

D. Dividing Kingdom II

time limit per test: 6 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Long time ago, there was a great kingdom and it was being ruled by The Great Arya and Pari The Great. These two had some problems about the numbers they like, so they decided to divide the great kingdom between themselves.

The great kingdom consisted of n cities numbered from 1 to n and m bidirectional roads between these cities, numbered from 1 to m . The i -th road had length equal to w_i . The Great Arya and Pari The Great were discussing about destructing some prefix (all road with numbers less than some x) and suffix (all roads with numbers greater than some x) of the roads so there will remain only the roads with numbers $l, l + 1, \dots, r - 1$ and r .

After that they will divide the great kingdom into two pieces (with each city belonging to exactly one piece) such that the *hardness* of the division is **minimized**. The hardness of a division is the **maximum length** of a road such that its both endpoints are in the same piece of the kingdom. In case there is no such road, the hardness of the division is considered to be equal to -1 .

Historians found the map of the great kingdom, and they have q guesses about the l and r chosen by those great rulers. Given these data, for each guess l_i and r_i print the minimum possible hardness of the division of the kingdom.

Input

The first line of the input contains three integers n, m and q ($1 \leq n, q \leq 1000, m \leq 10^5$) — the number of cities and roads in the great kingdom, and the number of guesses, respectively.

The i -th line of the following m lines contains three integers u_i, v_i and w_i ($1 \leq u_i, v_i \leq n, 0 \leq w_i \leq 10^9$), denoting the road number i connects cities u_i and v_i and its length is equal w_i . It's guaranteed that no road connects the city to itself and no pair of cities is connected by more than one road.

Each of the next q lines contains a pair of integers l_i and r_i ($1 \leq l_i \leq r_i \leq m$) — a guess from the historians about the remaining roads in the kingdom.

Output

For each guess print the minimum possible hardness of the division in described scenario.

Example

input
5 6 5 5 4 86 5 1 0 1 3 38 2 1 33 2 4 28 2 3 40 3 5 2 6 1 3 2 3 1 6
output
-1 33 -1 -1 33