Generating an Eulerian cycle

Cost: 6 | Solved: 51

Memory limit: 256 MBs

Time limit: 1 s

Input: input.txt

Output: output.txt

Task:

You are given a graph with ***n*** vertexes.

You have to find its Eulerian cycle.

An Eulerian cycle is a closed path of a graph which goes through every edge only once.

Input:

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

The next ***n*** lines contain the adjacency matrix of the graph.

Output:

An Eulerian cycle of the graph. Output it, writing each vertex you visit consecutively.

If it's impossible to output an Eulerian cycle, write -1.

All vertexes should be output on the same line.

Example:

Input	Output

5 01111 10111 11011 11101 11110	2 5 4 3 5 1 4 2 3 1 2