

Maddy's Party

Input File	Output File	Time Limit	Memory Limit
standard input	standard output	2 seconds	256 MiB

Maddy has baked the most delicious stardrop-strawberry pie she's ever tasted and she can't wait to throw a party and share it with all the residents of *Terreste Valley*!

The valley has N residents (numbered from 1 to N) that she would like to invite. Sending invitations to each resident is a rather daunting task, as there are a lot of them!

Fortunately, Maddy knows that if she invites a resident, they will tell their friends about the party and invite them for her! Those friends will in turn invite their friends to the party and so on.

The friendships in the valley can be described by R friendship ranges. The i -th friendship range indicates that resident x_i is friends with all the residents numbered between a_i and b_i inclusive, and vice versa ($a_i \leq b_i$). A resident can be friends with themselves.

What is the fewest invitations that Maddy must send to invite all the residents of the valley?

Subtasks and Constraints

For all subtasks, you are guaranteed that:

- $2 \leq N \leq 1\,000\,000\,000$.
- $1 \leq R \leq 100\,000$.
- $1 \leq x_i \leq N$, for all i .
- $1 \leq a_i \leq b_i \leq N$, for all i .

Additional constraints for each subtask are given below.

Subtask	Points	Additional constraints
1	15	$N, R \leq 1\,000$.
2	15	$N \leq 100\,000$ and $a_i = b_i$, for all i .
3	30	$N \leq 100\,000$ and $x_i = a_i$, for all i .
4	25	$N \leq 100\,000$.
5	15	No special constraints.

Input

- The first line of input contains the two integers N and R .
- The next R lines describe the friendship ranges. The i -th line contains x_i , a_i and b_i .

Output

Output a single integer, the minimum number of invitations Maddy must send.

Sample Input 1

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

Sample Output 1

3

Sample Input 2

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

Sample Output 2

2

Sample Input 3

```
9 6
1 1 4
7 7 8
8 8 9
6 6 6
3 3 4
3 3 5
```

Sample Output 3

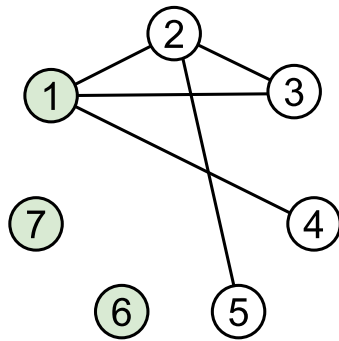
3

Explanation

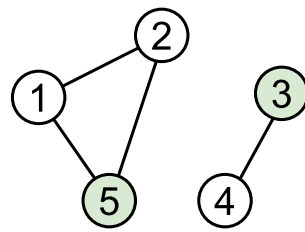
In Sample case 1, Maddy can send an invitation to residents 1, 6 and 7, requiring 3 invitations in total. Note that the friendship between residents 1 and 2 are specified twice: Once in the 1st friendship range and once in the 2nd friendship range.

In Sample case 2, Maddy can send an invitation to residents 3 and 5, requiring 2 invitations in total. Note that this sample case fits the constraints for subtask 2.

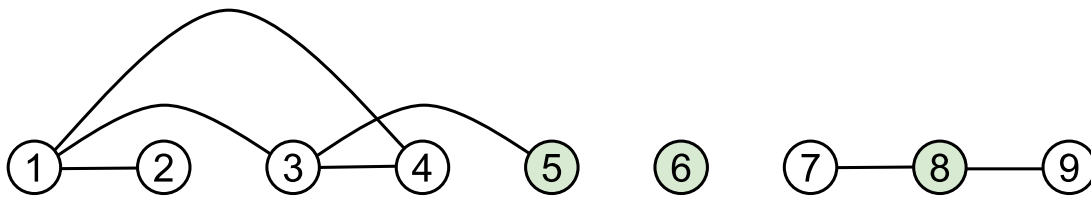
In Sample case 3, Maddy can send an invitation to residents 5, 6 and 8. Note that this sample case fits the constraints for subtask 3.



Sample Case 1



Sample Case 2



Sample Case 3

Figure 1: The sample cases. Each circle represents a resident. Two distinct residents are connected by a line if they are friends.