Baba and DSU

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	64 megabytes

Baba was asked to set yet another problem for the assignment. Disappointed by the performance of your batch, he decided to give you a hint (and hence the title :)). Now can you come up with a solution for the following problem ?

Given an undirected weighted graph with N nodes and M edges, and Q queries of form (U, W_{max}), find the sum of weights of all the edges which can be traversed starting at U by following a simple path with the constraint that any edge can be traversed if and only if the weight of the edge $W \leq W_{max}$

Input

The first line contains $T(1 \leq T \leq 10^5)$, the number of test cases. For every test case, the first line contains 3 integers $N(1 \leq N \leq 10^5)$, $M(1 \leq M \leq 2 \times 10^5)$ and $Q(1 \leq Q \leq 10^5)$. Next M lines contain 3 integers each $U(1 \leq U \leq 10^5)$, $V(1 \leq V \leq 10^5)$ and $W(1 \leq W \leq 10^9)$, such that $U \neq V$ denoting that there's an undirected edge from U to V with the weight W in the graph. Next Q lines contain 2 integers each, $U(1 \leq U \leq 10^5)$ and $W_{max}(1 \leq W_{max} \leq 10^9)$ denoting the query.

Output

For each query of a test case, output an integer in a line, denoting the sum of weights of all the edges which can be traversed according to the constraints.

Example

standard input	standard output
2 7 6 3 5 1 5 7 2 3 4 5 8 3 6 2 4 3 6 4 7 8 3 7 3 3 3 8 8 7 2 6 3 1 2 4 9 6 5 1 2 6 9 2 7 6 1 2 6 1 8 2 2 1 4 6	8 2 32 0 0

Note

For a test file :
$1 \leq$ Sum of N over all test cases $\leq 5 \times 10^5$

$1 \leq$ Sum of M over all test cases $\leq 10^6$
$1 \leq$ Sum of Q over all test cases $\leq 5 \times 10^5$

While calculating the sum, weight of every edge should be considered only once.