



HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

D. General SAT

time limit per test: 6 s. memory limit per test: 1024 MB

You are given a connected, undirected simple graph of n vertices and m edges, and the vertices are numbered from 1 to n. The i-th edge connects vertex u_i and v_i and has a weight w_i .

For a given positive integer x, let f(x) represent the minimum number of colors needed to color the vertices of the graph such that for every pair of distinct vertices u and v, at least one of the following condition holds:

- ullet Vertex u and v are in different colors.
- There does not exist a simple path (a path without duplicate vertices and edges) from u to v such that the maximum edge along the path is lower or equal to x.

You are given q queries, each of which provides an integer k_i . Your task is to output the value of $f(k_i)$ for each query.

Input

The first line contains three integers n,m, and q ($2 \le n \le 3 \times 10^5,$

 $n-1 \leq m \leq \min\left(\frac{n(n-1)}{2},\ 3\times 10^5\right),\ 1\leq q \leq 3\times 10^5$) — the number of vertices, edges, and queries, respectively.

Then follow m lines, each containing three integers u_i, v_i , and w_i $(1 \le u_i, v_i \le n, 1 \le w_i \le 10^9)$ — there is an edge of weight w_i between vertices u_i and v_i .

Then follow q lines, each containing one integer k_i $(1 \le k_i \le 10^9)$ — the query parameter.

It is guaranteed that the graph is simple and connected.

Output

For each query, print $f(k_i)$ in one line.

Examples

input

input	Сору
5 6 6	
1 5 3	
2 5 14	
1 2 12	
2 4 7	
4 3 10	
2 3 9	
3	
9	
12 15	
8	
output	Сору
2	
3	
5	
5	
1	
2	

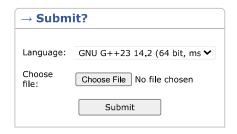
Micro1 Contest #9		
Contest is running		
00:02:23		
Contestant		

→ Languages

The following languages are only available languages for the problems from the contest

Micro1 Contest #9:

- GNU G++17 7.3.0
- GNU G++20 13.2 (64 bit, winlibs)
- GNU G++23 14.2 (64 bit, msys2)



→ Last submissions		
Submission	Time	Verdict
318130424	May/02/2025 19:26	Accepted

Сору



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The only programming contests Web 2.0 platform
Server time: May/02/2025 18:27:27^{UTC+2} (k1).
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