**Q 4.4** (pg. 110 *Cracking the Coding Interview, 6th Edition*)

Implement a function to check if a binary tree is balanced. For the purposes of this question, a balanced binary tree is defined to be a tree such that the heights of the two subtrees of any node never differ by more than one.

*21, 33, 49, 105, 124*

*Hint 1*: Think about the definition of a balanced tree. Can you check that condition for a single node? Can you check it for every node?

*Hint 2*: If you’ve developed a brute force solution, be careful about its runtime. If you are computing the height of the subtrees for each node, you could have a pretty inefficient algorithm,

*Hint 3*: What if you could modify the binary tree node class to allow a node to store the height of its subtree?

*Hint 4:* You don’t need to modify the binary tree class to store the height of the subtree. Can your recursive function compute the height of each subtree while also checking if a node is balanced? Try having the function return multiple values.