

InOrder Morris Traversal

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def inorderTraversal(self, root: Optional[TreeNode]) -> List[int]:
    if root is None:
        return root
    ans = []
    curr = root
    while curr!=None:
        leftNode = curr.left
        if leftNode is None:
            ans.append(curr.val)
            curr = curr.right
        else:
            rightMost = self.getRightMostNode(leftNode,curr)

            if rightMost.right is None:
                rightMost.right = curr
                curr = curr.left
            else:
                rightMost.right= None
                ans.append(curr.val)
                curr = curr.right
    return ans

def getRightMostNode(self, leftNode, curr):
    while leftNode.right!=None and leftNode.right!=curr:
        leftNode = leftNode.right
    return leftNode
```

Time Complexity : $O(n)$ If we take a closer look, we can notice that every edge of the tree is traversed at most three times. And in the worst case, the same number of extra edges (as input tree) are created and removed.