nikkiNXN

As we all know, nikki live inside the **matrix** that is divided into **N** rows and **N** columns. An integer is written into each one of the **NxN** cells of the matrix.

In order to leave the matrix, nikki 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

The first line of input contains the positive integer **N** (2 <=**N** <= 400), the size of the matrix.
The following **N** lines each contain **N** integers in the range [-1000, 1000], the elements of the matrix.
Time limit : 1 sec

OUTPUT

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

SAMPLE

Input
2
1 -2
4 5
Output
4

Input
3
-3 4 5
7 9 -2
1 0 -6
Output
5