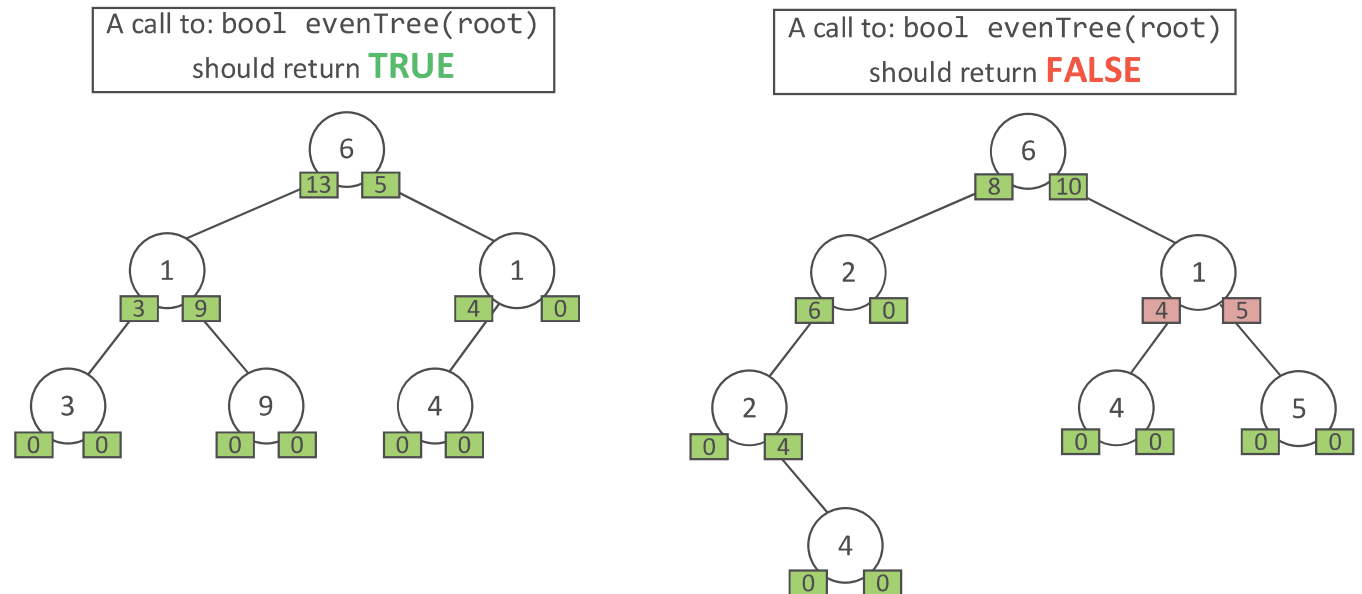


4. (10 pts.) **Trees and Recursion.** Given a binary tree of **non-negative integers**, write a **recursive** function that returns TRUE if the sum of all nodes in the left and right subtree of **EACH** node is an **even number**. If the sum of nodes in the left and right subtree of even 1 node is odd, return false. Non-existent nodes have an implicit value of 0. Also, an empty tree should return `true`. No loops are allowed so you must use recursion.



Complete your code in the linked [eventree.cpp](#) and submit that file. A portion is reproduced below.

```
// You may NOT change this struct definition
struct Node {
    int val;
    Node *left, *right;
};

// You may NOT change this function prototype
bool evenTree(Node* root);

// You may add any prototypes of helper functions here

// Now implement the evenTree function and any necessary helpers
// ----- YOUR CODE HERE -----
```