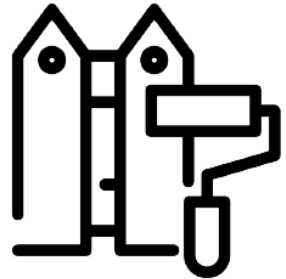


## 7959 Paint

You are painting a fence with  $n$  slats, numbered from 1 to  $n$ . There are  $k$  artists, each willing to paint their design on a specific portion of the fence. However, artists will never agree to have their slats painted over, so they will only paint their portion of the fence if no one else will paint any part of it.

You want to select a set of painters that does not conflict to minimize the number of unpainted slats.

For example, suppose there are 8 slats, and 3 painters. One painter wants to paint slats 1→3, one wants to paint 2→6, and one wants to paint 5→8. By choosing the first and last painters, you can paint most of the slats, leaving only a single slat (slat 4) unpainted, with no overlap between painters.



### Input

The input file contains several test cases, each of them as described below.

The first line contains two positive integers  $n$  ( $1 \leq n \leq 10^{18}$ ) and  $k$  ( $1 \leq k \leq 200,000$ ).

Each of the next  $k$  lines contains two positive integers  $a_i$  and  $b_i$ , where  $1 \leq a_i \leq b_i \leq n$ , indicating that the  $i$ -th artist wants to paint all slats between slat  $a_i$  and slat  $b_i$ , inclusive.

### Output

For each test case, print, on a single line, a single integer indicating the minimum number of slats that go unpainted with an optimal selection of painters.

### Sample Input

```
8 3
1 3
2 6
5 8
```

### Sample Output

```
1
```