Floyd : City of Blinding Lights
URL: https://www.hackerrank.com/challenges/floyd-city-of-blinding-lights

Given a directed, weighted graph, consisting of **N** nodes and there are edges, of specified length between some of them in the graph.

Given **Q** questions, inquiring the shortest distance between a queried pair of nodes in the graph.

Answer all these questions as quickly as possible!

Input Format

First line has two integers **N**, denoting the number of nodes in the graph and **M**, denoting the number of edges in the graph.
The next **M** lines each consist of three space separated integers **x y r**, where **x** and **y** denote the two nodes between which the *directed* edge (**x → y**) exists, **r** denotes the length of the edge between the corresponding edges.

The next line contains a single integer **Q**, denoting number of queries.

The next **Q** lines each, contain two space separated integers **a** and **b**, denoting the node numbers specified according to the question.

Constraints

$2 \leq N \leq 400$
$1 \leq M \leq \frac{N \times (N-1)}{2}$
$1 \leq Q \leq 10^5$
$1 \leq x, y \leq N$
$1 \leq r \leq 350$

If there are edges between the same pair of nodes with different weights, the last one (most recent) is to be considered as the only edge between them.

Output format

Print **Q** lines, each containing a single integer, specifying the shortest distance between the nodes specified for that query in the input.
If the distance between a pair of nodes is infinite (not reachable), then print **-1** as the shortest distance.

Sample Input

```
4 5
1 2 5
1 4 24
2 4 6
3 4 4
3 2 7
3
1 2
3 1
1 4
```

Sample Input

```
5
-1
11
```