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The idea behind this algorithm is to see if there are any more nodes remaining on the left side and if there are add 1 to the left height in order to find the height of the tree

```
height(root)
        if(root.left == null)                        //1
                Return 0;                            //1
        end if
        else
                leftHeight = height(root.left)       //T(n/2)
                Return (leftHeight+1)                //2
        end if
```

$T(n) = T(n/2) + 4$

The running time of this function would be O(logn) due to the fact that I only traversed one side of the tree because the tree is balanced and you only need to go down half of it.