COCI '11 Contest 1 #2 Matrix

Time limit: 1.0s **Memory limit:** 32M

As we all know, we live inside the **matrix** that is divided into N rows and N columns. An integer is written into each one of the $N \times N$ cells of the matrix. In order to leave the matrix, we must find the **most beautiful square** (square-shaped sub-matrix) contained in the matrix.

If we denote by A the sum of all integers on the main diagonal of some square, and by B the sum of the other diagonal, then **the beauty** of that square is $A - B$.

Note: The main diagonal of a square is the diagonal that runs from the top left corner to the bottom right corner.

Input Specification

The first line of input contains the positive integer N $(2 \leq N \leq 400)$, the size of the matrix.

The following N lines each contain N integers in the range $[-1\,000, 1\,000]$, the elements of the matrix.

Output Specification

The only line of output must contain the maximum beauty of a square found in the matrix.

Sample Input 1

```
2
1 -2
4 5
```

Sample Output 1

```
4
```

Sample Input 2

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

Sample Output 2

```
0
```

Sample Input 3

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

Sample Output 3

```
5
```