(Adv.) Competitive Programming

Submit until 03.05.2019 13:30, via the judge interface

Problem: space-taxi (2 second timelimit)

After saving the world Mr. Kirk and Mr. Spock, former members of the Traumschiff Surprise, entered the space-taxi business. Therefore the bought a taxi and now they are flying from planet to planet to transport persons. Unfortunately they are really bad navigators and so they are always late. To be more reliable help them: Given the intergalactic map, try to find the distances between the several planets. Usually they cannot fly directly from a planet to another one. Because of limited resources they have to stop in between at several different planets to refill their fuel. Thanks to some wormholes its sometimes possible to shorten the journey and make them arrive before they even left.

Input The first line of the input contains the amount of planets n, the amount of routes m between two planets and the number of queries k. Each of the following m lines contains a route, represented by a, b and w (the time it takes to travel from a to b). Please note, that you can not assume, that the distance from a to b is the same as from b to a. There are no negative cycles. Afterwards each of the following k lines contains a query (a b).
$0 < n \leq 700$
$0 < m, k \leq n^2$
$0 \leq a, b < n$
$-300 \leq w \leq 100.000$

Output For each query print the shortest distance between a and b. Print $\circ\circ$ if there is no path from a to b.

Sample input	**Sample output**

```
5 8 5
0 4 -3
1 0 -3
1 3 -1
1 4 10
2 1 6
2 4 -1
3 0 -5
4 1 9
1 2
2 0
0 1
0 1
4 2
```

```
oo
0
6
6
oo
```