adj matrix:

j,i→	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	1	1	0	0	1	0	1	0	0
2	0	1	1	1	1	0	0	0	0	0	1
3	0	1	1	0	0	1	1	0	0	0	0
4	0	0	1	0	0	1	0	0	0	0	0
5	0	0	0	1	1	1	1	0	0	0	0
6	0	1	0	1	0	1	0	1	1	0	0
7	0	0	0	0	0	1	0	0	0	1	0
8	0	1	0	0	0	0	1	0	0	1	1
9	0	0	0	0	0	0	0	1	1	0	1
10	0	0	1	0	0	0	0	0	1	1	0
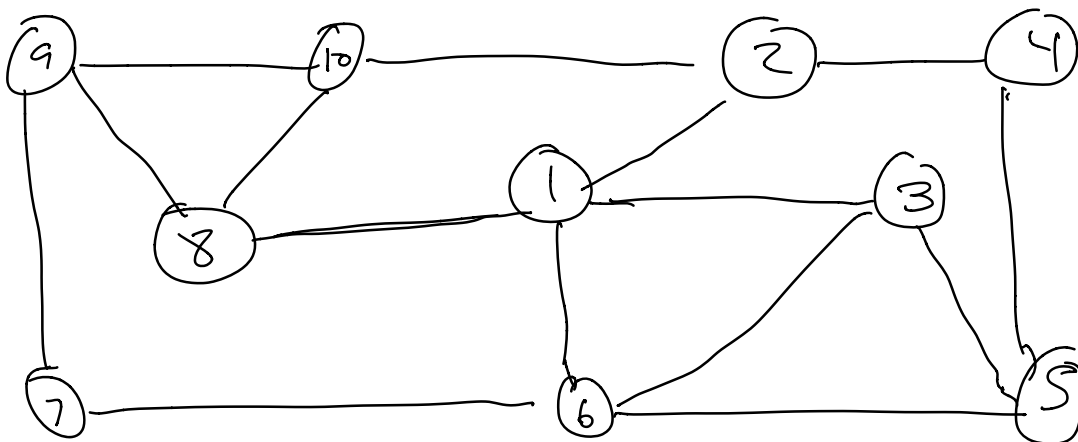
(BFS) path: 5 4 2 3 1 6 7 9 8 10

(DFS) Smallest path (1-10):   7 9 8 10 2 1 6 3 5 4