Once again, James Bond is on his way to saving the world. Bond's latest mission requires him to travel between several pairs of cities in a certain country.

The country has $N$ cities (numbered by $1, 2, \ldots, N$), connected by $M$ bidirectional roads. Bond is going to steal a vehicle, and drive along the roads from city $s$ to city $t$. The country's police will be patrolling the roads, looking for Bond, however, not all roads get the same degree of attention from the police.

More formally, for each road *MI6* has estimated its dangerousness, the higher it is, the more likely Bond is going to be caught while driving on this road. Dangerousness of a path from $s$ to $t$ is defined as the maximum dangerousness of any road on this path.

Now, it's your job to help Bond succeed in saving the world by finding the least dangerous paths for his mission.

## Input

There will be at most 5 cases in the input file.

The first line of each case contains two integers $N$, $M$ ($2 \leq N \leq 50000, 1 \leq M \leq 100000$) – number of cities and roads. The next $M$ lines describe the roads. The $i$-th of these lines contains three integers: $x_i$, $y_i$, $d_i$ ($1 \leq x_i, y_i \leq N, 0 \leq d_i \leq 10^9$) – the numbers of the cities connected by the $i$-th road and its dangerousness.

Description of the roads is followed by a line containing an integer $Q$ ($1 \leq Q \leq 50000$), followed by $Q$ lines, the $i$-th of which contains two integers $s_i$ and $t_i$ ($1 \leq s_i, t_i \leq N, s_i \neq t_i$).

Consecutive input sets are separated by a blank line.

## Output

For each case, output $Q$ lines, the $i$-th of which contains the minimum dangerousness of a path between cities $s_i$ and $t_i$. Consecutive output blocks are separated by a blank line.

The input file will be such that there will always be at least one valid path.

## Sample Input

```
4 5
1 2 10
1 3 20
1 4 100
2 4 30
3 4 10
2
1 4
4 1

2 1
1 2 100

1
1 2
```

## Sample Output

```
20
20

100
```