

LCC '22 Contest 2 J4 - Unbe-leaf-able Schedules

Time Limit: 2.0s **Memory Limit:** 512M

James is quite the *unbe-leaf-able* K-Pop idol. Not only is he extremely popular, he also has a special ability which allows him to perform in many locations at once.

James has just released a new album, and is now going on a world tour, which will last N days. Due to his popularity, he has been invited to perform an absurd number of times. Luckily for James, his special ability has come in handy.

However, even the most *unbe-leaf-able* idols have limits, and that includes James. He can only perform at up to M places at once. If he exceeds this amount, his performance quality would decrease drastically and James would like to prevent that at all costs.

If James is scheduled to perform Q times, with each show beginning at day A and ending at day B , can you help James determine if he can actually pull this schedule off?

Note: Python users are recommended to use PyPy 2/3 over Python 2/3 when submitting.

Constraints

$$1 \leq A_i \leq B_i \leq N \leq 10^7$$

$$1 \leq M \leq 10^5$$

$$1 \leq Q \leq 10^5$$

Input Specification

The first line will contain N , M and Q , each separated by a space

The next Q lines will contain 2 space-separated integers, A_i and B_i , representing the beginning and end days of the i^{th} show.

Output Specification

If James's schedule isn't possible to pull off, that is, if he has to perform at more than M locations at once, output

TAKE A BREAK JAMES

Otherwise, output the highest number of simultaneous performances James has.

Sample Input 1

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

Sample Output 1

```
3
```