<C*deVita/>
The TCS Global Coding Contest

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05 Hr 36 Min 22 Sec

- Guidelines
- Coding Area
- Editor | Compile & Run History
- Submissions
- Unevaluated Submissions
- Submission History
- Feedback Form
- Graphs

Coding Area

A | B | C | D | E | F

ONLINE EDITOR (A)

A Board Game

Problem Description

You are given an N x N grid of squares. Each square except the top left is filled with a positive integer. You start at the top left corner with a score of 0 and move to the bottom right square by moving either right by one square or down by one square. As you move to the new square, your score becomes [S/2] + k, where S was the score at your previous square and k is the number written in the current square. In the above, [x] is the largest integer which is not greater than x. Thus, [5] is 5, and [5.5] is also 5.

Write a program to find the smallest score with which you can exit the grid.

Constraints

4 <= N <= 30

Number in each square <= 1000

Input Format

The first line contains a single integer N, representing the size of the grid

The next N lines, each having N space separated integers giving the numbers written on successive rows of the grid

Output

The smallest score with which you can exit the grid

Time Limit

1

Explanation

Example 1

Input

Input

4

0 3 9 6

1 4 4 5

8 2 5 4

1 8 5 9

Output

12

Explanation

N=4. The set of scores are as given. The 4 X 4 scores look as follows

One possible set of moves are down, right, down, right, right, down.

The corresponding scores are 1, 4, 4, 7, 7, 12

Example 2

Input

5

0 82 2 6 7

4 3 1 5 21

6 4 20 2 8

6 6 64 1 8

1 65 1 6 4

Output

7

Explanation

One possible set of moves are down, right, right, right, down, down, down, right

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Upload Solution [Question : A]

☐ I, **YASHRAJ DIGHE** confirm that the answer submitted is my own.

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