



Charlie Mex an Array

Charlie has recently learned about the `mex` function. For two non-negative integers a and b , $\text{mex}(a, b)$ is the smallest non-negative integer that is not equal to a or b . For example: $\text{mex}(0, 2) = 1$ because 1 is the smallest non-negative integer not equal to 0 or 2.

Armed with his newfound knowledge, Charlie wants to make an array a of n integers: $a[1], a[2], \dots, a[n]$. Each integer should be equal to 0, 1, or 2. Furthermore, the array should satisfy m requirements. Requirement i ($1 \leq i \leq m$) is defined by three integers $p[i]$, $q[i]$, and $x[i]$. It is required that, $\text{mex}(a[p[i]], a[q[i]]) = x[i]$, for all $1 \leq i \leq m$.

Charlie wants to know if there exists an array satisfying all his requirements. If it exists, Charlie also wants to find any such array.

Input

Read the input from the standard input in the following format:

- line 1: $n \ m$
- line $1 + i$ ($1 \leq i \leq m$): $p[i] \ q[i] \ x[i]$

Output

Write the output to the standard output in the following format:

- If there exists such array a satisfying all of Charlie's requirements, then
 - line 1: **Yes**
 - line 2: $a[1] \ a[2] \ \dots \ a[n]$
- Otherwise,
 - line 1: **No**

Constraints

- $1 \leq n \leq 100\,000$
- $1 \leq m \leq 200\,000$
- $0 \leq x[i] \leq 2$ (for all $1 \leq i \leq m$)
- $1 \leq p[i] \leq q[i] \leq n$ (for all $1 \leq i \leq m$)
- $(p[i], q[i]) \neq (p[j], q[j])$ (for all $1 \leq i < j \leq m$)

Subtasks

1. (4 points) $x[i] = 0$ (for all $1 \leq i \leq m$)
2. (4 points) $x[i] = 1$ (for all $1 \leq i \leq m$)
3. (7 points) $p[i] = q[i]$ (for all $1 \leq i \leq m$)
4. (17 points) $x[i] = 0$ or 1 (for all $1 \leq i \leq m$)
5. (21 points) $x[i] = 2$ (for all $1 \leq i \leq m$)
6. (16 points) $p[i] \neq q[i]$ (for all $1 \leq i \leq m$) and $m = \frac{n(n-1)}{2}$. In other words, each pair of distinct indices (p, q) ($1 \leq p < q \leq n$) appears exactly in one requirement.
7. (31 points) No further constraints.

Examples

Example 1

```
2 1
1 2 0
```

One correct output is:

```
Yes
1 2
```

Note that the arrays $[1, 1]$, $[1, 2]$, $[2, 1]$, and $[2, 2]$ satisfy the requirement $\text{mex}(a[1], a[2]) = 0$. So, any of them will be accepted as correct output.

Example 2

```
3 3
1 2 0
1 3 0
2 3 1
```

The correct output is:

```
No
```

Example 3

```
4 5
1 2 2
3 4 0
1 4 0
2 3 1
2 4 2
```

The correct output is:

```
Yes
1 0 2 1
```