Problem C. Nearest friend

Input file:	stdin
Output file:	stdout
Time limit:	1 second
Memory limit:	512 megabytes

In the country there are n houses connected by m bidirected roads. Distance between two houses is the length of shortest path between them.

There are k bobo living in the houses. For each bobo, find another bobo living nearest to him.

Input

The first line contains 3 integers n, m, k ($2 \le n \le 200000, n - 1 \le m \le 200000, 2 \le k \le n$).

The houses are conveniently labeled by $1, 2, \ldots, n$.

Each of the following m lines contains 3 integers a_i, b_i, c_i, which denotes a road between houses a_i and b_i with length c_i ($1 \le a_i, b_i \le n, 1 \le c_i \le 10000$).

The last line contains k integers $v_1, v_2, \ldots, v_k$, where v_i denotes the house the i-th bobo lives in ($1 \le v_i \le n$).

It is guaranteed that every two houses can reach each other, and no two bobo live in the same house.

Output

For each bobo, a single integer denotes the house where the nearest bobo lives. If there are multiple such bobo, find the house with the smallest label.

Sample input and output

stdin	stdout
4 3 3 1 2 1 2 3 1 3 4 1 2 3 4	3 2 3
3 3 3 1 2 1 2 3 1 3 1 1 3 2 1	1 1 2