
3. Bishop

Program Name: Bishop.java

Input File: bishop.dat

You're playing chess on a nice $n \times m$ board. Your opponent decided to place k bishops around the board. How many positions do you have to safely place your pawn? In chess, a bishop moves and captures along all 4 diagonals leading away from it. It can move as much as the entire length of a diagonal to do so, therefore you are not safe anywhere along any of the diagonals leading away from a bishop.

Input

The first line of input contains t , the number of test cases that follow.

For each test case, the first line will consist of three integers, n , m , and k , where n represents the number of rows, m represents the number of columns, and k represents the number of placed bishops. The following k lines have two integers each, representing the row and column of a bishop. All positions are 0-indexed.

Output

For each test case, print the number of locations you can safely place your pawn on the board.

Constraints

$1 \leq t \leq 10$
 $1 \leq n, m \leq 1000$
 $0 \leq k \leq n * m$

Example Input File

```
3
2 2 1
0 0
2 2 2
0 0
1 0
3 1 2
0 0
1 0
```

Example Output to Screen

```
2
0
1
```