C - 403 Forbidden   Editorial (/contests/abc403/tasks/abc403_c/editorial)   🔴 / 🇬🇧

Time Limit: 2 sec / Memory Limit: 1024 MB

Score : 300 points

Problem Statement

There are N users on WAtCoder, numbered from 1 to N, and M contest pages, numbered from 1 to M. Initially, no user has view permission for any contest page.

You are given Q queries to process in order. Each query is of one of the following three types:

- 1 X Y: Grant user X view permission for contest page Y.
- 2 X: Grant user X view permission for all contest pages.
- 3 X Y: Answer whether user X can view contest page Y.

It is possible for a user to be granted permission for the same contest page multiple times.

Constraints

- $1 \le N \le 2 \times 10^5$
- $1 \le M \le 2 \times 10^5$
- $1 \le Q \le 2 \times 10^5$
- $1 \le X \le N$

- $1 \le Y \le M$
- All input values are integers.

Input

The input is given from Standard Input in the following format:

$$N \quad M \quad Q$$
$$\text{query}_1$$
$$\text{query}_2$$
$$\vdots$$
$$\text{query}_Q$$

Each query_i is in one of the following formats:

$$1 \quad X \quad Y$$

$$2 \quad X$$

$$3 \quad X \quad Y$$

Output

For each query of the third type, print Yes if user X can view contest page Y, otherwise print No, each on its own line.

Sample Input 1   Copy

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

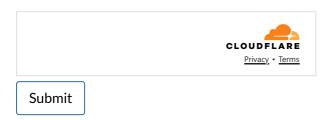## Sample Output 1   Copy

```
No
Yes
Yes
```

- In the first query, user 1 is granted permission to view contest page 2.
- At the second query, user 1 can view only page 2; they cannot view page 1, so print No.
- At the third query, user 1 can view page 2, so print Yes.
- In the fourth query, user 2 is granted permission to view all pages.
- At the fifth query, user 2 can view pages $1, 2, 3$; they can view page 3, so print Yes.

Sample Input 2   Copy

```
                                                              Copy
5 5 10
2 2
3 4 4
1 1 1
1 4 1
1 4 2
1 4 4
1 2 4
3 3 2
3 5 4
3 2 1
```

Sample Output 2   Copy

```
                                                              Copy
No
No
No
Yes
```

Language

Python (CPython 3.11.4)

Source Code

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