PARTY

Little Chanu wants to throw a party on his girlfriend's birthday, and obviously is inviting her friends.
But unfortunately all her friends are crazy, they have weird requirements.

More specifically she has N friends in total (lets number them from 1 to N for simplicity). Each one of them has a special set of close friends that they like.
Note: If x has y as her special friend it means y also as x her special friend. Also remember they are weird, one may say that she herself is her special friend, in that case no one can help her :(

Now all of them said they will only come to the party if they can be seated on the rectangular table such that for every person, her special friends are seated opposite (on the other side of the rectangular table) to them. Obviously Chanu and his gf sit on the shorter side of the table, opposite to each other (the shorter side can only accommodate 1 person).
Help little Chanu figure out if such a seating arrangement is possible.

Input:

First line contains 2 numbers N and M. N is the number of friends.
Next M lines follow, each line describe a relationship between friends, i.e. it has 2 numbers x and y means x has y as her special friend. [Note: 'x' may say 'y' is her special friend multiple times]

Output:

“Yes” if arrangement is possible or “No” if not. Without quotes.

Constraints:

$1 <= N <= 10^5$
$1 <= M <= 5*10^5$
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
```