C. Exciting

Time Limit: 1 second

Points: 100

Dragomir is a delivery driver in the country of Univania. There are n towns in Univania, connected by m one-way roads of various lengths.

Dragomir is in town a when the delivery app notifies him of a job through an app, which requires him to deliver an item from town b to town c. Note that a, b and c are not necessarily distinct.

It is guaranteed that the job is satisfiable, that is, there is at least one way to go from town a to town c via town b. However, there are potentially many such routes, so the app will pick a shortest route for him. If there are many equal shortest routes, the app could pick any of them.

Dragomir finds the job *exciting* if he is guaranteed not to drive the same road twice. Given a job, determine whether Dragomir finds it exciting.

Input

The first line of input consists of two space-separated integers n and m, representing the number of towns and the number of roads respectively.

Following this are m lines, the ith of which contains three space-separated integers u_i, v_i and w_i, representing a road between towns u_i and v_i of length w_i.

Following this is a single line containing three space-separated integers a, b and c, representing a job received while Dragomir is in town a which requires him to deliver an item from town b to town c.

Constraints

All input will satisfy the following constraints:

- $1 \leq n, m \leq 100,000$
- For all $1 \leq i \leq m$:
  - $1 \leq u_i, v_i \leq n$
  - $u_i \neq v_i$
  - $1 \leq w_i \leq 10,000$
- $1 \leq a, b, c \leq n$
- There is at least one route from town a to town c via town b.

Output

Output a single line: `YES` if Dragomir finds the job exciting, and `NO` otherwise.

Subtasks

D1 (50 points): $1 \leq n, m \leq 1,000$.

D2 (50 points): no restrictions.

Sample Input 1

```
4 6
1 2 1
2 3 1
3 4 3
3 1 1
2 4 1
4 1 5
1 3 4
```

Sample Output 1

```
NO
```

Sample Input 2

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

Sample Output 2

```
YES
```

Sample Input 3

```
4 6
1 2 1
2 3 1
3 4 1
4 1 2
4 2 1
3 1 1
1 4 1
```

Sample Output 3

```
YES
```

Explanations

For sample case 1, Dragomir must travel from $1 \to 3 \to 4$. There are two possible paths that both have the shortest distance of 5: $1 \to 2 \to 3 \to 4$, and $1 \to 2 \to 3 \to 1 \to 2 \to 4$. Note that the second path reuses the edge $1 \to 2$, and because there is at least one shortest path that reuses the same edge, the output is `NO`.

For sample case 2, Dragomir must travel from $1 \to 3 \to 1$. Note that any of the three vertices a, b, c can be equal. In this particular example, Dragomir can only use the route $1 \to 2 \to 3 \to 1$ and because it is not possible to repeat any edge, the output is `YES`.

For sample case 3, there is only one shortest path which is $1 \to 2 \to 3 \to 4 \to 1$, so the output is `YES`. Note that there are other paths which repeat one or more edges, but they are not shortest paths, so we do not consider them.