

Bordered Magic Squares Multiples of 15

The work is also available at author's site:

<https://numbers-magic.com/?p=9768>

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Abstract

*During past years author worked with **borderedmagic squares** of even number blocks. These are based on equal sums magic squares of orders 4, 6, 8, 10, etc. This type of work is an extension of classical bordered magic squares. In case of multiples of 4, the extension is made for **pandiagonal** magic squares [23]. For multiples of order 6 refer Taneja [24]. Recently, author worked on odd number multiples from 3 to 13. These are based on different sums of magic squares of orders 3 to 13 [29, 30, 31, 32, 33, 34]. This work is for multiples of 15. We have worked with 36 different types of magic squares of order 15. Total work is up to order 150, but due to space problems the examples given here are only up to order 60. Higher order examples can be seen in **Excel files** attached with the work.*

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1 Introduction

During past years author [2, 3, 4, 5, 6, 7, 8] worked with **block-wise** magic squares from orders 12 to 47. Author [9, 10, 11, 12, 13, 14] also worked with **bordered** magic squares. The study on **bordered** magic squares is extended to **block-bordered** magic squares [15, 16, 17]. This is specially done for the magic squares of orders p and $2p$, where p is a prime number. This study is still extended to **block-wise bordered** magic squares [18, 19, 20, 21]. Some conection with Pythagorean triples and area-representations are also made [23, 24, 25, 26, 27]. The main property of **bordered** magic squares is that if we remove external borders, still we get **sub-bordered** magic squares, i.e., each layer in itself lead us to magic squares. In many cases, the properties of **bordered** magic square are seperated by **even** and **odd** orders magic squares. In many cases, we get good properties for the **even** order **bordered** magic squares. In some cases, we have to use fractional numbers to reach minimum perfect square sum of entries. For more study on **bordered** magic squares refer H. White's web-site [1].

The idea of bordered magic squares is already discussed by H. White's web-site [1] where the borders are of **single digits**. Borders multiples of even numbers starting from order 4 are done extensively by author [23, 24, 25, 26, 27, 28].

1.1 Summary of Bordered Magic Squares

1.1.1 Odd Numbers Multiples

- **Single Digit:** Bordered magic squares based on single digit [9, 10, 1].
- **Three Digits:** Bordered magic squares based on magic squares of order 3 [29].
- **Five Digits:** Bordered magic squares multiples of magic squares of order 5 [30].
- **Seven Digits:** Bordered magic squares multiples of magic squares of order 7 [31].
- **Nine Digits:** Bordered magic squares multiples of magic squares of order 9 [32]
- **Eleven Digits:** Bordered magic squares multiples of magic squares of order 11 [33]
- **Thirteen Digits:** Bordered magic squares multiples of magic squares of order 13 [34]
- **Fifteen Digits:** Bordered magic squares multiples of magic squares of order 15 [35] (This work)

1.1.2 Even Numbers Multiples

- **Two Digits:** Bordered magic squares based on magic rectangles multiples of 2 [75, 76, 64, 65, 65, 66].
- **Four Digits:** Bordered magic squares multiples of magic squares of order 4 [23].
- **Six Digits:** Bordered magic squares multiples of magic squares of order 6 [24].
- **Eight Digits:** Bordered magic squares multiples of magic squares of order 8 [25].
- **Ten Digits:** Bordered magic squares multiples of magic squares of order 10 [26].
- **Twelve Digits:** Bordered magic squares multiples of magic squares of order 12 [27].
- **Fourteen Digits:** Bordered magic squares multiples of magic squares of order 14 [28].

The work on even number multiples is with equal sums blocks of magic squares. The work on odd number multiples is with different sum magic squares.

This work is for bordered magic squares multiples of 15. Here are working with 36 different types of magic square of order 15. The procedure, how these bordered magic squares are obtained is also given. Higher orders examples can be seen in **Excel files** attached with this work.

2 Bordered Magic Squares Multiples of 15

Let's consider following 36 magic squares of order 15.

	pan	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695			pan	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	
1695	186	65	88	187	74	78	188	75	76	189	64	86	190	62	87	1695			1695	1	87	111	178	188	3	86	110	179	187	2	85	109	180	189	1695
1695	80	193	66	89	183	67	90	181	68	79	191	69	77	192	70	1695			1695	171	193	8	76	117	170	194	7	78	116	169	195	9	77	115	1695
1695	73	81	185	63	82	194	61	83	195	71	84	184	72	85	182	1695			1695	83	106	177	186	13	82	108	176	185	14	84	107	175	184	15	1695
1695	36	200	103	37	209	93	38	210	91	39	199	101	40	197	102	1695			1695	192	6	88	113	166	191	5	89	112	168	190	4	90	114	167	1695
1695	95	43	201	104	33	202	105	31	203	94	41	204	92	42	205	1695			1695	118	173	181	12	81	119	172	183	11	80	120	174	182	10	79	1695
1695	208	96	35	198	97	44	196	98	45	206	99	34	207	100	32	1695			1695	31	72	96	163	203	33	71	95	164	202	32	70	94	165	204	1695
1695	6	215	118	7	224	108	8	225	106	9	214	116	10	212	117	1695			1695	156	208	38	61	102	155	209	37	63	101	154	210	39	62	100	1695
1695	110	13	216	119	3	217	120	1	218	109	11	219	107	12	220	1695			1695	68	91	162	201	43	67	93	161	200	44	69	92	160	199	45	1695
1695	223	111	5	213	112	14	211	113	15	221	114	4	222	115	2	1695			1695	207	36	73	98	151	206	35	74	97	153	205	34	75	99	152	1695
1695	156	50	133	157	59	123	158	60	121	159	49	131	160	47	132	1695			1695	103	158	196	42	66	104	157	198	41	65	105	159	197	40	64	1695
1695	125	163	51	134	153	52	135	151	53	124	161	54	122	162	55	1695			1695	16	57	126	148	218	18	56	125	149	217	17	55	124	150	219	1695
1695	58	126	155	48	127	164	46	128	165	56	129	154	57	130	152	1695			1695	141	223	23	46	132	140	224	22	48	131	139	225	24	47	130	1695
1695	171	20	148	172	29	138	173	30	136	174	19	146	175	17	147	1695			1695	53	121	147	216	28	52	123	146	215	29	54	122	145	214	30	1695
1695	140	178	21	149	168	22	150	166	23	139	176	24	137	177	25	1695			1695	222	21	58	128	136	221	20	59	127	138	220	19	60	129	137	1695
EqS	28	141	170	18	142	179	16	143	180	26	144	169	27	145	167	1695			EqS	133	143	211	27	51	134	142	213	26	50	135	144	212	25	49	1695
1	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695			2	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695
3	mgc	1638	1605	1416	1371	1320	1488	1680	1716	1896	2070	2013	1980	1791	1746	1695			4	mgc	1828	1720	1768	1602	1636	1676	1662	1736	1718	1750	1784	1622	1670	1558	1695
	97	100	80	82	81	222	225	205	207	206	47	50	30	32	31	1695				210	199	201	203	205	207	209	211	11	9	7	5	3	1	14	1695
	77	87	92	85	99	202	212	217	210	224	27	37	42	35	49	1695				2	184	175	177	179	181	183	185	37	35	33	31	29	40	224	1695
	78	86	88	90	98	203	211	213	215	223	28	36	38	40	48	1695				4	30	64	72	70	68	66	165	166	168	170	172	62	196	222	1695
	93	91	84	89	83	218	216	209	214	208	43	41	34	39	33	1695				6	32	173	80	152	150	148	147	84	86	88	82	53	194	220	1695
	95	76	96	94	79	220	201	221	219	204	45	26	46	44	29	1695				8	34	171	73	130	126	128	93	92	90	132	153	55	192	218	1695
	72	75	55	57	56	122	125	105	107	106	172	175	155	157	156	1695				10	36	169	75	89	122	125	105	107	106	137	151	57	190	216	1695
	52	62	67	60	74	102	112	117	110	124	152	162	167	160	174	1695				12	38	167	77	91	102	112	117	110	124	135	149	59	188	214	1695
	53	61	63	65	73	103	111	113	115	123	153	161	163	165	173	1695				13	39	63	145	131	103	111	113	115	123	95	81	163	187	213	1695
	68	66	59	64	58	118	116	109	114	108	168	166	159	164	158	1695				208	182	65	143	129	118	116	109	114	108	97	83	161	44	18	1695
	70	51	71	69	54	120	101	121	119	104	170	151	171	169	154	1695				206	180	67	141	127	120	101	121	119	104	99	85	159	46	20	1695
	197	200	180	182	181	22	25	5	7	6	147	150	130	132	131	1695				204	178	69	139	94	100	98	133	134	136	96	87	157	48	22	1695
	177	187	192	185	199	2	12	17	10	24	127	137	142	135	149	1695				202	176	71	144	74	76	78	79	142	140	138	146	155	50	24	1695
	178	186	188	190	198	3	11	13	15	23	128	136	138	140	148	1695				200	174	164	154	156	158	160	61	60	58	56	54	162	52	26	1695
	193	191	184	189	183	18	16	9	14	8	143	141	134	139	133	1695				198	186	51	49	47	45	43	41	189	191	193	195	197	42	28	1695
	195	176	196	194	179	20	1	21	19	4	145	126	146	144	129	1695				212	27	25	23	21	19	17	15	215	217	219	221	223	225	16	1695
	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695				1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

5	mgc	1870	1574	1581	1584	1945	1529	2190	1162	1593	1682	1750	2245	1194	1831	1695
	205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695
	21	14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695
	201	25	62	85	168	66	80	162	159	163	72	69	157	220	6	1695
	216	10	164	141	58	160	146	64	67	63	154	153	73	45	181	1695
	11	215	152	74	121	98	108	101	137	120	106	144	82	48	178	1695
	41	185	169	57	105	128	118	125	89	93	133	70	156	23	203	1695
	193	33	79	147	102	124	116	109	114	90	136	170	56	175	51	1695
	197	29	59	167	127	99	111	113	115	130	96	150	76	208	18	1695
	17	209	68	158	95	131	112	117	110	132	94	53	173	222	4	1695
	3	223	143	83	107	119	91	122	129	100	123	60	166	1	225	1695
	8	218	87	139	134	92	135	104	97	126	103	148	78	211	15	1695
	195	31	172	54	171	77	86	75	155	81	65	165	142	28	198	1695
	19	207	88	138	55	149	140	151	71	145	161	61	84	210	16	1695
	189	37	52	199	39	20	214	43	186	42	5	204	24	224	217	1695
	179	47	174	27	187	206	12	183	40	184	221	22	202	2	9	1695
	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

6	mgc	1934	1507	1559	1656	1901	1524	2190	1162	1561	1704	1764	2203	1208	1857	1695
	205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695
	21	14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695
	201	25	62	85	168	66	80	162	159	163	72	69	157	220	6	1695
	216	10	164	141	58	160	146	64	67	63	154	153	73	45	181	1695
	11	215	152	74	89	97	105	113	121	129	137	144	82	48	178	1695
	41	185	169	57	128	136	95	96	104	112	120	70	156	23	203	1695
	193	33	79	147	111	119	127	135	94	102	103	170	56	175	51	1695
	197	29	59	167	101	109	110	118	126	134	93	150	76	208	18	1695
	17	209	68	158	133	92	100	108	116	117	125	53	173	222	4	1695
	3	223	143	83	123	124	132	91	99	107	115	60	166	1	225	1695
	8	218	87	139	106	114	122	130	131	90	98	148	78	211	15	1695
	195	31	172	54	171	77	86	75	155	81	65	165	142	28	198	1695
	19	207	88	138	55	149	140	151	71	145	161	61	84	210	16	1695
	189	37	52	199	39	20	214	43	186	42	5	204	24	224	217	1695
	179	47	174	27	187	206	12	183	40	184	221	22	202	2	9	1695
	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

7	mgc	1904	1542	1574	1627	1931	1522	2190	1162	1602	1694	1741	2231	1182	1828	1695
	205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695
	21	14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695
	201	25	62	85	168	66	80	162	159	163	72	69	157	220	6	1695
	216	10	164	141	58	160	146	64	67	63	154	153	73	45	181	1695
	11	215	152	74	130	126	128	93	92	90	132	144	82	48	178	1695
	41	185	169	57	89	110	115	114	119	107	137	70	156	23	203	1695
	193	33	79	147	91	117	113	109	120	106	135	170	56	175	51	1695
	197	29	59	167	131	112	111	116	102	124	95	150	76	208	18	1695
	17	209	68	158	129	108	104	105	123	125	97	53	173	222	4	1695
	3	223	143	83	127	118	122	121	101	103	99	60	166	1	225	1695
	8	218	87	139	94	100	98	133	134	136	96	148	78	211	15	1695
	195	31	172	54	171	77	86	75	155	81	65	165	142	28	198	1695
	19	207	88	138	55	149	140	151	71	145	161	61	84	210	16	1695
	189	37	52	199	39	20	214	43	186	42	5	204	24	224	217	1695
	179	47	174	27	187	206	12	183	40	184	221	22	202	2	9	1695
	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

8	mgc	1918	1517	1590	1628	1931	1522	2190	1162	1602	1694	1753	2226	1178	1819	1695
	205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695
	21	14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695
	201	25	62	85	168	66	80	162	159	163	72	69	157	220	6	1695
	216	10	164	141	58	160	146	64	67	63	154	153	73	45	181	1695
	11	215	152	74	130	126	128	93	92	90	132	144	82	48	178	1695
	41	185	169	57	89	122	125	105	107	106	137	70	156	23	203	1695
	193	33	79	147	91	102	112	117	110	124	135	170	56	175	51	1695
	197	29	59	167	131	118	111	113	115	108	95	150	76	208	18	1695
	17	209	68	158	129	103	116	109	114	123	97	53	173	222	4	1695
	3	223	143	83	127	120	101	121	119	104	99	60	166	1	225	1695
	8	218	87	139	94	100	98	133	134	136	96	148	78	211	15	1695
	195	31	172	54	171	77	86	75	155	81	65	165	142	28	198	1695
	19	207	88	138	55	149	140	151	71	145	161	61	84	210	16	1695
	189	37	52	199	39	20	214	43	186	42	5	204	24	224	217	1695
	179	47	174	27	187	206	12	183	40	184	221	22	202	2	9	1695
	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

9	mgc	1826	1686	1456	1586	1947	1579	1968	1212	1690	1711	1818	2157	1324	1770	1695
	205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695
	21	14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695
	201	25	64	72	70	68	66	165	166	168	170	172	62	220	6	1695
	216	10	173	80	152	150	148	147	84	86	88	82	53	45	181	1695
	11	215	171	73	130	126	128	93	92	90	132	153	55	48	178	1695
	41	185	169	75	89	122	125	105	107	106	137	151	57	23	203	1695
	193	33	167	77	91	102	112	117	110	124	135	149	59	175	51	1695
	197	29	63	145	131	103	111	113	115	123	95	81	163	208	18	1695
	17	209	65	143	129	118	116	109	114	108	97	83	161	222	4	1695
	3	223	67	141	127	120	101	121	119	104	99	85	159	1	225	1695
	8	218	69	139	94	100	98	133	134	136	96	87	157	211	15	1695
	195	31	71	144	74	76	78	79	142	140	138	146	155	28	198	1695
	19	207	164	154	156	158	160	61	60	58	56	54	162	210	16	1695
	189	37	52	199	39	20	214	43	186	42	5	204	24	224	217	1695
	179	47	174	27	187	206	12	183	40	184	221	22	202	2	9	1695
	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695
11	mgc	1905	1700	1365	1790	1986	1643	1805	1337	1684	1659	1717	2177	1339	1623	1695
	205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695
	21	14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695
	201	25	101	107	113	119	125	126	100	79	147	71	155	220	6	1695
	216	10	118	124	105	106	112	133	93	88	138	162	64	45	181	1695
	11	215	110	111	117	123	104	130	96	84	142	65	161	48	178	1695
	41	185	122	103	109	115	116	127	99	86	140	172	54	23	203	1695
	193	33	114	120	121	102	108	91	135	149	77	67	159	175	51	1695
	197	29	128	92	129	132	90	89	131	146	80	63	163	208	18	1695
	17	209	98	134	97	94	136	95	137	85	141	167	59	222	4	1695
	3	223	150	151	87	81	82	83	153	152	78	168	58	1	225	1695
	8	218	76	75	139	145	144	143	73	148	74	72	154	211	15	1695
	195	31	164	56	158	55	53	157	61	160	57	166	156	28	198	1695
	19	207	62	170	68	171	173	69	165	66	169	70	60	210	16	1695
	189	37	52	199	39	20	214	43	186	42	5	204	24	224	217	1695
	179	47	174	27	187	206	12	183	40	184	221	22	202	2	9	1695
	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

10	mgc	1905	1700	1365	1790	1995	1650	1797	1327	1684	1630	1745	2185	1334	1623	1695	
	205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695	
	21	14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695	
	201	25	110	115	114	119	107	126	100	79	147	71	155	220	6	1695	
	216	10	117	113	109	120	106	133	93	88	138	162	64	45	181	1695	
	11	215	112	111	116	102	124	130	96	84	142	65	161	48	178	1695	
	41	185	108	104	105	123	125	127	99	86	140	172	54	23	203	1695	
	193	33	118	122	121	101	103	91	135	149	77	67	159	175	51	1695	
	197	29	128	92	129	132	90	89	131	146	80	63	163	208	18	1695	
	17	209	98	134	97	94	136	95	137	85	141	167	59	222	4	1695	
	3	223	150	151	87	81	82	83	153	152	78	168	58	1	225	1695	
	8	218	76	75	139	145	144	143	73	148	74	72	154	211	15	1695	
	195	31	164	56	158	55	53	157	61	160	57	166	156	28	198	1695	
	19	207	62	170	68	171	173	69	165	66	169	70	60	210	16	1695	
	189	37	52	199	39	20	214	43	186	42	5	204	24	224	217	1695	
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	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	
	12	mgc	1905	1700	1365	1790	2007	1645	1793	1318	1684	1644	1720	2201	1335	1623	1695
		205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695
21		14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695	
201		25	122	125	105	107	106	126	100	79	147	71	155	220	6	1695	
216		10	102	112	117	110	124	133	93	88	138	162	64	45	181	1695	
11		215	118	111	113	115	108	130	96	84	142	65	161	48	178	1695	
41		185	103	116	109	114	123	127	99	86	140	172	54	23	203	1695	
193		33	120	101	121	119	104	91	135	149	77	67	159	175	51	1695	
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17		209	98	134	97	94	136	95	137	85	141	167	59	222	4	1695	
3		223	150	151	87	81	82	83	153	152	78	168	58	1	225	1695	
8		218	76	75	139	145	144	143	73	148	74	72	154	211	15	1695	
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1695		1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	

11	mgc	1905	1700	1365	1790	1986	1643	1805	1337	1684	1659	1717	2177	1339	1623	1695
	205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695
	21	14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695
	201	25	101	107	113	119	125	126	100	79	147	71	155	220	6	1695
	216	10	118	124	105	106	112	133	93	88	138	162	64	45	181	1695
	11	215	110	111	117	123	104	130	96	84	142	65	161	48	178	1695
	41	185	122	103	109	115	116	127	99	86	140	172	54	23	203	1695
	193	33	114	120	121	102	108	91	135	149	77	67	159	175	51	1695
	197	29	128	92	129	132	90	89	131	146	80	63	163	208	18	1695
	17	209	98	134	97	94	136	95	137	85	141	167	59	222	4	1695
	3	223	150	151	87	81	82	83	153	152	78	168	58	1	225	1695
	8	218	76	75	139	145	144	143	73	148	74	72	154	211	15	1695
	195	31	164	56	158	55	53	157	61	160	57	166	156	28	198	1695
	19	207	62	170	68	171	173	69	165	66	169	70	60	210	16	1695
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	179	47	174	27	187	206	12	183	40	184	221	22	202	2	9	1695
	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

12	mgc	1905	1700	1365	1790	2007	1645	1793	1318	1684	1644	1720	2201	1335	1623	1695
	205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695
	21	14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695
	201	25	122	125	105	107	106	126	100	79	147	71	155	220	6	1695
	216	10	102	112	117	110	124	133	93	88	138	162	64	45	181	1695
	11	215	118	111	113	115	108	130	96	84	142	65	161	48	178	1695
	41	185	103	116	109	114	123	127	99	86	140	172	54	23	203	1695
	193	33	120	101	121	119	104	91	135	149	77	67	159	175	51	1695
	197	29	128	92	129	132	90	89	131	146	80	63	163	208	18	1695
	17	209	98	134	97	94	136	95	137	85	141	167	59	222	4	1695
	3	223	150	151	87	81	82	83	153	152	78	168	58	1	225	1695
	8	218	76	75	139	145	144	143	73	148	74	72	154	211	15	1695
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	179	47	174	27	187	206	12	183	40	184	221	22	202	2	9	1695
	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

8

17	mgc	1744	1787	1342	1769	2057	1618	1796	1334	1685	1613	1787	2111	1334	1753	1695		18	mgc	1755	1642	1548	2073	1513	1488	1965	1749	1298	1762	1499	2159	1695	1584	1695
	205	212	49	46	200	196	188	36	32	7	50	213	35	34	192	1695			110	117	112	125	101	127	99	144	82	67	159	52	174	9	217	1695
	21	14	177	180	26	30	38	190	194	219	176	13	191	44	182	1695			115	113	111	124	102	133	93	142	84	64	162	41	185	3	223	1695
	201	25	94	143	102	99	136	104	110	78	151	72	154	220	6	1695			114	109	116	104	122	94	132	79	147	167	59	40	186	8	218	1695
	216	10	107	93	139	100	95	144	150	115	74	168	58	45	181	1695			108	106	123	107	121	89	137	78	148	168	58	184	42	205	21	1695
	11	215	138	103	98	140	108	91	79	146	114	65	161	48	178	1695			118	120	103	105	119	92	134	140	86	63	163	50	176	7	219	1695
	41	185	112	80	147	117	73	149	92	141	106	167	59	23	203	1695			90	91	131	128	129	126	96	138	88	62	164	191	35	201	25	1695
	193	33	152	111	76	145	113	81	105	97	137	67	159	175	51	1695			136	135	95	98	97	130	100	146	80	171	55	195	31	213	13	1695
	197	29	75	148	116	77	153	109	142	101	96	63	163	208	18	1695			149	153	87	83	81	151	85	76	152	172	54	190	36	206	20	1695
	17	209	130	125	84	135	118	86	128	123	88	172	54	222	4	1695			77	73	139	143	145	75	141	74	150	71	155	45	181	1	225	1695
	3	223	89	129	121	82	131	126	87	133	119	162	64	1	225	1695			70	60	69	170	165	72	169	66	68	173	161	51	175	203	23	1695
	8	218	120	85	134	122	90	127	124	83	132	71	155	211	15	1695			156	166	157	56	61	154	57	160	158	65	53	196	30	6	220	1695
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	19	207	62	170	165	171	173	69	68	66	169	70	60	210	16	1695			46	192	44	43	47	194	39	193	49	188	48	197	189	10	216	1695
	189	37	52	199	39	20	214	43	186	42	5	204	24	224	217	1695			224	221	211	26	17	212	19	24	214	222	22	18	27	210	28	1695
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19	mgc	1746	1635	1556	2077	1513	1503	1973	1741	1287	1762	1499	2159	1695	1584	1695		20	mgc	1767	1617	1564	2058	1513	1508	1956	1765	1283	1762	1499	2159	1695	1584	1695
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	122	103	109	115	116	89	137	78	148	168	58	184	42	205	21	1695			103	116	109	114	123	89	137	78	148	168	58	184	42	205	21	1695
	114	120	121	102	108	92	134	140	86	63	163	50	176	7	219	1695			120	121	101	119	104	92	134	140	86	63	163	50	176	7	219	1695
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	77	73	139	143	145	75	141	74	150	71	155	45	181	1	225	1695			77	73	139	143	145	75	141	74	150	71	155	45	181	1	225	1695
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	2	5	15	200	209	14	207	202	12	4	204	208	199	198	16	1695			2	5	15	200	209	14	207	202	12	4	204	208	199	198	16	1695
	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695			1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

10

25	mgc	1515	1697	1614	1960	1525	1593	2002	1670	1359	1971	1499	1985	1563	1777	1695		26	semi	1774	1628	1447	2223	1486	1719	1543	1942	1371	1817	1525	1977	1695	1622	1656
	64	72	70	68	66	165	166	168	170	172	62	40	186	9	217	1695			186	174	176	178	180	182	39	38	36	34	32	30	184	9	217	1695
	173	80	152	150	148	147	84	86	88	82	53	41	185	3	223	1695			49	64	72	70	68	66	165	166	168	170	172	62	177	3	223	1695
	171	73	130	126	92	93	128	90	132	153	55	52	174	8	218	1695			51	171	80	150	152	148	147	84	86	88	82	55	175	8	218	1695
	169	75	89	122	105	125	107	106	137	151	57	184	42	205	21	1695			47	173	73	130	126	128	93	92	90	132	153	53	179	205	21	1695
	167	77	91	102	112	117	110	124	135	149	59	50	176	7	219	1695			45	169	77	89	122	105	125	107	106	137	149	57	181	7	219	1695
	63	145	131	118	111	113	115	108	95	81	163	191	35	201	25	1695			43	167	75	91	102	112	117	110	124	135	151	59	183	201	25	1695
	65	143	129	103	116	109	114	123	97	83	161	195	31	213	13	1695			41	63	145	131	118	111	113	115	108	95	81	163	185	213	13	1695
	67	141	127	120	121	101	119	104	99	85	159	190	36	206	20	1695			189	65	143	129	103	116	109	114	123	97	83	161	37	206	20	1695
	69	139	94	100	134	133	98	136	96	87	157	45	181	1	225	1695			191	67	141	127	120	121	101	119	104	99	85	159	35	1	225	1695
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	46	192	39	49	47	194	44	193	43	188	48	197	189	10	216	1695			42	52	50	48	46	44	187	188	190	192	194	196	40	10	216	1695
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	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695			1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695
27	mgc	1796	1576	1865	1622	1629	1936	1406	1724	1500	1817	2130	1541	1695	1493	1695		28	mgc	1792	1596	1865	1622	1629	1936	1406	1724	1494	1827	2142	1544	1695	1458	1695
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	177	172	34	66	186	38	195	189	64	55	67	164	62	215	11	1695			177	172	34	66	186	38	195	189	64	55	67	164	62	201	25	1695
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	174	52	85	141	117	113	109	107	119	74	152	57	169	3	223	1695			174	52	85	141	122	106	111	125	101	74	152	57	169	3	223	1695
	41	185	140	86	112	111	116	124	102	127	99	61	165	213	13	1695			41	185	140	86	116	110	113	102	124	127	99	61	165	213	13	1695
	30	196	137	89	108	104	105	125	123	93	133	33	193	206	20	1695			30	196	137	89	118	108	109	123	107	93	133	33	193	206	20	1695
	53	173	84	142	118	122	121	103	101	148	78	46	180	1	225	1695			53	173	84	142	105	121	117	103	119	148	78	46	180	1	225	1695
	44	182	134	92	126	95	91	87	96	150	146	170	56	203	23	1695			44	182	134	92	126	95	91	87	96	150	146	170	56	203	23	1695
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	70	156	36	184	69	43	35	163	178	158	50	161	166	201	25	1695			70	156	36	184	69	43	35	163	178	158	50	161	166	215	11	1695
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29	mgc	1822	1620	1826	1622	1627	1938	1406	1724	1512	1792	2160	1531	1695	1455	1695		30	mgc	1753	1627	1799	1610	1548	2020	1490	1735	1442	1741	2272	1438	1695	1560	1695
	49	54	192	160	40	188	31	37	162	171	159	47	179	10	216	1695			49	54	192	160	40	188	31	37	162	171	159	47	179	10	216	1695
	177	172	34	66	186	38	195	189	64	55	67	164	62	201	25	1695			177	172	34	66	186	38	195	189	64	55	67	164	62	213	13	1695
	72	154	143	147	97	75	82	149	98	136	90	175	51	8	218	1695			72	154	94	143	102	99	136	104	92	141	106	175	51	8	218	1695
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	174	52	85	141	102	112	117	110	124	74	152	57	169	3	223	1695			174	52	112	80	147	117	73	149	110	78	151	57	169	3	223	1695
	41	185	140	86	118	111	113	115	108	127	99	61	165	213	13	1695			41	185	152	111	76	145	113	81	150	115	74	61	165	201	25	1695
	30	196	137	89	103	116	109	114	123	93	133	33	193	206	20	1695			30	196	75	148	116	77	153	109	79	146	114	33	193	206	20	1695
	53	173	84	142	120	121	101	119	104	148	78	46	180	1	225	1695			53	173	130	125	84	135	118	86	128	123	88	46	180	1	225	1695
	44	182	134	92	87	95	91	126	96	150	146	170	56	203	23	1695			44	182	89	129	121	82	131	126	87	133	119	170	56	203	23	1695
	197	29	138	88	139	131	135	100	130	76	80	168	58	6	220	1695			197	29	120	85	134	122	90	127	124	83	132	168	58	6	220	1695
	187	39	190	42	157	183	191	63	48	68	176	65	60	9	217	1695			187	39	191	42	157	183	190	63	48	68	176	65	60	9	217	1695
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	27	19	211	26	221	212	17	24	214	222	22	18	224	210	28	1695			27	17	211	26	221	212	19	24	214	222	22	18	224	210	28	1695
199	207	15	200	5	14	209	202	12	4	204	208	2	198	16	1695		199	209	15	200	5	14	207	202	12	4	204	208	2	198	16	1695		
1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695		1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	

31	mgc	1780	1558	1808	1586	1569	1995	1516	1720	1509	1727	2260	1435	1695	1572	1695		32	mgc	1817	1557	1727	1705	1600	1946	1496	1716	1441	1767	2248	1407	1731	1572	1695
	49	54	192	160	40	188	31	37	162	171	159	47	179	10	216	1695			49	54	192	160	40	188	31	37	162	171	159	47	179	10	216	1695
	177	172	34	66	186	38	195	189	64	55	67	164	62	201	25	1695			177	172	34	66	186	38	195	189	64	55	67	164	62	201	25	1695
	72	154	80	150	152	148	147	84	86	88	82	175	51	8	218	1695			72	154	110	115	114	106	120	95	131	139	87	175	51	8	218	1695
	181	45	73	130	126	128	93	92	90	132	153	155	71	205	21	1695			181	45	117	113	109	107	119	130	96	77	149	155	71	205	21	1695
	194	32	77	89	122	105	125	107	106	137	149	167	59	7	219	1695			194	32	112	111	116	124	102	91	135	76	150	167	59	7	219	1695
	174	52	75	91	102	112	117	110	124	135	151	57	169	3	223	1695			174	52	108	104	105	125	123	90	136	144	82	57	169	3	223	1695
	41	185	145	131	118	111	113	115	108	95	81	61	165	213	13	1695			41	185	118	122	121	103	101	127	99	141	85	61	165	213	13	1695
	30	196	143	129	103	116	109	114	123	97	83	33	193	206	20	1695			30	196	133	89	92	128	129	126	94	81	145	33	193	206	20	1695
	53	173	141	127	120	121	101	119	104	99	85	46	180	1	225	1695			53	173	93	137	134	98	97	132	100	75	151	46	180	1	225	1695
	44	182	139	94	100	98	133	134	136	96	87	170	56	203	23	1695			44	182	73	148	143	79	140	142	74	138	80	170	56	203	23	1695
	197	29	144	76	74	78	79	142	140	138	146	168	58	6	220	1695			197	29	153	78	83	147	86	84	152	146	88	168	58	6	220	1695
	187	39	191	42	157	183	190	63	48	68	176	65	60	9	217	1695			187	39	190	42	157	183	191	63	48	68	176	65	60	9	217	1695
	70	156	35	184	69	43	36	163	178	158	50	161	166	215	11	1695			70	156	36	184	69	43	35	163	178	158	50	161	166	215	11	1695
	27	17	211	26	221	212	19	24	214	222	22	18	224	210	28	1695			27	17	211	26	221	212	19	24	214	222	22	18	224	210	28	1695
199	209	15	200	5	14	207	202	12	4	204	208	2	198	16	1695		199	209	15	200	5	14	207	202	12	4	204	208	2	198	16	1695		
1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695		1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	

33	mgc	1817	1557	1727	1705	1591	1939	1504	1739	1441	1761	2240	1399	1738	1572	1695		34	mgc	1817	1557	1727	1705	1612	1941	1492	1720	1441	1746	2243	1423	1734	1572	1695	
	49	54	192	160	40	188	31	37	162	171	159	47	179	10	216	1695			49	54	192	160	40	188	31	37	162	171	159	47	179	10	216	1695	
	177	172	34	66	186	38	195	189	64	55	67	164	62	201	25	1695			177	172	34	66	186	38	195	189	64	55	67	164	62	201	25	1695	
	72	154	101	107	113	119	125	95	131	139	87	175	51	8	218	1695			72	154	122	125	105	107	106	95	131	139	87	175	51	8	218	1695	
	181	45	118	124	105	106	112	130	96	77	149	155	71	205	21	1695			181	45	102	112	117	110	124	130	96	77	149	155	71	205	21	1695	
	194	32	110	111	117	123	104	91	135	76	150	167	59	7	219	1695			194	32	118	111	113	115	108	91	135	76	150	167	59	7	219	1695	
	174	52	122	103	109	115	116	90	136	144	82	57	169	3	223	1695			174	52	103	116	109	114	123	90	136	144	82	57	169	3	223	1695	
	41	185	114	120	121	102	108	127	99	141	85	61	165	213	13	1695			41	185	120	101	121	119	104	127	99	141	85	61	165	213	13	1695	
	30	196	133	89	92	128	129	126	94	81	145	33	193	206	20	1695			30	196	133	89	92	128	129	126	94	81	145	33	193	206	20	1695	
	53	173	93	137	134	98	97	132	100	75	151	46	180	1	225	1695			53	173	93	137	134	98	97	132	100	75	151	46	180	1	225	1695	
	44	182	73	148	143	79	140	142	74	138	80	170	56	203	23	1695			44	182	73	148	143	79	140	142	74	138	80	170	56	203	23	1695	
	197	29	153	78	83	147	86	84	152	146	88	168	58	6	220	1695			197	29	153	78	83	147	86	84	152	146	88	168	58	6	220	1695	
	187	39	190	42	157	183	191	63	48	68	176	65	60	9	217	1695			187	39	190	42	157	183	191	63	48	68	176	65	60	9	217	1695	
	70	156	36	184	69	43	35	163	178	158	50	161	166	215	11	1695			70	156	36	184	69	43	35	163	178	158	50	161	166	215	11	1695	
	27	17	211	26	221	212	19	24	214	222	22	18	224	210	28	1695			27	17	211	26	221	212	19	24	214	222	22	18	224	210	28	1695	
199	209	15	200	5	14	207	202	12	4	204	208	2	198	16	1695		199	209	15	200	5	14	207	202	12	4	204	208	2	198	16	1695			
1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695		1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

35	mgc	1845	1618	1663	1706	1579	1939	1518	1701	1462	1762	2234	1481	1709	1513	1695		36	mgc	1885	1626	1653	1706	1620	1929	1545	1724	1394	1724	2234	1465	1681	1544	1695	
	49	54	192	160	40	188	31	37	162	171	159	47	179	1	225	1695			49	54	192	160	40	188	31	37	162	171	159	47	179	1	225	1695	
	177	172	34	66	186	38	195	189	64	55	67	164	62	215	11	1695			177	172	34	66	186	38	195	189	64	55	67	164	62	205	21	1695	
	72	154	89	97	105	113	121	129	137	139	87	175	51	8	218	1695			72	154	130	126	128	93	92	90	132	139	87	175	51	8	218	1695	
	181	45	128	136	95	96	104	112	120	77	149	155	71	205	21	1695			181	45	89	122	125	105	107	106	137	77	149	155	71	215	11	1695	
	194	32	111	119	127	135	94	102	103	76	150	167	59	7	219	1695			194	32	129	102	112	117	110	124	97	76	150	167	59	7	219	1695	
	174	52	101	109	110	118	126	134	93	81	145	57	169	3	223	1695			174	52	131	118	111	113	115	108	95	81	145	57	169	3	223	1695	
	41	185	133	92	100	108	116	117	125	141	85	61	165	213	13	1695			41	185	91	103	116	109	114	123	135	141	85	61	165	213	13	1695	
	30	196	123	124	132	91	99	107	115	144	82	33	193	206	20	1695			30	196	127	120	101	121	119	104	99	144	82	33	193	206	20	1695	
	53	173	106	114	122	130	131	90	98	75	151	46	180	10	216	1695			53	173	94	100	98	133	134	136	96	75	151	46	180	10	216	1695	
	44	182	73	148	143	79	140	142	74	138	80	170	56	203	23	1695			44	182	73	148	143	79	140	142	74	138	80	170	56	203	23	1695	
	197	29	153	78	83	147	86	84	152	146	88	168	58	6	220	1695			197	29	153	78	83	147	86	84	152	146	88	168	58	6	220	1695	
	187	39	191	42	157	183	190	63	48	68	176	65	60	9	217	1695			187	39	191	42	157	183	190	63	48	68	176	65	60	9	217	1695	
	70	156	35	184	69	43	36	163	178	158	50	161	166	201	25	1695			70	156	35	184	69	43	36	163	178	158	50	161	166	201	25	1695	
	27	17	211	26	221	212	19	24	214	222	22	18	224	210	28	1695			27	17	211	26	221	212	19	24	214	222	22	18	224	210	28	1695	
199	209	15	200	5	14	207	202	12	4	204	208	2	198	16	1695		199	209	15	200	5	14	207	202	12	4	204	208	2	198	16	1695			
1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695		1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

2.1 Bordered Magic Squares of Orders 150 and 135

Let's consider **bordered** magic square of orders 9 and 10 given by

9x9										369
	8	80	78	76	75	12	14	16	10	369
	1	58	54	56	21	20	18	60	81	369
	3	17	50	53	33	35	34	65	79	369
	5	19	30	40	45	38	52	63	77	369
	73	59	31	39	41	43	51	23	9	369
	71	57	46	44	37	42	36	25	11	369
	69	55	48	29	49	47	32	27	13	369
	67	22	28	26	61	62	64	24	15	369
	72	2	4	6	7	70	68	66	74	369
	369	369	369	369	369	369	369	369	369	369

10x10											505
	91	86	16	84	18	14	4	98	2	92	505
	13	26	20	80	82	69	31	71	25	88	505
	89	23	64	62	35	68	36	38	78	12	505
	11	24	34	49	54	43	56	67	77	90	505
	96	29	40	44	55	50	53	61	72	5	505
	1	79	42	58	45	52	47	59	22	100	505
	93	74	60	51	48	57	46	41	27	8	505
	7	73	63	39	66	33	65	37	28	94	505
	95	76	81	21	19	32	70	30	75	6	505
	9	15	85	17	83	87	97	3	99	10	505
	505	505	505	505	505	505	505	505	505	505	505

The entries of above two magic squares are sequential numbers starting from 1:

$$D_{9 \times 9} := \{1, 2, \dots, 80, 81\}$$

$$D_{10 \times 10} := \{1, 2, \dots, 99, 100\}$$

The property of **bordered** magic squares is that removing the upper borders still we are left with magic squares of sequential values.

Multiplying each entry of above two magic squares of orders 9 and 10 by 225, we get

9x9										83025
	1800	18000	17550	17100	16875	2700	3150	3600	2250	83025
	225	13050	12150	12600	4725	4500	4050	13500	18225	83025
	675	3825	11250	11925	7425	7875	7650	14625	17775	83025
	1125	4275	6750	9000	10125	8550	11700	14175	17325	83025
	16425	13275	6975	8775	9225	9675	11475	5175	2025	83025
	15975	12825	10350	9900	8325	9450	8100	5625	2475	83025
	15525	12375	10800	6525	11025	10575	7200	6075	2925	83025
	15075	4950	6300	5850	13725	13950	14400	5400	3375	83025
	16200	450	900	1350	1575	15750	15300	14850	16650	83025
	83025	83025	83025	83025	83025	83025	83025	83025	83025	83025

10x10											113625
	20475	18900	19350	22050	4050	3600	3150	900	450	20700	113625
	2925	5850	4500	18000	18450	15525	6975	15975	5625	19800	113625
	2475	5175	14400	13950	7875	15300	8100	8550	17550	20250	113625
	1575	5400	7650	11025	12150	9675	12600	15075	17325	21150	113625
	225	6525	9000	9900	12375	11250	11925	13725	16200	22500	113625
	20025	17775	9450	13050	10125	11700	10575	13275	4950	2700	113625
	20925	16650	13500	11475	10800	12825	10350	9225	6075	1800	113625
	21375	16425	14175	8775	14850	7425	14625	8325	6300	1350	113625
	21600	17100	18225	4725	4275	7200	15750	6750	16875	1125	113625
	2025	3825	3375	675	18675	19125	19575	21825	22275	2250	113625
	113625	113625	113625	113625	113625	113625	113625	113625	113625	113625	113625

In this case, the entries distributions of these two magic squares are given by

$$D_{9 \times 9} := \{225, 450, \dots, 18000, 18225\}$$

$$D_{10 \times 10} := \{225, 450, \dots, 22275, 22500\}$$

Let's replace each entry in above two magic squares of orders 13 and 14 by above two magic squares of order 11. The entries chosen in these magic squares are as given below:

225 → 1, 2, ..., 225
 450 → 226, 227, ..., 450
 675 → 451, 452, ..., 675
 ... → ...
 ... → ...

This lead us to two big **block-bordered** magic squares of orders 135 and 150 multiples of 15. Since these two magic squares are very big, these are given in **excel files** attached with this work. There are total 36 magic squares of orders 135 and 150 multiples of order 15.

The multiples blocks are 36 different kinds of magic squares of order 15. Based on these two big magic squares we get the following magic squares.

2.2 Magic Squares of Order 60

Below are three examples of magic squares of order 60 obtained from magic squares of order 150. It is obtained by the application of the formula $\frac{a^2 - b^2}{2}$, $a > b$, i.e., subtract $\frac{150^2 - 60^2}{2} := 9450$ from each entry of magic square order 150, we get the following three magic squares of order 60:

5	mgc	100330	100344	100358	100372	100386	100400	100414	100428	100442	100456	100470	100484	100498	100512	100526	100540	100554	100568	100582	100596	100610	100624	100638	100652	100666	100680	100694	100708	100722	100736	100750	100764	100778	100792	100806	100820	100834	100848	100862	100876	100890	100904	100918	100932	100946	100960	100974	100988	100992											
1371	1364	1527	1530	1376	1380	1388	1540	1544	1569	1526	1363	1541	1542	1384	2496	2489	2652	2655	2501	2505	2513	2665	2669	2694	2651	2488	2666	2667	2509	21	14	177	180	26	30	38	190	194	219	176	13	191	192	34	2946	2939	3102	3105	2951	2955	2963	3115	3119	3144	3101	2938	3116	3117	2959	100330	
1555	1562	1399	1396	1550	1546	1538	1386	1382	1357	1400	1563	1385	1532	1394	2680	2687	2524	2521	2675	2671	2663	2511	2507	2482	2525	2688	2558	2510	2657	2519	205	212	49	46	200	196	188	36	32	7	50	213	35	182	44	3130	3137	2974	2971	3125	3121	3113	2961	2992	2932	2975	3138	2960	3107	2969	100330
1375	1551	1514	1491	1408	1516	1496	1414	1417	1413	1504	1507	1419	1356	1570	2500	2676	2639	2616	2533	2625	2621	2539	2542	2538	2629	2632	2544	2481	2695	25	201	164	141	58	160	146	64	67	63	154	157	69	6	220	2930	3126	3089	3066	2983	3085	3071	2989	2992	2988	3079	3082	2994	2931	3145	100330	
1360	1566	1412	1435	1518	1416	1430	1512	1509	1513	1422	1423	1503	1531	1395	2485	2691	2537	2560	2643	2541	2555	2637	2634	2638	2547	2548	2628	2656	2520	10	216	62	65	168	66	80	162	159	163	72	73	153	181	45	2935	3141	2987	3010	3093	2991	3005	3087	3084	3088	2997	2998	3078	3106	2970	100330	
1565	1361	1424	1512	1455	1478	1468	1475	1439	1456	1470	1432	1494	1528	1398	2609	2486	2549	2627	2580	2603	2593	2600	2564	2581	2595	2557	2619	2653	2523	215	11	74	152	105	128	118	125	89	106	120	82	144	178	48	3140	2936	2999	3077	3030	3053	3043	3050	3014	3031	3045	3007	3069	3103	2973	100330	
1535	1391	1407	1509	1471	1448	1458	1451	1487	1483	1443	1506	1420	1553	1373	2600	2516	2532	2644	2596	2573	2583	2576	2612	2608	2588	2631	2651	2545	2678	2498	185	41	57	109	121	98	108	101	137	133	93	156	70	203	23	3101	2966	2982	3094	3046	3023	3033	3026	3036	3038	3018	3081	2995	3128	2948	100330
1383	1543	1497	1429	1474	1452	1460	1467	1462	1486	1440	1406	1520	1401	1525	2508	2668	2622	2554	2599	2577	2585	2592	2587	2611	2565	2531	2645	2526	2650	33	193	147	79	124	102	110	117	112	136	90	56	170	51	175	2958	3118	3072	3004	3049	3027	3035	3042	3037	3061	3051	2981	3095	2976	3100	100330	
1379	1547	1499	1449	1449	1477	1465	1463	1461	1446	1480	1406	1500	1368	1558	2504	2672	2642	2534	2574	2602	2590	2588	2586	2571	2625	2551	2625	2493	2603	29	197	167	59	99	127	115	113	111	96	130	76	150	18	208	2954	3122	3092	2984	3024	3052	3040	3038	3036	3001	3005	3001	3075	2943	3143	100330	
1559	1367	1508	1418	1481	1445	1464	1459	1466	1444	1482	1523	1403	1354	1572	2684	2492	2633	2543	2606	2570	2589	2584	2591	2569	2607	2648	2528	2479	2697	209	17	158	68	131	95	114	109	116	94	132	173	53	4	222	3134	2942	3083	2993	3056	3020	3039	3034	3041	3019	3057	3098	2978	2929	3147	100330	
1573	1353	1493	1493	1469	1457	1485	1454	1447	1476	1453	1516	1410	1575	1351	2698	2478	2558	2618	2594	2582	2610	2579	2572	2601	2578	2641	2535	2700	2476	223	3	83	143	119	107	135	104	97	126	103	166	60	225	1	3148	2928	3008	3068	3044	3032	3060	3029	3022	3051	3028	3091	2985	3150	2926	100330	
1568	1358	1489	1437	1442	1484	1441	1472	1479	1450	1473	1428	1498	1365	1561	2693	2483	2614	2562	2567	2609	2566	2597	2604	2575	2598	2553	2623	2490	2686	218	8	139	87	92	134	91	122	129	100	123	78	148	15	211	3143	2933	3064	3012	3017	3059	3016	3047	3054	3025	3048	3003	3073	2940	3136	100330	
1381	1545	1404	1522	1405	1499	1490	1501	1421	1495	1511	1411	1434	1548	1378	2506	2670	2529	2647	2530	2624	2615	2626	2546	2620	2636	2536	2559	2673	2503	31	195	54	172	55	149	140	151	71	145	161	61	84	198	28	2956	3120	2979	3097	2980	3074	3065	3076	2996	3070	3086	2986	3090	3123	2953	100330	
1557	1398	1488	1438	1521	1427	1436	1425	1505	1431	1415	1515	1492	1366	1560	2682	2494	2613	2563	2646	2552	2561	2550	2630	2556	2540	2640	2617	2491	2685	207	19	138	88	171	77	86	75	155	81	65	165	142	16	210	3132	2944	3063	3013	3096	3002	3013	3000	3080	3006	2990	3090	3067	2941	3135	100330	
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4148	494690	495232	495774	496316	496858	497400	497942	498484	499026	499568	500110	500652	501194	501736	502278	502820	503362	503904	504446	504988	505530	506072	506614	507156	507698	508240	508782	509324	509866	510408	510950	511492	512034	512576	513118	513660	514202	514744	515286	515828	516370	516912	517454	517996	518538	519080	519622	520164	520706	521248	521790	522332	522874	523416	523958	524500	525042	525584	526126	526668	527210	527752	528294	528836	529378	529920	530462	531004	531546	532088	532630	533172	533714	534256	534798	535340	535882	536424	536966	537508	538050	538592	539134	539676	540218	540760	541302	541844	542386	542928	543470	544012	544554	545096	545638	546180	546722	547264	547806	548348	548890	549432	549974	550516	551058	551600	552142	552684	553226	553768	554310	554852	555394	555936	556478	557020	557562	558104	558646	559188	559730	560272	560814	561356	561898	562440	562982	563524	564066	564608	565150	565692	566234	566776	567318	567860	568402	568944	569486	570028	570570	571112	571654	572196	572738	573280	573822	574364	574906	575448	575990	576532	577074	577616	578158	578700	579242	579784	580326	580868	581410	581952	582494	583036	583578	584120	584662	585204	585746	586288	586830	587372	587914	588456	589000	589542	590084	590626	591168	591710	592252	592794	593336	593878	594420	594962	595504	596046	596588	597130	597672	598214	598756	599298	599840	600382	600924	601466	602008	602550	603092	603634	604176	604718	605260	605802	606344	606886	607428	607970	608512	609054	609596	610138	610680	611222	611764	612306	612848	613390	613932	614474	615016	615558	616100	616642	617184	617726	618268	618810	619352	619894	620436	620978	621520	622062	622604	623146	623688	624230	624772	625314	625856	626398	626940	627482	628024	628566	629108	629650	630192	630734	631276	631818	632360	632902	633444	633986	634528	635070	635612	636154	636696	637238	637780	638322	638864	639406	639948	640490	641032	641574	642116	642658	643200	643742	644284	644826	645368	645910	646452	646994	647536	648078	648620	649162	649704	650246	650788	651330	651872	652414	652956	653498	654040	654582	655124	655666	656208	656750	657292	657834	658376	658918	659460	660002	660544	661086	661628	662170	662712	663254	663796	664338	664880	665422	665964	666506	667048	667590	668132	668674	669216	669758	670300	670842	671384	671926	672468	673010	673552	674094	674636	675178	675720	676262	676804	677346	677888	678430	678972	679514	680056	680598	681140	681682	682224	682766	683308	683850	684392	684934	685476	686018	686560	687102	687644	688186	688728	689270	689812	690354	690896	691438	691980	692522	693064	693606	694148	694690	695232	695774	696316	696858	697400	697942	698484	699026	699568	700110	700652	701194	701736	702278	702820	703362	703904	7
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2.3 Magic Squares of Order 45

Below are three examples of magic squares of order 45 obtained from magic squares of order 135. It is obtained by the application of the formula $\frac{a^2 - b^2}{2}$, $a > b$, i.e., subtract $\frac{135^2 - 45^2}{2} := 8100$ from each entry of magic square order 135, we get the following three magic squares of order 45:

5	mgc	44385	44598	43902	43218	41460	42033	39375	41784	39816	38874	37995	35835	38313	35727	35460	36285	38523	39852	41193	41460	44058	43425	47859	47916	48999	50145	50010	54513	53952	55710	54510	54723	54027	53343	51585	52158	49500	51909	49941	48999	48120	45960	48438	45852	45585
696	689	852	855	701	705	713	865	869	894	851	688	866	867	709	1821	1814	1977	1980	1826	1830	1838	1990	1994	2019	1976	1813	1991	1992	1834	246	239	402	405	251	255	263	415	419	444	401	238	416	417	259	45585	
880	887	724	721	875	871	863	711	707	692	1988	1846	2000	1996	1988	1836	1832	1807	1850	2013	1835	1982	1844	430	261	257	232	275	438	260	407	269	45585														
700	876	839	816	733	835	821	739	742	738	829	832	744	681	895	1825	2001	1964	1941	1858	1960	1946	1864	1867	1863	1954	1957	1869	1806	2020	250	426	389	366	283	385	371	289	292	288	379	382	294	231	445	45585	
685	891	737	760	843	741	755	837	834	838	747	748	828	856	720	1810	2016	1862	1885	1968	1866	1880	1962	1959	1963	1872	1873	1953	1981	1845	235	441	287	310	393	291	305	387	384	388	297	298	378	406	270	45585	
890	686	749	827	780	803	793	800	764	781	795	757	819	853	723	2015	1811	1874	1952	1905	1928	1918	1925	1889	1906	1920	1882	1944	1978	1848	440	236	299	377	330	353	343	350	314	331	345	307	369	403	273	45585	
860	716	732	844	796	773	783	776	812	808	768	831	745	878	698	1985	1841	1857	1969	1921	1898	1908	1901	1937	1933	1893	1956	1870	2003	1823	410	266	282	394	346	323	333	326	362	358	318	381	295	428	248	45585	
708	868	822	754	799	777	785	792	787	811	765	731	845	726	850	1833	1993	1947	1879	1924	1902	1910	1917	1912	1936	1890	1856	1970	1851	1975	258	418	372	304	349	327	335	342	337	361	315	281	395	276	400	45585	
704	872	842	734	774	802	790	788	786	771	805	751	825	693	883	1829	1997	1967	1859	1899	1927	1915	1913	1911	1896	1930	1876	1950	1818	2008	254	422	392	284	324	352	340	338	336	321	355	301	375	243	433	45585	
884	692	833	743	806	770	789	784	791	769	807	848	728	679	897	2009	1817	1958	1868	1931	1895	1914	1909	1916	1894	1932	1973	1853	1804	2022	434	242	383	293	356	320	339	334	341	319	357	398	278	229	447	45585	
898	678	758	818	794	782	810	779	772	801	778	841	735	900	676	2023	1803	1883	1943	1919	1907	1935	1904	1897	1926	1903	1966	1860	2025	1801	448	228	308	368	344	332	360	329	322	351	328	391	285	450	226	45585	
893	683	814	762	767	809	766	797	804	775	798	753	823	690	886	2018	1808	1939	1887	1892	1934	1891	1922	1929	1900	1923	1878	1948	1815	2011	443	233	364	312	317	359	316	347	354	325	348	303	373	240	436	45585	
706	870	729	847	730	824	815	826	746	820	836	736	759	873	703	1831	1995	1854	1972	1855	1949	1940	1951	1871	1945	1961	1861	1884	1998	1828	256	420	279	397	280	374	365	376	296	370	386	286	309	423	253	45585	
882	694	813	763	846	752	761	750	830	756	740	840	817	691	885	2007	1819	1938	1888	1971	1877	1886	1875	1955	1881	1865	1965	1942	1816	2010	432	244	363	313	396	302	311	300	380	306	290	390	367	241	435	45585	
712	864	849	702	862	881	867	858	715	859	896	697	877	677	684	1837	1989	1974	1827	1987	2006	1812	1983	1840	1984	2021	1822	2002	1802	1809	262	414	399	252	412	431	237	408	265	409	446	247	427	227	234	45585	
722	854	727	874	714	695	889	718	861	717	680	879	699	899	892	1847	1979	1852	1999	1839	1820	2014	1843	1986	1842	1805	2004	1824	2024	2017	272	404	277	424	264	245	439	268	411	267	230	429	249	449	442	45585	
471	464	627	630	476	480	488	640	644	669	626	463	641	642	484	921	914	1077	1080	926	930	938	1090	1094	1119	1076	913	1091	1092	934	1371	1364	1527	1530	1376	1380	1388	1540	1544	1569	1526	1363	1541	1542	1384	45585	
655	662	499	496	650	646	638	486	482	457	500	663	485	632	494	1105	1112	949	946	1100	1096	1088	936	932	907	950	1113	935	1082	944	1555	1562	1399	1396	1550	1546	1538	1386	1382	1357	1400	1563	1385	1532	1394	45585	
475	651	614	591	508	610	596	514	517	513	604	607	519	456	670	925	1101	1064	1041	958	1060	1046	964	967	963	1054	1057	969	906	1120	1375	1551	1514	1491	1408	1510	1496	1414	1417	1413	1504	1507	1419	1356	1570	45585	
460	666	512	535	618	516	530	612	609	613	522	523	603	631	495	910	1116	962	985	1068	966	980	1062	1059	1063	972	973	1053	1081	945	1360	1566	1412	1435	1518	1416	1430	1512	1509	1513	1422	1423	1503	1531	1395	45585	
665	461	524	602	555	578	568	575	539	556	570	532	594	628	498	1115	911	974	1052	1005	1028	1018	1025	989	1006	1020	982	1044	1078	948	1565	1361	1424	1502	1455	1478	1468	1475	1439	1456	1470	1432	1494	1528	1398	45585	
635	491	507	619	571	548	558	551	587	583	543	606	520	653	473	1085	941	957	1069	1021	998	1008	1001	1037	1033	993	1056	970	1103	923	1535	1391	1407	1519	1471	1448	1458	1451	1487	1483	1443	1506	1420	1553	1373	45585	
483	491	597	529	574	552	560	567	562	586	540	506	620	501	625	933	1093	1047	979	1024	1002	1010	1017	1012	1036	990	956	1070	951	1075	1383	1543	1497	1429	1474	1452	1460	1467	1462	1486	1440	1406	1520	1401	1525	45585	
479	647	617	509	549	577	565	563	561	546	580	526	600	468	658	929	1097	1067	959	999	1027	1015	1013	1011	996	1030	976	1050	918	1108	1379	1547	1517	1409	1449	1477	1465	1463	1461	1446	1480	1426	1500	1368	1558	45585	
659	467	608	518	581	545	564	559	566	544	582	623	503	454	672	1109	917	1058	968	1031	995	1014	1009	1016	994	1032	1073	953	904	1122	1559	1367	1508	1418	1481	1445	1464	1459	1466	1444	1482	1523	1403	1354	1572	45585	
673	453	533	593	569	557	585	554	547	576	553	616	510	675	451	1123	903	983	1043	1019	1007	1035	1004	997	1026	1003	1066	960	1125	901	1573	1353	1433	1493	1469	1457	1485	1454	1447	1476	1453	1516	1410	1575	1351	45585	
668	458	589	537	542	584	541	572	579	550	573	528	598	465	661	1118	908	939	987	992	1034	991	1022	1029	1000	1023	1078	1048	915	1111	1578	1358	1489	1437	1442	1484	1441	1472	1479	1450	1473	1428	1498	1365	1561	45585	
481	645	504	622	505	599	590	601	521	595	611	511	534	648	478	931	1095	954	1072	955	1049	1040	1051	971	1045	1061	961	984	1098	928	1381	1545	1404	1522	1405	1499	1490	1501	1421	1495	1511	1411	1434	1548	1378	45585	
657	469	588	538	621	527	536	525	605	531	515	615	592	466	660	1107	919	1038	988	1071	977	986	975	1055	981	965	1065	1042	916	1110	1557	1369	1488	1438	1521	1427	1436	1425	1505	1431	1415	1515	1492	1366	1560	45585	
487	639	624	477	637	656	462	633	490	634	671	472	652	452	459	937	1089	1074	927	1087	1106	912	1083	940	1084	1121	922	1102	902	909	1387	1539	1524	1377	1537	1556	1362	1533	1390	1534	1571	1372	1552	1352	1359	45585	
497	629	502	649	489	470	664	493	636	492	455	654	474	674	667	947	1079	952	1099	939	920	1114	943	1086	942	905	1104	924	1124	1117	1397	1529	1402	1549	1389	1370	1564	1393	1536	1392	1355						

10	mgc	44280	44220	44550	42600	41310	41670	40554	41289	39543	39030	38010	36015	37893	36351	35460	36180	38145	40500	40575	41310	43695	44604	47364	47643	49155	50160	50190	54093	54576	55710	54405	54345	54675	52725	51435	51795	50679	51414	49668	49155	48135	46140	48018	46476	45585
696	689	852	855	701	705	713	865	869	894	851	688	866	866	867	709	1821	1814	1977	1980	1826	1830	1838	1990	1994	2019	1976	1813	1991	1992	1834	246	239	402	405	251	255	263	415	419	444	401	238	416	417	259	45585
880	878	724	721	875	871	707	707	692	725	888	876	876	857	719		2005	2012	1849	1846	2000	1996	1988	1836	1832	1807	1850	2013	1835	1982	1844	430	437	274	271	425	421	413	261	257	232	275	438	260	407	259	45585
700	876	791	786	787	782	794	775	801	822	754	830	746	681	895	1825	2001	1916	1911	1912	1907	1919	1900	1926	1947	1879	1955	1871	1806	2020	250	426	341	336	337	332	344	325	351	372	304	380	296	231	445	45585	
685	891	784	788	792	781	795	768	808	813	763	739	837	856	720	1810	2016	1909	1913	1917	1906	1920	1893	1933	1938	1888	1864	1962	1981	1845	235	441	334	338	342	331	345	318	358	363	313	289	387	406	270	45585	
890	686	789	790	785	799	777	771	805	817	759	836	740	853	723	2015	1811	1914	1915	1910	1924	1902	1896	1930	1942	1884	1961	1865	1978	1848	440	236	339	340	335	349	327	321	355	367	309	386	290	403	273	45585	
860	716	793	797	796	778	776	774	802	815	761	729	847	878	698	1985	1841	1918	1922	1921	1903	1901	1899	1927	1884	1886	1854	1972	2002	1823	410	266	343	347	346	328	326	324	352	365	311	279	397	428	248	45585	
708	868	783	779	780	800	798	810	766	752	824	834	742	726	850	1833	1993	1908	1904	1905	1925	1923	1935	1891	1877	1949	1959	1867	1851	1975	258	418	333	329	330	350	348	360	316	302	374	384	292	276	400	45585	
704	872	773	809	772	769	811	812	770	755	821	838	738	693	883	1829	1997	1898	1934	1897	1894	1936	1937	1895	1880	1946	1963	1863	1818	2008	254	422	323	359	322	319	361	362	320	305	371	388	288	243	433	45585	
884	692	803	767	804	807	765	806	764	816	760	734	842	679	897	2009	1817	1928	1892	1929	1932	1890	1931	1889	1941	1885	1859	1967	1804	2022	434	242	353	317	354	357	315	356	314	366	310	284	392	229	447	45585	
898	678	751	750	814	820	819	818	748	749	823	733	843	900	676	2023	1803	1876	1875	1939	1945	1944	1943	1874	1948	1858	1968	2025	1801	448	228	301	300	364	370	369	368	298	299	373	283	393	450	226	45585		
893	683	825	826	762	756	757	758	828	753	827	829	747	690	886	2018	1808	1950	1951	1887	1881	1882	1883	1953	1878	1952	1954	1872	1815	2011	443	233	375	376	312	306	307	308	378	303	377	379	297	240	436	45585	
706	870	737	845	743	846	848	744	840	741	844	735	745	873	703	1831	1995	1862	1970	1868	1971	1973	1869	1965	1866	1969	1860	1870	1998	1828	256	420	287	395	293	396	398	294	390	291	394	285	295	423	253	45585	
882	694	839	731	833	730	728	832	736	835	732	831	841	691	885	2007	1819	1964	1856	1958	1855	1853	1957	1861	1960	1857	1956	1966	1816	2010	432	244	389	281	383	280	278	382	286	385	282	381	391	241	435	45585	
712	864	849	702	862	881	687	858	715	859	896	697	877	677	684	1837	1989	1974	1827	1987	2006	1812	1883	1840	1984	2021	1822	2002	1802	1809	262	414	399	252	412	431	237	408	265	409	446	247	427	227	234	45585	
722	854	727	874	714	695	889	718	861	717	680	879	699	899	892	1847	1979	1852	1999	1839	1820	2014	1843	1986	1842	1805	2004	1824	2024	2017	272	404	277	424	264	245	439	268	411	267	230	429	249	449	442	45585	
471	464	627	630	476	480	488	640	644	669	626	463	641	642	484	921	914	1077	1080	926	930	938	1090	1094	1119	1076	913	1091	1092	934	1371	1364	1527	1530	1376	1380	1388	1540	1544	1569	1526	1363	1541	1542	1384	45585	
655	662	499	496	650	646	638	486	482	457	500	663	485	632	494	1105	1112	949	946	1100	1096	1088	936	932	907	950	1113	935	1082	944	1555	1562	1399	1396	1550	1546	1538	1386	1382	1357	1400	1563	1385	1532	1394	45585	
475	651	566	561	562	557	569	550	576	597	529	605	521	456	670	925	1101	1016	1011	1012	1007	1019	1000	1026	1047	979	1055	971	906	1120	1375	1551	1466	1461	1462	1457	1469	1450	1476	1497	1429	1505	1421	1356	1570	45585	
460	666	559	563	567	556	570	543	583	588	538	514	612	631	495	910	1116	1009	1013	1017	1006	1020	993	1033	1038	988	964	1062	1081	945	1360	1566	1459	1463	1467	1456	1470	1443	1483	1488	1438	1414	1512	1531	1395	45585	
665	461	564	565	560	574	552	546	580	592	534	611	515	628	498	1115	911	1014	1015	1010	1024	1002	996	1030	1042	984	1061	965	1078	948	1565	1361	1464	1465	1460	1474	1452	1446	1480	1492	1434	1511	1415	1528	1398	45585	
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483	481	558	554	555	575	573	585	541	527	595	509	611	501	625	933	1093	1008	1004	1005	1025	1023	1035	991	977	1049	1059	967	951	1075	1383	1543	1458	1454	1455	1475	1473	1485	1441	1429	1499	1509	1417	1401	1525	45585	
479	647	548	584	547	544	586	587	545	530	596	613	513	468	658	929	1097	998	1034	997	994	1036	1037	995	980	1046	1063	963	918	1108	1379	1547	1448	1484	1447	1444	1486	1487	1445	1430	1496	1513	1413	1368	1558	45585	
659	467	578	542	579	582	540	581	539	591	535	509	617	454	672	1109	917	1028	992	1029	1032	990	1031	989	1041	985	959	1067	904	1122	1559	1367	1478	1442	1479	1482	1440	1481	1439	1491	1435	1409	1517	1354	1572	45585	
673	453	526	525	589	595	594	593	523	524	598	508	618	675	451	1123	903	976	975	1039	1045	1044	1043	973	974	1048	958	1068	1125	901	1573	1353	1426	1425	1489	1495	1494	1493	1423	1424	1498	1408	1518	1575	1351	45585	
668	458	600	601	537	531	532	533	603	528	602	604	622	465	661	1118	908	1050	1051	987	1082	983	983	1053	978	1052	1054	972	915	1111	1568	1358	1500	1501	1437	1431	1432	1433	1503	1428	1502	1504	1428	1365	1561	45585	
481	645	512	620	518	621	623	519	615	516	619	510	520	648	478	931	1095	962	1070	968	1071	1073	969	1065	966	1069	960	970	1098	928	1381	1545	1412	1520	1418	1521	1523	1419	1515	1416	1519	1410	1420	1548	1378	45585	
657	469	614	506	608	505	503	607	511	610	507	606	616	466	660	1107	919	1064	956	1058	955	953	1057	961	1060	957	1056	1066	916	1110	1557	1369	1514	1406	1508	1405	1403	1507	1411	1510	1407	1506	1516	1366	1560	45585	
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497	629	502	649	489	470	664	493	636	492	455	654	474	674	667	947	1079	952	1099	939	920	1114	943	1086	942	905	1104	924	1																		

24	mgc	44808	44382	44058	41712	42735	42156	39924	40338	40701	38310	38718	36324	36888	36261	35460	36708	38307	40008	39687	42735	44181	43974	46413	48801	48435	50868	50499	53088	54486	55710	54933	54507	54183	51837	52860	52281	50849	50463	50826	48435	48843	46449	47013	46386	45585
807	758	799	802	765	797	791	823	750	834	742	861	715	891	685	1932	1883	1924	1927	1890	1922	1916	1948	1875	1959	1867	1986	1840	2016	1810	357	308	349	352	315	347	341	373	300	384	292	411	265	441	235	45585	
794	808	762	801	806	757	751	786	827	837	739	860	716	898	678	1919	1933	1887	1926	1931	1882	1876	1911	1952	1962	1864	1985	1841	2023	1803	344	358	312	351	356	307	301	336	377	387	289	410	266	448	228	45585	
763	798	803	761	793	810	822	755	787	734	842	849	727	893	683	1888	1923	1928	1886	1918	1935	1947	1880	1912	1859	1967	1974	1852	2018	1808	313	348	353	311	343	360	372	305	337	284	392	399	277	443	233	45585	
789	821	754	784	828	752	809	760	795	733	843	717	859	696	880	1914	1946	1879	1909	1953	1877	1934	1885	1920	1858	1968	1842	1984	1821	2005	339	371	304	334	378	302	359	310	345	283	393	267	409	246	430	45585	
749	790	825	756	788	820	796	804	764	830	746	851	725	894	682	1874	1915	1950	1881	1913	1945	1921	1929	1889	1955	1871	1976	1850	2019	1807	299	340	375	306	338	370	346	354	314	380	296	401	275	444	232	45585	
826	753	785	824	748	792	759	800	805	839	737	710	866	700	876	1951	1878	1910	1949	1873	1917	1884	1925	1930	1964	1862	1835	1991	1825	2001	376	303	335	374	298	342	309	350	355	389	287	260	416	250	426	45585	
771	776	817	766	783	815	773	778	813	730	846	706	870	688	888	1896	1901	1942	1891	1908	1940	1898	1903	1938	1855	1971	1831	1995	1813	2013	321	326	367	316	333	365	323	328	363	280	396	256	420	238	438	45585	
812	772	780	819	770	775	814	768	782	729	847	711	865	695	881	1937	1897	1905	1944	1895	1900	1939	1893	1907	1854	1972	1836	1990	1820	2006	362	322	330	369	320	325	364	318	332	279	397	261	415	245	431	45585	
781	816	767	779	811	774	777	818	769	838	738	856	720	900	676	1906	1941	1892	1904	1936	1899	1902	1943	1894	1963	1863	1981	1845	2025	1801	331	366	317	329	361	324	327	368	319	388	288	406	270	450	226	45585	
831	829	832	731	732	841	736	835	833	728	740	850	726	698	878	1956	1954	1957	1856	1857	1966	1861	1960	1958	1853	1865	1975	1851	1823	2003	381	379	382	281	282	391	286	385	383	278	290	400	276	248	428	45585	
745	747	744	845	844	735	840	741	743	836	848	705	871	895	681	1870	1872	1869	1970	1969	1860	1965	1866	1868	1961	1973	1830	1996	2020	1806	295	297	294	395	394	285	390	291	293	386	398	255	421	445	231	45585	
721	867	714	724	722	869	719	868	718	863	723	864	872	686	890	1846	1992	1839	1849	1847	1994	1844	1993	1843	1988	1848	1989	1997	1811	2015	271	417	264	274	272	419	269	418	268	413	273	414	422	236	440	45585	
855	709	862	852	854	707	857	708	858	713	853	704	712	892	684	1980	1834	1987	1977	1979	1832	1982	1833	1983	1838	1978	1829	1837	2017	1809	405	259	412	402	404	257	407	258	408	263	403	254	262	442	234	45585	
677	680	690	875	884	689	882	877	687	679	879	883	874	691	873	1802	1805	1815	2000	2009	1814	2007	2002	1812	1804	2004	2008	1999	1816	1998	227	230	240	425	434	239	432	427	237	229	429	433	424	241	423	45585	
899	896	886	701	692	887	694	699	889	897	697	693	702	703	885	2024	2021	2011	1826	1817	2012	1819	1824	2014	2022	1822	1818	1827	1828	2010	449	446	436	251	242	437	244	249	439	447	247	243	252	253	435	45585	
582	533	574	577	540	572	566	598	525	609	517	636	490	666	460	1032	983	1024	1027	990	1022	1016	1048	975	1059	967	1086	940	1116	910	1482	1433	1474	1477	1440	1472	1466	1498	1425	1509	1417	1536	1390	1566	1360	45585	
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538	573	578	536	568	585	597	530	562	509	617	624	502	668	458	1088	1023	1028	986	1018	1035	1047	980	1012	959	1067	1074	952	1118	908	1438	1472	1478	1436	1468	1485	1497	1430	1462	1409	1517	1524	1402	1568	1358	45585	
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601	528	560	599	523	567	534	575	580	614	512	485	641	475	651	1051	978	1010	1049	973	1017	984	1025	1030	1064	962	935	1091	925	1101	1501	1428	1460	1499	1423	1467	1434	1475	1480	1514	1412	1385	1541	1375	1551	45585	
546	551	592	541	558	590	548	553	588	505	621	481	645	463	663	996	1001	1042	991	1008	1040	998	1003	1038	955	1071	931	1095	913	1113	1446	1451	1492	1441	1458	1490	1448	1453	1488	1405	1521	1381	1545	1363	1563	45585	
587	547	555	594	545	550	589	543	557	504	622	486	640	470	656	1037	997	1005	1044	995	1000	1039	993	1007	954	1072	936	1090	920	1106	1487	1447	1455	1494	1445	1450	1489	1443	1457	1404	1522	1386	1540	1370	1556	45585	
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606	604	607	506	607	616	511	610	608	503	515	625	501	473	653	1056	1054	1057	956	957	1066	961	1060	1058	953	965	1075	951	923	1103	1506	1504	1507	1406	1407	1516	1411	1510	1508	1403	1415	1525	1401	1373	1553	45585	
520	522	519	620	619	510	615	516	518	611	623	485	646	670	456	970	972	969	1070	1069	960	1065	966	968	1061	1073	930	1096	912	1100	1446	1422	1419	1520	1519	1410	1515	1416	1418	1513	1415	1380	1546	1570	1356	45585	
496	642	489	499	497	644	494	643	493	638	498	639	647	461	665	946	1092	939	949	947	1094	944	1093	943	1088	948	1089	1097	911	1115	1396	1542	1389	1399	1397	1544	1394	1543	1393	1538	1398	1539	1547	1361	1565	45585	
630	484	637	627	629	482	632	483	633	488	628	479	487	667	459	1080	934	1087	1077	1079	932	1082	933	1083	938	1078	929	937	1117	909	1530	1384	1537	1527	1529	1382	1532	1383	1533	1388	1528	1379	1387	1567	1359	45585	
452	455	465	650	659	464	657	652	462	454	654	658	649	466	648	902	905	915	1100	1109	914	1107	1102	912	904	1104	1108	1099	916	1098	1352	1355	1365	1550	1559	1364	1557	1552	1362	1354	1554	1558	1549	1366	1548	45585	
674	671	661	476	467	662	469	474	664	672	472	468	477	478	660	1124	1121	1111	926	917	1112	919	924	1114																							

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