

# Experiment

Little Chanu is researching the sexual behavior of a rare species of bugs. He assumes that they feature two different genders and that they only interact with bugs of the opposite gender. In his experiment, individual bugs and their interactions were easy to identify, because numbers were printed on their backs. Given a list of bug interactions, decide whether the experiment supports his assumption of two genders with no homosexual bugs or if it contains some bug interactions that falsify it, like a bug mating with itself.

## Input:

First line contains 2 numbers  $N$  and  $M$ .  $N$  is the number of bugs. Next  $M$  lines follow, each line describe an interaction between two bugs, i.e. it has 2 numbers  $x$  and  $y$  means  $x$  and  $y$  have interacted. [Note: ' $x$ ' and ' $y$ ' may interact multiple times]

## Output:

"Yes" if his assumption is not falsified else "No". Without quotes.

## Constraints:

$1 \leq N \leq 10^5$   
 $1 \leq M \leq 5 \cdot 10^5$   
Time Limit: 1 sec

## Sample Input 1:

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

## Sample Output 1:

Yes

## Sample Input 2:

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

**Sample Output 2:**

No