Problem 3. Airline Ticket

Problem Statement

Sunghwan has a plan to visit Culebra, Puerto Rico.
Because there is no direct flights from Pohang, Korea to Culebra, he should stop at some other airports.

As he is a graduate student, he have limited time and limited money.
Thus, he want to find a cheapest plan with visiting up to $k-1$ stops. ($0 =$ direct).

Fortunately, there is a travel agent provides special package that satisfies his requirements.
In this package, user can take at most k airplains cheaper than x wons for paying only x wons. (WoW!)

The goal is write a program that takes airline informations and the number of tickets included in the package k, then finds cheapest x.
The price of airline ticket is upper bounded to 1,000,000.

Hint: use divide & conquer method.

Input Statement

First line contains t which is the number of test cases.
First line of each test case contains three numbers $|V|, |E|, k$, which represents the number of airports, airlines, and tickets included in the package respectively. $(0 < |V| \le 100,000), 0 < |E| \le 200,000,$ and $k \le n$)
Each of next m lines contains three integers u, v, p that represents a airline from u to u and its price p.
The node 0 is departure airport, Pohang, Korea and the node $(|V| - 1)$ is destination airport, Culebra, Puerto Rico.
Keep in mind that two or many airline can share same departure and destination.

Output Statement

For each test case, the print minimum price x that Sunghwan should pay to reach Culebra. If there is no path from Pohang to Culebra in k hops, then print -1 instead of the price.

Input Example

```
2
2 1 1
0 1 1
5 6 4
0 1 2
1 0 3
1 3 1
3 2 3
2 4 2
4 1 5
```

Output Example

```
2
4
```