Trucking

Problem Description

Country A has n cities, numbered from 1 to n, and there are m two-way roads between the cities. Each of these roads has a weight limit for vehicles.

There are now q trucks transporting goods, and drivers want to know how much each vehicle can carry without exceeding the vehicle weight limit.

Input

The first line has two integers n and m, separated by a space, indicating that country A has n cities and m roads.

The next m lines have three integers x, y, and z in each line, separated by a space between every two integers, which means that there is a road from city x to city y with a weight limit of z.
Note: $x \neq y$, there may be more than one road between two cities.

The next line has an integer q indicating that there are q vans to carry goods.

Next q rows, two integers x, and y, separated by a space, indicating that a van needs to transport goods from city x to city y, ensuring that $x \neq y$.

Output

There are q lines, one integer per line, indicating for each van, what is its maximum load.

If the van cannot reach its destination, output -1.

Sample Input
```
4 3
1 2 4
2 3 3
3 1 1
3
1 3
1 4
1 3
```

Sample Output
```
3
-1
3
```

Hint

For 30% of the data, $1 \le n < 1000$, $1 \le m < 10{,}000$, $1 \le q < 1000$;

For 60% of the data, $1 \le n < 1000$, $1 \le m < 5 \times 10^4$, $1 \le q < 1000$;

For 100% of the data, $1 \le n < 10^4$, $1 \le m < 5 \times 10^4$, $1 \le q < 3 \times 10^4$, $0 \le z \le 10^5$.