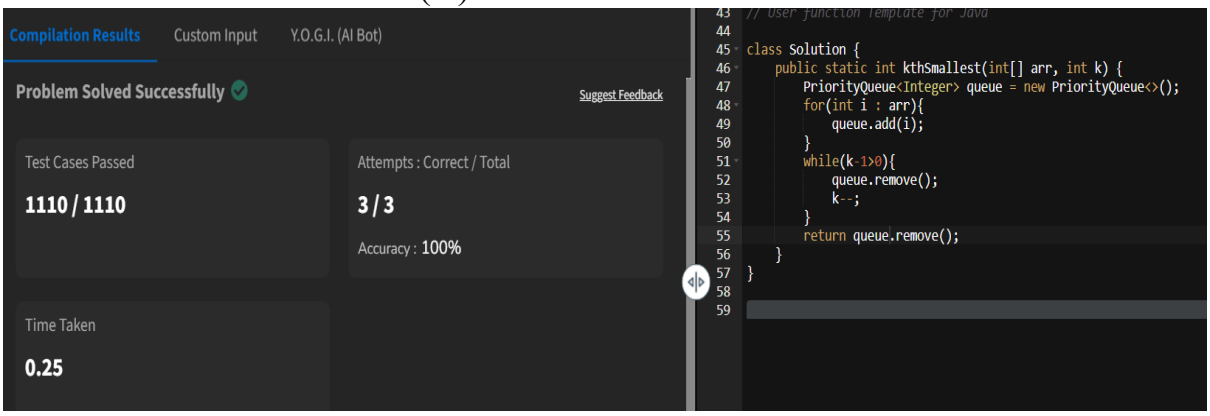
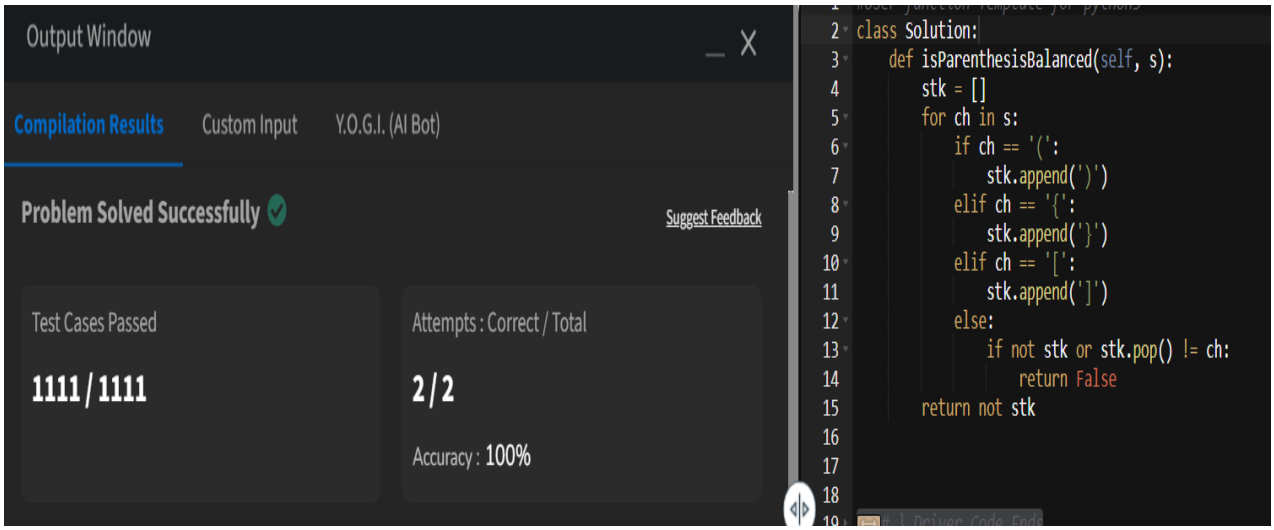
DSA PRACTICE QUESTIONS

13/11/2024

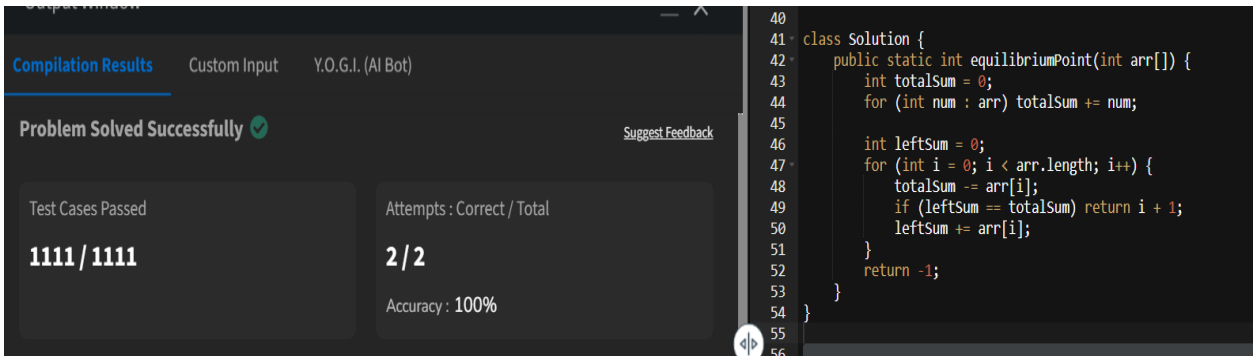
1.Kth Smallest element: TC: O(N)



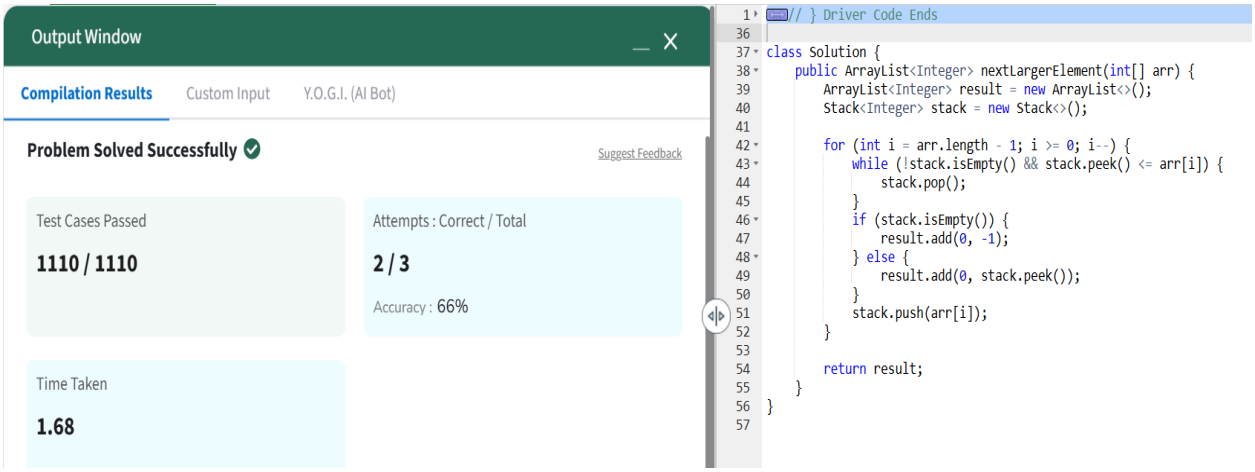
2. PARENTHESES CHECKER: TC: O(N)



3. EQUILIBRIUM POINT: TC: O(N)



4.NEXT GREATER ELEMENT:



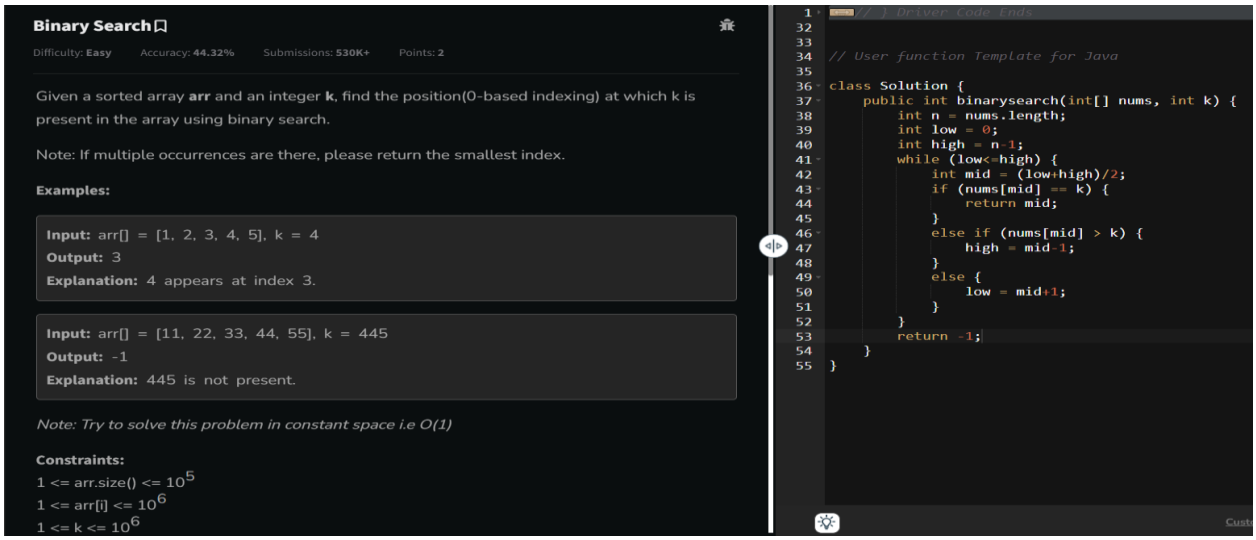

```
// } Driver Code Ends

class Solution {
    public ArrayList<Integer> nextLargerElement(int[] arr) {
        ArrayList<Integer> result = new ArrayList<>();
        Stack<Integer> stack = new Stack<>();

        for (int i = arr.length - 1; i >= 0; i--) {
            while (!stack.isEmpty() && stack.peek() <= arr[i]) {
                stack.pop();
            }
            if (stack.isEmpty()) {
                result.add(0, -1);
            } else {
                result.add(0, stack.peek());
            }
            stack.push(arr[i]);
        }

        return result;
    }
}
```

5.BINARY SEARCH: TC: O(NLOGN)




```
// } Driver Code Ends


// User function Template for Java

class Solution {
    public int binarysearch(int[] nums, int k) {
        int n = nums.length;
        int low = 0;
        int high = n-1;
        while (low<=high) {
            int mid = (low+high)/2;
            if (nums[mid] == k) {
                return mid;
            }
            else if (nums[mid] > k) {
                high = mid-1;
            }
            else {
                low = mid+1;
            }
        }
        return -1;
    }
}
```