

New Year's '19 P8 - Best Hat in Town II

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

The Mad Hatter's hat-searching quest now continues in a new town. In this town, there are N varieties of hats (numbered from 1 to N) being traded at M stores (numbered from 1 to M). The i -th store will sell a hat of type h_i in exchange for any hat whose type is between a_i and b_i (inclusive). The Mad Hatter can perform a trade at the same store more than once.

The Mad Hatter starts with a single hat of type 1. What is the maximum possible number of distinct hat types that he can wear at least once?

Constraints

$$1 \leq N \leq 10^5$$

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

$$1 \leq h_i \leq N$$

$$1 \leq a_i \leq b_i \leq N$$

Input Specification

The first line contains two space-separated integers N and M .

M lines follow; the i -th one contains three space-separated integers h_i , a_i , and b_i .

Output Specification

Output a single integer: the maximum number of hat types that can be worn.

Sample Input

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

Sample Output

Explanation for Sample Output

It is possible to wear hats of type 1, 2, 3, and 4 using the sequence of trades $1 \rightarrow 4 \rightarrow 2 \rightarrow 4 \rightarrow 3$.