Problem E. Maximum Weighted Matching

Input file:	*standard input*
Output file:	*standard output*
Time limit:	4 seconds
Memory limit:	256 mebibytes

Chiaki is good at generating special graphs. Initially, she has a graph with only two vertices connected by an edge. Each time, she can choose an edge (u, v), make a copy of it, insert some new vertices (maybe zero) in the edge (i.e. let the new vertices be $t_1, t_2, \ldots, t_k$, Chiaki would insert edges (u, t_1), (t_1, t_2), $\ldots (t_{k-1}, t_k)$, (t_k, v) into the graph).

Given a weighted graph generated by above operations, Chiaki would like to know the maximum weighted matching of the graph and the number different maximum weighted matchings modulo $(10^9 + 7)$).

A matching in a graph is a set of pairwise non-adjacent edges, none of which are loops; that is, no two edges share a common vertex.

A maximum weighted matching is defined as a matching where the sum of the values of the edges in the matching have a maximal value.

Input

There are multiple test cases. The first line of input contains an integer T, indicating the number of test cases. For each test case:

The first line contains two integers n and m ($1 \le n, m \le 10^5$) – the number of vertices and the number of edges.

Each of the next m lines contains three integers u_i, v_i and w_i ($1 \le u_i, v_i \le n, 1 \le w_i \le 10^9$) – deonting an edge between u_i and v_i with weight w_i.

It is guaranteed that neither the sum of all n nor the sum of all m exceeds 10^6.

Output

For each test case, output two integers separated by a single space. The first one is the sum of weight and the second one is the number of different maximum weighted matchings modulo $(10^9 + 7)$.

Example

standard input	standard output
2 6 7 1 2 1 2 3 1 4 5 1 5 6 1 1 4 1 2 5 1 3 6 1 4 5 1 2 1 1 3 1 1 4 1 2 3 1 3 4 1	3 3 2 2