AlgoExpert Quad Layout Java 12px Sublime Monok

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Solution 1 Solution 2

```java
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import java.util.*;

class Program {
  // Average case: when the tree is balanced
  // O(n) time | O(h) space - where n is the number of nodes in
  // the Binary Tree and h is the height of the Binary Tree
  public static int nodeDepths(BinaryTree root) {
    int sumOfDepths = 0;
    List<Level> stack = new ArrayList<Level>();
    stack.add(new Level(root, 0));
    while (stack.size() > 0) {
      Level top = stack.remove(stack.size() -1);
      BinaryTree node = top.root;
      int depth = top.depth;
      if (node == null) continue;
      sumOfDepths += depth;
      stack.add(new Level(node.left, depth + 1));
      stack.add(new Level(node.right, depth + 1));
    }
    return sumOfDepths;
  }

  static class Level {
    public BinaryTree root;
    int depth;

    public Level(BinaryTree root, int depth) {
      this.root = root;
      this.depth = depth;
    }
  }

  static class BinaryTree {
    int value;
    BinaryTree left;
    BinaryTree right;

    public BinaryTree(int value) {
      this.value = value;
      left = null;
      right = null;
    }
  }
}
```