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Representations of Letters and Numbers With Equal Sums Magic Squares of Order 4

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Abstract

This work brings 26 letters from A to Z and 10 numbers from 0 to 9 in terms of blocks of magic squares of order 4. Letters and numbers ares constructed with blocks of equal sums magic square of order 4. The most of the letters and numbers constructed are with 5-blocks hight.

Contents

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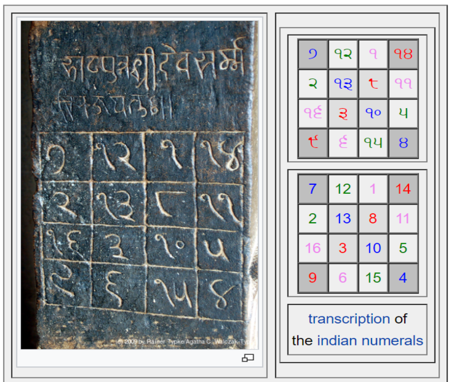
1 Introduction

The **Khajuraho magic square** of order 4 is famous in the literature as one of the most **most perfect magic square** of order 4. It is studied around 10th century. The original plate of this magic square seen at **Parshvanath Jain temple in Khajuraho** - (*Link: Wikipedia - https://goo.gl/nsYn2j*):



Most-perfect magic square from
the Parshvanath Jain temple in Khajuraho

It is also **pan diagonal magic square** of order 4 given in example below.

Example 1.1. *Let's rewrite **Khajuraho magic square** as **pan magic** square of order 4.*

		34	34	34	34
	7	12	1	14	34
34	2	13	8	11	34
34	16	3	10	5	34
34	9	6	15	4	34
	34	34	34	34	34

Below are some properties in colors resulting magic square sums for each color:

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

In this paper, our aim is to bring alphabetical letters from A to Z and numbers from 0 to 9 in terms of blocks of magic square of order 4 with the property that in each case, the blocks of order 4 magic squares are of equal magic sums.

2 Letters from A to Z

We shall construct all the letters from A to Z using blocks **pan magic** squares of order 4. In each letter, the numbers used are without repetition and are consecutive numbers starting from 1 onward. Each letter is complete in itself. The construction of blocks of order 4 is given in Appendix 4.

2.1 Letter A

In this subsection, we construction letter A using 11 blocks of order 4 magic squares. The entries are consecutive numbers from 1 to 176. Let's consider the following distribution:

Example 2.1. *Below is a letters "A" written in terms of **pan magic** squares of order 4:*

				6	91	150	139				
				163	126	19	78				
				43	54	187	102				
				174	115	30	67				
	5	92	149	140			7	90	151	138	
	164	125	20	77			162	127	18	79	
	44	53	188	101			42	55	186	103	
	173	116	29	68			175	114	31	66	
4	93	148	141					8	89	152	137
165	124	21	76					161	128	17	80
45	52	189	100					41	56	185	104
172	117	28	69					176	113	32	65
3	94	147	142					9	88	153	136
166	123	22	75					160	129	16	81
46	51	190	99					40	57	184	105
171	118	27	70					177	112	33	64
2	95	146	143	12	85	156	133	10	87	154	135
167	122	23	74	157	132	13	84	159	130	15	82
47	50	191	98	37	60	181	108	39	58	183	106
170	119	26	71	180	109	36	61	178	111	34	63
1	96	145	144					11	86	155	134
168	121	24	73					158	131	14	83
48	49	192	97					38	59	182	107
169	120	25	72					179	110	35	62

The above letter **"A"** is compose of consecutive numbers from 1 to 192. These numbers gives us 12 blocks of equal sums **pan magic** squares of order 4 with magic sums $S_{4\times4} := 386$ as given in Example 4.8.

2.2 Letter B

Example 2.2. *Below is a letter "**B**" written in two different ways in terms of **pan magic** squares of order 4:*

7	122	199	186	8	121	200	185					
218	167	26	103	217	168	25	104					
58	71	250	135	57	72	249	136					
231	154	39	90	232	153	40	89					
6	123	198	187				9	120	201	184		
219	166	27	102				216	169	24	105		
59	70	251	134				56	73	248	137		
230	155	38	91				233	152	41	88		
5	124	197	188				10	119	202	183		
220	165	28	101				215	170	23	106		
60	69	252	133				55	74	247	138		
229	156	37	92				234	151	42	87		
4	125	196	189	12	117	204	181	11	118	203	182	
221	164	29	100	213	172	21	108	214	171	22	107	
61	68	253	132	53	76	245	140	54	75	246	139	
228	157	36	93	236	149	44	85	235	150	43	86	
3	126	195	190						13	116	205	180
222	163	30	99						212	173	20	109
62	67	254	131						52	77	244	141
227	158	35	94						237	148	45	84
2	127	194	191						14	115	206	179
223	162	31	98						211	174	19	110
63	66	255	130						51	78	243	142
226	159	34	95						238	147	46	83
1	128	193	192	16	113	208	177	15	114	207	178	
224	161	32	97	209	176	17	112	210	175	18	111	
64	65	256	129	49	80	241	144	50	79	242	143	
225	160	33	96	240	145	48	81	239	146	47	82	

7	130	211	198	8	129	212	197	9	128	213	196		
232	177	28	109	231	178	27	110	230	179	26	111		
62	75	266	143	61	76	265	144	60	77	264	145		
245	164	41	96	246	163	42	95	247	162	43	94		
6	131	210	199							10	127	214	195
233	176	29	108							229	180	25	112
63	74	267	142							59	78	263	146
244	165	40	97							248	161	44	93
5	132	209	200							11	126	215	194
234	175	30	107							228	181	24	113
64	73	268	141							58	79	262	147
243	166	39	98							249	160	45	92
4	133	208	201	13	124	217	192	12	125	216	193		
235	174	31	106	226	183	22	115	227	182	23	114		
65	72	269	140	56	81	260	149	57	80	261	148		
242	167	38	99	251	158	47	90	250	159	46	91		
3	134	207	202							14	123	218	191
236	173	32	105							225	184	21	116
66	71	270	139							55	82	259	150
241	168	37	100							252	157	48	89
2	135	206	203							15	122	219	190
237	172	33	104							224	185	20	117
67	70	271	138							54	83	258	151
240	169	36	101							253	156	49	88
1	136	205	204	17	120	221	188	16	121	220	189		
238	171	34	103	222	187	18	119	223	186	19	118		
68	69	272	137	52	85	256	153	53	84	257	152		
239	170	35	102	255	154	51	86	254	155	50	87		

- The first letter **"B"** is compose of 16 blocks of **pan magic** squares of order 4 with equal magic sums using the consecutive numbers from 1 to 256 as given in 4.12. The magic sums of each block is $S_{4\times4} := 514$.
- The second letter **"B"** is compose of 17 blocks of **pan magic** squares of order 4 with equal magic sums using the consecutive numbers from 1 to 272 as given in 4.13. The magic sums of each block is $S_{4\times4} := 546$.

2.3 Letter C

Example 2.3. *Below are two different ways of writing letter "**C**" in terms of **pan magic** squares of order 4:*

8	81	140	125	9	80	141	124	10	79	142	123
147	118	15	74	146	119	14	75	145	120	13	76
37	52	169	96	36	53	168	97	35	54	167	98
162	103	30	59	163	102	31	58	164	101	32	57
7	82	139	126					11	78	143	122
148	117	16	73					144	121	12	77
38	51	170	95					34	55	166	99
161	104	29	60					165	100	33	56
6	83	138	127								
149	116	17	72								
39	50	171	94								
160	105	28	61								
5	84	137	128					1	88	133	132
150	115	18	71					154	111	22	67
40	49	172	93					44	45	176	89
159	106	27	62					155	110	23	66
4	85	136	129	3	86	135	130	2	87	134	131
151	114	19	70	152	113	20	69	153	112	21	68
41	48	173	92	42	47	174	91	43	46	175	90
158	107	26	63	157	108	25	64	156	109	24	65

7	66	115	102	8	65	116	101	9	64	117	100
120	97	12	61	119	98	11	62	118	99	10	63
30	43	138	79	29	44	137	80	28	45	136	81
133	84	25	48	134	83	26	47	135	82	27	46
6	67	114	103								
121	96	13	60								
31	42	139	78								
132	85	24	49								
5	68	113	104								
122	95	14	59								
32	41	140	77								
131	86	23	50								
4	69	112	105								
123	94	15	58								
33	40	141	76								
130	87	22	51								
3	70	111	106	2	71	110	107	1	72	109	108
124	93	16	57	125	92	17	56	126	91	18	55
34	39	142	75	35	38	143	74	36	37	144	73
129	88	21	52	128	89	20	53	127	90	19	54

We have written the letter **"C"** in two different ways.

- The first letter **"C"** is with consecutive numbers from 1 to 176 resulting in 11 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 354$ as given in Example 4.7.
- The second letter **"C"** is formed by consecutive numbers from 1 to 144 resulting in 9 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 290$ as given in Example 4.5.

2.4 Letter D

Example 2.4. *Below are two different ways of writing letter* ***"D"*** *in terms of* ***pan magic*** *squares of order 4:*

6	91	150	139	7	90	151	138			
163	126	19	78	162	127	18	79			
43	54	187	102	42	55	186	103			
174	115	30	67	175	114	31	66			
5	92	149	140			8	89	152	137	
164	125	20	77			161	128	17	80	
44	53	188	101			41	56	185	104	
173	116	29	68			176	113	32	65	
4	93	148	141				9	88	153	136
165	124	21	76				160	129	16	81
45	52	189	100				40	57	184	105
172	117	28	69				177	112	33	64
3	94	147	142				10	87	154	135
166	123	22	75				159	130	15	82
46	51	190	99				39	58	183	106
171	118	27	70				178	111	34	63
2	95	146	143			11	86	155	134	
167	122	23	74			158	131	14	83	
47	50	191	98			38	59	182	107	
170	119	26	71			179	110	35	62	
1	96	145	144	12	85	156	133			
168	121	24	73	157	132	13	84			
48	49	192	97	37	60	181	108			
169	120	25	72	180	109	36	61			

5	76	125	116	6	75	126	115			
136	105	16	65	135	106	15	66			
36	45	156	85	35	46	155	86			
145	96	25	56	146	95	26	55			
4	77	124	117			7	74	127	114	
137	104	17	64			134	107	14	67	
37	44	157	84			34	47	154	87	
144	97	24	57			147	94	27	54	
3	78	123	118				8	73	128	113
138	103	18	63				133	108	13	68
38	43	158	83				33	48	153	88
143	98	23	58				148	93	28	53
2	79	122	119			9	72	129	112	
139	102	19	62			132	109	12	69	
39	42	159	82			32	49	152	89	
142	99	22	59			149	92	29	52	
1	80	121	120	10	71	130	111			
140	101	20	61	131	110	11	70			
40	41	160	81	31	50	151	90			
141	100	21	60	150	91	30	51			

We have written the letter **"D"** in two different ways.

- The first letter **"D"** is with consecutive numbers from 1 to 192 resulting in 12 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 386$ as given in Example 4.8.

- The second letter **"D"** is formed by consecutive numbers from 1 to 160 resulting in 10 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 322$ as given in Example 4.6.

2.5 Letters E and F

Example 2.5. *Below are letters "E" and "F" written in terms of* ***pan magic*** *squares of order 4:*

8	73	128	113	9	72	129	112	10	71	130	111
133	108	13	68	132	109	12	69	131	110	11	70
33	48	153	88	32	49	152	89	31	50	151	90
148	93	28	53	149	92	29	52	150	91	30	51
7	74	127	114								
134	107	14	67								
34	47	154	87								
147	94	27	54								
5	76	125	116	6	75	126	115				
136	105	16	65	135	106	15	66				
36	45	156	85	35	46	155	86				
145	96	25	56	146	95	26	55				
4	77	124	117								
137	104	17	64								
37	44	157	84								
144	97	24	57								
3	78	123	118	2	79	122	119	1	80	121	120
138	103	18	63	139	102	19	62	140	101	20	61
38	43	158	83	39	42	159	82	40	41	160	81
143	98	23	58	142	99	22	59	141	100	21	60

6	59	102	91	7	58	103	90	8	57	104	89
107	86	11	54	106	87	10	55	105	88	9	56
27	38	123	70	26	39	122	71	25	40	121	72
118	75	22	43	119	74	23	42	120	73	24	41
5	60	101	92								
108	85	12	53								
28	37	124	69								
117	76	21	44								
3	62	99	94	4	61	100	93				
110	83	14	51	109	84	13	52				
30	35	126	67	29	36	125	68				
115	78	19	46	116	77	20	45				
2	63	98	95								
111	82	15	50								
31	34	127	66								
114	79	18	47								
1	64	97	96								
112	81	16	49								
32	33	128	65								
113	80	17	48								

- The above letter **"E"** is compose of consecutive numbers from 1 to 160. These numbers gives us 10 blocks of equal sums **pan magic** squares of order 4 with magic sums $S_{4\times4} := 322$.

- The above letter **"F"** is compose of consecutive numbers from 1 to 128. These numbers gives us 8 blocks of equal sums **pan magic** squares of order 4 with magic sums $S_{4\times4} := 258$.

2.6 Letter G

Example 2.6. *Below, there are three different ways of writing letter "G" in terms of* ***pan magic*** *squares of order 4:*

12	117	204	181	13	116	205	180	14	115	206	179	15	114	207	178
213	172	21	108	212	173	20	109	211	174	19	110	210	175	18	111
53	76	245	140	52	77	244	141	51	78	243	142	50	79	242	143
236	149	44	85	237	148	45	84	238	147	46	83	239	146	47	82
11	118	203	182									16	113	208	177
214	171	22	107									209	176	17	112
54	75	246	139									49	80	241	144
235	150	43	86									240	145	48	81
10	119	202	183												
215	170	23	106												
55	74	247	138												
234	151	42	87												
9	120	201	184					1	128	193	192	2	127	194	191
216	169	24	105					224	161	32	97	223	162	31	98
56	73	248	137					64	65	256	129	63	66	255	130
233	152	41	88					225	160	33	96	226	159	34	95
8	121	200	185									3	126	195	190
217	168	25	104									222	163	30	99
57	72	249	136									62	67	254	131
232	153	40	89									227	158	35	94
7	122	199	186	6	123	198	187	5	124	197	188	4	125	196	189
218	167	26	103	219	166	27	102	220	165	28	101	221	164	29	100
58	71	250	135	59	70	251	134	60	69	252	133	61	68	253	132
231	154	39	90	230	155	38	91	229	156	37	92	228	157	36	93

9	80	141	124	10	79	142	123	11	78	143	122
146	119	14	75	145	120	13	76	144	121	12	77
36	53	168	97	35	54	167	98	34	55	166	99
163	102	31	58	164	101	32	57	165	100	33	56
8	81	140	125								
147	118	15	74								
37	52	169	96								
162	103	30	59								
7	82	139	126				1	88	133	132	
148	117	16	73				154	111	22	67	
38	51	170	95				44	45	176	89	
161	104	29	60				155	110	23	66	
6	83	138	127					2	87	134	131
149	116	17	72					153	112	21	68
39	50	171	94					43	46	175	90
160	105	28	61					156	109	24	65
5	84	137	128	4	85	136	129	3	86	135	130
150	115	18	71	151	114	19	70	152	113	20	69
40	49	172	93	41	48	173	92	42	47	174	91
159	106	27	62	158	107	26	63	157	108	25	64

8	73	128	113	9	72	129	112	10	71	130	111
133	108	13	68	132	109	12	69	131	110	11	70
33	48	153	88	32	49	152	89	31	50	151	90
148	93	28	53	149	92	29	52	150	91	30	51
7	74	127	114								
134	107	14	67								
34	47	154	87								
147	94	27	54								
6	75	126	115								
135	106	15	66								
35	46	155	86								
146	95	26	55								
5	76	125	116					1	80	121	120
136	105	16	65					140	101	20	61
36	45	156	85					40	41	160	81
145	96	25	56					141	100	21	60
4	77	124	117	3	78	123	118	2	79	122	119
137	104	17	64	138	103	18	63	139	102	19	62
37	44	157	84	38	43	158	83	39	42	159	82
144	97	24	57	143	98	23	58	142	99	22	59

We have written the letter **"G"** in three different ways.

- The first letter **"G"** is with consecutive numbers from 1 to 256 resulting in 16 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 514$ as given in Example 4.12.
- The second letter **"G"** is formed by consecutive numbers from 1 to 176 resulting in 11 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 354$ as given in Example 4.7.
- The third letter **"G"** is of elevator type formed by consecutive numbers from 1 to 160 resulting in 10 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 322$ as given in Example 4.6.

2.7 Letter H and I

Example 2.7. *Below are letters "H" and "I" written in terms of* ***pan magic*** *squares of order 4:*

5	84	137	128					6	83	138	127
150	115	18	71					149	116	17	72
40	49	172	93					39	50	171	94
159	106	27	62					160	105	28	61
4	85	136	129					7	82	139	126
151	114	19	70					148	117	16	73
41	48	173	92					38	51	170	95
158	107	26	63					161	104	29	60
3	86	135	130	11	78	143	122	8	81	140	125
152	113	20	69	144	121	12	77	147	118	15	74
42	47	174	91	34	55	166	99	37	52	169	96
157	108	25	64	165	100	33	56	162	103	30	59
2	87	134	131					9	80	141	124
153	112	21	68					146	119	14	75
43	46	175	90					36	53	168	97
156	109	24	65					163	102	31	58
1	88	133	132					10	79	142	123
154	111	22	67					145	120	13	76
44	45	176	89					35	54	167	98
155	110	23	66					164	101	32	57

6	51	90	79	7	50	91	78
93	76	9	48	92	77	8	49
23	34	107	62	22	35	106	63
104	65	20	37	105	64	21	36
		5	52	89	80		
		94	75	10	47		
		24	33	108	61		
		103	66	19	38		
		4	53	88	81		
		95	74	11	46		
		25	32	109	60		
		102	67	18	39		
		3	54	87	82		
		96	73	12	45		
		26	31	110	59		
		101	68	17	40		
1	56	85	84	2	55	86	83
98	71	14	43	97	72	13	44
28	29	112	57	27	30	111	58
99	70	15	42	100	69	16	41

5	36	65	56
66	55	6	35
16	25	76	45
75	46	15	26
4	37	64	57
67	54	7	34
17	24	77	44
74	47	14	27
3	38	63	58
68	53	8	33
18	23	78	43
73	48	13	28
2	39	62	59
69	52	9	32
19	22	79	42
72	49	12	29
1	40	61	60
70	51	10	31
20	21	80	41
71	50	11	30

- The letter **"H"** is formed by consecutive numbers from 1 to 176 resulting in 11 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 354$ as given in Example 4.7.
- The first letter **"I"** is with consecutive numbers from 1 to 112 resulting in 7 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 226$ as given in Example 4.3.
- The second letter **"I"** is formed by consecutive numbers from 1 to 80 resulting in 5 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 162$ as given in Example 4.1.

2.8 Letters J and K

Example 2.8. *Below are letters "J" and "K" written in terms of* ***pan magic*** *squares of order 4:*

								8	57	104	89
								105	88	9	56
								25	40	121	72
								120	73	24	41
								7	58	103	90
								106	87	10	55
								26	39	122	71
								119	74	23	42
								6	59	102	91
								107	86	11	54
								27	38	123	70
								118	75	22	43
1	64	97	96					5	60	101	92
112	81	16	49					108	85	12	53
32	33	128	65					28	37	124	69
113	80	17	48					117	76	21	44
2	63	98	95	3	62	99	94	4	61	100	93
111	82	15	50	110	83	14	51	109	84	13	52
31	34	127	66	30	35	126	67	29	36	125	68
114	79	18	47	115	78	19	46	116	77	20	45

5	76	125	116					8	73	128	113
136	105	16	65					133	108	13	68
36	45	156	85					33	48	153	88
145	96	25	56					148	93	28	53
4	77	124	117			7	74	127	114		
137	104	17	64			134	107	14	67		
37	44	157	84			34	47	154	87		
144	97	24	57			147	94	27	54		
3	78	123	118	6	75	126	115				
138	103	18	63	135	106	15	66				
38	43	158	83	35	46	155	86				
143	98	23	58	146	95	26	55				
2	79	122	119			9	72	129	112		
139	102	19	62			132	109	12	69		
39	42	159	82			32	49	152	89		
142	99	22	59			149	92	29	52		
1	80	121	120					10	71	130	111
140	101	20	61					131	110	11	70
40	41	160	81					31	50	151	90
141	100	21	60					150	91	30	51

- The letter **"J"** is formed by consecutive numbers from 1 to 128 resulting in 8 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 258$ as given in Example 4.4.
- The letter **"K"** is formed by consecutive numbers from 1 to 160 resulting in 10 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 322$ as given in Example 4.6.

2.9 Letter L

Example 2.9. *Below is a letter "**L**" written in terms of **pan magic** squares of order 4:*

7	50	91	78								
92	77	8	49								
22	35	106	63								
105	64	21	36								
6	51	90	79								
93	76	9	48								
23	34	107	62								
104	65	20	37								
5	52	89	80								
94	75	10	47								
24	33	108	61								
103	66	19	38								
4	53	88	81								
95	74	11	46								
25	32	109	60								
102	67	18	39								
3	54	87	82	2	55	86	83	1	56	85	84
96	73	12	45	97	72	13	44	98	71	14	43
26	31	110	59	27	30	111	58	28	29	112	57
101	68	17	40	100	69	16	41	99	70	15	42

The letter "**L**" is formed by consecutive numbers from 1 to 112 resulting in 7 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 226$ as given in Example 4.3.

2.10 Letter M

Example 2.10. *Below, there are three different ways of writing letter "**G**" in terms of **pan magic** squares of order 4:*

5	100	161	152											9	96	165	148
178	135	22	83											174	139	18	87
48	57	204	109	6	99	162	151			8	97	164	149	44	61	200	113
187	126	31	74	177	136	21	84			175	138	19	86	191	122	35	70
4	101	160	153	47	58	203	110			45	60	201	112	10	95	166	147
179	134	23	82	188	125	32	73			190	123	34	71	173	140	17	88
49	56	205	108				7	98	163	150				43	62	199	114
186	127	30	75				176	137	20	85				192	121	36	69
3	102	159	154				46	59	202	111				11	94	167	146
180	133	24	81				189	124	33	72				172	141	16	89
50	55	206	107											42	63	198	115
185	128	29	76											193	120	37	68
2	103	158	155											12	93	168	145
181	132	25	80											171	142	15	90
51	54	207	106											41	64	197	116
184	129	28	77											194	119	38	67
1	104	157	156											13	92	169	144
182	131	26	79											170	143	14	91
52	53	208	105											40	65	196	117
183	130	27	78											195	118	39	66

5	116	185	176											11	110	191	170
206	155	26	95											200	161	20	101
56	65	236	125	6	115	186	175			10	111	190	171	50	71	230	131
215	146	35	86	205	156	25	96			201	160	21	100	221	140	41	80
4	117	184	177	55	66	235	126			51	70	231	130	12	109	192	169
207	154	27	94	216	145	36	85			220	141	40	81	199	162	19	102
57	64	237	124		7	114	187	174	8	113	188	173		49	72	229	132
214	147	34	87		204	157	24	97	203	158	23	98		222	139	42	79
3	118	183	178		54	67	234	127	53	68	233	128		13	108	193	168
208	153	28	93		217	144	37	84	218	143	38	83		198	163	18	103
58	63	238	123				9	112	189	172				48	73	228	133
213	148	33	88				202	159	22	99				223	138	43	78
2	119	182	179				52	69	232	129				14	107	194	167
209	152	29	92				219	142	39	82				197	164	17	104
59	62	239	122											47	74	227	134
212	149	32	89											224	137	44	77
1	120	181	180											15	106	195	166
210	151	30	91											196	165	16	105
60	61	240	121											46	75	226	135
211	150	31	90											225	136	45	76

We have written the letter "**M**" in two different ways.

- The first letter "**M**" is with consecutive numbers from 1 to 208 resulting in 13 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 418$ as given in Example 4.9.
- The second letter "**M**" is formed by consecutive numbers from 1 to 240 resulting in 15 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 482$ as given in Example 4.11.

2.11 Letters N and O

Example 2.11. *Below are letters "N" and "O" written in terms of* ***pan magic*** *squares of order 4:*

5	100	161	152							9	96	165	148
178	135	22	83							174	139	18	87
48	57	204	109	6	99	162	151			44	61	200	113
187	126	31	74	177	136	21	84			191	122	35	70
4	101	160	153	47	58	203	110			10	95	166	147
179	134	23	82	188	125	32	73			173	140	17	88
49	56	205	108		7	98	163	150		43	62	199	114
186	127	30	75		176	137	20	85		192	121	36	69
3	102	159	154		46	59	202	111		11	94	167	146
180	133	24	81		189	124	33	72		172	141	16	89
50	55	206	107			8	97	164	149	42	63	198	115
185	128	29	76			175	138	19	86	193	120	37	68
2	103	158	155			45	60	201	112	12	93	168	145
181	132	25	80			190	123	34	71	171	142	15	90
51	54	207	106							41	64	197	116
184	129	28	77							194	119	38	67
1	104	157	156							13	92	169	144
182	131	26	79							170	143	14	91
52	53	208	105							40	65	196	117
183	130	27	78							195	118	39	66

5	92	149	140	6	91	150	139	7	90	151	138
164	125	20	77	163	126	19	78	162	127	18	79
44	53	188	101	43	54	187	102	42	55	186	103
173	116	29	68	174	115	30	67	175	114	31	66
4	93	148	141					8	89	152	137
165	124	21	76					161	128	17	80
45	52	189	100					41	56	185	104
172	117	28	69					176	113	32	65
3	94	147	142					9	88	153	136
166	123	22	75					160	129	16	81
46	51	190	99					40	57	184	105
171	118	27	70					177	112	33	64
2	95	146	143					10	87	154	135
167	122	23	74					159	130	15	82
47	50	191	98					39	58	183	106
170	119	26	71					178	111	34	63
1	96	145	144	12	85	156	133	11	86	155	134
168	121	24	73	157	132	13	84	158	131	14	83
48	49	192	97	37	60	181	108	38	59	182	107
169	120	25	72	180	109	36	61	179	110	35	62

- The letter **"N"** is formed by consecutive numbers from 1 to 208 resulting in 13 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 418$ as given in Example 4.9.
- The letter **"O"** is formed by consecutive numbers from 1 to 192 resulting in 12 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 386$ as given in Example 4.8.

2.12 Letters P and Q

Example 2.12. *Below are letters "P" and "Q" written in terms of* ***pan magic*** *squares of order 4:*

5	76	125	116	6	75	126	115	7	74	127	114
136	105	16	65	135	106	15	66	134	107	14	67
36	45	156	85	35	46	155	86	34	47	154	87
145	96	25	56	146	95	26	55	147	94	27	54
4	77	124	117					8	73	128	113
137	104	17	64					133	108	13	68
37	44	157	84					33	48	153	88
144	97	24	57					148	93	28	53
3	78	123	118	10	71	130	111	9	72	129	112
138	103	18	63	131	110	11	70	132	109	12	69
38	43	158	83	31	50	151	90	32	49	152	89
143	98	23	58	150	91	30	51	149	92	29	52
2	79	122	119								
139	102	19	62								
39	42	159	82								
142	99	22	59								
1	80	121	120								
140	101	20	61								
40	41	160	81								
141	100	21	60								

5	100	161	152	6	99	162	151	7	98	163	150		
178	135	22	83	177	136	21	84	176	137	20	85		
48	57	204	109	47	58	203	110	46	59	202	111		
187	126	31	74	188	125	32	73	189	124	33	72		
4	101	160	153					8	97	164	149		
179	134	23	82					175	138	19	86		
49	56	205	108					45	60	201	112		
186	127	30	75					190	123	34	71		
3	102	159	154					9	96	165	148		
180	133	24	81					174	139	18	87		
50	55	206	107					44	61	200	113		
185	128	29	76					191	122	35	70		
2	103	158	155			10	95	166	147	13	92	169	144
181	132	25	80			173	140	17	88	170	143	14	91
51	54	207	106			43	62	199	114	40	65	196	117
184	129	28	77			192	121	36	69	195	118	39	66
1	104	157	156	12	93	168	145	11	94	167	146		
182	131	26	79	171	142	15	90	172	141	16	89		
52	53	208	105	41	64	197	116	42	63	198	115		
183	130	27	78	194	119	38	67	193	120	37	68		

- The letter **"P"** is formed by consecutive numbers from 1 to 160 resulting in 10 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 322$ as given in Example 4.6.

- The letter **"Q"** is formed by consecutive numbers from 1 to 208 resulting in 13 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 418$ as given in Example 4.9.

2.13 Letters R and S

Example 2.13. *Below are letters "R" and "S" written in terms of **pan magic** squares of order 4:*

5	92	149	140	6	91	150	139	7	90	151	138
164	125	20	77	163	126	19	78	162	127	18	79
44	53	188	101	43	54	187	102	42	55	186	103
173	116	29	68	174	115	30	67	175	114	31	66
4	93	148	141					8	89	152	137
165	124	21	76					161	128	17	80
45	52	189	100					41	56	185	104
172	117	28	69					176	113	32	65
3	94	147	142	10	87	154	135	9	88	153	136
166	123	22	75	159	130	15	82	160	129	16	81
46	51	190	99	39	58	183	106	40	57	184	105
171	118	27	70	178	111	34	63	177	112	33	64
2	95	146	143			11	86	155	134		
167	122	23	74			158	131	14	83		
47	50	191	98			38	59	182	107		
170	119	26	71			179	110	35	62		
1	96	145	144					12	85	156	133
168	121	24	73					157	132	13	84
48	49	192	97					37	60	181	108
169	120	25	72					180	109	36	61

9	80	141	124	10	79	142	123	11	78	143	122
146	119	14	75	145	120	13	76	144	121	12	77
36	53	168	97	35	54	167	98	34	55	166	99
163	102	31	58	164	101	32	57	165	100	33	56
8	81	140	125								
147	118	15	74								
37	52	169	96								
162	103	30	59								
7	82	139	126	6	83	138	127	5	84	137	128
148	117	16	73	149	116	17	72	150	115	18	71
38	51	170	95	39	50	171	94	40	49	172	93
161	104	29	60	160	105	28	61	159	106	27	62
								4	85	136	129
								151	114	19	70
								41	48	173	92
								158	107	26	63
1	88	133	132	2	87	134	131	3	86	135	130
154	111	22	67	153	112	21	68	152	113	20	69
44	45	176	89	43	46	175	90	42	47	174	91
155	110	23	66	156	109	24	65	157	108	25	64

- The letter **"R"** is formed by consecutive numbers from 1 to 192 resulting in 12 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 386$ as given in Example 4.8.
- The letter **"S"** is formed by consecutive numbers from 1 to 176 resulting in 11 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 354$ as given in Example 4.7.

2.14 Letters T and U

Example 2.14. *Below are letters "T" and "U" written in terms of **pan magic** squares of order 4:*

1	56	85	84	2	55	86	83	3	54	87	82
98	71	14	43	97	72	13	44	96	73	12	45
28	29	112	57	27	30	111	58	26	31	110	59
99	70	15	42	100	69	16	41	101	68	17	40
				4	53	88	81				
				95	74	11	46				
				25	32	109	60				
				102	67	18	39				
				5	52	89	80				
				94	75	10	47				
				24	33	108	61				
				103	66	19	38				
				6	51	90	79				
				93	76	9	48				
				23	34	107	62				
				104	65	20	37				
				7	50	91	78				
				92	77	8	49				
				22	35	106	63				
				105	64	21	36				

1	88	133	132					11	78	143	122
154	111	22	67					144	121	12	77
44	45	176	89					34	55	166	99
155	110	23	66					165	100	33	56
2	87	134	131					10	79	142	123
153	112	21	68					145	120	13	76
43	46	175	90					35	54	167	98
156	109	24	65					164	101	32	57
3	86	135	130					9	80	141	124
152	113	20	69					146	119	14	75
42	47	174	91					36	53	168	97
157	108	25	64					163	102	31	58
4	85	136	129					8	81	140	125
151	114	19	70					147	118	15	74
41	48	173	92					37	52	169	96
158	107	26	63					162	103	30	59
5	84	137	128	6	83	138	127	7	82	139	126
150	115	18	71	149	116	17	72	148	117	16	73
40	49	172	93	39	50	171	94	38	51	170	95
159	106	27	62	160	105	28	61	161	104	29	60

- The letter **"T"** is formed by consecutive numbers from 1 to 112 resulting in 7 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 226$ as given in Example 4.3.
- The letter **"U"** is formed by consecutive numbers from 1 to 176 resulting in 11 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 354$ as given in Example 4.7.

2.15 Letter V

Example 2.15. *Below is a letter "V" written in terms of* ***pan magic*** *squares of order 4:*

1	72	109	108							9	64	117	100
126	91	18	55							118	99	10	63
36	37	144	73							28	45	136	81
127	90	19	54							135	82	27	46
	2	71	110	107					8	65	116	101	
	125	92	17	56					119	98	11	62	
	35	38	143	74					29	44	137	80	
	128	89	20	53					134	83	26	47	
		3	70	111	106			7	66	115	102		
		124	93	16	57			120	97	12	61		
		34	39	142	75			30	43	138	79		
		129	88	21	52			133	84	25	48		
			4	69	112	105	6	67	114	103			
			123	94	15	58	121	96	13	60			
			33	40	141	76	31	42	139	78			
			130	87	22	51	132	85	24	49			
					5	68	113	104					
					122	95	14	59					
					32	41	140	77					
					131	86	23	50					

The letter **"V"** is formed by consecutive numbers from 1 to 144 resulting in 9 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 290$ as given in Example 4.5.

2.16 Letter W

Example 2.16. *Below, there are three different ways of writing letter "W" in terms of* ***pan magic*** *squares of order 4:*

1	104	157	156											13	92	169	144
182	131	26	79											170	143	14	91
52	53	208	105											40	65	196	117
183	130	27	78											195	118	39	66
2	103	158	155											12	93	168	145
181	132	25	80											171	142	15	90
51	54	207	106											41	64	197	116
184	129	28	77											194	119	38	67
3	102	159	154											11	94	167	146
180	133	24	81											172	141	16	89
50	55	206	107				7	98	163	150				42	63	198	115
185	128	29	76				176	137	20	85				193	120	37	68
4	101	160	153				46	59	202	111				10	95	166	147
179	134	23	82				189	124	33	72				173	140	17	88
49	56	205	108	6	99	162	151			8	97	164	149	43	62	199	114
186	127	30	75	177	136	21	84			175	138	19	86	192	121	36	69
5	100	161	152	47	58	203	110			45	60	201	112	9	96	165	148
178	135	22	83	188	125	32	73			190	123	34	71	174	139	18	87
48	57	204	109											44	61	200	113
187	126	31	74											191	122	35	70

1	120	181	180											15	106	195	166
210	151	30	91											196	165	16	105
60	61	240	121											46	75	226	135
211	150	31	90											225	136	45	76
2	119	182	179											14	107	194	167
209	152	29	92											197	164	17	104
59	62	239	122				9	112	189	172				47	74	227	134
212	149	32	89				202	159	22	99				224	137	44	77
3	118	183	178				52	69	232	129				13	108	193	168
208	153	28	93				219	142	39	82				198	163	18	103
58	63	238	123		7	114	187	174	8	113	188	173		48	73	228	133
213	148	33	88		204	157	24	97	203	158	23	98		223	138	43	78
4	117	184	177		54	67	234	127	53	68	233	128		12	109	192	169
207	154	27	94		217	144	37	84	218	143	38	83		199	162	19	102
57	64	237	124	6	115	186	175			10	111	190	171	49	72	229	132
214	147	34	87	205	156	25	96			201	160	21	100	222	139	42	79
5	116	185	176	55	66	235	126			51	70	231	130	11	110	191	170
206	155	26	95	216	145	36	85			220	141	40	81	200	161	20	101
56	65	236	125											50	71	230	131
215	146	35	86											221	140	41	80

We have written the letter **"W"** in two different ways.

- The first letter **"W"** is with consecutive numbers from 1 to 208 resulting in 13 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 418$ as given in Example 4.9.
- The second letter **"W"** is formed by consecutive numbers from 1 to 240 resulting in 15 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 482$ as given in Example 4.11.

2.17 Letter X and Y

Example 2.17. *Below are letters "X" and "Y" written in terms of* ***pan magic*** *squares of order 4:*

1	72	109	108							9	64	117	100
126	91	18	55							118	99	10	63
36	37	144	73							28	45	136	81
127	90	19	54							135	82	27	46
		2	71	110	107			8	65	116	101		
		125	92	17	56			119	98	11	62		
		35	38	143	74			29	44	137	80		
		128	89	20	53			134	83	26	47		
					3	70	111	106					
					124	93	16	57					
					34	39	142	75					
					129	88	21	52					
		4	69	112	105			6	67	114	103		
		123	94	15	58			121	96	13	60		
		33	40	141	76			31	42	139	78		
		130	87	22	51			132	85	24	49		
5	68	113	104							7	66	115	102
122	95	14	59							120	97	12	61
32	41	140	77							30	43	138	79
131	86	23	50							133	84	25	48

5	60	101	92							8	57	104	89
108	85	12	53							105	88	9	56
28	37	124	69							25	40	121	72
117	76	21	44							120	73	24	41
		4	61	100	93			7	58	103	90		
		109	84	13	52			106	87	10	55		
		29	36	125	68			26	39	122	71		
		116	77	20	45			119	74	23	42		
			3	62	99	94	6	59	102	91			
			110	83	14	51	107	86	11	54			
			30	35	126	67	27	38	123	70			
			115	78	19	46	118	75	22	43			
					2	63	98	95					
					111	82	15	50					
					31	34	127	66					
					114	79	18	47					
					1	64	97	96					
					112	81	16	49					
					32	33	128	65					
					113	80	17	48					

- The letter **"X"** is formed by consecutive numbers from 1 to 144 resulting in 9 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 290$ as given in Example 4.5.
- The letter **"Y"** is formed by consecutive numbers from 1 to 128 resulting in 8 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 258$ as given in Example 4.4.

2.18 Letter Z

Example 2.18. *Below is a letter "Z" written in terms of* ***pan magic*** *squares of order 4:*

1	72	109	108	2	71	110	107	3	70	111	106
126	91	18	55	125	92	17	56	124	93	16	57
36	37	144	73	35	38	143	74	34	39	142	75
127	90	19	54	128	89	20	53	129	88	21	52
							4	69	112	105	
							123	94	15	58	
							33	40	141	76	
							130	87	22	51	
				5	68	113	104				
				122	95	14	59				
				32	41	140	77				
				131	86	23	50				
	6	67	114	103							
	121	96	13	60							
	31	42	139	78							
	132	85	24	49							
7	66	115	102	8	65	116	101	9	64	117	100
120	97	12	61	119	98	11	62	118	99	10	63
30	43	138	79	29	44	137	80	28	45	136	81
133	84	25	48	134	83	26	47	135	82	27	46

The letter **"Z"** is formed by consecutive numbers from 1 to 144 resulting in 9 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 290$ as given in Example 4.5.

3 Numbers from 0 to 9

In this section, we shall write numbers from 0 to 9 as equal sums blocks of magic squares of order 4. We used idea of numbers similar to one appears in elevators.

3.1 Numbers 0 and 1

Example 3.1. *Below are numbers **"0"** and **"1"** written in terms of **pan magic** squares of order 4:*

5	92	149	140	6	91	150	139	7	90	151	138
164	125	20	77	163	126	19	78	162	127	18	79
44	53	188	101	43	54	187	102	42	55	186	103
173	116	29	68	174	115	30	67	175	114	31	66
4	93	148	141					8	89	152	137
165	124	21	76					161	128	17	80
45	52	189	100					41	56	185	104
172	117	28	69					176	113	32	65
3	94	147	142					9	88	153	136
166	123	22	75					160	129	16	81
46	51	190	99					40	57	184	105
171	118	27	70					177	112	33	64
2	95	146	143					10	87	154	135
167	122	23	74					159	130	15	82
47	50	191	98					39	58	183	106
170	119	26	71					178	111	34	63
1	96	145	144	12	85	156	133	11	86	155	134
168	121	24	73	157	132	13	84	158	131	14	83
48	49	192	97	37	60	181	108	38	59	182	107
169	120	25	72	180	109	36	61	179	110	35	62

5	36	65	56
66	55	6	35
16	25	76	45
75	46	15	26
4	37	64	57
67	54	7	34
17	24	77	44
74	47	14	27
3	38	63	58
68	53	8	33
18	23	78	43
73	48	13	28
2	39	62	59
69	52	9	32
19	22	79	42
72	49	12	29
1	40	61	60
70	51	10	31
20	21	80	41
71	50	11	30

- The number **"0"** is formed by consecutive numbers from 1 to 192 resulting in 12 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 386$ as given in Example 4.8.
- The number **"1"** is formed by consecutive numbers from 1 to 80 resulting in 5 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 162$ as given in Example 4.1.

3.2 Number 2

Example 3.2. *Below is a number* **"2"** *written two different ways in terms of* ***pan magic*** *squares of order 4:*

8	57	104	89	7	58	103	90
105	88	9	56	106	87	10	55
25	40	121	72	26	39	122	71
120	73	24	41	119	74	23	42
				6	59	102	91
				107	86	11	54
				27	38	123	70
				118	75	22	43
5	60	101	92	4	61	100	93
108	85	12	53	109	84	13	52
28	37	124	69	29	36	125	68
117	76	21	44	116	77	20	45
3	62	99	94				
110	83	14	51				
30	35	126	67				
115	78	19	46				
2	63	98	95	1	64	97	96
111	82	15	50	112	81	16	49
31	34	127	66	32	33	128	65
114	79	18	47	113	80	17	48

11	78	143	122	10	79	142	123	9	80	141	124
144	121	12	77	145	120	13	76	146	119	14	75
34	55	166	99	35	54	167	98	36	53	168	97
165	100	33	56	164	101	32	57	163	102	31	58
								8	81	140	125
								147	118	15	74
								37	52	169	96
								162	103	30	59
5	84	137	128	6	83	138	127	7	82	139	126
150	115	18	71	149	116	17	72	148	117	16	73
40	49	172	93	39	50	171	94	38	51	170	95
159	106	27	62	160	105	28	61	161	104	29	60
4	85	136	129								
151	114	19	70								
41	48	173	92								
158	107	26	63								
3	86	135	130	2	87	134	131	1	88	133	132
152	113	20	69	153	112	21	68	154	111	22	67
42	47	174	91	43	46	175	90	44	45	176	89
157	108	25	64	156	109	24	65	155	110	23	66

- The first number **"2"** is formed by consecutive numbers from 1 to 128 resulting in 8 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 258$ as given in Example 4.4.
- The second number **"2"** is formed by consecutive numbers from 1 to 176 resulting in 11 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 354$ as given in Example 4.7.

3.3 Number 3

Example 3.3. *Below is a number* **"3"** *written in two different ways in terms of* ***pan magic*** *squares of order 4:*

8	57	104	89	7	58	103	90
105	88	9	56	106	87	10	55
25	40	121	72	26	39	122	71
120	73	24	41	119	74	23	42
				6	59	102	91
				107	86	11	54
				27	38	123	70
				118	75	22	43
5	60	101	92	4	61	100	93
108	85	12	53	109	84	13	52
28	37	124	69	29	36	125	68
117	76	21	44	116	77	20	45
				3	62	99	94
				110	83	14	51
				30	35	126	67
				115	78	19	46
1	64	97	96	2	63	98	95
112	81	16	49	111	82	15	50
32	33	128	65	31	34	127	66
113	80	17	48	114	79	18	47

11	78	143	122	10	79	142	123	9	80	141	124
144	121	12	77	145	120	13	76	146	119	14	75
34	55	166	99	35	54	167	98	36	53	168	97
165	100	33	56	164	101	32	57	163	102	31	58
								8	81	140	125
								147	118	15	74
								37	52	169	96
								162	103	30	59
7	82	139	126	6	83	138	127	5	84	137	128
148	117	16	73	149	116	17	72	150	115	18	71
38	51	170	95	39	50	171	94	40	49	172	93
161	104	29	60	160	105	28	61	159	106	27	62
								4	85	136	129
								151	114	19	70
								41	48	173	92
								158	107	26	63
1	88	133	132	2	87	134	131	3	86	135	130
154	111	22	67	153	112	21	68	152	113	20	69
44	45	176	89	43	46	175	90	42	47	174	91
155	110	23	66	156	109	24	65	157	108	25	64

- The first number **"3"** is formed by consecutive numbers from 1 to 128 resulting in 8 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 258$ as given in Example 4.4.

- The second number **"3"** is formed by consecutive numbers from 1 to 176 resulting in 11 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 354$ as given in Example 4.7.

3.4 Number 4

Example 3.4. *Below is a number "4" written in terms of **pan magic** squares of order 4:*

6	67	114	103					5	68	113	104
121	96	13	60					122	95	14	59
31	42	139	78					32	41	140	77
132	85	24	49					131	86	23	50
7	66	115	102					4	69	112	105
120	97	12	61					123	94	15	58
30	43	138	79					33	40	141	76
133	84	25	48					130	87	22	51
8	65	116	101	9	64	117	100	3	70	111	106
119	98	11	62	118	99	10	63	124	93	16	57
29	44	137	80	28	45	136	81	34	39	142	75
134	83	26	47	135	82	27	46	129	88	21	52
								2	71	110	107
								125	92	17	56
								35	38	143	74
								128	89	20	53
								1	72	109	108
								126	91	18	55
								36	37	144	73
								127	90	19	54

The first number **"4"** is formed by consecutive numbers from 1 to 144 resulting in 9 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 290$ as given in Example 4.5

3.5 Number 5

Example 3.5. *Below is a number "5" written in two different ways in terms of **pan magic** squares of order 4:*

7	58	103	90	8	57	104	89
106	87	10	55	105	88	9	56
26	39	122	71	25	40	121	72
119	74	23	42	120	73	24	41
6	59	102	91				
107	86	11	54				
27	38	123	70				
118	75	22	43				
5	60	101	92	4	61	100	93
108	85	12	53	109	84	13	52
28	37	124	69	29	36	125	68
117	76	21	44	116	77	20	45
				3	62	99	94
				110	83	14	51
				30	35	126	67
				115	78	19	46
1	64	97	96	2	63	98	95
112	81	16	49	111	82	15	50
32	33	128	65	31	34	127	66
113	80	17	48	114	79	18	47

9	80	141	124	10	79	142	123	11	78	143	122
146	119	14	75	145	120	13	76	144	121	12	77
36	53	168	97	35	54	167	98	34	55	166	99
163	102	31	58	164	101	32	57	165	100	33	56
8	81	140	125								
147	118	15	74								
37	52	169	96								
162	103	30	59								
7	82	139	126	6	83	138	127	5	84	137	128
148	117	16	73	149	116	17	72	150	115	18	71
38	51	170	95	39	50	171	94	40	49	172	93
161	104	29	60	160	105	28	61	159	106	27	62
								4	85	136	129
								151	114	19	70
								41	48	173	92
								158	107	26	63
1	88	133	132	2	87	134	131	3	86	135	130
154	111	22	67	153	112	21	68	152	113	20	69
44	45	176	89	43	46	175	90	42	47	174	91
155	110	23	66	156	109	24	65	157	108	25	64

- The first number **"5"** is formed by consecutive numbers from 1 to 128 resulting in 8 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 258$ as given in Example 4.4.

- The second number **"5"** is formed by consecutive numbers from 1 to 176 resulting in 11 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 354$ as given in Example 4.7.

3.6 Number 6 and 7

Example 3.6. *Below are numbers* **"6"** *and* **"7"** *written in terms of* ***pan magic*** *squares of order 4:*

10	87	154	135	11	86	155	134	12	85	156	133
159	130	15	82	158	131	14	83	157	132	13	84
39	58	183	106	38	59	182	107	37	60	181	108
178	111	34	63	179	110	35	62	180	109	36	61
9	88	153	136								
160	129	16	81								
40	57	184	105								
177	112	33	64								
8	89	152	137	1	96	145	144	2	95	146	143
161	128	17	80	168	121	24	73	167	122	23	74
41	56	185	104	48	49	192	97	47	50	191	98
176	113	32	65	169	120	25	72	170	119	26	71
7	90	151	138					3	94	147	142
162	127	18	79					166	123	22	75
42	55	186	103					46	51	190	99
175	114	31	66					171	118	27	70
6	91	150	139	5	92	149	140	4	93	148	141
163	126	19	78	164	125	20	77	165	124	21	76
43	54	187	102	44	53	188	101	45	52	189	100
174	115	30	67	173	116	29	68	172	117	28	69

7	50	91	78	6	51	90	79	5	52	89	80
92	77	8	49	93	76	9	48	94	75	10	47
22	35	106	63	23	34	107	62	24	33	108	61
105	64	21	36	104	65	20	37	103	66	19	38
								4	53	88	81
								95	74	11	46
								25	32	109	60
								102	67	18	39
								3	54	87	82
								96	73	12	45
								26	31	110	59
								101	68	17	40
								2	55	86	83
								97	72	13	44
								27	30	111	58
								100	69	16	41
								1	56	85	84
								98	71	14	43
								28	29	112	57
								99	70	15	42

- The letter **"6"** is formed by consecutive numbers from 1 to 192 resulting in 12 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 386$ as given in Example 4.8.
- The letter **"7"** is formed by consecutive numbers from 1 to 112 resulting in 7 **pan magic** squares of order 4 with equal magic sums $S_{4\times 4} := 226$ as given in Example 4.3.

3.7 Numbers 8 and 9

Example 3.7. *Below are numbers* **"8"** *and* **"9"** *written in terms of* ***pan magic*** *squares of order 4:*

5	100	161	152	6	99	162	151	7	98	163	150
178	135	22	83	177	136	21	84	176	137	20	85
48	57	204	109	47	58	203	110	46	59	202	111
187	126	31	74	188	125	32	73	189	124	33	72
4	101	160	153					8	97	164	149
179	134	23	82					175	138	19	86
49	56	205	108					45	60	201	112
186	127	30	75					190	123	34	71
3	102	159	154	10	95	166	147	9	96	165	148
180	133	24	81	173	140	17	88	174	139	18	87
50	55	206	107	43	62	199	114	44	61	200	113
185	128	29	76	192	121	36	69	191	122	35	70
2	103	158	155					11	94	167	146
181	132	25	80					172	141	16	89
51	54	207	106					42	63	198	115
184	129	28	77					193	120	37	68
1	104	157	156	13	92	169	144	12	93	168	145
182	131	26	79	170	143	14	91	171	142	15	90
52	53	208	105	40	65	196	117	41	64	197	116
183	130	27	78	195	118	39	66	194	119	38	67

4	93	148	141	5	92	149	140	6	91	150	139
165	124	21	76	164	125	20	77	163	126	19	78
45	52	189	100	44	53	188	101	43	54	187	102
172	117	28	69	173	116	29	68	174	115	30	67
3	94	147	142					7	90	151	138
166	123	22	75					162	127	18	79
46	51	190	99					42	55	186	103
171	118	27	70					175	114	31	66
2	95	146	143	1	96	145	144	8	89	152	137
167	122	23	74	168	121	24	73	161	128	17	80
47	50	191	98	48	49	192	97	41	56	185	104
170	119	26	71	169	120	25	72	176	113	32	65
								9	88	153	136
								160	129	16	81
								40	57	184	105
								177	112	33	64
12	85	156	133	11	86	155	134	10	87	154	135
157	132	13	84	158	131	14	83	159	130	15	82
37	60	181	108	38	59	182	107	39	58	183	106
180	109	36	61	179	110	35	62	178	111	34	63

- The letter **"8"** is formed by consecutive numbers from 1 to 208 resulting in 13 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 418$ as given in Example 4.9.
- The letter **"9"** is formed by consecutive numbers from 1 to 192 resulting in 12 **pan magic** squares of order 4 with equal magic sums $S_{4\times4} := 386$ as given in Example 4.8.

4 Appendix: Blocks of Magic Square of Order 4

The constructions of letters and numbers given in Sections 2 and 3 are based on blocks of equal sums magic squares of order 4. Below is a process of construction of these blocks. These are from block 5 to block 17.

4.1 5-Blocks

In order to construct 5-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 80 in five parts giving equal sums.

Distribution 4.1. *Let's distribute the numbers 1 to 80 in five parts giving equal sums:*

A1	1	10	11	20	21	30	31	40	41	50	51	60	61	70	71	80	648
A2	2	9	12	19	22	29	32	39	42	49	52	59	62	69	72	79	648
A3	3	8	13	18	23	28	33	38	43	48	53	58	63	68	73	78	648
A4	4	7	14	17	24	27	34	37	44	47	54	57	64	67	74	77	648
A5	5	6	15	16	25	26	35	36	45	46	55	56	65	66	75	76	648

According to above five rows A1 to A5, the example below give 5 magic squares of equal magic sums.

Example 4.1. *Applying the values given in Distribution 4.1 over the magic square of order 4 given in Example 1.1, we get the following five magic squares of equal magic sums:*

A1		162	162	162	162
	1	40	61	60	162
162	70	51	10	31	162
162	20	21	80	41	162
162	71	50	11	30	162
	162	162	162	162	162

A2		162	162	162	162
	2	39	62	59	162
162	69	52	9	32	162
162	19	22	79	42	162
162	72	49	12	29	162
	162	162	162	162	162

A3		162	162	162	162
	3	38	63	58	162
162	68	53	8	33	162
162	18	23	78	43	162
162	73	48	13	28	162
	162	162	162	162	162

A4		162	162	162	162
	4	37	64	57	162
162	67	54	7	34	162
162	17	24	77	44	162
162	74	47	14	27	162
	162	162	162	162	162

A5		162	162	162	162
	5	36	65	56	162
162	66	55	6	35	162
162	16	25	76	45	162
162	75	46	15	26	162
	162	162	162	162	162

4.2 6-Blocks

In order to construct 6-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 96 in six parts giving equal sums.

Distribution 4.2. *Let's distribute the numbers 1 to 96 in six parts giving equal sums*

A1	1	12	13	24	25	36	37	48	49	60	61	72	73	84	85	96	776
A2	2	11	14	23	26	35	38	47	50	59	62	71	74	83	86	95	776
A3	3	10	15	22	27	34	39	46	51	58	63	70	75	82	87	94	776
A4	4	9	16	21	28	33	40	45	52	57	64	69	76	81	88	93	776
A5	5	8	17	20	29	32	41	44	53	56	65	68	77	80	89	92	776
A6	6	7	18	19	30	31	42	43	54	55	66	67	78	79	90	91	776

According to above six rows A1 to A6, the example below give 6 magic squares of equal magic sums.

Example 4.2. *Applying the values given in Distribution 4.2 over the magic square of order 4 given in Example 1.1, we get following six magic squares of equal magic sums:*

A1		194	194	194	194
	1	48	73	72	194
194	84	61	12	37	194
194	24	25	96	49	194
194	85	60	13	36	194
	194	194	194	194	194

A2		194	194	194	194
	2	47	74	71	194
194	83	62	11	38	194
194	23	26	95	50	194
194	86	59	14	35	194
	194	194	194	194	194

A3		194	194	194	194
	3	46	75	70	194
194	82	63	10	39	194
194	22	27	94	51	194
194	87	58	15	34	194
	194	194	194	194	194

A4		194	194	194	194
	4	45	76	69	194
194	81	64	9	40	194
194	21	28	93	52	194
194	88	57	16	33	194
	194	194	194	194	194

A5		194	194	194	194
	5	44	77	68	194
194	80	65	8	41	194
194	20	29	92	53	194
194	89	56	17	32	194
	194	194	194	194	194

A6		194	194	194	194
	6	43	78	67	194
194	79	66	7	42	194
194	19	30	91	54	194
194	90	55	18	31	194
	194	194	194	194	194

4.3 7-Blocks

In order to construct 7-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 112 in seven parts giving equal sums.

Distribution 4.3. *Let's distribute the numbers 1 to 112 in seven parts giving equal sums:*

A1	1	14	15	28	29	42	43	56	57	70	71	84	85	98	99	112	904
A2	2	13	16	27	30	41	44	55	58	69	72	83	86	97	100	111	904
A3	3	12	17	26	31	40	45	54	59	68	73	82	87	96	101	110	904
A4	4	11	18	25	32	39	46	53	60	67	74	81	88	95	102	109	904
A5	5	10	19	24	33	38	47	52	61	66	75	80	89	94	103	108	904
A6	6	9	20	23	34	37	48	51	62	65	76	79	90	93	104	107	904
A7	7	8	21	22	35	36	49	50	63	64	77	78	91	92	105	106	904

According to above seven rows A1 to A7, the example below give 7 magic squares of equal magic sums.

Example 4.3. *Applying the values given in Distribution 4.3 over the magic square of order 4 given in Example 1.1, we get following seven magic squares of equal magic sums:*

A1		226	226	226	226
	1	56	85	84	226
226	98	71	14	43	226
226	28	29	112	57	226
226	99	70	15	42	226
	226	226	226	226	226

A2		226	226	226	226
	2	55	86	83	226
226	97	72	13	44	226
226	27	30	111	58	226
226	100	69	16	41	226
	226	226	226	226	226

A3		226	226	226	226
	3	54	87	82	226
226	96	73	12	45	226
226	26	31	110	59	226
226	101	68	17	40	226
	226	226	226	226	226

A4		226	226	226	226
	4	53	88	81	226
226	95	74	11	46	226
226	25	32	109	60	226
226	102	67	18	39	226
	226	226	226	226	226

A5		226	226	226	226
	5	52	89	80	226
226	94	75	10	47	226
226	24	33	108	61	226
226	103	66	19	38	226
	226	226	226	226	226

A6		226	226	226	226
	6	51	90	79	226
226	93	76	9	48	226
226	23	34	107	62	226
226	104	65	20	37	226
	226	226	226	226	226

A7		226	226	226	226
	7	50	91	78	226
226	92	77	8	49	226
226	22	35	106	63	226
226	105	64	21	36	226
	226	226	226	226	226

4.4 8-Blocks

In order to construct 8-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 128 in eight parts giving equal sums.

Distribution 4.4. *Let's distribute the numbers 1 to 128 in eight parts giving equal sums*

A1	1	16	17	32	33	48	49	64	65	80	81	96	97	112	113	128	1032
A2	2	15	18	31	34	47	50	63	66	79	82	95	98	111	114	127	1032
A3	3	14	19	30	35	46	51	62	67	78	83	94	99	110	115	126	1032
A4	4	13	20	29	36	45	52	61	68	77	84	93	100	109	116	125	1032
A5	5	12	21	28	37	44	53	60	69	76	85	92	101	108	117	124	1032
A6	6	11	22	27	38	43	54	59	70	75	86	91	102	107	118	123	1032
A7	7	10	23	26	39	42	55	58	71	74	87	90	103	106	119	122	1032
A8	8	9	24	25	40	41	56	57	72	73	88	89	104	105	120	121	1032

According to above eight rows A1 to A8, the example below give 8 magic squares of equal magic sums.

Example 4.4. *Applying the values given in Distribution 4.4 over the magic square of order 4 given in Example 1.1, we get following eight magic squares of equal magic sums:*

A1		258	258	258	258
	1	64	97	96	258
258	112	81	16	49	258
258	32	33	128	65	258
258	113	80	17	48	258
	258	258	258	258	258

A2		258	258	258	258
	2	63	98	95	258
258	111	82	15	50	258
258	31	34	127	66	258
258	114	79	18	47	258
	258	258	258	258	258

A3		258	258	258	258
	3	62	99	94	258
258	110	83	14	51	258
258	30	35	126	67	258
258	115	78	19	46	258
	258	258	258	258	258

A4		258	258	258	258
	4	61	100	93	258
258	109	84	13	52	258
258	29	36	125	68	258
258	116	77	20	45	258
	258	258	258	258	258

A5		258	258	258	258
	5	60	101	92	258
258	108	85	12	53	258
258	28	37	124	69	258
258	117	76	21	44	258
	258	258	258	258	258

A6		258	258	258	258
	6	59	102	91	258
258	107	86	11	54	258
258	27	38	123	70	258
258	118	75	22	43	258
	258	258	258	258	258

A7		258	258	258	258
	7	58	103	90	258
258	106	87	10	55	258
258	26	39	122	71	258
258	119	74	23	42	258
	258	258	258	258	258

A8		258	258	258	258
	8	57	104	89	258
258	105	88	9	56	258
258	25	40	121	72	258
258	120	73	24	41	258
	258	258	258	258	258

4.5 9-Blocks

In order to construct 9-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 144 in nine parts giving equal sums.

Distribution 4.5. *Let's distribute the numbers 1 to 144 in nine parts giving equal sums:*

A1	1	18	19	36	37	54	55	72	73	90	91	108	109	126	127	144	1160
A2	2	17	20	35	38	53	56	71	74	89	92	107	110	125	128	143	1160
A3	3	16	21	34	39	52	57	70	75	88	93	106	111	124	129	142	1160
A4	4	15	22	33	40	51	58	69	76	87	94	105	112	123	130	141	1160
A5	5	14	23	32	41	50	59	68	77	86	95	104	113	122	131	140	1160
A6	6	13	24	31	42	49	60	67	78	85	96	103	114	121	132	139	1160
A7	7	12	25	30	43	48	61	66	79	84	97	102	115	120	133	138	1160
A8	8	11	26	29	44	47	62	65	80	83	98	101	116	119	134	137	1160
A9	9	10	27	28	45	46	63	64	81	82	99	100	117	118	135	136	1160

According to above eight rows A1 to A9, the example below give 5 magic squares of equal magic sums.

Example 4.5. *Applying the values given in Distribution 4.5 over the magic square of order 4 given in Example 1.1, we get following nine magic squares of equal magic sums:*

A1		290	290	290	290
	1	72	109	108	290
290	126	91	18	55	290
290	36	37	144	73	290
290	127	90	19	54	290
	290	290	290	290	290

A2		290	290	290	290
	2	71	110	107	290
290	125	92	17	56	290
290	35	38	143	74	290
290	128	89	20	53	290
	290	290	290	290	290

A3		290	290	290	290
	3	70	111	106	290
290	124	93	16	57	290
290	34	39	142	75	290
290	129	88	21	52	290
	290	290	290	290	290

A4		290	290	290	290
	4	69	112	105	290
290	123	94	15	58	290
290	33	40	141	76	290
290	130	87	22	51	290
	290	290	290	290	290

A5		290	290	290	290
	5	68	113	104	290
290	122	95	14	59	290
290	32	41	140	77	290
290	131	86	23	50	290
	290	290	290	290	290

A6		290	290	290	290
	6	67	114	103	290
290	121	96	13	60	290
290	31	42	139	78	290
290	132	85	24	49	290
	290	290	290	290	290

A7		290	290	290	290
	7	66	115	102	290
290	120	97	12	61	290
290	30	43	138	79	290
290	133	84	25	48	290
	290	290	290	290	290

A8		290	290	290	290
	8	65	116	101	290
290	119	98	11	62	290
290	29	44	137	80	290
290	134	83	26	47	290
	290	290	290	290	290

A9		290	290	290	290
	9	64	117	100	290
290	118	99	10	63	290
290	28	45	136	81	290
290	135	82	27	46	290
	290	290	290	290	290

4.6 10-Blocks

In order to construct 10-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 160 in ten parts giving equal sums.

Distribution 4.6. *Let's distribute the numbers 1 to 160 in ten parts giving equal sums:*

A1	1	20	21	40	41	60	61	80	81	100	101	120	121	140	141	160	1288
A2	2	19	22	39	42	59	62	79	82	99	102	119	122	139	142	159	1288
A3	3	18	23	38	43	58	63	78	83	98	103	118	123	138	143	158	1288
A4	4	17	24	37	44	57	64	77	84	97	104	117	124	137	144	157	1288
A5	5	16	25	36	45	56	65	76	85	96	105	116	125	136	145	156	1288
A6	6	15	26	35	46	55	66	75	86	95	106	115	126	135	146	155	1288
A7	7	14	27	34	47	54	67	74	87	94	107	114	127	134	147	154	1288
A8	8	13	28	33	48	53	68	73	88	93	108	113	128	133	148	153	1288
A9	9	12	29	32	49	52	69	72	89	92	109	112	129	132	149	152	1288
A10	10	11	30	31	50	51	70	71	90	91	110	111	130	131	150	151	1288

According to above eight rows A1 to A10, the example below give 10 magic squares of equal magic sums.

Example 4.6. *Applying the values given in Distribution 4.6 over the magic square of order 4 given in Example 1.1, we get following ten magic squares of equal magic sums:*

A1		322	322	322	322
	1	80	121	120	322
322	140	101	20	61	322
322	40	41	160	81	322
322	141	100	21	60	322
	322	322	322	322	322

A2		322	322	322	322
	2	79	122	119	322
322	139	102	19	62	322
322	39	42	159	82	322
322	142	99	22	59	322
	322	322	322	322	322

A3		322	322	322	322
	3	78	123	118	322
322	138	103	18	63	322
322	38	43	158	83	322
322	143	98	23	58	322
	322	322	322	322	322

A4		322	322	322	322
	4	77	124	117	322
322	137	104	17	64	322
322	37	44	157	84	322
322	144	97	24	57	322
	322	322	322	322	322

A5		322	322	322	322
	5	76	125	116	322
322	136	105	16	65	322
322	36	45	156	85	322
322	145	96	25	56	322
	322	322	322	322	322

A6		322	322	322	322
	6	75	126	115	322
322	135	106	15	66	322
322	35	46	155	86	322
322	146	95	26	55	322
	322	322	322	322	322

A7		322	322	322	322
	7	74	127	114	322
322	134	107	14	67	322
322	34	47	154	87	322
322	147	94	27	54	322
	322	322	322	322	322

A8		322	322	322	322
	8	73	128	113	322
322	133	108	13	68	322
322	33	48	153	88	322
322	148	93	28	53	322
	322	322	322	322	322

A9		322	322	322	322
	9	72	129	112	322
322	132	109	12	69	322
322	32	49	152	89	322
322	149	92	29	52	322
	322	322	322	322	322

A10		322	322	322	322
	10	71	130	111	322
322	131	110	11	70	322
322	31	50	151	90	322
322	150	91	30	51	322
	322	322	322	322	322

4.7 11-Blocks

In order to construct 11-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 176 in eleven parts giving equal sums.

Distribution 4.7. *Let's distribute the numbers 1 to 176 in eleven parts giving equal sums:*

A1	1	22	23	44	45	66	67	88	89	110	111	132	133	154	155	176	1416
A2	2	21	24	43	46	65	68	87	90	109	112	131	134	153	156	175	1416
A3	3	20	25	42	47	64	69	86	91	108	113	130	135	152	157	174	1416
A4	4	19	26	41	48	63	70	85	92	107	114	129	136	151	158	173	1416
A5	5	18	27	40	49	62	71	84	93	106	115	128	137	150	159	172	1416
A6	6	17	28	39	50	61	72	83	94	105	116	127	138	149	160	171	1416
A7	7	16	29	38	51	60	73	82	95	104	117	126	139	148	161	170	1416
A8	8	15	30	37	52	59	74	81	96	103	118	125	140	147	162	169	1416
A9	9	14	31	36	53	58	75	80	97	102	119	124	141	146	163	168	1416
A10	10	13	32	35	54	57	76	79	98	101	120	123	142	145	164	167	1416
A11	11	12	33	34	55	56	77	78	99	100	121	122	143	144	165	166	1416

According to above eight rows A1 to A11, the example below give 11 magic squares of equal magic sums.

Example 4.7. *Applying the values given in Distribution 4.7 over the magic square of order 4 given in Example 1.1, we get following eleven magic squares of equal magic sums:*

A1		354	354	354	354
	1	88	133	132	354
354	154	111	22	67	354
354	44	45	176	89	354
354	155	110	23	66	354
	354	354	354	354	354

A2		354	354	354	354
	2	87	134	131	354
354	153	112	21	68	354
354	43	46	175	90	354
354	156	109	24	65	354
	354	354	354	354	354

A3		354	354	354	354
	3	86	135	130	354
354	152	113	20	69	354
354	42	47	174	91	354
354	157	108	25	64	354
	354	354	354	354	354

A4		354	354	354	354
	4	85	136	129	354
354	151	114	19	70	354
354	41	48	173	92	354
354	158	107	26	63	354
	354	354	354	354	354

A5		354	354	354	354
	5	84	137	128	354
354	150	115	18	71	354
354	40	49	172	93	354
354	159	106	27	62	354
	354	354	354	354	354

A6		354	354	354	354
	6	83	138	127	354
354	149	116	17	72	354
354	39	50	171	94	354
354	160	105	28	61	354
	354	354	354	354	354

A7		354	354	354	354
	7	82	139	126	354
354	148	117	16	73	354
354	38	51	170	95	354
354	161	104	29	60	354
	354	354	354	354	354

A8		354	354	354	354
	8	81	140	125	354
354	147	118	15	74	354
354	37	52	169	96	354
354	162	103	30	59	354
	354	354	354	354	354

A9		354	354	354	354
	9	80	141	124	354
354	146	119	14	75	354
354	36	53	168	97	354
354	163	102	31	58	354
	354	354	354	354	354

A10		354	354	354	354
	10	79	142	123	354
354	145	120	13	76	354
354	35	54	167	98	354
354	164	101	32	57	354
	354	354	354	354	354

A11		354	354	354	354
	11	78	143	122	354
354	144	121	12	77	354
354	34	55	166	99	354
354	165	100	33	56	354
	354	354	354	354	354

4.8 12-Blocks

In order to construct 12-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 192 in 12 parts giving equal sums.

Distribution 4.8. *Let's distribute the numbers 1 to 192 in 12 parts giving equal sums:*

A1	1	24	25	48	49	72	73	96	97	120	121	144	145	168	169	192	1544
A2	2	23	26	47	50	71	74	95	98	119	122	143	146	167	170	191	1544
A3	3	22	27	46	51	70	75	94	99	118	123	142	147	166	171	190	1544
A4	4	21	28	45	52	69	76	93	100	117	124	141	148	165	172	189	1544
A5	5	20	29	44	53	68	77	92	101	116	125	140	149	164	173	188	1544
A6	6	19	30	43	54	67	78	91	102	115	126	139	150	163	174	187	1544
A7	7	18	31	42	55	66	79	90	103	114	127	138	151	162	175	186	1544
A8	8	17	32	41	56	65	80	89	104	113	128	137	152	161	176	185	1544
A9	9	16	33	40	57	64	81	88	105	112	129	136	153	160	177	184	1544
A10	10	15	34	39	58	63	82	87	106	111	130	135	154	159	178	183	1544
A11	11	14	35	38	59	62	83	86	107	110	131	134	155	158	179	182	1544
A12	12	13	36	37	60	61	84	85	108	109	132	133	156	157	180	181	1544

According to above eight rows A1 to A12, the example below give 12 magic squares of equal magic sums.

Example 4.8. *Applying the values given in Distribution 4.8 over the magic square of order 4 given in Example 1.1, we get following 12 magic squares of equal magic sums:*

A1		386	386	386	386
	1	96	145	144	386
386	168	121	24	73	386
386	48	49	192	97	386
386	169	120	25	72	386
	386	386	386	386	386

A2		386	386	386	386
	2	95	146	143	386
386	167	122	23	74	386
386	47	50	191	98	386
386	170	119	26	71	386
	386	386	386	386	386

A3		386	386	386	386
	3	94	147	142	386
386	166	123	22	75	386
386	46	51	190	99	386
386	171	118	27	70	386
	386	386	386	386	386

A4		386	386	386	386
	4	93	148	141	386
386	165	124	21	76	386
386	45	52	189	100	386
386	172	117	28	69	386
	386	386	386	386	386

A5		386	386	386	386
	5	92	149	140	386
386	164	125	20	77	386
386	44	53	188	101	386
386	173	116	29	68	386
	386	386	386	386	386

A6		386	386	386	386
	6	91	150	139	386
386	163	126	19	78	386
386	43	54	187	102	386
386	174	115	30	67	386
	386	386	386	386	386

A7		386	386	386	386
	7	90	151	138	386
386	162	127	18	79	386
386	42	55	186	103	386
386	175	114	31	66	386
	386	386	386	386	386

A8		386	386	386	386
	8	89	152	137	386
386	161	128	17	80	386
386	41	56	185	104	386
386	176	113	32	65	386
	386	386	386	386	386

A9		386	386	386	386
	9	88	153	136	386
386	160	129	16	81	386
386	40	57	184	105	386
386	177	112	33	64	386
	386	386	386	386	386

A10		386	386	386	386
	10	87	154	135	386
386	159	130	15	82	386
386	39	58	183	106	386
386	178	111	34	63	386
	386	386	386	386	386

A11		386	386	386	386
	11	86	155	134	386
386	158	131	14	83	386
386	38	59	182	107	386
386	179	110	35	62	386
	386	386	386	386	386

A12		386	386	386	386
	12	85	156	133	386
386	157	132	13	84	386
386	37	60	181	108	386
386	180	109	36	61	386
	386	386	386	386	386

4.9 13-Blocks

In order to construct 13-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 208 in 13 parts giving equal sums.

Distribution 4.9. *Let's distribute the numbers 1 to 208 in 13 parts giving equal sums:*

A1	1	26	27	52	53	78	79	104	105	130	131	156	157	182	183	208	1672
A2	2	25	28	51	54	77	80	103	106	129	132	155	158	181	184	207	1672
A3	3	24	29	50	55	76	81	102	107	128	133	154	159	180	185	206	1672
A4	4	23	30	49	56	75	82	101	108	127	134	153	160	179	186	205	1672
A5	5	22	31	48	57	74	83	100	109	126	135	152	161	178	187	204	1672
A6	6	21	32	47	58	73	84	99	110	125	136	151	162	177	188	203	1672
A7	7	20	33	46	59	72	85	98	111	124	137	150	163	176	189	202	1672
A8	8	19	34	45	60	71	86	97	112	123	138	149	164	175	190	201	1672
A9	9	18	35	44	61	70	87	96	113	122	139	148	165	174	191	200	1672
A10	10	17	36	43	62	69	88	95	114	121	140	147	166	173	192	199	1672
A11	11	16	37	42	63	68	89	94	115	120	141	146	167	172	193	198	1672
A12	12	15	38	41	64	67	90	93	116	119	142	145	168	171	194	197	1672
A13	13	14	39	40	65	66	91	92	117	118	143	144	169	170	195	196	1672

According to above eight rows A1 to A13, the example below give 13 magic squares of equal magic sums.

Example 4.9. *Applying the values given in Distribution 4.9 over the magic square of order 4 given in Example 1.1, we get following 13 magic squares of equal magic sums:*

A1		418	418	418	418
	1	104	157	156	418
418	182	131	26	79	418
418	52	53	208	105	418
418	183	130	27	78	418
	418	418	418	418	418

A2		418	418	418	418
	2	103	158	155	418
418	181	132	25	80	418
418	51	54	207	106	418
418	184	129	28	77	418
	418	418	418	418	418

A3		418	418	418	418
	3	102	159	154	418
418	180	133	24	81	418
418	50	55	206	107	418
418	185	128	29	76	418
	418	418	418	418	418

A4		418	418	418	418
	4	101	160	153	418
418	179	134	23	82	418
418	49	56	205	108	418
418	186	127	30	75	418
	418	418	418	418	418

A5		418	418	418	418
	5	100	161	152	418
418	178	135	22	83	418
418	48	57	204	109	418
418	187	126	31	74	418
	418	418	418	418	418

A6		418	418	418	418
	6	99	162	151	418
418	177	136	21	84	418
418	47	58	203	110	418
418	188	125	32	73	418
	418	418	418	418	418

A7		418	418	418	418
	7	98	163	150	418
418	176	137	20	85	418
418	46	59	202	111	418
418	189	124	33	72	418
	418	418	418	418	418

A8		418	418	418	418
	8	97	164	149	418
418	175	138	19	86	418
418	45	60	201	112	418
418	190	123	34	71	418
	418	418	418	418	418

A9		418	418	418	418
	9	96	165	148	418
418	174	139	18	87	418
418	44	61	200	113	418
418	191	122	35	70	418
	418	418	418	418	418

A10		418	418	418	418
	10	95	166	147	418
418	173	140	17	88	418
418	43	62	199	114	418
418	192	121	36	69	418
	418	418	418	418	418

A11		418	418	418	418
	11	94	167	146	418
418	172	141	16	89	418
418	42	63	198	115	418
418	193	120	37	68	418
	418	418	418	418	418

A12		418	418	418	418
	12	93	168	145	418
418	171	142	15	90	418
418	41	64	197	116	418
418	194	119	38	67	418
	418	418	418	418	418

A13		418	418	418	418
	13	92	169	144	418
418	170	143	14	91	418
418	40	65	196	117	418
418	195	118	39	66	418
	418	418	418	418	418

4.10 14-Blocks

In order to construct 14-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 224 in 14 parts giving equal sums.

Distribution 4.10. *Let's distribute the numbers 1 to 224 in 14 parts giving equal sums:*

A1	1	28	29	56	57	84	85	112	113	140	141	168	169	196	197	224	1800
A2	2	27	30	55	58	83	86	111	114	139	142	167	170	195	198	223	1800
A3	3	26	31	54	59	82	87	110	115	138	143	166	171	194	199	222	1800
A4	4	25	32	53	60	81	88	109	116	137	144	165	172	193	200	221	1800
A5	5	24	33	52	61	80	89	108	117	136	145	164	173	192	201	220	1800
A6	6	23	34	51	62	79	90	107	118	135	146	163	174	191	202	219	1800
A7	7	22	35	50	63	78	91	106	119	134	147	162	175	190	203	218	1800
A8	8	21	36	49	64	77	92	105	120	133	148	161	176	189	204	217	1800
A9	9	20	37	48	65	76	93	104	121	132	149	160	177	188	205	216	1800
A10	10	19	38	47	66	75	94	103	122	131	150	159	178	187	206	215	1800
A11	11	18	39	46	67	74	95	102	123	130	151	158	179	186	207	214	1800
A12	12	17	40	45	68	73	96	101	124	129	152	157	180	185	208	213	1800
A13	13	16	41	44	69	72	97	100	125	128	153	156	181	184	209	212	1800
A14	14	15	42	43	70	71	98	99	126	127	154	155	182	183	210	211	1800

According to above eight rows A1 to A14, the example below give 14 magic squares of equal magic sums.

Example 4.10. *Applying the values given in Distribution 4.10 over the magic square of order 4 given in Example 1.1, we get following 14 magic squares of equal magic sums:*

A1		450	450	450	450
	1	112	169	168	450
450	196	141	28	85	450
450	56	57	224	113	450
450	197	140	29	84	450
	450	450	450	450	450

A2		450	450	450	450
	2	111	170	167	450
450	195	142	27	86	450
450	55	58	223	114	450
450	198	139	30	83	450
	450	450	450	450	450

A3		450	450	450	450
	3	110	171	166	450
450	194	143	26	87	450
450	54	59	222	115	450
450	199	138	31	82	450
	450	450	450	450	450

A4		450	450	450	450
	4	109	172	165	450
450	193	144	25	88	450
450	53	60	221	116	450
450	200	137	32	81	450
	450	450	450	450	450

A5		450	450	450	450
	5	108	173	164	450
450	192	145	24	89	450
450	52	61	220	117	450
450	201	136	33	80	450
	450	450	450	450	450

A6		450	450	450	450
	6	107	174	163	450
450	191	146	23	90	450
450	51	62	219	118	450
450	202	135	34	79	450
	450	450	450	450	450

A7		450	450	450	450
	7	106	175	162	450
450	190	147	22	91	450
450	50	63	218	119	450
450	203	134	35	78	450
	450	450	450	450	450

A8		450	450	450	450
	8	105	176	161	450
450	189	148	21	92	450
450	49	64	217	120	450
450	204	133	36	77	450
	450	450	450	450	450

A9		450	450	450	450
	9	104	177	160	450
450	188	149	20	93	450
450	48	65	216	121	450
450	205	132	37	76	450
	450	450	450	450	450

A10		450	450	450	450
	10	103	178	159	450
450	187	150	19	94	450
450	47	66	215	122	450
450	206	131	38	75	450
	450	450	450	450	450

A11		450	450	450	450
	11	102	179	158	450
450	186	151	18	95	450
450	46	67	214	123	450
450	207	130	39	74	450
	450	450	450	450	450

A12		450	450	450	450
	12	101	180	157	450
450	185	152	17	96	450
450	45	68	213	124	450
450	208	129	40	73	450
	450	450	450	450	450

A13		450	450	450	450
	13	100	181	156	450
450	184	153	16	97	450
450	44	69	212	125	450
450	209	128	41	72	450
	450	450	450	450	450

A14		450	450	450	450
	14	99	182	155	450
450	183	154	15	98	450
450	43	70	211	126	450
450	210	127	42	71	450
	450	450	450	450	450

4.11 15-Blocks

In order to construct 15-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 240 in 15 parts giving equal sums.

Distribution 4.11. *Let's distribute the numbers 1 to 240 in 15 parts giving equal sums:*

A1	1	30	31	60	61	90	91	120	121	150	151	180	181	210	211	240	1928
A2	2	29	32	59	62	89	92	119	122	149	152	179	182	209	212	239	1928
A3	3	28	33	58	63	88	93	118	123	148	153	178	183	208	213	238	1928
A4	4	27	34	57	64	87	94	117	124	147	154	177	184	207	214	237	1928
A5	5	26	35	56	65	86	95	116	125	146	155	176	185	206	215	236	1928
A6	6	25	36	55	66	85	96	115	126	145	156	175	186	205	216	235	1928
A7	7	24	37	54	67	84	97	114	127	144	157	174	187	204	217	234	1928
A8	8	23	38	53	68	83	98	113	128	143	158	173	188	203	218	233	1928
A9	9	22	39	52	69	82	99	112	129	142	159	172	189	202	219	232	1928
A10	10	21	40	51	70	81	100	111	130	141	160	171	190	201	220	231	1928
A11	11	20	41	50	71	80	101	110	131	140	161	170	191	200	221	230	1928
A12	12	19	42	49	72	79	102	109	132	139	162	169	192	199	222	229	1928
A13	13	18	43	48	73	78	103	108	133	138	163	168	193	198	223	228	1928
A14	14	17	44	47	74	77	104	107	134	137	164	167	194	197	224	227	1928
A15	15	16	45	46	75	76	105	106	135	136	165	166	195	196	225	226	1928

According to above eight rows A1 to A15, the example below give 15 magic squares of equal magic sums.

Example 4.11. *Applying the values given in Distribution 4.11 over the magic square of order 4 given in Example 1.1, we get following 15 magic squares of equal magic sums:*

A1		482	482	482	482
	1	120	181	180	482
482	210	151	30	91	482
482	60	61	240	121	482
482	211	150	31	90	482
	482	482	482	482	482

A2		482	482	482	482
	2	119	182	179	482
482	209	152	29	92	482
482	59	62	239	122	482
482	212	149	32	89	482
	482	482	482	482	482

A3		482	482	482	482
	3	118	183	178	482
482	208	153	28	93	482
482	58	63	238	123	482
482	213	148	33	88	482
	482	482	482	482	482

A4		482	482	482	482
	4	117	184	177	482
482	207	154	27	94	482
482	57	64	237	124	482
482	214	147	34	87	482
	482	482	482	482	482

A5		482	482	482	482
	5	116	185	176	482
482	206	155	26	95	482
482	56	65	236	125	482
482	215	146	35	86	482
	482	482	482	482	482

A6		482	482	482	482
	6	115	186	175	482
482	205	156	25	96	482
482	55	66	235	126	482
482	216	145	36	85	482
	482	482	482	482	482

A7		482	482	482	482
	7	114	187	174	482
482	204	157	24	97	482
482	54	67	234	127	482
482	217	144	37	84	482
	482	482	482	482	482

A8		482	482	482	482
	8	113	188	173	482
482	203	158	23	98	482
482	53	68	233	128	482
482	218	143	38	83	482
	482	482	482	482	482

A9		482	482	482	482
	9	112	189	172	482
482	202	159	22	99	482
482	52	69	232	129	482
482	219	142	39	82	482
	482	482	482	482	482

A10		482	482	482	482
	10	111	190	171	482
482	201	160	21	100	482
482	51	70	231	130	482
482	220	141	40	81	482
	482	482	482	482	482

A11		482	482	482	482
	11	110	191	170	482
482	200	161	20	101	482
482	50	71	230	131	482
482	221	140	41	80	482
	482	482	482	482	482

A12		482	482	482	482
	12	109	192	169	482
482	199	162	19	102	482
482	49	72	229	132	482
482	222	139	42	79	482
	482	482	482	482	482

A13		482	482	482	482
	13	108	193	168	482
482	198	163	18	103	482
482	48	73	228	133	482
482	223	138	43	78	482
	482	482	482	482	482

A14		482	482	482	482
	14	107	194	167	482
482	197	164	17	104	482
482	47	74	227	134	482
482	224	137	44	77	482
	482	482	482	482	482

A15		482	482	482	482
	15	106	195	166	482
482	196	165	16	105	482
482	46	75	226	135	482
482	225	136	45	76	482
	482	482	482	482	482

4.12 16-Blocks

In order to construct 16-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 256 in 16 parts giving equal sums.

Distribution 4.12. *Let's distribute the numbers 1 to 256 in 16 parts giving equal sums:*

A1	1	32	33	64	65	96	97	128	129	160	161	192	193	224	225	256	2056
A2	2	31	34	63	66	95	98	127	130	159	162	191	194	223	226	255	2056
A3	3	30	35	62	67	94	99	126	131	158	163	190	195	222	227	254	2056
A4	4	29	36	61	68	93	100	125	132	157	164	189	196	221	228	253	2056
A5	5	28	37	60	69	92	101	124	133	156	165	188	197	220	229	252	2056
A6	6	27	38	59	70	91	102	123	134	155	166	187	198	219	230	251	2056
A7	7	26	39	58	71	90	103	122	135	154	167	186	199	218	231	250	2056
A8	8	25	40	57	72	89	104	121	136	153	168	185	200	217	232	249	2056
A9	9	24	41	56	73	88	105	120	137	152	169	184	201	216	233	248	2056
A10	10	23	42	55	74	87	106	119	138	151	170	183	202	215	234	247	2056
A11	11	22	43	54	75	86	107	118	139	150	171	182	203	214	235	246	2056
A12	12	21	44	53	76	85	108	117	140	149	172	181	204	213	236	245	2056
A13	13	20	45	52	77	84	109	116	141	148	173	180	205	212	237	244	2056
A14	14	19	46	51	78	83	110	115	142	147	174	179	206	211	238	243	2056
A15	15	18	47	50	79	82	111	114	143	146	175	178	207	210	239	242	2056
A16	16	17	48	49	80	81	112	113	144	145	176	177	208	209	240	241	2056

According to above eight rows A1 to A16, the example below give 16 magic squares of equal magic sums.

Example 4.12. *Applying the values given in Distribution 4.12 over the magic square of order 4 given in Example 1.1, we get following 16 magic squares of equal magic sums:*

A1		514	514	514	514
	1	128	193	192	514
514	224	161	32	97	514
514	64	65	256	129	514
514	225	160	33	96	514
	514	514	514	514	514

A2		514	514	514	514
	2	127	194	191	514
514	223	162	31	98	514
514	63	66	255	130	514
514	226	159	34	95	514
	514	514	514	514	514

A3		514	514	514	514
	3	126	195	190	514
514	222	163	30	99	514
514	62	67	254	131	514
514	227	158	35	94	514
	514	514	514	514	514

A4		514	514	514	514
	4	125	196	189	514
514	221	164	29	100	514
514	61	68	253	132	514
514	228	157	36	93	514
	514	514	514	514	514

A5		514	514	514	514
	5	124	197	188	514
514	220	165	28	101	514
514	60	69	252	133	514
514	229	156	37	92	514
	514	514	514	514	514

A6		514	514	514	514
	6	123	198	187	514
514	219	166	27	102	514
514	59	70	251	134	514
514	230	155	38	91	514
	514	514	514	514	514

A7		514	514	514	514
	7	122	199	186	514
514	218	167	26	103	514
514	58	71	250	135	514
514	231	154	39	90	514
	514	514	514	514	514

A8		514	514	514	514
	8	121	200	185	514
514	217	168	25	104	514
514	57	72	249	136	514
514	232	153	40	89	514
	514	514	514	514	514

A9		514	514	514	514
	9	120	201	184	514
514	216	169	24	105	514
514	56	73	248	137	514
514	233	152	41	88	514
	514	514	514	514	514

A10		514	514	514	514
	10	119	202	183	514
514	215	170	23	106	514
514	55	74	247	138	514
514	234	151	42	87	514
	514	514	514	514	514

A11		514	514	514	514
	11	118	203	182	514
514	214	171	22	107	514
514	54	75	246	139	514
514	235	150	43	86	514
	514	514	514	514	514

A12		514	514	514	514
	12	117	204	181	514
514	213	172	21	108	514
514	53	76	245	140	514
514	236	149	44	85	514
	514	514	514	514	514

A13		514	514	514	514
	13	116	205	180	514
514	212	173	20	109	514
514	52	77	244	141	514
514	237	148	45	84	514
	514	514	514	514	514

A14		514	514	514	514
	14	115	206	179	514
514	211	174	19	110	514
514	51	78	243	142	514
514	238	147	46	83	514
	514	514	514	514	514

A15		514	514	514	514
	15	114	207	178	514
514	210	175	18	111	514
514	50	79	242	143	514
514	239	146	47	82	514
	514	514	514	514	514

A16		514	514	514	514
	16	113	208	177	514
514	209	176	17	112	514
514	49	80	241	144	514
514	240	145	48	81	514
	514	514	514	514	514

4.13 17-Blocks

In order to construct 17-blocks of equal sum magic square of order 4 let's divide the numbers from 1 to 272 in 17 parts giving equal sums.

Distribution 4.13. *Let's distribute the numbers 1 to 272 in 17 parts giving equal sums:*

A1	1	34	35	68	69	102	103	136	137	170	171	204	205	238	239	272	2184
A2	2	33	36	67	70	101	104	135	138	169	172	203	206	237	240	271	2184
A3	3	32	37	66	71	100	105	134	139	168	173	202	207	236	241	270	2184
A4	4	31	38	65	72	99	106	133	140	167	174	201	208	235	242	269	2184
A5	5	30	39	64	73	98	107	132	141	166	175	200	209	234	243	268	2184
A6	6	29	40	63	74	97	108	131	142	165	176	199	210	233	244	267	2184
A7	7	28	41	62	75	96	109	130	143	164	177	198	211	232	245	266	2184
A8	8	27	42	61	76	95	110	129	144	163	178	197	212	231	246	265	2184
A9	9	26	43	60	77	94	111	128	145	162	179	196	213	230	247	264	2184
A10	10	25	44	59	78	93	112	127	146	161	180	195	214	229	248	263	2184
A11	11	24	45	58	79	92	113	126	147	160	181	194	215	228	249	262	2184
A12	12	23	46	57	80	91	114	125	148	159	182	193	216	227	250	261	2184
A13	13	22	47	56	81	90	115	124	149	158	183	192	217	226	251	260	2184
A14	14	21	48	55	82	89	116	123	150	157	184	191	218	225	252	259	2184
A15	15	20	49	54	83	88	117	122	151	156	185	190	219	224	253	258	2184
A16	16	19	50	53	84	87	118	121	152	155	186	189	220	223	254	257	2184
A17	17	18	51	52	85	86	119	120	153	154	187	188	221	222	255	256	2184

According to above eight rows A1 to A17, the example below give 17 magic squares of equal magic sums.

Example 4.13. *Applying the values given in Distribution 4.13 over the magic square of order 4 given in Example 1.1, we get following 17 magic squares of equal magic sums:*

A1		546	546	546	546
	1	136	205	204	546
546	238	171	34	103	546
546	68	69	272	137	546
546	239	170	35	102	546
	546	546	546	546	546

A2		546	546	546	546
	2	135	206	203	546
546	237	172	33	104	546
546	67	70	271	138	546
546	240	169	36	101	546
	546	546	546	546	546

A3		546	546	546	546
	3	134	207	202	546
546	236	173	32	105	546
546	66	71	270	139	546
546	241	168	37	100	546
	546	546	546	546	546

A4		546	546	546	546
	4	133	208	201	546
546	235	174	31	106	546
546	65	72	269	140	546
546	242	167	38	99	546
	546	546	546	546	546

A5		546	546	546	546
	5	132	209	200	546
546	234	175	30	107	546
546	64	73	268	141	546
546	243	166	39	98	546
	546	546	546	546	546

A6		546	546	546	546
	6	131	210	199	546
546	233	176	29	108	546
546	63	74	267	142	546
546	244	165	40	97	546
	546	546	546	546	546

A7		546	546	546	546
	7	130	211	198	546
546	232	177	28	109	546
546	62	75	266	143	546
546	245	164	41	96	546
	546	546	546	546	546

A8		546	546	546	546
	8	129	212	197	546
546	231	178	27	110	546
546	61	76	265	144	546
546	246	163	42	95	546
	546	546	546	546	546

A9		546	546	546	546
	9	128	213	196	546
546	230	179	26	111	546
546	60	77	264	145	546
546	247	162	43	94	546
	546	546	546	546	546

A10		546	546	546	546
	10	127	214	195	546
546	229	180	25	112	546
546	59	78	263	146	546
546	248	161	44	93	546
	546	546	546	546	546

A11		546	546	546	546
	11	126	215	194	546
546	228	181	24	113	546
546	58	79	262	147	546
546	249	160	45	92	546
	546	546	546	546	546

A12		546	546	546	546
	12	125	216	193	546
546	227	182	23	114	546
546	57	80	261	148	546
546	250	159	46	91	546
	546	546	546	546	546

A13		546	546	546	546
	13	124	217	192	546
546	226	183	22	115	546
546	56	81	260	149	546
546	251	158	47	90	546
	546	546	546	546	546

A14		546	546	546	546
	14	123	218	191	546
546	225	184	21	116	546
546	55	82	259	150	546
546	252	157	48	89	546
	546	546	546	546	546

A15		546	546	546	546
	15	122	219	190	546
546	224	185	20	117	546
546	54	83	258	151	546
546	253	156	49	88	546
	546	546	546	546	546

A16		546	546	546	546
	16	121	220	189	546
546	223	186	19	118	546
546	53	84	257	152	546
546	254	155	50	87	546
	546	546	546	546	546

A17		546	546	546	546
	17	120	221	188	546
546	222	187	18	119	546
546	52	85	256	153	546
546	255	154	51	86	546
	546	546	546	546	546

5 Final Comments

This work brings 26 letters from A to Z and 10 numbers from 0 to 9 in terms of blocks of magic squares of order 4. Letters and numbers ares constructed with blocks of equal sums magic square of order 4. The most of the letters and numbers constructed are with 5-blocks hight. The table below give an idea of block-wise construction of letters and numbers:

Consecutive Numbers	Number of Blocks	Equal Magic Sums of Order 4	Letters	Numbers
1-80	5	162	I	1
1-96	6	194		
1-112	7	226	I; L; T	7
1-128	8	258	F; J; Y	2; 3; 5
1-144	9	290	C; V; X; Z	4
1-160	10	322	D; E; G; K; P	
1-176	11	354	C; G; H; S; U	2; 3; 5
1-192	12	386	A; D; O; R	0; 6; 9
1-208	13	418	M; N; Q; W	8
1-224	14	450		
1-240	15	482	M; W	
1-256	16	514	B; G	
1-272	17	546	B	

By no way, we can say that the these are the only possible ways. These constructions can be done in different ways too. The next works are dedicated to the constructions of letters and numbers using equal sums magic squares of orders 6 and 8.

During past years the author worked with magic squares in different situations. See below the details:

5.1 Author's Contributions to Magic Squares

The item-wise author's work on magic squares is as follows:

(i) **Digital numbers** magic squares - [1, 2, 3, 4, 5, 6];

(ii) **Block-wise construction** of **bimagic squares** - [7];

(iii) Connections with **genetic tables** and **Shannon's entropy** - [8];

(iv) **Selfie** and **palindromic-type** magic squares - [9];

(v) **Intervally distributed** and **block-wise** magic squares - [10, 11, 12];

(vi) **Multi-digits** magic squares - [13];

(vii) **Perfect square sum** magic squares with **uniformity**, **minimum sum** and **Pythagorean triples** - [14, 15];

(viii) **Block-wise** equal sums **pan magic squares of order 4*k*** - [16];

(ix) **Block-wise** equal and unequal sums **magic squares of order 3*k*** - [17, 18];

(x) **Magic rectangles** in construction of **block-wise pan magic squares** - [19];

(xi) **Magic Crosses:** Repeated and Non Repeated Entries - [20].

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