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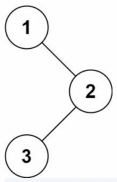
144. Binary Tree Preorder Traversal

Easy 3497 115 Add to List Share

Given the `root` of a binary tree, return *the preorder traversal of its nodes' values*.

Example 1:




```
Input: root = [1,null,2,3]
Output: [1,2,3]
```

Example 2:

```
Input: root = []
Output: []
```

Example 3:

```
Input: root = [1]
Output: [1]
```

Java Autocomplete

```java
/**
 * Definition for a binary tree node.
 * public class TreeNode {
 *     int val;
 *     TreeNode left;
 *     TreeNode right;
 *     TreeNode() {}
 *     TreeNode(int val) { this.val = val; }
 *     TreeNode(int val, TreeNode left, TreeNode right) {
 *         this.val = val;
 *         this.left = left;
 *         this.right = right;
 *     }
 * }
 */
class Solution {
    public List<Integer> preorderTraversal(TreeNode root) {
        List<Integer> result = new ArrayList<>();
        Stack<TreeNode> stack = new Stack<>();

        if(root == null) return result;
        stack.push(root);

        while(!stack.isEmpty()) {
            TreeNode temp = stack.pop();
            result.add(temp.val);

            if(temp.right != null) {
                stack.push(temp.right);
            }
            if(temp.left != null) {
                stack.push(temp.left);
            }
        }

        return result;
    }
}
```