G. Flood Resistance

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  Time limit:   1 second
Memory limit:   65535 kBytes
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Description

Floods have become a recurring problem in Hungary in recent years. Even though most cities are well protected, parts of the road network are still exposed to occasional floods, which might make it impossible to reach certain parts of the country.

In this problem, we model the road network of Hungary as N cities connected by M bidirectional roads. Each road connects two different cities a_i and b_i, and it is possible to reach any city from any other city by traversing one or more roads. Furthermore, we know the height of the lowest point of each road, represented by an integer h_i: this means that the lowest point of road i lies h_i millimeters above sea level. During a flood, if the water level rises above h_i millimeters, the road becomes impossible to traverse and is closed. The road is **safe** to use whenever the water level is less than or equal to h_i.

The government established a call center to help people traveling the country during a flood. Citizens can ask the center whether city y is **reachable** from city x at the current time. Suppose that the water level is l millimeters above sea level at the time. We say that city x is reachable from city y if and only if it is possible to get from city x to city y using only safe roads when the water level is l.

Your task is to write a program that, given the description of the road network, computes the answer to Q such calls.

Input

The first line of the input contains the integers N, M, and Q, the number of cities ($1 \leq N \leq 100000$), the number of roads ($0 \leq M \leq 100000$), and the number of calls ($1 \leq Q \leq 100000$), respectively.

Each of the next M lines describes a road. The i-th line contains three integers a_i, b_i, and h_i ($1 \leq a_i, b_i \leq N, 0 \leq h_i \leq 10^9$), denoting the two cities connected by the road and the height of its lowest point.

The last Q lines describe the calls made by citizens in an **online** manner: you must answer a call first before learning the parameters of the next call. Let the j-th line contain the integers x'_j, y_j', and l'_j, and suppose that there were z calls so far to which the correct answer was YES. Then, the parameters of the j-th call are $x_j = x'_j \bigoplus z$, $y_j = y'_j \bigoplus z$, and $l_j = l'_j \bigoplus z$ ($1 \leq x_j, y_j \leq N, 0 \leq l_j \leq 10^9$), asking whether city y_j is reachable from city x_j when the water level is l_j. Here, the symbol $\bigoplus$ denotes the bitwise XOR operator.

Output

You must print Q lines, the j-th of which contains the answer to the j-th call: YES, if we can reach one city from the other at the current water level, and otherwise NO.

Example

Input	Output
4 4 3	NO
1 2 9	YES
2 3 5	YES
3 4 4	
4 1 2	
2 4 6	
1 4 4	
0 2 4	