Question:

Writing other Algorithms on BinaryTrees

Write maxOfTree, which takes in a Binary Tree of integers and outputs the max integer in the tree

Runtime analysis (also works for TreeNodes):

1. How many times do we visit each node?
2. How much work is done each visit?

My Answer:

Code:

quiz4.txt

```
// maxOfTree method
public static int maxOfTree(TreeNode<Integer> tree) {
        int maxSoFar = tree.getValue();
                for (TreeNode<Integer> child : tree.getChildren()) {
                        maxSoFar = Math.max(maxSoFar, maxOfTree(child));
                }
                return maxSoFar;
}
```

1. Time Complexity: O(n)
2. Space Complexity: O(n)