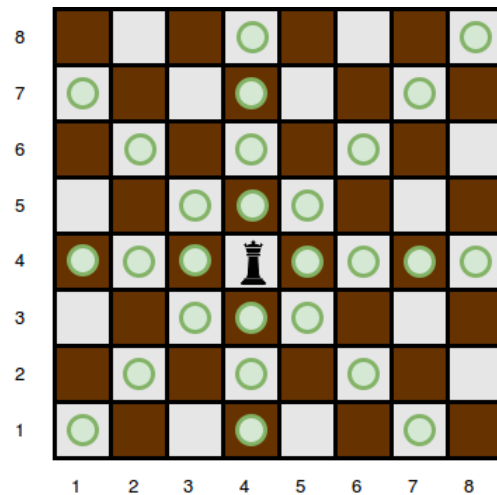# Queen's Attack II

A queen is standing on an $n \times n$ chessboard. The chessboard's rows are numbered from 1 to n, going from bottom to top; its columns are numbered from 1 to n, going from left to right. Each square on the board is denoted by a tuple, (r, c), describing the row, r, and column, c, where the square is located.

The queen is standing at position (r_q, c_q) and, in a single move, she can attack any square in any of the eight directions (left, right, up, down, or the four diagonals). In the diagram below, the green circles denote all the cells the queen can attack from $(4, 4)$:

There are obstacles on the chessboard, each preventing the queen from attacking any square beyond it on that path. For example, an obstacle at location $(3, 5)$ in the diagram above prevents the queen from attacking cells $(3, 5)$, $(2, 6)$, and $(1, 7)$:
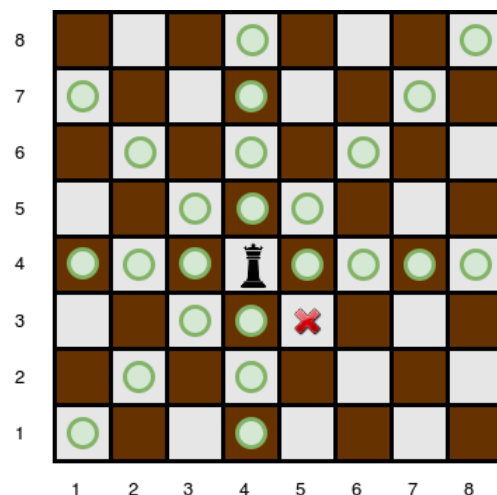
Given the queen's position and the locations of all the obstacles, find and print the number of squares the queen can attack from her position at (r_q, c_q).

Input Format

The first line contains two space-separated integers n and k, the length of the board's sides and the number of obstacles.
The next line contains two space-separated integers r_q and c_q, the queen's row and column position.
Each of the next k lines contains two space-separated integers $r[i]$ and $c[i]$, the row and column position of $obstacle[i]$.

Constraints

- $0 < n \leq 10^5$

- $0 \le k \le 10^5$

  - A single cell may contain more than one obstacle.

  - There will never be an obstacle at the position where the queen is located.

Subtasks

For 30% of the maximum score:

- $0 \le n \le 100$

- $0 \le k \le 100$

For 55% of the maximum score:

- $0 \le n \le 1000$

- $0 \le k \le 10^5$

Output Format

Print the number of squares that the queen can attack from position (r_q, c_q).
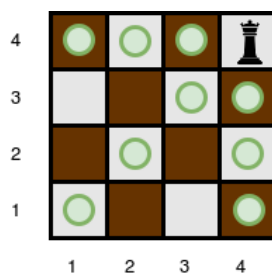
Sample Input 0

```
4 0
4 4
```

Sample Output 0

```
9
```

Explanation 0

The queen is standing at position $(4, 4)$ on a 4×4 chessboard with no obstacles:
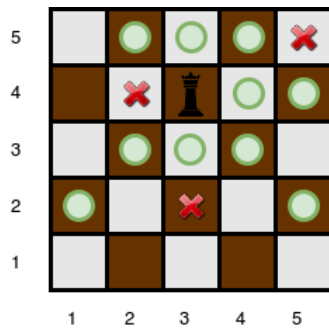

Sample Input 1

```
5 3
4 3
5 5
4 2
2 3
```

Sample Output 1

```
10
```

Explanation 1

The queen is standing at position $(4, 3)$ on a 5×5 chessboard with $k = 3$ obstacles:

The number of squares she can attack from that position is 10.

Sample Input 2

```
1 0
1 1
```

Sample Output 2

```
0
```

Explanation 2

Since there is only one square, and the queen is on it, the queen can move 0 squares.