EXPERIMENT 7

Student Name: Praduman Kumar **UID:** 20BCS9446

Branch: CSE **Section/Group:** 20BCS_DM_714-A

Semester: 06 **Subject Name:** Competitive Coding

Subject Code: 20CSP-351

1. **AIM:** To demonstrate the concept of Divide and Conquer

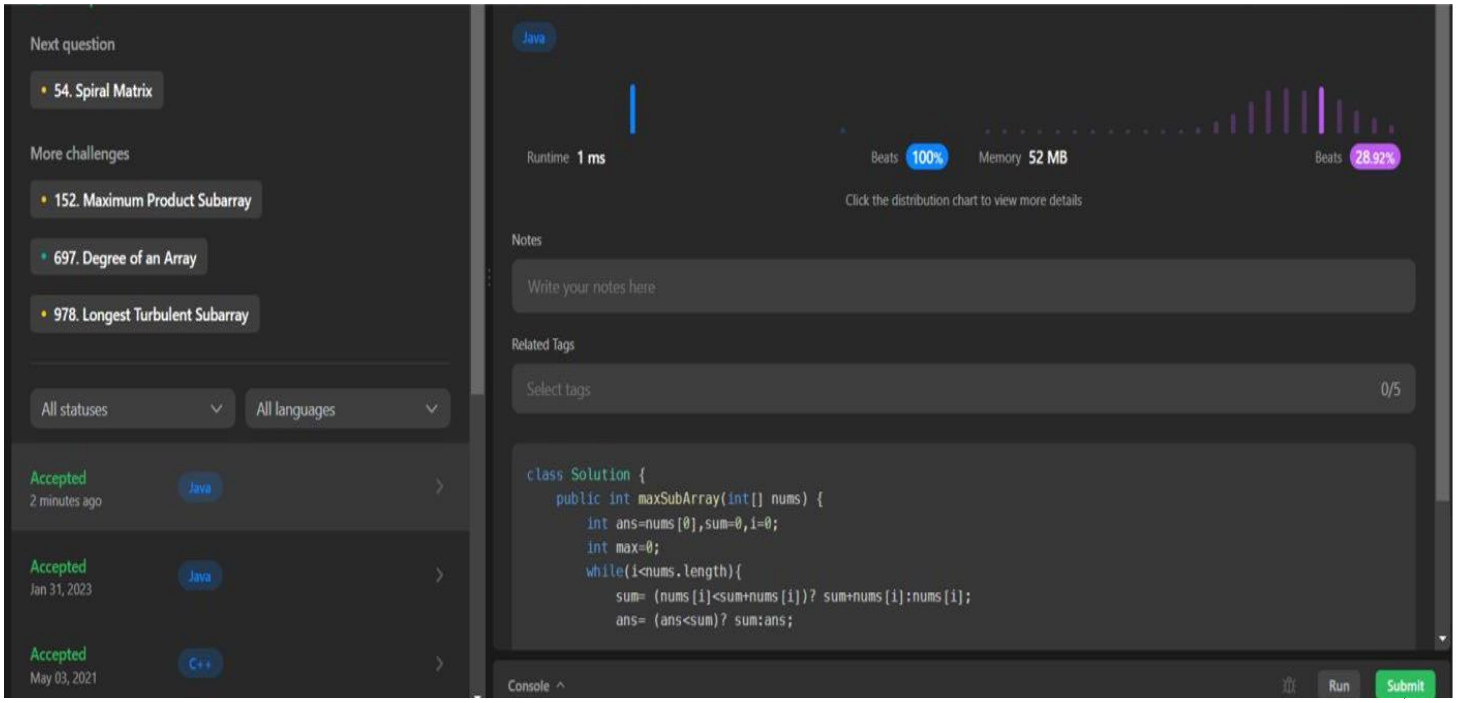
2. **OBJECTIVE 1:** Maximum Subarray

3. **CODE:**

```
class Solution {
    public int maxSubArray(int[] nums) {
        int ans=nums[0],sum=0,i=0;
        int max=0;
        while(i<nums.length){
            sum= (nums[i]<sum+nums[i])?
            sum+nums[i]:nums[i]; ans= (ans<sum)? sum:ans;

            i++;
        }
        return ans;
    }
}
```

4. OUTPUT:



```
class Solution {
    public int maxSubArray(int[] nums) {
        int ans=nums[0],sum=0,i=0;
        int max=0;
        while(i<nums.length){
            sum= (nums[i]<sum+nums[i])? sum+nums[i]:nums[i];
            ans= (ans<sum)? sum:ans;
```

5. OBJECTIVE 2: Construct Binary Tree From Inorder and PostOrder Traversal

6. CODE:

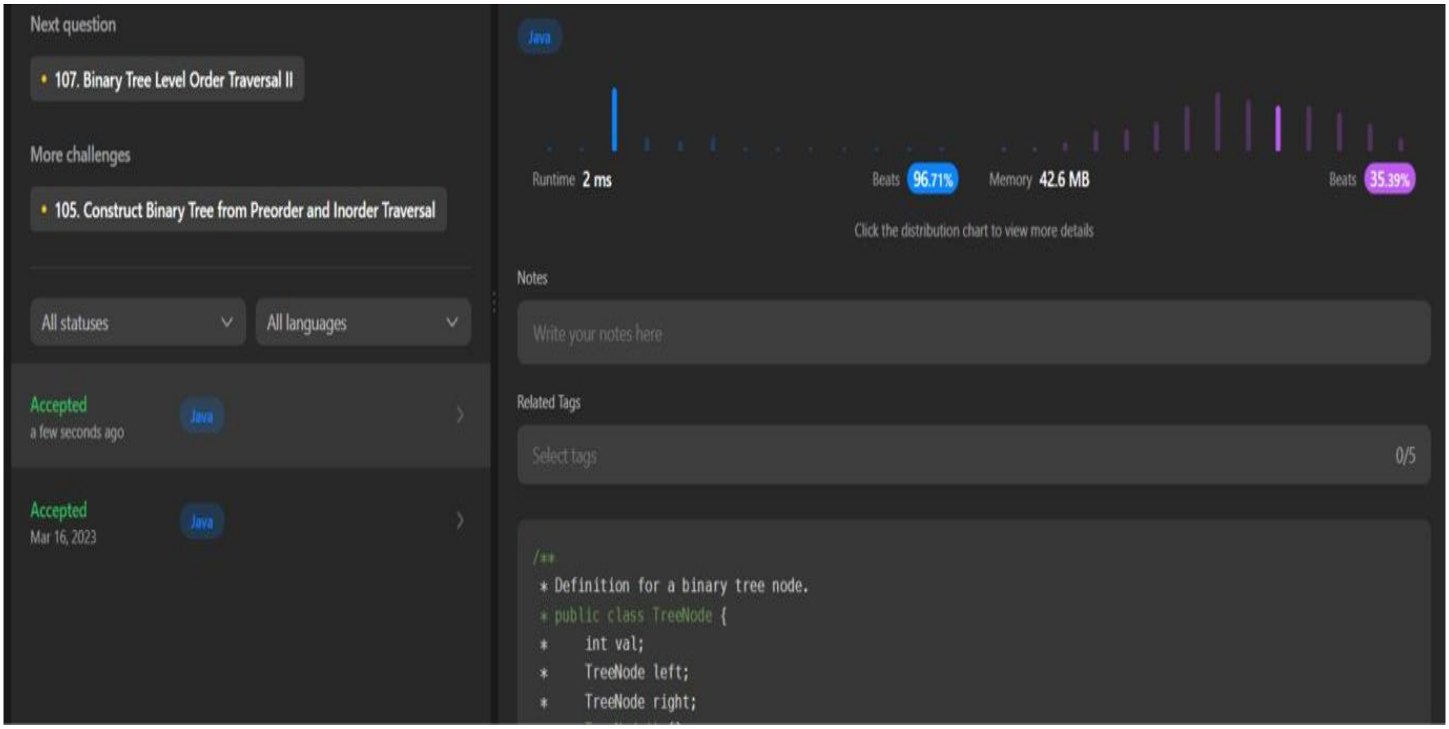
```
class Solution {
    public TreeNode buildTree(int[] inorder, int[] postorder) {
        if(inorder==null || postorder==null || inorder.length!=postorder.length)
            return null;
            HashMap<Integer,Integer> hm=new HashMap<Integer,Integer>();
            for(int i=0;i<inorder.length;i++){
                hm.put(inorder[i],i);
            }
                return buildTreePostIn(inorder,0,inorder.length-
1,postorder,0,postorder.length-1,hm);
```

```
        }
        private TreeNode buildTreePostIn(int[] inorder,int is,int ie,int[] 
postorder,int ps,int pe, HashMap<Integer,Integer>hm){
            if(ps>pe || is>ie) return null;
            TreeNode root=new TreeNode(postorder[pe]);

            int inRoot=hm.get(postorder[pe]);
            int numsLeft=inRoot-is;
            root.left=buildTreePostIn(inorder,is,inRoot-1,postorder,ps,ps+numsLeft-1,hm);
            root.right=buildTreePostIn(inorder,inRoot+1,ie,postorder,ps+numsLeft,pe-1,hm);
            return root;
        }

}
```

7. OUTPUT



Next question

• 107. Binary Tree Level Order Traversal II

More challenges

• 105. Construct Binary Tree from Preorder and Inorder Traversal

All statuses ˅ All languages ˅

Accepted a few seconds ago Java

Accepted Mar 16, 2023 Java

Java

Runtime 2 ms Beats 96.71% Memory 42.6 MB Beats 35.39%

Click the distribution chart to view more details

Notes

Write your notes here

Related Tags

Select tags 0/5

```
/**
 * Definition for a binary tree node.
 * public class TreeNode {
 *     int val;
 *     TreeNode left;
 *     TreeNode right;
```