Solution

Question 2

From\To	1	2	3	4	5	6	7
1	—			8	22		7
2	2	—	6				
3			—		8		
4	14	2	25	—	12		7
5	24	6	2	8	—		
6					6	—	
7	14			17			—

Symmetric

From\To	1	2	3	4	5	6	7
1	—	2		22	46		21
2		—	6	2	6		
3			—	25	10		
4				—	20		24
5					—	6	
6						—	
7							—

Question 3

Top 10 layouts out of 7! = 5,040 total layouts:

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    :   1   2   3   4   5   6   7    TD
--:---------------------------
 1:   3   4   7   1   5   6   2   1,029
 2:   5   1   7   4   3   2   6   1,069
 3:   7   4   3   2   6   5   1   1,094
 4:   6   5   1   7   4   3   2   1,099
 5:   7   1   5   6   2   3   4   1,112
 6:   4   5   1   7   6   2   3   1,114
 7:   1   5   4   3   2   6   7   1,115
 8:   4   1   5   3   2   6   7   1,119
 9:   3   2   6   5   1   4   7   1,183
10:   6   2   3   4   7   1   5   1,212
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	(i)	(j)	(d_ij)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1	-11	7	1	0	13	26	33	29	27	31	40	43	55	7	13	22	31	40	15	24	39
2	1	-16	15	2	13	0	13	46	28	26	35	44	54	44	6	12	21	30	39	28	37	26
3	2	-3	13	3	26	13	0	53	26	29	38	47	57	31	19	15	24	33	42	35	44	13
4	2	-11	6	4	33	46	53	0	37	25	16	7	10	40	40	38	30	21	25	18	9	50
5	3	-12	15	5	29	28	26	37	0	12	21	30	40	31	22	16	7	16	25	36	28	13
6	3	-18	13	6	27	26	29	25	12	0	9	28	35	38	20	14	5	14	23	25	16	25
7	4	-8	7	7	31	35	38	16	21	9	0	23	26	47	29	23	14	23	32	16	7	34
8	4	-9	10	8	40	44	47	7	30	28	23	0	17	38	38	32	23	14	23	25	16	43
9	4	-17	9	9	43	54	57	10	40	35	26	17	0	30	48	42	33	24	15	28	19	48
10	5	-13	7	10	55	44	31	40	31	38	47	38	30	0	48	42	33	24	15	58	49	18
11	5	-18	13	11	7	6	19	40	22	20	29	38	48	48	0	6	15	24	33	22	31	32
12	6	-7	9	12	13	12	15	38	16	14	23	32	42	42	6	0	9	18	27	20	29	28
13	6	-13	5	13	22	21	24	30	7	5	14	23	33	33	15	9	0	9	18	29	21	20
14	7	-17	7	14	31	30	33	21	16	14	23	14	24	24	24	18	9	0	9	38	30	29
15	8	-14	14	15	40	39	42	25	25	23	32	23	15	15	33	27	18	9	0	43	34	33
16	9	-15	15	16	15	28	35	18	36	25	16	25	28	58	22	20	29	38	43	0	9	48
17	10	-15	15	17	24	37	44	9	28	16	7	16	19	49	31	29	21	30	34	9	0	41
18	10	-18	18	18	39	26	13	50	13	25	34	43	48	18	32	28	20	29	33	48	41	0
19	11	-12	6	19																		
20	12	-13	9	20																		
21	12	-16	20																			
22	13	-14	9																			
23	14	-15	9																			
24	16	-17	9																			