Robot

Problem Statement:

Little Timmy is playing a mobile game, and in the game he controls a robot. There are n stations and m roads, each road has a length d, and the stations are connected by roads. The robot starts off with no batteries, has a capacity of c batteries, and requires 1 battery to travel 1 unit distance. The price of a battery is p, which may vary across stations. Timmy can only maintain a stock of up to c batteries at all times.

Timmy wants to know what is the cheapest way to travel from station s to e for a robot of capacity c, can you help him?

Input:

On the first line, 2 space separated integers, n, m. ($1 <= n <= 1000$, $1 <= m <= 10000$)

The next line contains n space separated integers p_i, the price of 1 battery in the ith station. ($1 <= p_i <= 100$)

The next m lines contain 3 space separated integers a, b and d, where a and b are the 2 station ids that are connected by a road, and d is the length of the road. ($0 <= a < b < n$, $1 <= d <= 100$)

The next line contains 1 integer q, the number of queries. ($1 <= q <= 100$)

The next q lines contains 3 space separated integers, c, s, e, where c is the capacity of the robot, s is the start station, and e is the end station. ($1 <= c <= 100$) ($0 <= s, e, < n$)

Output:

For each query, output in a single line, the price of the cheapest journey from s to e for a robot of capacity c, or “impossible” if there is no way to get from s to e for a robot of capacity c.

Sample Input 1:

```
5 5
5 5 10 6 7
0 1 9
0 2 8
1 2 1
1 3 11
2 3 7
2
10 0 3
```

```
20 1 4
```

Sample Output 1:

```
85
impossible
```

Explanation:

For the first query, the cheapest price to get from station 0 to 3 for a robot of capacity 10 is $85, by buying 9 batteries at station 0, 8 batteries at station 1, then moving to station 2 and finally 3.

For the second query, it is not possible to go from station 1 to 4 as they are not connected.