Path on a board X13208_en

Consider an $n \times n$ board, where n is odd. From each cell, we can move to any of its (at most) four horizontally or vertically adjacent cells. For each cell, we have to pay a certain positive cost when we go through it. Compute the minimum cost of going from the center of the board to any cell on its periphery.

Input

Input consists of several cases, each with n, followed by an $n \times n$ matrix. You can assume that n is an odd number between 1 and 499, and that all costs are integer numbers between 1 and 1000.

Output

For every case, print the minimum cost to go from the middle of the board to any cell on the edge of the board.

Sample input

```
1
42

3
1 2 3
4 5 6
7 8 9

9
999   1 999 999 999 999 999 999 999
999   2 999   6   5   4   3   2 999
999   3 999   7 999 999 999   1 999
999   4 999   8 999 999 999   9 999
999   5 999   9   1 999 999   8 999
999   6 999 999 999 999 999   7 999
999   7 999 999 999 999 999   6 999
999   8   9   1   2   3   4   5 999
999 999 999 999 999 999 999 999 999
```

Sample output

```
42
7
136
```

Problem information

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Generation : 2021-05-18 10:06:57