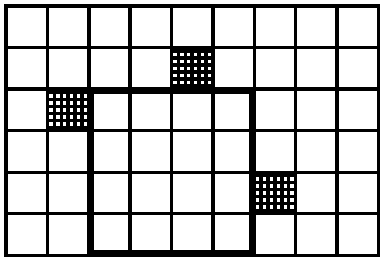
Board with Holes

A rectangular board consists of $m \times n$ unitary squares. Some squares have been cut away.

What is the biggest square without holes that can be found on the board?

For example, if we have a 6×9 board and three squares have been cut out as it is shown in the picture, then the solution is 4. The largest possible square without holes has dimensions 4×4 and is double framed in the picture.



Task. Write an algorithm to solve this problem.

Examples.

Input	Output	Comments
6 9 3 3 2 2 5 5 7	4	Example corresponds the picture. Given 6×9 board with three squares cut. The rows are numbered top-bottom way and the columns – from the left to the right.

Constraints. $1 \leq m, n, \leq 100$, $1 \leq k \leq 250$.