



(/en/),  
v1.1.0

## CSD Testing System

(/en/)

# Travelling salesman problem

Cost: 16 | Solved: 45

**Memory limit:** 256 MBs

**Time limit:** 1 s

**Input:** standard input

**Output:** standard output

### Task:

There are  $n$  cities and  $m$  roads between them (the roads are built between each pair of cities). A certain fee is charged for entrance to a city.

You have to find the most profitable route that will allow the travelling salesman to go around all the cities with his goods.

### Input:

The first line contains a natural  $n$  ( $1 \leq n \leq 12$ ) – the quantity of cities.

The next  $n$  lines contain the adjacency matrix of the graph (*each edge number means the fee charged for entrance to a city*).

### Output:

The first line should contain the lowest cost of going around all the cities.

The second line should contain the most profitable route (*consecutively output all city numbers*).

### Example:

Input	Output
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5	
0 5 3 2 4	
4 0 5 4 1	8
3 6 0 4 2	2 5 3 1 4
2 4 4 0 5	
6 1 2 7 0	