CCCHK '15 J3 - Queens can't attack me!

Time limit: 1.0s **Memory limit:** 256M

Consider a square chessboard with $N \times N$ cells and M queens on the chessboard (Note: there are no other chess pieces besides the queens).

A queen can move vertically, horizontally or diagonally. As an example, consider the square chessboard with 6×6 cells with one queen (denoted by the ♕ notation) in Figure 1 below. The cells that can be reached by the queen are marked with the ○ notation. There are 16 cells that cannot be reached by the queen.

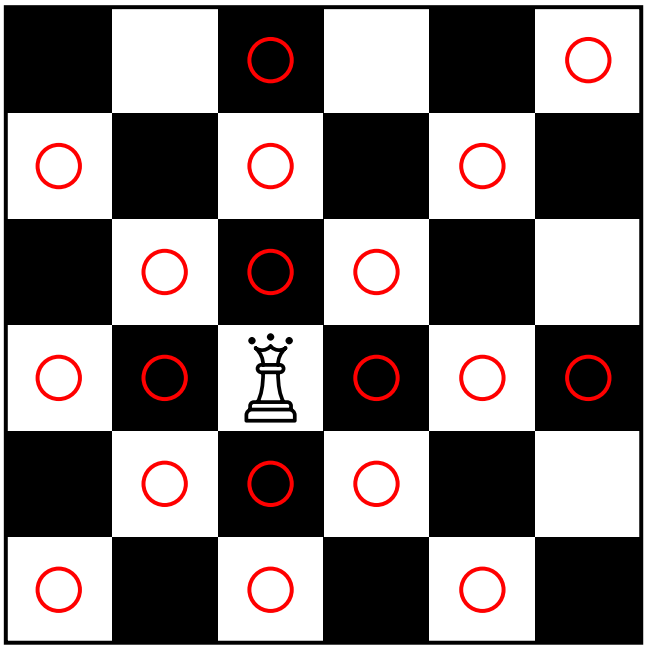

Figure 1

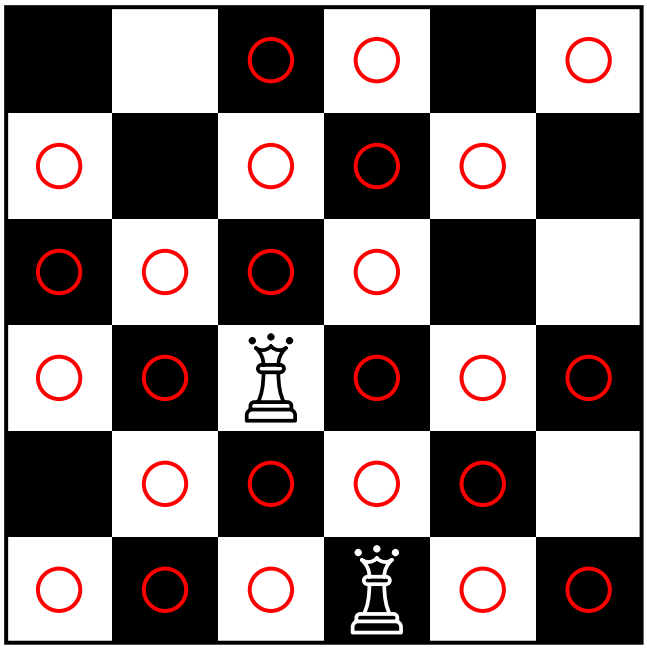

Figure 2

Your task is to calculate the number of cells that are **NOT** reachable by any queens.

Input Specification

The first line contains two integers, N and M $(1 \leq N \leq 100, 1 \leq M \leq 10)$. Following are M lines. Each line contains two integers x and y, representing the location of a queen, i.e., the queen is at xth row and yth column $(1 \leq x, y \leq N)$.

Output Specification

The number of cells that are not reachable by any queens.

Sample Input 1

```
6 1
4 3
```

Output for Sample Input 1

```
16
```

Sample Input 2

```
6 2
4 3
6 4
```

Output for Sample Input 2

```
9
```

Explanation

Figure 1 and Figure 2 correspond to Sample 1 and Sample 2, respectively.