



Czech ACM Student Chapter
University of West Bohemia in Pilsen
Masaryk University
Pavol Jozef Šafárik University in Košice

Czech Technical University in Prague
Technical University of Ostrava
University of Žilina
Comenius University



CTU Open Contest 2026

Nightmare

`nightmare.(c|cpp|py), Nightmare.(java|kt)`

The night was dark and heavy, but for Míša, the true horror was staring into the mirror of his own mind. Sleep refused to come. Instead, shadows began to materialize in the darkness of his room. These shadows, however, did not take human form. Rather, they branched like cold, merciless edges of an ancient graph.

Each edge in this terrifying network pulsed with one of two lights — a bloody red one or a cold, icy blue one. Míša felt the labyrinth swallowing him whole. He knew that if there existed even a single cycle in this graph in which exactly one edge had a different color than all the others, the entire structure would collapse into chaos, and he would never find peace. Trapped in the prison of his own imagination, he had to discover at all costs whether every single cycle of the network was either perfectly monochromatic or contained at least two red and at least two blue edges.

By a *cycle* we mean a simple cycle, i.e., a closed path that does not visit any vertex more than once.

Input Specification

The first input line contains two integers n, m ($1 \leq n, m \leq 3 \cdot 10^5$), the number of vertices and edges of the graph Míša is witnessing. The graph is undirected. The vertices are labeled $0, 1, \dots, n-1$. Each of the next m lines describes one edge of the graph. An edge is described by a triple of integers u, v, c , separated by spaces. u and v are the labels of the endpoints of the edge, c denotes the color of the edge. Red is denoted by $c = 0$, blue is denoted by $c = 1$. It is guaranteed that the graph is simple, i.e., it contains no multiedges or self-loops.

Output Specification

Output a single line with the text **YES** if Míša will be able to find peace, in other words, if every cycle is either monochromatic (all edges are red or all edges are blue), or it contains at least 2 edges of each color. If Míša will not be able to find peace, output **NO**.

Sample Input 1

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

Output for Sample Input 1

NO

Sample Input 2

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

Output for Sample Input 2

```
YES
```