DSA Assignment - 4 July

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Roll No: 23/11/EC/040

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GeeksForGeeks ID: aditya1305t

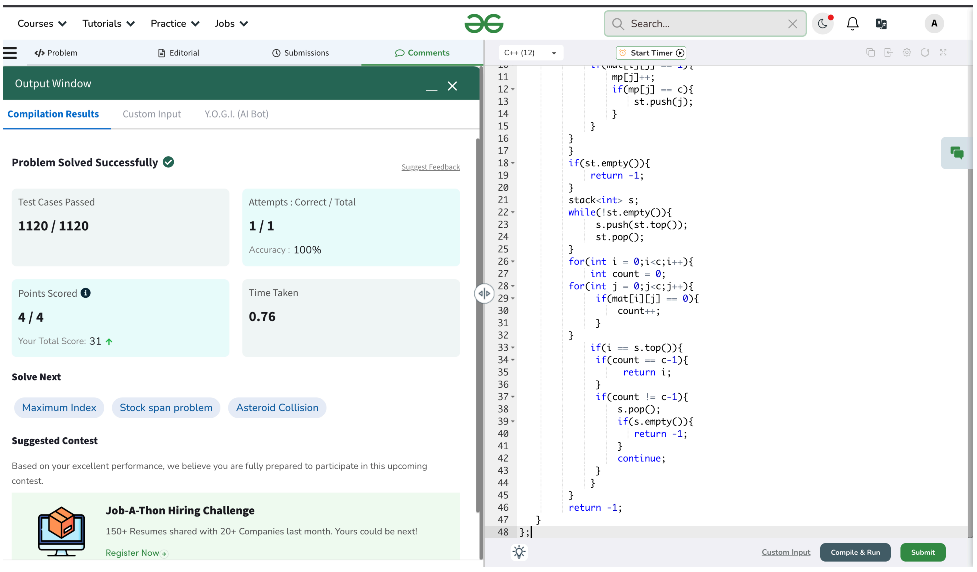
Github Repo Link:

https://github.com/Aditya1305T/SOE_Training_25

Question 1: Find the Celebrity

Platform: GeeksForGeeks

Link: · https://www.geeksforgeeks.org/problems/the-celebrity-problem/1



Problem Solved Successfully

Test Cases Passed
1120 / 1120

Attempts : Correct / Total
1 / 1
Accuracy : 100%

Points Scored
4 / 4
Your Total Score: 31

Time Taken
0.76

Solve Next

Maximum Index · Stock span problem · Asteroid Collision

Suggested Contest

Based on your excellent performance, we believe you are fully prepared to participate in this upcoming contest.

Job-A-Thon Hiring Challenge

150+ Resumes shared with 20+ Companies last month. Yours could be next!

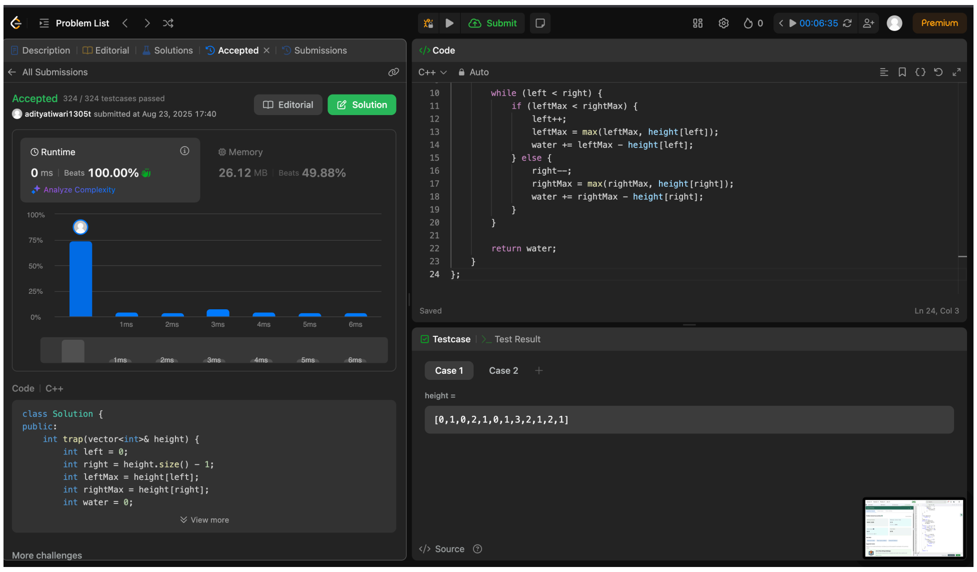
Register Now →

```
                mp[j]++;
                if(mp[j] == c){
                    st.push(j);
                }
            }
        }
        }
        if(st.empty()){
            return -1;
        }
        stack<int> s;
        while(!st.empty()){
             s.push(st.top());
             st.pop();
        }
        for(int i = 0;i<c;i++){
            int count = 0;
        for(int j = 0;j<c;j++){
             if(mat[i][j] == 0){
                 count++;
             }
        }
            if(i == s.top()){
             if(count == c-1){
                  return i;
             }
             if(count != c-1){
                 s.pop();
                 if(s.empty()){
                     return -1;
                 }
                 continue;
             }
            }
        }
        return -1;
    }
};
```

Question 2: Trapping Rain Water

Platform: LeetCode

Link: · https://leetcode.com/problems/trapping-rain-water



Accepted 324 / 324 testcases passed
adityatiwari1305t submitted at Aug 23, 2025 17:40

Runtime
0 ms | Beats 100.00%

Memory
26.12 MB | Beats 49.88%

Code | C++

```
class Solution {
public:
    int trap(vector<int>& height) {
        int left = 0;
        int right = height.size() - 1;
        int leftMax = height[left];
        int rightMax = height[right];
        int water = 0;
```

```
        while (left < right) {
            if (leftMax < rightMax) {
                left++;
                leftMax = max(leftMax, height[left]);
                water += leftMax - height[left];
            } else {
                right--;
                rightMax = max(rightMax, height[right]);
                water += rightMax - height[right];
            }
        }

        return water;
    }
};
```

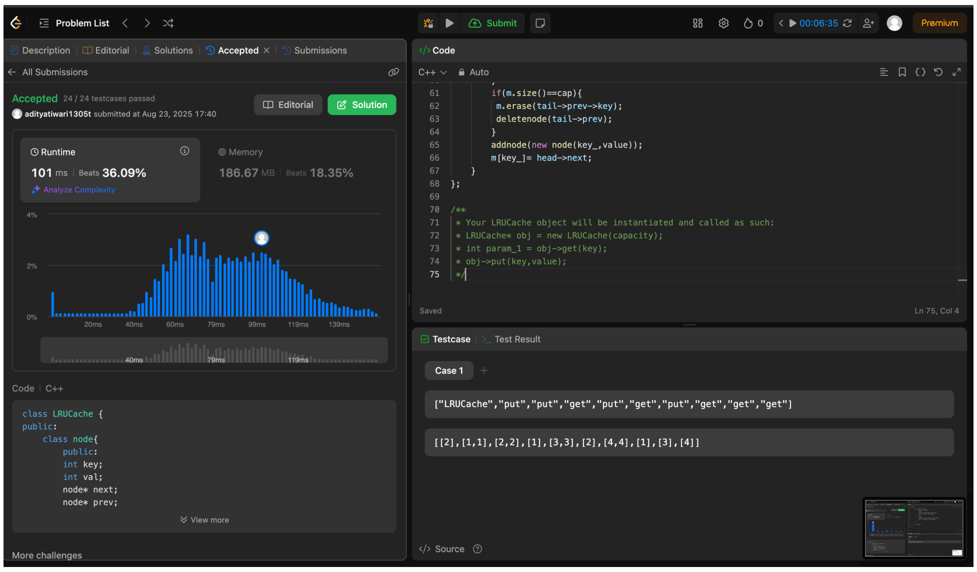
height =

```
[0,1,0,2,1,0,1,3,2,1,2,1]
```

Question 3: Design LRU Cache

Platform: LeetCode

Link: · https://leetcode.com/problems/lru-cache/description/



Accepted 24 / 24 testcases passed
adityatiwari1305t submitted at Aug 23, 2025 17:40

Runtime
101 ms | Beats 36.09%

Memory
186.67 MB | Beats 18.35%

Code | C++

```
class LRUCache {
public:
    class node{
        public:
        int key;
        int val;
        node* next;
        node* prev;
```

```
            if(m.size()==cap){
             m.erase(tail->prev->key);
             deletenode(tail->prev);
            }
            addnode(new node(key_,value));
            m[key_]= head->next;
        }
};

/**
 * Your LRUCache object will be instantiated and called as such:
 * LRUCache* obj = new LRUCache(capacity);
 * int param_1 = obj->get(key);
 * obj->put(key,value);
 */
```

Saved   Ln 75, Col 4

```
["LRUCache","put","put","get","put","get","put","get","get","get"]
```

```
[[2],[1,1],[2,2],[1],[3,3],[2],[4,4],[1],[3],[4]]
```