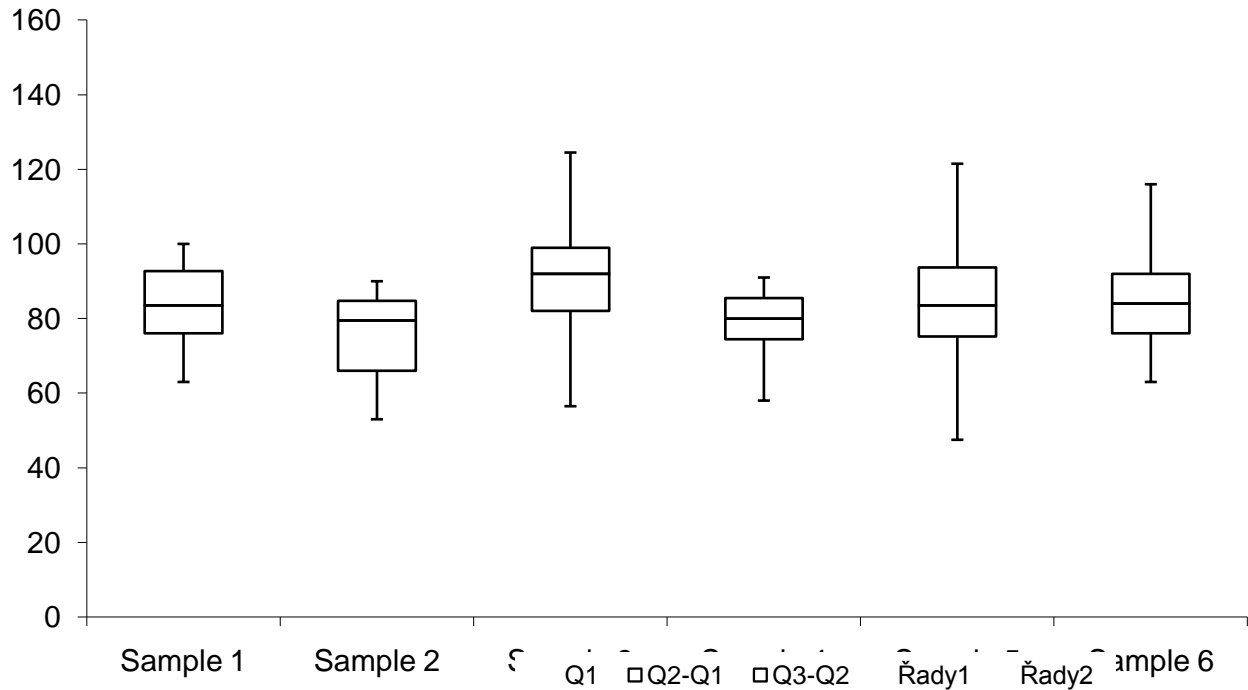


Box Plot Template



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This template shows how to create a box and whisker chart in Excel. The ends of the whisker are set at 1.5*IQR above the third quartile (Q3) and 1.5*IQR below the first quartile (Q1). If the Minimum or Maximum values are outside this range, then they are shown as outliers. The normal convention for box plots is to show all the outliers, but to simplify this template, only the Min and Max outliers are shown. The number of outliers for each data set are included in the table below the chart.

- **Adding Columns:** You can easily add additional data sets by copying an existing column and inserting it between Sample 5 and Sample 6. Doing so will ensure that the chart series expand to include the new data set.
- **Adding Rows:** The formulas allow you to have blank values within the data sets, but if you need to add more rows, add rows above the gray line below the table so that the range references expand to include these new rows.

Labels	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Min	63	53	30	40	10	63
Q ₁	76	66	82	74.5	75.25	76
Median	83.5	79.5	92	80	83.5	84
Q ₃	92.75	84.75	99	85.5	93.75	92
Max	100	90	145	91	140	130
IQR	16.75	18.75	17	11	18.5	16
Upper Outliers	0	0	2	0	2	1
Lower Outliers	0	0	1	1	2	0

Data Table						
	98	88	102	70	98	83
	97	87	99	71	97	75
	94	84	102	72	94	76
	98	88	100	73	98	72
	96	86	106	74	96	84
	83	73	91	75	83	89
	75	65	82	76	75	90
	76	66	84	77	76	92
	72	62	75	78	72	95
	84	74	93	79	84	91
	89	79	98	80	89	99
	90	80	97	81	90	100
	92	82	99	82	92	63
	95	85	96	83	95	74
	91	81	92	84	91	76
	99	89	108	85	99	82
	100	90	102	86	100	93
	63	53	64	87	63	92
	74	64	84	88	74	78
	76	66	77	89	76	73
	82	72	90	90	82	68
	93	83	97	91	93	82
	92	82	93		92	89
	78	68	85		78	86
	73	63	75		73	
	68	58	70		68	
	82		91		82	
	89		95		89	
	86		94		86	
	72		78		72	
	74		82		74	
	79		85		79	
	78		85		78	
	81		82		81	
					20	
			30	40	10	
			140		140	130
			145		130	

Insert new rows above this line

Box Plot Template



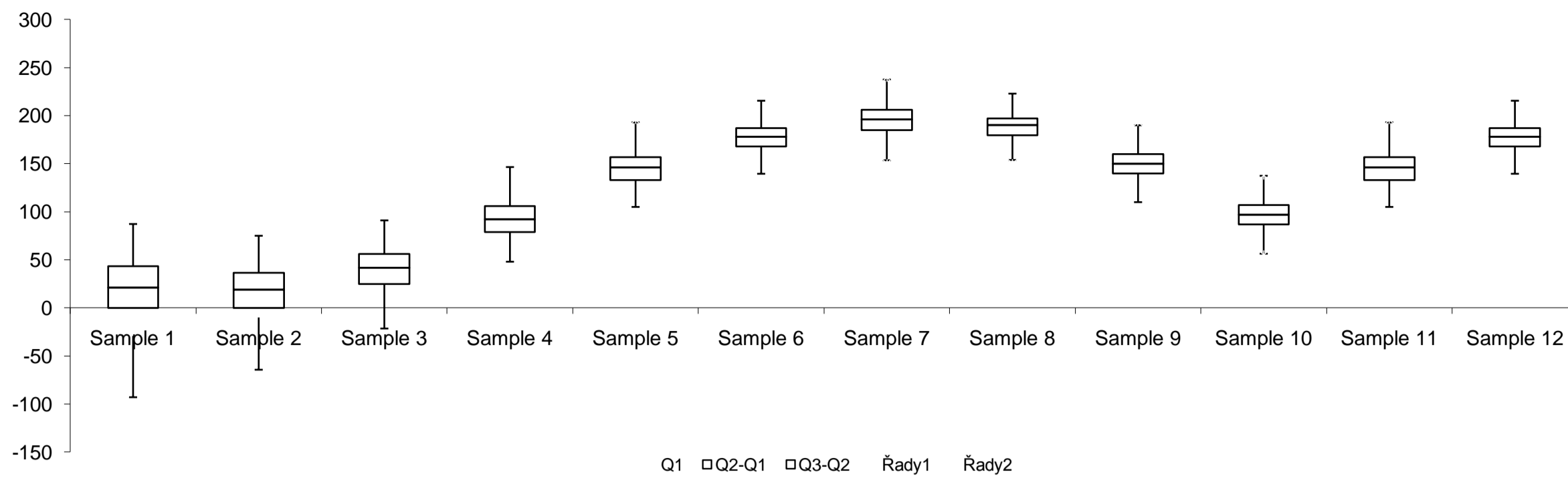
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This worksheet is basically the same as the BoxPlot worksheet except that it is set up to reference the Data worksheet. This makes it easier to delete existing data and add your own data sets of any length (within the limitations of the number of rows in Excel).

- **Adding Columns:** If you have more than 6 data sets in the Data worksheet, you will need to copy an existing column in this worksheet and inserting it between Sample 5 and Sample 6. Doing so will ensure that the chart series expand to include the new data set.

Important: After inserting a new column, you will need to update the references in the formulas to refer to the correct column in the Data sheet. You can do this by copying cells B27:B49 (the formulas for Sample 1) to the right to fill in the formulas for the other samples. Rows 37-49 are unhidden so that you don't forget to include these cells when updating the formulas. You can hide these rows if you want to unclutter the worksheet.



Labels	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10	Sample 11	Sample 12
Min	-93	-110	-55	48	105	132	150	150	100	55	105	132
Q ₁	-29.25	-10	25	79	133	168	185	179.75	140	86.75	133	168
Median	-8	9	42	92	146	178	196	190	150	97	146	178
Q ₃	14.25	26.25	56	106	157	187	206	197	160	107	157	187
Max	58	65	91	162	196	225	240	253	194	138	196	225
IQR	43.5	36.25	31	27	24	19	21	17.25	20	20.25	24	19
Upper Outliers	0	0	0	1	1	1	1	4	2	1	1	1
Lower Outliers	0	5	2	0	0	1	1	1	2	2	0	1

For the Box (IQR and Median)												
Q2-Q1	21.25	19	17	13	13	10	11	10.25	10	10.25	13	10
Q3-Q2	22.25	17.25	14	14	11	9	10	7	10	10	11	9
For the Whiskers												
Q ₃ +1.5*IQR	79.5	80.625	102.5	146.5	193	215.5	237.5	222.875	190	137.375	193	215.5
Q ₁ -1.5*IQR	-94.5	-64.375	-21.5	38.5	97	139.5	153.5	153.875	110	56.375	97	139.5
Upper Whisker	58	65	91	146.5	193	215.5	237.5	222.875	190	137.375	193	215.5
Lower Whisker	-93	-64.375	-21.5	48	105	139.5	153.5	153.875	110	56.375	105	139.5
W _{upper} -Q ₃	43.75	38.75	35	40.5	36	28.5	31.5	25.875	30	30.375	36	28.5
Q ₁ -W _{lower}	63.75	54.375	46.5	31	28	28.5	31.5	25.875	30	30.375	28	28.5
For the Outliers												
Max	#N/A	#N/A	#N/A	162	196	225	240	253	194	138	196	225
Min	#N/A	-110	-55	#N/A	#N/A	132	150	150	100	55	#N/A	132

30	-20	15	65	170	160	150	187	152
40	44	65	102	135	185	196	194	157
37	8	27	92	165	164	180	182	157
25	22	52	124	145	153	202	198	151
-2	50	64	74	140	200	207	215	171
-81	37	55	85	119	178	198	190	144
-14	1	43	69	142	162	177	192	139
5	0	51	115	151	162	220	194	127
-31	36	56	116	162	165	189	194	164
-34	-24	75	78	142	167	193	192	136
-16	17	52	105	148	200	210	220	176
11	-31	37	80	144	185	216	194	156
16	42	28	98	156	190	205	200	168
-87	-30	21	68	162	185	193	190	176
-33	-21	-55	54	140	173	188	186	177
-26	-4	20	101	125	181	163	160	127
-31	5	46	75	130	209	206	209	153
23	10	44	107	161	202	232	188	163
-59	35	1	110	187	184	209	191	158
18	41	52	77	168	194	184	191	142
36	34	68	123	149	186	211	217	153
-8	2	59	113	149	194	216	193	147
-20	39	45	82	143	171	217	204	151
25	56	78	139	162	197	229	186	144
-76	11	49	125	146	196	175	194	159
58	26	8	79	153	180	198	195	170
14	29	37	116	178	181	204	213	176
15	34	41	98	167	207	212	220	194
-93	-35	26	76	142	167	188	197	153
-9	-5	-15	162	186	164	190	207	162
13	-1	69	100	181	172	201	188	177
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-46	-16	32	126	136	178	206	198	134
33	-1	20	91	162	181	206	194	172
-50	-9	25	72	129	172	194	180	167
34	32	51	72	177	175	196	192	174
6	29	19	81	170	184	219	253	153
2	-4	-11	79	174	186	218	218	171
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-31	-20	45	79	151	166	207	201	189
-62	-1	63	109	196	225	228	208	165
-37	5	37	57	162	185	187	192	149
-26	33	34	115	159	170	195	179	145
-33	-54	11	111	126	164	204	191	127
-23	39	66	102	158	187	176	179	139
14	-2	41	96	139	167	184	173	141
20	46	44	49	146	197	193	186	163
21	10	53	110	151	187	200	179	159
9	27	60	104	146	198	205	198	164
-48	12	37	108	161	160	184	216	149
5	-14	36	124	149	154	180	182	169
22	31	80	112	165	204	209	190	152
-87	17	54	85	163	178	192	203	166
8	21	39	84	135	172	195	193	177
19	8	13	106	149	175	197	194	168
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-18	-70	58	113	174	197	217	192	157
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-38	-46	18	98	133	168	207	179	155
-83	-28	55	115	155	192	208	197	148
-42	-1	49	119	144	172	207	192	140
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-40	43	37	78	186	201	188	158	146
44	12	43	82	177	203	240	220	177
8	26	42	88	154	187	215	195	162
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-38	-10	23	64	165	154	188	192	127
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23	22	14	56	148	178	211	191	149
16	-16	-21	58	130	175	197	185	147
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-4	24	15	108	136	177	172	188	138
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-33	-52	20	80	126	200	186	182	166
7	24	72	88	141	181	227	211	139
13	-14	21	86	147	181	168	177	143
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20	1	53	83	115	176	215	205	144
5	2	38	101	108	175	225	178	174
7	-55	5	80	150	201	195	210	145
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-18	-12	8	91	184	206	188	180	123
22	-17	55	89	158	159	179	197	141
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14	21	52	97	144	171	172	203	151
23	16	35	90	130	164	188	177	140
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13	14	35	101	150	167	196	184	137
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19	30	45	85	143	185	176	175	129
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12	13	24	84	152	199	188	166	128
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10	20	51	114	157	159	189	182	156
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28	44	24	94	158	166	190	180	128
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26	5	67	86	128	170	197	187	154
21	24	29	88	121	163	216	186	143
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12	3	61	102	137	209	192	177	151
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17	-20	8	94	154	161	205	203	176
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15	21	86	63	133	186	194	200	148

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14	12	23	125	140	177	216	214	127
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24	-12	29	88	127	179	184	178	146
-28	53	50	116	152	193	186	178	148
3	36	68	92	151	177	214	190	159
-8	22	60	109	136	188	190	182	151
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6	26	60	74	151	183	196	201	167
38	46	83	104	139	163	181	202	156
48	14	56	93	147	173	208	209	184
21	16	23	94	154	194	217	181	145
5	33	80	81	146	186	191	182	135
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13	-48	51	104	175	184	195	191	139
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40	36	41	107	170	177	201	198	156
26	49	87	103	161	178	203	197	163
25	65	91	96	167	187	198	209	136
27	-16	75	93	116	172	216	201	167
27	40	59	103	170	203	217	230	160
30	-11	47	123	181	184	190	194	145
21	-12	60	79	127	163	218	184	136

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-46	23	46	53	133	160	171	190	135
4	36	39	100	143	172	170	176	127
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-16	-34	46	81	153	201	191	211	143
-34	18	36	95	119	158	177	191	140
9	-31	20	101	140	166	185	166	150
-53	-20	12	89	135	177	224	158	167
42	37	59	117	151	186	187	184	124
22	35	37	82	141	177	185	182	127
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-45	-16	37	90	119	173	209	177	123

93	-10	12
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99	50	40
108	41	4
111	43	9
89	38	1
100	55	3
78	65	51
112	50	38
108	42	-8
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78	4	0
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89	42	5
57	-9	-4
126	60	39
103	35	-96
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88	37	30
106	29	22
93	49	24
128	65	43
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138	39	46
108	44	-6
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107	31	-47
94	46	-38
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100	64	57
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98	47	28
136	58	15
121	25	-51
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82	49	33
101	34	-14
90	32	3
75	56	13
102	51	-10
98	41	-6
100	29	-8
101	65	38
120	55	-21
112	51	27
113	68	56
99	66	54
112	41	21

This worksheet is where you enter your data refer to the box plot worksheet.

1. Delete the existing data by selecting all cells and click and select Clear Contents. Do not remove columns or rows as the box plot worksheet will be messed up.

2. Copy and paste or enter your own data into this worksheet. Do not set data in a different column, starting with column A.

109	13	31
92	49	32
84	5	-71
86	59	9
124	43	15
104	39	10
92	47	50
103	42	21
93	4	-10
116	35	24
93	39	-6
87	19	-11
108	58	19
73	65	-77
121	54	39
76	16	19
94	50	39
98	62	-34
100	56	26
121	23	-34
78	28	9
108	36	-5
88	18	-12
79	56	9
114	11	8
88	65	42
93	29	-56
95	16	26
119	40	-59
102	6	2
125	14	17
97	-30	8
106	31	-27
80	12	-10
100	52	-5
114	48	4
112	52	27
80	24	-46
98	55	4
75	46	22
96	27	-10
106	25	45
74	38	9
84	46	-8
66	14	-57
113	68	29
111	46	5
96	13	-10
69	21	-21
109	7	19
77	59	7
107	33	-9
89	13	-86
97	46	42
59	46	13
99	47	10

98	47	11
86	23	27
91	37	-4
104	52	15
72	46	-4
81	28	9
96	28	-20
85	35	-40
106	27	22
83	24	-16
113	28	5
96	51	8
84	50	3
101	24	-7
75	24	13
99	60	32
84	64	-45
95	62	24
104	32	17
79	7	-42
102	56	-3
93	39	28
56	43	21
94	71	-17
127	25	18
87	11	-11
105	30	14
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72	23	28
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77	21	40
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76	13	10
66	12	12
115	9	3
63	30	20
116	39	-13
102	30	5
92	36	-3
93	76	12
92	36	-25
92	74	1
115	58	40
97	68	8
81	43	3
103	48	2
104	36	-36
106	53	63
104	59	10
73	41	15
107	44	8
107	71	-8

76	60	-14
87	59	-36
88	21	16
120	39	14
109	39	0
104	52	-7
105	48	14
69	41	-28
82	64	19
99	49	-1
110	53	42
86	49	-9
84	73	28
86	33	-5
116	46	21
107	39	34
92	46	28
99	24	21
97	60	8
104	63	27
91	48	31
100	69	28
114	43	-5
93	45	-33
101	86	-31
91	62	10
83	21	38
132	39	28
129	48	14
111	50	-10
101	67	-46
98	72	16
97	48	49
78	59	10
89	41	11
73	52	59
91	40	25
115	65	3
106	66	18
101	48	23
86	52	53
96	40	16
102	60	-8
112	61	35
111	40	11
117	61	16
100	24	49
107	63	26
106	62	32
111	28	40
117	33	28
110	50	18
96	77	8
88	58	14
97	23	48
63	58	18

102	7	-27
90	42	-52
65	24	11
85	6	-7
84	21	7
107	52	9
118	23	-21
77	43	-20
55	45	-1
95	38	0
99	26	-4
108	60	33
81	21	2
86	46	10
80	64	-8
68	48	-52

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