DISQUERY - Distance Query
graph-theory, trees
https://www.spoj.com/problems/DISQUERY

The traffic network in a country consists of N cities (labeled with integers from 1 to N) and $N - 1$ roads connecting the cities. There is a unique path between each pair of different cities, and we know the exact length of each road.

Write a program that will, for each of the K given pairs of cities, find the length of the shortest and the length of the longest road on the path between the two cities.

Input:
The first line of input contains an integer N, $2 \le N \le 100\ 000$. Each of the following $N - 1$ lines contains three integers A, B and C meaning that there is a road of length C between city A and city B.

The length of each road will be a positive integer less than or equal to 1 000 000.
The next line contains an integer K, $1 \le K \le 100000$. Each of the following K lines contains two different integers D and E – the labels of the two cities constituting one query.

Output:
Each of the K lines of output should contain two integers – the lengths from the task description for the corresponding pair of the cities.

Samples:
input:

```
5
2 3 100
4 3 200
1 5 150
1 3 50
3
2 4
3 5
1 2
```

output:

```
100 200
50 150
50 100
```

input:

```
7
3 6 4
1 7 1
1 3 2
1 2 6
2 5 4
2 4 4
5
6 4
7 6
1 2
1 3
3 5
```

output:

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