Problem B - Hallosweeper

Minesweeper is played on an rectangular board, and each square either has a mine, or a number telling you how many mines are around that square. An example of a possible set up for a 3×3 board is below.

```
|x|x|1|
|2|2|1|
|0|0|0|
```

It's the day before Halloween - Lily is setting up a physical minesweeper game (Hallosweeper) for one of her friends, except instead of mines, she's using toothpaste, and instead of numbers, she's using candy. If a square has the number 5, it should have 5 pieces of candy on it.

Lily is setting up an $m \times n$ board $(1 \leq m, n \leq 1000)$. Since she has k bottles of toothpaste $(0 \leq k \leq 10000)$, she will put k mines, with the ith mine at position (x_i, y_i). How many pieces of candy does Lily need to properly set up her game of Hallosweeper?

Input

The first line of the input consist of a single integer t $(1 \leq t \leq 100)$, the number of test cases.

The first line of each test case will contain two integers m and n $(1 \leq m, n \leq 1000)$, the number of rows and columns of the board respectively.

The second line of each test case will contain an integer k $(0 \leq k \leq 10000)$, the number of bottles of toothpaste to be placed.

The next k lines will contain the integer coordinates (x, y) $(1 \leq x \leq m; 1 \leq y \leq n)$ of each mine. No two mines will have the same position.

Output

Output a line containing a single number for each test case, the number of pieces of candy Lily needs to set up her game of Hallosweeper.

Sample Input

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

Sample Output

```
6
```

Note: The above sample input/output corresponds with the example given in the text of the problem.