I. Paths in a Weighted Tree

Time Limit: 3 seconds

Problem description

Given a weighted tree (a connected undirected graph without cycles) with n nodes and an array of weights corresponding to the edges, your task is to find all the paths in the tree and list them in ascending order based on the total weight of the path.

Input:

The first line contains an integer $0 \leq n \leq 10^5$, indicating the number of nodes.

The next $n-1$ lines each contain three integers: a, b, and w such that $1 \leq a, b \leq n$, $0 \leq w \leq 10^5$. Here, a and b represent nodes connected by an edge, and w represents the weight of that edge.

Output:

For each path, print a line containing the nodes of the path in order, separated by spaces. Each path should be listed in increasing order of total weight. The nodes in the left-hand side of the tree will be prioritized.

Example:

ID	Input	Output
1	7 1 2 2 1 3 4 2 4 4 2 5 3 4 6 1 4 7 2	1 3 1 2 5 1 2 4 6 1 2 4 7
2	4 1 2 4 1 3 5 1 4 6	1 2 1 3 1 4
3	4 1 2 2 1 3 2 1 4 2	1 2 1 3 1 4
4	7 1 2 2 1 3 2 1 4 3 2 5 3 2 6 3 3 7 3	1 4 1 2 5 1 2 6 1 3 7
5	1	1
6	0	