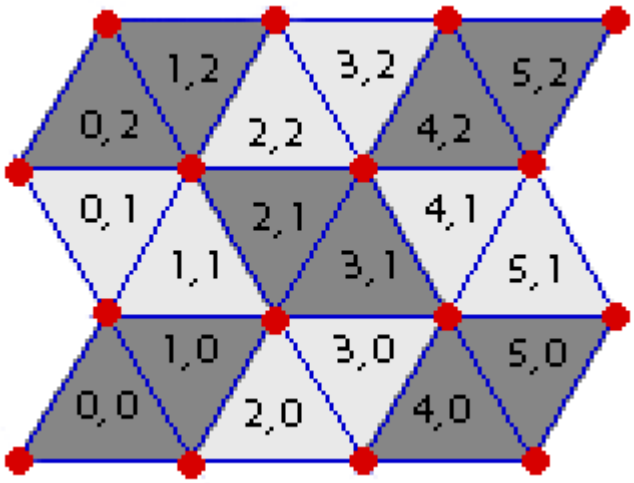
Problem A: Rhombinoes



In the game of *Rhombinoes*, you have a board made up entirely of equilateral trianges (see the image), some of which are "*live*" and some are "*dead*". Your goal is to place down as many rhombinoes ("rhombus"-shaped pieces) as possible on the board. Each rhombino should exactly cover two "adjacent" *live* triangles that have a common side, and no two rhombinoes can use the same triangle.

Given the description of the *live* and *dead* triangles of a Rhombino board, what is the maximum number of rhombinoes you can simultaneously place down on the board?

Description of Board

Each triangle in the board has a pair of coordinates *(x, y)*. The bottom-left triangle has coordinates *(0, 0)* and will always be a triangle with its tip pointed upward. For any given triangle with coordinates *(x, y)*, the triangle adjacent to it on its right-side (if any) has coordinates *(x+1, y)*, and the triangle adjacent to it on its top-side (if any) has coordinates *(x, y+1)*. Left-side and bottom-side adjacency are defined similarly.

Each board has a width *W* and a height *H*. A board with width *W* and height *H* is the board which consists of all triangles with coordinates *(x, y)* such that $0 \le x < W$ and $0 \le y < H$. For example, the game board in the image has width *6* and height *3*.

(See the image for clarification.)

Input Description

The first line of input contains three space-separated integers *W*, *H*, and *K*.

W is the width of the board, *H* is the height, and *K* is the number of dead triangles on the board ($1 \le W \le 100$, $1 \le H \le 100$, $1 \le K \le W*H \le 1000$).

Exactly K lines will follow. Each such line will contain a pair of space-separated integers x and y ($0 \le x < W$, $0 \le y < H$), indicating that the triangle with coordinates (x,y) is a *dead* triangle. All other triangles are *live*.

Output Description

Output a line containing a single integer, the maximum number of rhombinoes you can simultaneously place down on the board.

Sample Input

```
6 3 4
1 1
2 2
4 1
3 0
```

Output for Sample Input

```
5
```

Explanation of Sample Input

This is the board in the image, with cells $(1, 1)$, $(2, 2)$, $(4, 1)$, and $(3, 0)$ dead.

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