CS69011: Computing Lab-1
Assignment 2: Binary Trees (Part - A)

August 14, 2023

==========Instructions==========

1. In the case of user input, assume only valid values will be passed as input. 2. Regarding submission: Create separate C file : <RollNo>_Q1.c
3. Create a zip file of all these C files in the name: <RollNo>_A2_BT_Part_A.zip and submit it to Moodle.
4. Q1 contains 20 marks

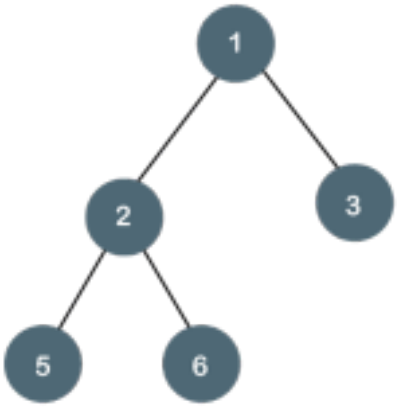
==========

1. You are given a binary tree where each node represents a toll gate. The toll fee is given by the nodeV value of each node, and each node has a unique nonnegative toll fee. Moving from one node to another incurs a cost equal to the sum of toll fees for all gates passed through, including both the starting and ending nodes. Write a function to determine the minimum total cost of traveling from the root node to any leaf node in the binary tree

Input format -
First line will contain the number of Nodes in the tree.
Following the next ‘n’ lines will contain the below information -
[path of the insertion] [value of the node]
Where , [path of the insertion] is an array of 0’s and 1’s, 0 signifying left and 1 signifying right. Following the path, at the end insert the node with value ‘[value of the node]’

Note for the ‘root’ node path does not signify anything
Eg.
5
0 1
1 3
0 2
0 1 6
0 0 5

The tree will look like -



Output format - <node_1> <node_2> .. <node_n> :Signifying the min cost path

For the sample test case o/p:-

1 3