Smart City

Max. Marks: 100

You live in a city that contains N houses. Each house is reachable from every other house through a unique path, which implies that there are $N-1$ roads in the city. Each of the $N-1$ road is distinct and has a length denoted by an array L. You want to reach directly from house i to house j ($1 \leq i, j \leq N$ *and* $i \neq j$) by traversing not more than X units of road length. To reach directly from a house i to house j, you can select exactly one road of length less than or equal to X and destroy that road completely and construct a road between the two houses i and j but the condition is that the every house should be reachable from every other house.

Your task is to solve Q queries (each query is independent from each other) of the following form:

$A\ B\ X$

where (A, B) denotes the pair of the houses that you want to connect. For each query, determine the number of ways in which you can select an ordered pair of houses (G, H) such that the following condidtions hold:

- There should be a road between the houses G and H
- The length of the road between the houses G and H is less than or equal to X
- After removing the road between G and H and adding a road between A and B , the houses G and H should still be connected through a path in the city

Input format

- First line: Two space-separated integers N and Q
- Next $N-1$ lines: Three space-separated integers U, V, and L_i denoting a bidirectional path from the house U to V and vice versa of length L_i
- Next Q lines: Three space-separated integers A, B, and X

Output format

For each query, print the answer on a separate line.

Constraints

$2 \leq N, Q \leq 2 * 10^5$

$1 \leq A, B \leq N$ and $A \neq B$

$1 \leq L_i, X \leq 10^6$

Subtasks

- For 10 points: $2 \leq N, Q \leq 200$
- For 20 points: $2 \leq N, Q \leq 2000$
- For 70 points: Original constraints

SAMPLE INPUT	SAMPLE OUTPUT
5 4 1 2 5 1 3 6 3 4 7 3 5 8 2 3 4 2 3 5 2 3 6 2 3 7	0 1 2 2

Explanation

For the first query, there are no possible options hence the answer is 0.

For the second query, only (2,1) is a possible pair and hence the answer is 1.

For the third query, the possible pairs are (2,1) and (3,1).

Time Limit:	1.0 sec(s) for each input file.
Memory Limit:	256 MB
Source Limit:	1024 KB
Marking Scheme:	Marks are awarded if any testcase passes.
Allowed Languages:	Bash, C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Racket, Ruby, Rust, Scala, Swift, Swift 4.1, Visual Basic

Python 3, Racket, Ruby, Rust, Scala, Swift, Swift 4.1, Visual Basic

CODE EDITOR

Enter your code or Upload your code as file. Save Bash (GNU bash, version 4.3

```
1 # Sample bash code
2
```

1:1

Press Ctrl/Command+Spacebar for autocomplete suggestions (accuracy dependent on connection stability).

Provide custom input

COMPILE & TEST SUBMIT

Tip: You can submit any number of times you want. Your best submission is considered for computing total score.

Your Rating:

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