E. Duff in the Army

time limit per test: 4 seconds
memory limit per test: 512 megabytes
input: standard input
output: standard output

Recently Duff has been a soldier in the army. Malek is her commander.

Their country, Andarz Gu has n cities (numbered from 1 to n) and $n - 1$ bidirectional roads. Each road connects two different cities. There exist a unique path between any two cities.

There are also m people living in Andarz Gu (numbered from 1 to m). Each person has and ID number. ID number of $i - th$ person is i and he/she lives in city number c_i. Note that there may be more than one person in a city, also there may be no people living in the city.

Malek loves to order. That's why he asks Duff to answer to q queries. In each query, he gives her numbers v, u and a.

To answer a query:

Assume there are x people living in the cities lying on the path from city v to city u. Assume these people's IDs are $p_1, p_2, ..., p_x$ in increasing order.

If $k = min(x, a)$, then Duff should tell Malek numbers $k, p_1, p_2, ..., p_k$ in this order. In the other words, Malek wants to know a minimums on that path (or less, if there are less than a people).

Duff is very busy at the moment, so she asked you to help her and answer the queries.

Input

The first line of input contains three integers, n, m and q ($1 \le n, m, q \le 10^5$).

The next $n - 1$ lines contain the roads. Each line contains two integers v and u, endpoints of a road ($1 \le v, u \le n, v \ne u$).

Next line contains m integers $c_1, c_2, ..., c_m$ separated by spaces ($1 \le c_i \le n$ for each $1 \le i \le m$).

Next q lines contain the queries. Each of them contains three integers, v, u and a ($1 \le v, u \le n$ and $1 \le a \le 10$).

Output

For each query, print numbers $k, p_1, p_2, ..., p_k$ separated by spaces in one line.

Examples

input
5 4 5 1 3 1 2 1 4 4 5 2 1 4 3 4 5 6 1 5 2 5 5 10 2 3 3 5 3 1

output
1 3 2 2 3 0

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3 1 2 4
1 2
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Note

Graph of Andarz Gu in the sample case is as follows (ID of people in each city are written next to them):