Words on graphs

Input

The input is a directed (multi)graph.

The first line gives the number of edges M and the number of nodes N (>=2). Then each edge is described by a line of the form "FROM TO LABEL". Nodes (FROM, TO) are numbers in the range 0.. N-1 and labels are also numbers.

All numbers in the input are nonnegative integers <2000.

Output

Print "YES" if there are two distinct walks with the same labelling from node 0 to node 1, otherwise print "NO".

Example 1

Input:
```
4 4
0 2 0
0 3 0
2 1 1
3 1 2
```

Output:
```
NO
```

Example 2

Input:
```
10 9
0 2 0
2 1 0
2 3 0
3 4 0
4 2 0
2 5 0
5 6 0
6 7 0
7 8 0
8 2 0
```

Output:
```
YES
```

In this case the shortest labelling that appears on two walks is 0 repeated 10 times.