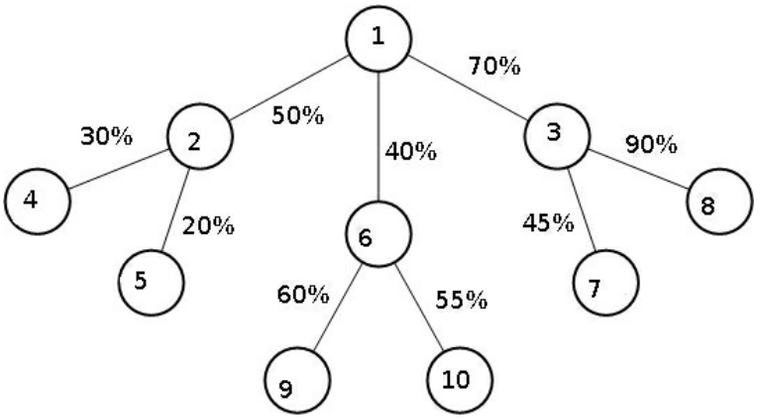
Can funds be transferred?

In the world of Teradata, each country has one central bank and its own payment gateway associated with it. They all are connected to each other using *tree topology*. If a customer is trying to transfer funds from country X to Y then the funds have to flow through all intermediate banks connecting X and Y. For each fund transfer multiple data packets are needed to be transferred from source to destination bank.

Tree topology is structured like a tree, where it has a root node, intermediate nodes and leaves. Root node is the head node of the structure, and the leaves are the last nodes, which has no further child nodes. This structure is arranged in a hierarchical form, each node can have any number of the child nodes.

Let's say there are N central banks in the Teradata world and all of them are uniquely numbered between $[1 \dots N]$. The root bank is represented by 1. All edges are bidirectional in nature, i.e., funds can flow in any direction. It is guaranteed that there will be exactly one path between each pair of banks. There will be $N-1$ connections which will be used to connect the banks.

But there is an issue with the connections. None of them are completely reliable and only a certain percentage of packets successfully pass through them. Each packet has a constant probability of successfully transmitting through each link and is independent of other links. *A data packet can only be transported from one bank to another if the probability of its successful transmission between the end-points exceeds a certain threshold value.* Note that this value can be different each time.



Above figure represents a sample bank structure which is built on tree topology. There are 10 banks in the country.

- Probability of packet transmission between bank #4 and #2 $= p_{edge_{4,2}} = \frac{30}{100} = 0.3$.
- Probability of packet transmission between bank #5 and #1 $= p_{edge_{5,2}} * p_{edge_{2,1}} = \frac{20}{100} * \frac{50}{100} = 0.1$.
- Probability of packet transmission between bank #9 and #10 $= p_{edge_{9,6}} * p_{edge_{6,10}} = \frac{60}{100} * \frac{55}{100} = 0.33$.
- Probability of packet transmission between bank #7 and #10 $= p_{edge_{7,3}} * p_{edge_{3,1}} * p_{edge_{1,6}} * p_{edge_{6,10}} = \frac{45}{100} * \frac{70}{100} * \frac{40}{100} * \frac{55}{100} = 0.0693$.

Input format

First line contains an integer, N, representing total number of banks in the topology. Then follows $N-1$ lines. Each line will contain three space separated integers, $u\ v\ p$, where u is the parent of v and p represents the probability of successful transmission in percentage, i.e. probability for successful transmission of each packet is $p/100$.

In next line, there is another integer, M, representing total number of queries to follow. Each of these queries contains three space separated numbers, $a\ b\ q1$, where a and b represents the banks. And q is the threshold probability required for a package to be transmitted successfully, where $q = 10^{q1}$.

Output format

For each query, print `YES` if data packet can be successfully transmitted. Otherwise write `NO`.

Constraints

- $2 \leq N \leq 10^5$
- $1 \leq u < v \leq N$
- $0 < p \leq 100$
- $2 \leq M \leq 10^5$
- $1 \leq a, b \leq N \ \ AND \ \ a \neq b, where \ a, \ b \in \mathbb{Z}^+$
- $-6.0 \leq q1 \leq 0.0, where \ q1 \in \mathbb{R}$

Sample Input

```
10
1 2 50
2 4 30
2 5 20
1 6 40
6 9 60
6 10 55
1 3 70
3 7 45
3 8 90
8
4 2 -0.69897
5 1 0
2 4 -0.301
9 10 -0.522879
7 10 -2
1 5 -5
9 10 -0.477126
7 10 -1.15864
```

Sample Output

```
YES
NO
NO
YES
YES
YES
NO
NO
```

Explanation

Query #1: Package transmission probability between #2 and #4 is 0.3 while threshold is $10^{-0.69897} \approx 0.2$. So it **can** be sent.
Query #2: Package transmission probability between #1 and #5 is 0.1 while threshold is $10^{0} \approx 1.0$. So it **can't** be sent.
Query #3: Package transmission probability between #2 and #4 is 0.3 while threshold is $10^{-0.301} \approx 0.5$. So it **can't** be sent.
Query #4: Package transmission probability between #9 and #10 is 0.33 while threshold is $10^{-0.522879} \approx 0.3$. So it **can** be sent.
Query #5: Package transmission probability between #7 and #10 is 0.0693 while threshold is $10^{-2} \approx 0.01$. So it **can** be sent.
Query #6: Package transmission probability between #1 and #5 is 0.1 while threshold is 10^{-5}. So it **can** be sent.
Query #7: Package transmission probability between #9 and #10 is 0.33 while threshold is $10^{-0.477126} \approx 0.33333$. So it **can't** be sent.
Query #8: Package transmission probability between #7 and #10 is 0.0693 while threshold is $10^{-1.15864} \approx 0.0694$. So it **can't** be sent.

Note

- Above case is only for reference. Your code will be run on larger test input.
- $q1$ will have at most 6 digits after decimal point.
- Note that threshold probability is $q = 10^{q1}$.
- A packet will be transmitted between a and b, if the package transmission probability of the path between a and b exceeds threshold probability.
- Test cases are designed in order to avoid any ambiguity due to precision issues.
- Each pair of bank has exactly one path to reach each other.

- Parent bank will always have smaller number than child.