All Contests › End Sem Evaluation: Part 1 › Find the Nearest Hospital

Find the Nearest Hospital   🔒 locked

Problem	Submissions	Leaderboard

Due to rising Covid-19 cases, the government has decided to calculate the distance of nearest hospital from different locations in the city. For the survey, there are **N** locations chosen in the city and these locations are connected to each other by **M** roads. Out of N locations, **B** locations have been used to build hospitals. The length of each road is given to you.

Your task is to calculate the distance of the nearest hospital from every location in the city.

NOTE: Large I/O data. Use fast I/O.

For C++:

```
ios_base::sync_with_stdio(false);
cin.tie(NULL);
cout.tie(NULL);
```

Input Format

First line: **T**, the number of test cases.

For each testcase:

First Line: Number of locations, **N**, and number of roads, **M**.

The next M lines contains three integers **u**, **v** and **w**, denoting there is a road of length w between location u and v.

The next line contains a single integer **B**, which indicates the number of hospitals in the city.

The last line of the input has **B space-separated integers**, which indicate the location of each hospital.

Constraints

$1 <= T <= 25$

$1 <= N <= 10^5$

$0 <= M, w <= 10^5$

$1 <= u, v, B <= N, u \neq v$, and all B are distinct

Note: There are no self-loops

Output Format

Output T lines where each line contains N-spaced integers, each of which is the answer for ith location.

Sample Input 0

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

Sample Output 0

```
0 4 6 0
```

Explanation 0

There are 2 hospitals in this scenario: one at location 1 and one at location 4. Therefore, the distance for location 1 and location would be 0.

Location 2 is 4 units away from Hospital at location 1 and 11 units away from Hospital at location 4. Hence, nearest hospital it at distance 4.

Location 4 is 9 units away from Hospital at location 1 and 6 units away from Hospital at location 4. Hence, nearest hospital it at distance 6.

Therefore, the answer is 0 4 6 0.

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Submissions: 260
Max Score: 100
Difficulty: Medium

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More

Current Buffer (saved locally, editable) ⅄ ↺		C ⌄	⤢ ⚙

```
1 ▾ #include <stdio.h>
2   #include <string.h>
3   #include <math.h>
```

```
 4  #include <stdlib.h>
 5
 6 ▼ int main() {
 7
 8 ▼     /* Enter your code here. Read input from STDIN. Print output to STDOUT */
 9      return 0;
10  }
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input

Run Code   Submit Code