AlgoExpert Quad Layout Swift 12px Sublime Monokai 00:00:00

Prompt Scratchpad Our Solution(s) Video Explanation Run Code

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Solution 1
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```
_{\rm 1} \, // Copyright 0 2020 AlgoExpert, LLC. All rights reserved.
    class Program {
       class BinaryTree {
           var value: Int
           var parent: BinaryTree?
           var left: BinaryTree?
           var right: BinaryTree?
           init(value: Int, parent: BinaryTree?) {
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11
               self.value = value
12
               self.parent = parent
13
14
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        // O(n) time | O(1) space
        func iterativeInOrderTraversal(_ tree: BinaryTree, _ callback: (BinaryTree) -> Void) {
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18
           var previousNode: BinaryTree?
           var currentNode: BinaryTree? = tree
19
20
21
22
           while currentNode !== nil {
               let nextNode: BinaryTree?
23
               24
                   if currentNode?.left !== nil {
                      nextNode = currentNode?.left
26
                   } else {
27
                      callback(currentNode!)
28
29
                      nextNode = currentNode?.right !== nil ? currentNode?.right : currentNode?.parent
30
               } else if previousNode === currentNode?.left {
31
                   callback(currentNode!)
                   nextNode = currentNode?.right !== nil ? currentNode?.right : currentNode?.parent
33
               } else {
34
                   nextNode = currentNode?.parent
35
36
37
               previousNode = currentNode
               currentNode = nextNode
38
40
41 }
```