

Solution 1

Solution 2

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 package main
4
5 ▼ type BinaryTree struct {
6     Value      int
7     Left, Right *BinaryTree
8 }
9
10 ▼ type Level struct {
11     Root *BinaryTree
12     Depth int
13 }
14
15 // Average case: when the tree is balanced
16 // O(n) time | O(h) space - where n is the number of nodes in
17 // the Binary Tree and h is the height of the Binary Tree
18 ▼ func NodeDepths(root *BinaryTree) int {
19     sumOfDepths := 0
20     stack := []Level{{Root: root, Depth: 0}}
21     var top Level
22     ▼ for len(stack) > 0 {
23         top, stack = stack[len(stack)-1], stack[:len(stack)-1]
24         node, depth := top.Root, top.Depth
25         ▼ if node == nil {
26             continue
27         }
28         sumOfDepths += depth
29         stack = append(stack, Level{Root: node.Left, Depth: depth + 1})
30         stack = append(stack, Level{Root: node.Right, Depth: depth + 1})
31     }
32     return sumOfDepths
33 }
34
```

