Sicily **Homework 6**
Contest ends in 6 days 6 hours

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1001. Shortest path two

Total: 283 Accepted: 44

Time Limit: 1sec Memory Limit:256MB

Description

N cities named with numbers 1 ... N are connected with one-way roads. For each pair of cities i and j, you need to find the shortest path from city i to city j.

Input

The first line contains three integers N, K and Q (2<=N<=100, 1<=K<=10000, 1<=Q<=10000). N is the number of cities, K is the number of roads, and Q is the number of queries. Each of following K lines contains three integers i, j, d (1<=i,j<=N, 0<d<10000), indicates there is a road from city i to city j, and its length is d. The next Q lines describes the queries, each line contains two integers i and j (1<=i,j<=N).

Output

For each query, you need to print the shortest path in one line. If there is no path between the query cities pair, you should print "-1".

Sample Input

Copy

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

Sample Output

Copy

```
7
3
```

Submit