

Our Solution(s)

Run Code

Your Solutions

Run Code

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 using System;
4
5 public class Program {
6     // O(n) time | O(1) space
7     public static void IterativeInOrderTraversal(BinaryTree tree, Action<int> callback) {
8         BinaryTreeNode previousNode = null;
9         BinaryTreeNode currentNode = tree;
10        while (currentNode != null) {
11            BinaryTreeNode nextNode;
12            if (previousNode == null || previousNode == currentNode.parent) {
13                if (currentNode.left != null) {
14                    nextNode = currentNode.left;
15                } else {
16                    callback(currentNode.value);
17                    nextNode = currentNode.right != null ? currentNode.right : currentNode.parent;
18                }
19            } else if (previousNode == currentNode.left) {
20                callback(currentNode.value);
21                nextNode = currentNode.right != null ? currentNode.right : currentNode.parent;
22            } else {
23                nextNode = currentNode.parent;
24            }
25            previousNode = currentNode;
26            currentNode = nextNode;
27        }
28    }
29
30 }
31
32 public class BinaryTreeNode {
33     public int value;
```

Solution 1 Solution 2 Solution 3

```
1 using System;
2
3 public class Program {
4     public static void IterativeInOrderTraversal(BinaryTreeNode tree, Action<int> callback) {
5         // Write your code here.
6     }
7
8     public class BinaryTreeNode {
9         public int value;
10        public BinaryTreeNode left;
11        public BinaryTreeNode right;
12        public BinaryTreeNode parent;
13
14        public BinaryTreeNode(int value) {
15            this.value = value;
16        }
17
18        public BinaryTreeNode(int value, BinaryTreeNode parent) {
19            this.value = value;
20            this.parent = parent;
21        }
22    }
23 }
24
```

Our Tests

Custom Output

Submit Code

```
1 using System;
2
3 public class Program {
4     public static void IterativeInOrderTraversal(BinaryTreeNode tree, Action<int> callback) {
5         // Write your code here.
6     }
7
8     public class BinaryTreeNode {
9         public int value;
```

```
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2
3 public class Program {
4     public static void IterativeInOrderTraversal(BinaryTreeNode tree, Action<int> callback) {
5         // Write your code here.
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