



02 : 23 : 38 : 12
DAY HRS MIN SEC

Codathon - Inter NIT Coding Contest 2018

LIVE

Jan 15, 2018, 06:00 PM IST - Jan 22, 2018, 06:00 PM IST

8
LIVE EVENTS

INSTRUCTIONS

PROBLEMS

SUBMISSIONS

LEADERBOARD

ANALYTICS

JUDGE

← Problems / DAY 3 - Engineering Entrance Exam

DAY 3 - Engineering Entrance Exam

Max. Marks: 100

ENG CET is a National level Engineering Entrance Examination conducted every year in wonderland. Wonderland is a country with **N** cities and **M** bi-directional roads between these cities. **ENG CET** is a pen-paper based exam which is conducted only in **K** number of cities. A candidate who wants to appear in the exam has to choose one of the **K** centers. Vinay is working hard every day to secure a top rank in the exam. Now, he was asked to choose a city to write the exam. He has to travel from his home city to the chosen city to write the exam.

Since, he has a lot of work to do, he has asked your help to chose the nearest exam city.

There are **Q** number of queries. Each query denotes the city in which vinay lives. For each query, you have to find out the distance of the nearest exam city.

INPUT -

First line of the input contains four space separated integers **N, M, K and Q** denoting the number of cities, number of roads, number of centers and number of queries.

Each of the next **M** lines, contains three space separated integers **U, V and W** which means that there is a road of length **W** connecting cities **U** and **V**.

Next line contains **K** space separated integers each denoting a city with exam center.

Each of the next **Q** lines contain a single integer **X** denoting the home city of vinay.

OUTPUT-

For each query, find the distance of the nearest exam city and print the distance on a new line.

CONSTRAINTS -

$2 \leq N \leq 100000$

$1 \leq M \leq 100000$

$1 \leq K \leq N$

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$1 \leq Q \leq 100000$; $1 \leq U \leq N$; $1 \leq V \leq N$; $1 \leq W \leq 1000000000$; $1 \leq X \leq N$

If its not possible to reach any exam centre print -1.

SAMPLE INPUT

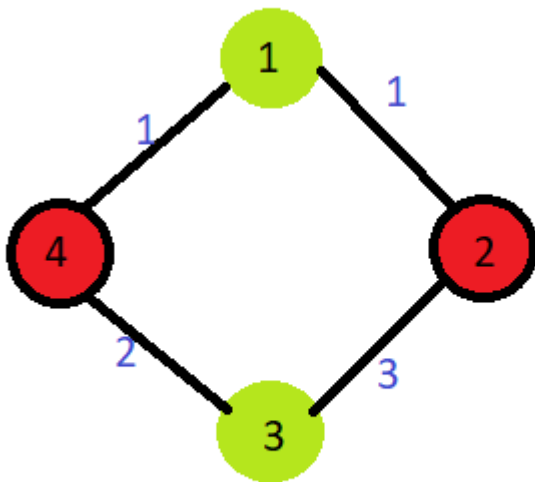
```
4 4 2 2
1 2 1
2 3 3
3 4 2
4 1 1
2 4
3
2
```

SAMPLE OUTPUT

```
2
0
```

Explanation

There are 4 cities out of which 2nd and 4th are exam centres.



For 3rd city nearest exam centre is CITY 4 which is 2 units far.

For 2nd city nearest exam centre is CITY 2 itself which is 0 units far.

Participants are requested to keep themselves updated with the announcements of the contest.

Time Limit: 1.0 sec(s) for each input file.

Memory Limit: 256 MB

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Source Limit: 1024 KB**Marking Scheme:** Marks are awarded if any testcase passes.**Allowed Languages:** C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Swift, Visual Basic

CODE EDITOR

Enter your code or [Upload your code](#) as file.

Save

C (gcc 5.4.0) ▼



```
1  /*
2  // Sample code to perform I/O:
3
4  scanf("%s", name);           // Reading input from STDIN
5  printf("Hi, %s.\n", name);   // Writing output to STDOUT
6
7  // Warning: Printing unwanted or ill-formatted data to output will cause the test
8  */
9
10 // Write your code here
11
```

1:1

☒ Provide custom input

Press Ctrl-space for autocomplete suggestions.

COMPILE & TEST

SUBMIT

Tip: You can submit any number of times you want. Your best submission is considered for computing total score.

Your Rating:

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