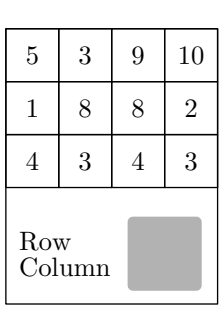
Problem L. Lucky Chances

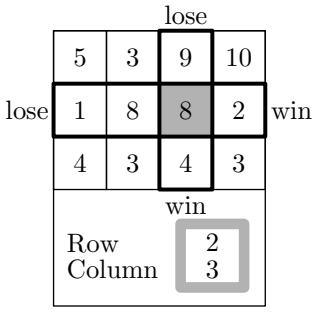
Input file:	`lucky.in`
Output file:	`lucky.out`
Time limit:	2 seconds
Memory limit:	256 megabytes

Lucky Chances is a lottery game. Each lottery ticket has a play field and a scratch area. The play field is a rectangular $r \times c$ field filled with numbers. The scratch area hides row and column numbers that specify the bet cell.

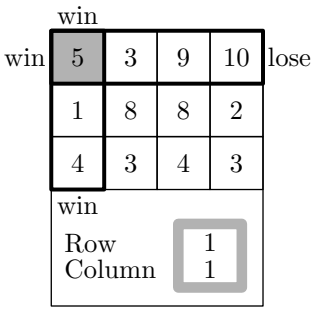
There are four possible winning directions: up, down, left and right. You win a direction if all numbers in this direction from the bet cell are strictly less than a number in the bet cell. And if the bet cell is on the edge of the grid, you win the corresponding direction automatically!



Unscratched ticket



Scratched ticket 1



Scratched ticket 2

Larry wants to choose the ticket that has maximum total number of winning directions for all possible bet cells. Write a program that determines this number for the given grid.

Input

The first line of the input file contains two integers r and c — the number of rows and columns in the grid ($1 \le r, c \le 100$).

The following r lines contain c integers each — the numbers printed on the grid. Each number is positive and does not exceed 1000.

Output

Output a single integer w — the total number of winning directions for the given grid.

Example

lucky.in	lucky.out
3 4 5 3 9 10 1 8 8 2 4 3 4 3	25