set of the **parenthesis's coefficients** in up relations make a triangular array as below

"Figure 6"

1							
3	2						
6	5	3					
10	9	7	4				
15	14	12	9	5			
21	20	18	15	11	6		
28	27	25	22	18	13	7	
36	35	33	30	26	21	15	8

By transferring the columns of above made triangular arrays, to top of arrays we will create **squared**

n \ *k*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1
9	1							

Squared array No.4 created on the basis of row *n*=4 in Stirling squared array

"Figure 8"

n \ *k*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	1	2	3	4	5	6	7	8
2	3	5	7	9	11	13	15	17
3	6	9	12	15	18	21	24	27
4	10	14	18	22	26	30	34	38
5	15	20	25	30	35	40	45	50
6	21	27	33	39	45	51	57	63
7	28	35	42	49	56	63	70	77
8	36	44	52	60	68	76	84	92
9	45							

Squared array No.5 created on the basis of row *n*=5 in Stirling squared array

"Figure 9"

n \ *k*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	1	4	9	16	25	36	49	64
2	7	19	37	61	91	127	169	217
3	25	55	97	151	217	295	385	487
4	65	125	205	305	425	565	725	905
5	140	245	380	545	740	965	1220	1505
6	266	434	644	896	1190	1526	1904	2324
7	462	714	1022	1386	1806	2282	2814	3402
8	750	1110	1542	2046	2622	3270	3990	4782
	1155							

Squared array No.6 created on the basis of row *n*=6 in Stirling squared array

"Figure 10"

n \ *k*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	1	8	27	64	125	216	343	512
2	15	65	175	369	671	1105	1695	2465
3	90	285	660	1275	2190	3465	5160	7335
4	350	910	1890	3410	5590	8550	12410	17290
5	1050	2380	4550	7770	12250	18200	25830	35350
6	2646	5418	9702	15834	24150	34986	48678	65562
7	5880	11130	18900	29694	44016	62370	85260	113190
8	11880	21120	34320	52200	75480	104880	141120	184920
9	22275							

Squared array No.7 created on the basis of row *n*=7 in Stirling squared array "need to be complete"

"Figure 11"

n \ *k*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	1	16	81	256	625	1296	2401	4096
2	31	211	781	2101	4651	9031	15961	26281
3	301	1351	4081	9751	19981	36751	62401	
4	1701	5901	15421	33621	64701	113701		
5	6951	20181	47271	95781	174951			
6	22827	58107	124887	238287				
7	63987	147147	294987					
8	159027	337227						
9	359502							

Squared array No.8 created on the basis of row *n*=8 in Stirling squared array "need to be complete"

"Figure 12"

n \ *k*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	1	32	243	1024	3125	7776	16807	32768
2	63	665	3367	11529	31031	70993	144495	
3	966	6069	23772	70035	170898	365001		
4	7770	35574	116298	305382	688506			
5	42525	156660	447195	1071630				
6	179487	563409	1446291					
7	627396	1740585						
8	1899612							
9								

Set of the above made squared arrays makes a three – dimensional "3D numerical array"

In the name **numerical cube array**

Important points:

In all of obtained squared arrays, the values which locate in first columns " $k = 1$" are as same as the numbers which locate in **a** row of **squared Stirling array**

In all of obtained squared arrays, the values which locate in first rows " $n = 1$" are the powers of first natural numbers.

The numbers are located in same **columns** or **rows** or **diagonals** on each one of the squared array, have relations with together and make progression series in different deeps.
For example progression series of numbers which locate in row "$n = 3$" of squared array "$a = 5$" Is as below

25 55 97 151 217 295 385 487

30 42 54 66 78 90 102

12 12 12 12 12 12

By changing the number of "**n** or **k**" in squared arrays the **deep** of sequences will change

For example sequence of values locate in row n=3of squared array a=6 is as below.

90 285 660 1275 2190 3465 5160 7335

195 375 615 915 1275 1695 2175

180 240 300 360 420 480

60 60 60 60 60

Also each one of the squared array have relations with **previous** or **next** squared arrays by two below relations or formulas and the numbers of them make chain stitch **sequence** with together

$$\begin{pmatrix} a \\ n \\ k \end{pmatrix} = \begin{pmatrix} a \\ n-1 \\ k \end{pmatrix} + \begin{pmatrix} a-1 \\ n \\ k \end{pmatrix} \cdot (n+k-1)$$

$$\begin{pmatrix} a \\ n \\ k \end{pmatrix} = \begin{pmatrix} a \\ n-1 \\ k+1 \end{pmatrix} + \begin{pmatrix} a-1 \\ n \\ k \end{pmatrix} \cdot (k)$$

Example for relation 1

array a=6 row n=7 column k=3

$$\begin{pmatrix} 6 \\ 7 \\ 3 \end{pmatrix} = \begin{pmatrix} 6 \\ 7-1 \\ 3 \end{pmatrix} + \begin{pmatrix} 6-1 \\ 7 \\ 3 \end{pmatrix} \cdot (7+3-1)$$

$$(18900) = (9702) + (1022) \cdot (7+3-1)$$

Example for relation 2

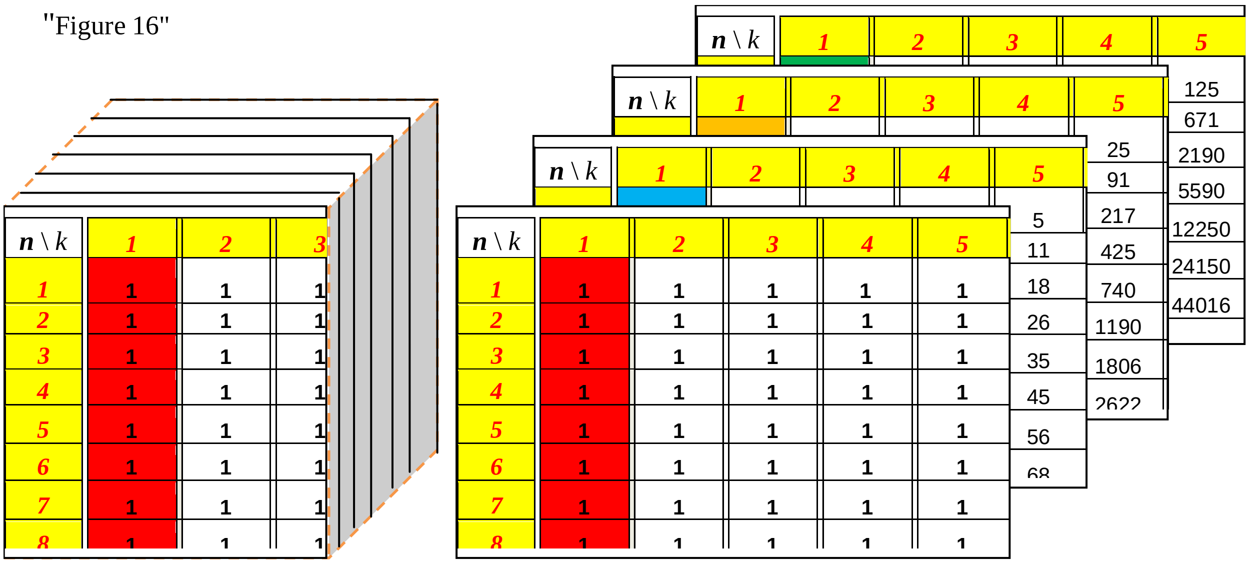
array a=6 row n=7 column k=3

$$\begin{pmatrix} 6 \\ 7 \\ 3 \end{pmatrix} = \begin{pmatrix} 6 \\ 7-1 \\ 3+1 \end{pmatrix} + \begin{pmatrix} 6-1 \\ 7 \\ 3 \end{pmatrix} \cdot (k)$$

$$(18900) = (15834) + (1022) \cdot (3)$$

Set of the above made squared arrays makes a three – dimensional "3D numerical array"
In the name **numerical cube array**

"Figure 16"



Numerical cube *set of the* ***squared arrays*** *make three dimensional* ***numerical cube array***

By adding {3} to each one of base numbers, the 4th term of sequence will be obtain {42525 ,156660 ,447195 ,1071630 , ..}

$\text{Stirling2}\begin{pmatrix} \text{Cube, Array} \\ A_c = 8 \\ n = 5 \\ k = 1 \end{pmatrix} = 42525$ n = row k = column A_c = number, of, square, array, in, Cube, array

$m = A_c - 3$ 2 3 4 5 6 7 8

[redacted]

$1^5 + 2^5 + 3^5 + 4^5 + 5^5 = 4425$

[redacted]

$(2+3+4+5)\cdot 1^4 + (1+3+4+5)\cdot 2^4 + (1+2+4+5)\cdot 3^4 + (1+2+3+5)\cdot 4^4 + (1+2+3+4)\cdot 5^4 = 10260$

[redacted]

$(2+3+4+5)\cdot 1^3\cdot 5 + (1+3+4+5)\cdot 2^3\cdot 5 + (1+2+4+5)\cdot 3^3\cdot 5 + (1+2+3+5)\cdot 4^3\cdot 5 = 5730$

$(2+3+4)\cdot 1^3\cdot 4 + (1+3+4)\cdot 2^3\cdot 4 + (1+2+4)\cdot 3^3\cdot 4 = 1048$

$(2+3)\cdot 1^3\cdot 3 + (1+3)\cdot 2^3\cdot 3 = 111$

$(2)\cdot 1^3\cdot 2 = 4$

[redacted]

$(2+3+4+5)\cdot 1^2\cdot 5\cdot 5 + (1+3+4+5)\cdot 2^2\cdot 5\cdot 5 + (1+2+4+5)\cdot 3^2\cdot 5\cdot 5 + (1+2+3+5)\cdot 4^2\cdot 5\cdot 5 = 8750$

$(2+3+4)\cdot 1^2\cdot 4\cdot 5 + (1+3+4)\cdot 2^2\cdot 4\cdot 5 + (1+2+4)\cdot 3^2\cdot 4\cdot 5 = 2080$

$(2+3)\cdot 1^2\cdot 3\cdot 5 + (1+3)\cdot 2^2\cdot 3\cdot 5 = 315$

$(2)\cdot 1^2\cdot 2\cdot 5 = 20$

$(2+3+4)\cdot 1^2\cdot 4\cdot 4 + (1+3+4)\cdot 2^2\cdot 4\cdot 4 + (1+2+4)\cdot 3^2\cdot 4\cdot 4 = 1664$

$(2+3)\cdot 1^2\cdot 3\cdot 4 + (1+3)\cdot 2^2\cdot 3\cdot 4 = 252$

$(2)\cdot 1^2\cdot 2\cdot 4 = 16$

$(2+3)\cdot 1^2\cdot 3\cdot 3 + (1+3)\cdot 2^2\cdot 3\cdot 3 = 189$

$(2)\cdot 1^2\cdot 2\cdot 3 = 12$

$(2)\cdot 1^2\cdot 2\cdot 2 = 8$

[redacted]

$(1)\cdot 2\cdot 5\cdot 5\cdot 5 + (1+2)\cdot 3\cdot 5\cdot 5\cdot 5 + (1+2+3)\cdot 4\cdot 5\cdot 5\cdot 5 = 4375$

$(1)\cdot 2\cdot 4\cdot 4\cdot 5 + (1+2)\cdot 3\cdot 4\cdot 4\cdot 5 = 880$

$(1)\cdot 2\cdot 3\cdot 3\cdot 5 = 90$

$(1)\cdot 2\cdot 4\cdot 5\cdot 5 + (1+2)\cdot 3\cdot 4\cdot 5\cdot 5 = 1100$

$(1)\cdot 2\cdot 3\cdot 4\cdot 5 = 120$

$(1)\cdot 2\cdot 3\cdot 5\cdot 5 = 150$

$(1)\cdot 2\cdot 4\cdot 4\cdot 4 + (1+2)\cdot 3\cdot 4\cdot 4\cdot 4 = 704$

$(1)\cdot 2\cdot 3\cdot 3\cdot 4 = 72$

$(1)\cdot 2\cdot 3\cdot 4\cdot 4 = 96$

$(1)\cdot 2\cdot 3\cdot 3\cdot 3 = 54$

[redacted]

4425+ 10260+ 5730+ 1048+ 111+ 4 + 8750+ 2080+ 315+ 20 + 1664+ 252= 34659
16 + 189+ 12 + 8 + 4375+ 880+ 90 + 1100+ 120+ 150+ 704+ 72 + 96 + 54 = 7866

34659+ 7866= 42525

$\text{Stirling2}\begin{pmatrix} \text{Cube, Array} \\ A_c = 8 \\ n = 5 \\ k = 5 \end{pmatrix} = 1071630$ n = row k = column A_c = number, of, square, array, in, Cube, array

$m = A_c - 3$ 2 3 4 5 6 7 8

[redacted]

$4^5 + 5^5 + 6^5 + 7^5 + 8^5 = 61500$

[redacted]

$(5+6+7+8)\cdot 4^4 + (4+6+7+8)\cdot 5^4 + (4+5+7+8)\cdot 6^4 + (4+5+6+8)\cdot 7^4 + (4+5+6+7)\cdot 8^4 = 198720$

[redacted]

$(5+6+7+8)\cdot 4^3\cdot 8 + (4+6+7+8)\cdot 5^3\cdot 8 + (4+5+7+8)\cdot 6^3\cdot 8 + (4+5+6+8)\cdot 7^3\cdot 8 = 142896$

$(5+6+7)\cdot 4^3\cdot 7 + (4+6+7)\cdot 5^3\cdot 7 + (4+5+7)\cdot 6^3\cdot 7 = 47131$

$(5+6)\cdot 4^3\cdot 6 + (4+6)\cdot 5^3\cdot 6 = 11724$

$(5)\cdot 4^3\cdot 5 = 1600$

[redacted]

$(5+6+7+8)\cdot 4^2\cdot 8\cdot 8 + (4+6+7+8)\cdot 5^2\cdot 8\cdot 8 + (4+5+7+8)\cdot 6^2\cdot 8\cdot 8 + (4+5+6+8)\cdot 7^2\cdot 8\cdot 8 = 194048$

$(5+6+7)\cdot 4^2\cdot 7\cdot 8 + (4+6+7)\cdot 5^2\cdot 7\cdot 8 + (4+5+7)\cdot 6^2\cdot 7\cdot 8 = 72184$

$(5+6)\cdot 4^2\cdot 6\cdot 8 + (4+6)\cdot 5^2\cdot 6\cdot 8 = 20448$

$(5)\cdot 4^2\cdot 5\cdot 8 = 3200$

$(5+6+7)\cdot 4^2\cdot 7\cdot 7 + (4+6+7)\cdot 5^2\cdot 7\cdot 7 + (4+5+7)\cdot 6^2\cdot 7\cdot 7 = 63161$

$(5+6)\cdot 4^2\cdot 6\cdot 7 + (4+6)\cdot 5^2\cdot 6\cdot 7 = 17892$

$(5)\cdot 4^2\cdot 5\cdot 7 = 2800$

$(5+6)\cdot 4^2\cdot 6\cdot 6 + (4+6)\cdot 5^2\cdot 6\cdot 6 = 15336$

$(5)\cdot 4^2\cdot 5\cdot 6 = 2400$

$(5)\cdot 4^2\cdot 5\cdot 5 = 2000$

[redacted]

$(4)\cdot 5\cdot 8\cdot 8\cdot 8 + (4+5)\cdot 6\cdot 8\cdot 8\cdot 8 + (4+5+6)\cdot 7\cdot 8\cdot 8\cdot 8 = 91648$

$(4)\cdot 5\cdot 7\cdot 7\cdot 8 + (4+5)\cdot 6\cdot 7\cdot 7\cdot 8 = 29008$

$(4)\cdot 5\cdot 6\cdot 6\cdot 8 = 5760$

$(4)\cdot 5\cdot 7\cdot 8\cdot 8 + (4+5)\cdot 6\cdot 7\cdot 8\cdot 8 = 33152$

$(4)\cdot 5\cdot 6\cdot 7\cdot 8 = 6720$

$(4)\cdot 5\cdot 6\cdot 8\cdot 8 = 7680$

$(4)\cdot 5\cdot 7\cdot 7\cdot 7 + (4+5)\cdot 6\cdot 7\cdot 7\cdot 7 = 25382$

$(4)\cdot 5\cdot 6\cdot 6\cdot 7 = 5040$

$(4)\cdot 5\cdot 6\cdot 7\cdot 7 = 5880$

$(4)\cdot 5\cdot 6\cdot 6\cdot 6 = 4320$

[redacted]

2800+ 15336+ 2400+ 2000+ 91648+ 29008+ 5760+ 33152+ 6720+ 7680+ 25382+ 5040+ 5880+ 4320= 237126
61500+ 198720+ 142896+ 47131+ 11724+ 1600+ 194048+ 72184+ 20448+ 3200+ 63161+ 17892= 834504

834504+ 237126= 1071630

Squared array No.6 row No {n = 6}

2646		**5418**		**9702**		**15834**		**24150**		**34986**
	2772		4284		6132		8316		10836	
		1512		1848		2184		2520		2856
			336		336		336		336	

Squared array No.6 diagonal No.1 row No. {n = 1,2,3,4,..}

1		**65**		**660**		**3410**		**12250**		**34986**		**85260**		**184920**		**366795**
	64		595		2750		8840		22736		50274		99660		181875	
		531		2155		6090		13896		27538		49386		82215		
			1624		3935		7806		13642		21848		32829			
				2311		3871		5836		8206		10981				
					1560		1965		2370		2775					
						405		405		405						

Squared array No.6 column No. {k = 1}

1		**15**		**90**		**350**		**1050**		**2646**		**5880**		**11880**
	14		75		260		700		1596		3234		6000	
		61		185		440		896		1638		2766		
			124		255		456		742		1128			
				131		201		286		386				
					70		85		100					
						15		15						

Equations of packages {42525} for adding values {1,2,3,..N} instead of {A1} in Excel for getting the term of sequence

0			0	0
	(1+A1)^5+(2+A1)^5+(3+A1)^5+(4+A1)^5+(5+A1)^5			4425
	(2+3+4+5+4*A1)*(1+A1)^4+(1+3+4+5+4*A1)*(2+A1)^4+(1+2+4+5+4*A1)*(3+A1)^4+(1+2+3+5+4*A1)*(4+A1)^4+(1+2+3+4+4*A1)*(5+A1)^4			10260
	(2+3+4+5+4*A1)*(1+A1)^3*(5+A1)+(1+3+4+5+4*A1)*(2+A1)^3*(5+A1)+(1+2+4+5+4*A1)*(3+A1)^3*(5+A1)+(1+2+3+5+4*A1)*(4+A1)^3*(5+A1)			5730
	(2+3+4+3*A1)*(1+A1)^3*(4+A1)+(1+3+4+3*A1)*(2+A1)^3*(4+A1)+(1+2+4+3*A1)*(3+A1)^3*(4+A1)			1048
	(2+3+2*A1)*(1+A1)^3*(3+A1)+(1+3+2*A1)*(2+A1)^3*(3+A1)			111
	(2+1*A1)*(1+A1)^3*(2+A1)			4
	(2+3+4+5+4*A1)*(1+A1)^2*(5+A1)*(5+A1)+(1+3+4+5+4*A1)*(2+A1)^2*(5+A1)*(5+A1)+(1+2+4+5+4*A1)*(3+A1)^2*(5+A1)*(5+A1)+(1+2+3+5+4*A1)*(4+A1)^2*(5+A1)*(5+A1)			8750
	(2+3+4+3*A1)*(1+A1)^2*(4+A1)*(5+A1)+(1+3+4+3*A1)*(2+A1)^2*(4+A1)*(5+A1)+(1+2+4+3*A1)*(3+A1)^2*(4+A1)*(5+A1)			2080
	(2+3+2*A1)*(1+A1)^2*(3+A1)*(5+A1)+(1+3+2*A1)*(2+A1)^2*(3+A1)*(5+A1)			315
	(2+1*A1)*(1+A1)^2*(2+A1)*(5+A1)			20
	(2+3+4+3*A1)*(1+A1)^2*(4+A1)*(4+A1)+(1+3+4+3*A1)*(2+A1)^2*(4+A1)*(4+A1)+(1+2+4+3*A1)*(3+A1)^2*(4+A1)*(4+A1)			1664
	(2+3+2*A1)*(1+A1)^2*(3+A1)*(4+A1)+(1+3+2*A1)*(2+A1)^2*(3+A1)*(4+A1)			252
	(2+1*A1)*(1+A1)^2*(2+A1)*(4+A1)			16
	(2+3+2*A1)*(1+A1)^2*(3+A1)*(3+A1)+(1+3+2*A1)*(2+A1)^2*(3+A1)*(3+A1)			189
	(2+1*A1)*(1+A1)^2*(2+A1)*(3+A1)			12
	(2+1*A1)*(1+A1)^2*(2+A1)*(2+A1)			8
	(1+1*A1)*(2+A1)*(5+A1)*(5+A1)*(5+A1)+(1+2+2*A1)*(3+A1)*(5+A1)*(5+A1)*(5+A1)+(1+2+3+3*A1)*(4+A1)*(5+A1)*(5+A1)*(5+A1)			4375
	(1+1*A1)*(2+A1)*(4+A1)*(4+A1)*(5+A1)+(1+2+2*A1)*(3+A1)*(4+A1)*(4+A1)*(5+A1)			880
	(1+1*A1)*(2+A1)*(3+A1)*(3+A1)*(5+A1)			90
	(1+1*A1)*(2+A1)*(4+A1)*(5+A1)*(5+A1)+(1+2+2*A1)*(3+A1)*(4+A1)*(5+A1)*(5+A1)			1100
	(1+1*A1)*(2+A1)*(3+A1)*(4+A1)*(5+A1)			120
	(1+1*A1)*(2+A1)*(3+A1)*(5+A1)*(5+A1)			150
	(1+1*A1)*(2+A1)*(4+A1)*(4+A1)*(4+A1)+(1+2+2*A1)*(3+A1)*(4+A1)*(4+A1)*(4+A1)			704
	(1+1*A1)*(2+A1)*(3+A1)*(3+A1)*(4+A1)			72
	(1+1*A1)*(2+A1)*(3+A1)*(4+A1)*(4+A1)			96
	(1+1*A1)*(2+A1)*(3+A1)*(3+A1)*(3+A1)			54
	42525			42525