Minimum Spanning Tree

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

Given an undirected connected graph with n vertices and m weighted edges, where k vertices are marked special, we say a spanning tree is good if all special vertices are leaves in the tree.

You need to find the minimum total weight of all edges among all good spanning trees.

Recall that a spanning tree is a connected subgraph of the original graph containing n vertices and $(n-1)$ edges. Also, recall that leaves in a tree are the vertices connected with exactly one edge.

Input

There are multiple test cases. The first line of the input contains an integer T ($1 \le T \le 10^4$), indicating the number of test cases. For each test case:

The first line contains three integers n, m, and k ($2 \le n \le 2 \times 10^5$, $n - 1 \le m \le 2 \times 10^5$, $1 \le k \le n$), indicating the number of vertices, edges, and special vertices in the graph.

The second line contains k distinct integers $a_1, a_2, \ldots, a_k$ ($1 \le a_i \le n$), indicating the special vertices.

For the following m lines, the i-th line contains three integers u_i, v_i, and w_i ($1 \le u_i, v_i \le n$, $1 \le w_i \le 10^9$), indicating that there is an edge connecting vertex u_i and v_i with weight w_i. It's guaranteed that the given graph is connected, but there may be self loops or multiple edges.

It is guaranteed that both the sum of n and the sum of m over all test cases do not exceed 2×10^5.

Output

For each test case, output one line containing an integer, indicating the minimum total weight of all edges in a good spanning tree. If there is no good spanning tree, output `-1` instead.

Example

standard input	standard output
3 5 6 2 1 5 1 2 3 2 5 7 4 2 6 5 4 9 3 4 10 1 3 5 4 4 4 1 2 3 4 1 2 1 2 3 1 3 4 1 4 1 1 3 4 1 1 1 2 10 1 2 100 2 3 1000 3 3 100000	26 -1 1010

Note

The first sample test case is illustrated below, where the solid lines are the edges in the spanning tree, and the dashed lines are the edges not in the tree.