The optimal path by the number of transitions

Cost: 8 | Solved: 100

Memory limit: 256 MBs

Time limit: 1 s

Input: input.txt

Output: output.txt

Task:

You are given an undirected graph.

Find the optimal path by the number of transitions between two vertexes.

Input:

The first line contains a natural **n** (1 ≤ **n** ≤ 100) – the quantity of graph's vertexes.

The next **n** lines contain the adjacency matrix of the graph (0 means no edge, 1 means the edge exists).

The last line contains the indices of two vertexes – the initial and the final.

Output:

The first line should contain the length of the shortest path possible (the quantity of vertexes to go to).

The second line should contain the path itself.

If the path doesn't exist, output -1.

Example:

Input	Output

5 0 1 0 0 1 1 0 1 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 3 5	3 3 2 1 5
5 0 1 0 0 1 1 0 1 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 4 5	-1