Bloomberg
<CODE/B>

Memory Limit: 1024 MB
Time Limit: 5 s

Alice in a Swamp (100 points)

Introduction

Help Alice find the quickest way out of a swamp!

Alice needs to cross a dangerous swamp. The swamp has a shape of a square and each step Alice takes needs to be carefully considered. If she steps on a good piece of land she can move on quickly, but if she steps on an unsteady piece of land she will spend some time getting out and moving on to the next step. Alice can only go in the easterly or southerly direction. She will start in the North-West corner and she needs to reach the South-East corner.

Input Specifications

Your program will take in:

- An input **N (1 ≤ N ≤ 15)**, the size of the swamp (the swamp is an NxN field) (N ≥ 1)
- **N lines of N numbers** each describing the cost of getting out of that piece of land. (each number is an integer)

Output Specifications

One number - the cost of the quickest route for Alice

Sample Input/Output

Input

```
3
1 1 5
4 1 9
8 1 1
```

Output

```
5
```

Explanation

The quickest route from the top-left (North-West) to the bottom-right (South-East) corner is following the pieces of the swamp with the cost of 1. So the cost of that route is 5 steps x cost 1 = 5

Input

```
5
3 2 0 1 3
8 4 7 4 0
0 8 0 8 7
1 5 6 2 9
9 3 4 0 7
```

Output

27

Explanation

This case actually has two routes with equally low costs from the top-left (North-West) to the bottom-right (South-East) corner. The first route via pieces 3, 2, 0, 7,0 6, 2, 0, 7 which make a total cost of 27, and the second via pieces 3, 2, 0, 1, 4, 8, 2, 0, 7 which also make a total cost of 27.