DMOPC '20 Contest 4 P3 - Roving Roombas

Time limit: 2.0s **Memory limit:** 256M

Tudor is managing his Roombas!

Tudor has a total of N Roombas which he uses to clean his room. His Roombas each clean parts of a row in his square room, specifically, going from $(0, Y_i)$ to (X_i, Y_i).

Unfortunately, Tudor also has M server cords, each taking up parts of a column in his room, specifically, going from $(X_j, 0)$ to (X_j, Y_j).

Tudor is going to let his Roombas clean his room, and he wonders: how many times will any Roomba run over a cord? Note that if a Roomba runs over the end of a cord, it still counts.

Constraints

$1 \leq N, M \leq 2 \times 10^5$

$1 \leq X_i, X_j, Y_i, Y_j \leq 10^9$

$Y_i \neq Y_k$ for all $1 \leq i < k \leq N$

$X_j \neq X_k$ for all $1 \leq j < k \leq M$

Subtask 1 [5%]

$1 \leq X_i, Y_j, Y_i, Y_j \leq 2\,000$

$1 \leq N, M \leq 2\,000$

Subtask 2 [10%]

$1 \leq X_i, X_j, Y_i, Y_j \leq 10^6$

$1 \leq N, M \leq 2\,000$

Subtask 3 [15%]

$1 \leq X_i, X_j, Y_i, Y_j \leq 10^6$

Subtask 4 [70%]

No additional constraints.

Input Specification

The first line contains 2 integers N and M.

The next N lines each contain 2 space-separated integers X_i and Y_i, representing the path of a Roomba.

The next M lines each contain 2 space-separated integers X_j and Y_j, representing a cord.

Output Specification

On one line, output the number of times any Roomba will run over a cord.

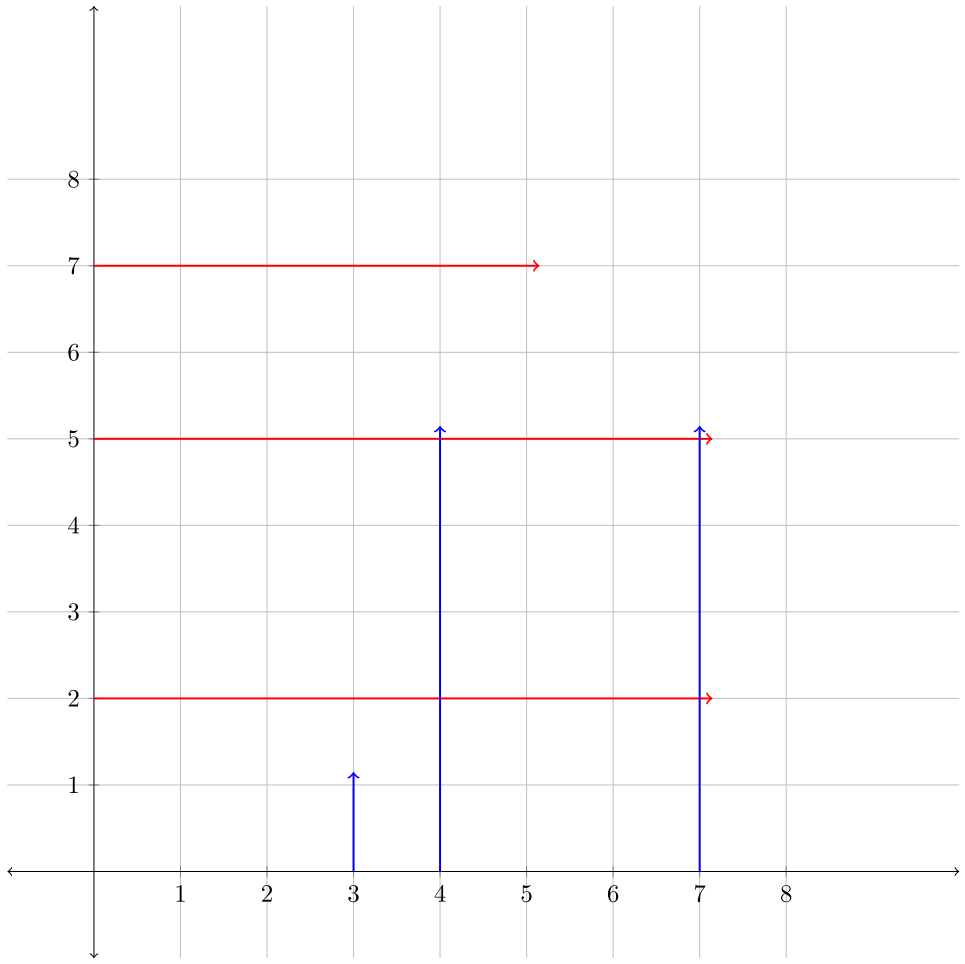
Sample Input

```
3 3
7 2
7 5
5 7
3 1
7 5
4 5
```

Sample Output

```
4
```

Explanation



The Roombas are shown going left to right, and the cords from the bottom up. There are four points of intersection.