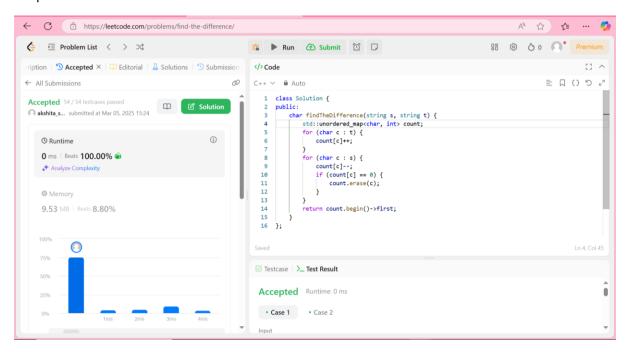
Name: Akshita Sood UID: 22BCS14993 Section: FL-IOT-601-A

# 389. Find the diffrence

```
Solution
```

```
class Solution {
public:
    char findTheDifference(string s, string t) {
        std::unordered_map<char, int> count;
        for (char c : t) {
            count[c]++;
        }
        for (char c : s) {
            count[c]--;
            if (count[c] == 0) {
                count.erase(c);
            }
        }
        return count.begin()->first;
    }
};
```

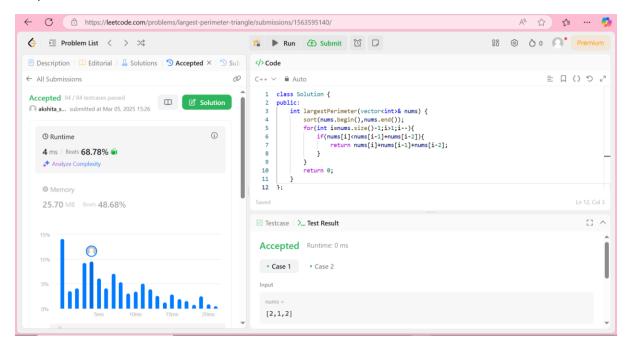
### Output



# 976. Largest Perimeter Triangle

```
class Solution {
public:
```

```
int largestPerimeter(vector<int>& nums) {
    sort(nums.begin(),nums.end());
    for(int i=nums.size()-1;i>1;i--){
        if(nums[i]<nums[i-1]+nums[i-2]){
            return nums[i]+nums[i-1]+nums[i-2];
        }
    }
    return 0;
}</pre>
```



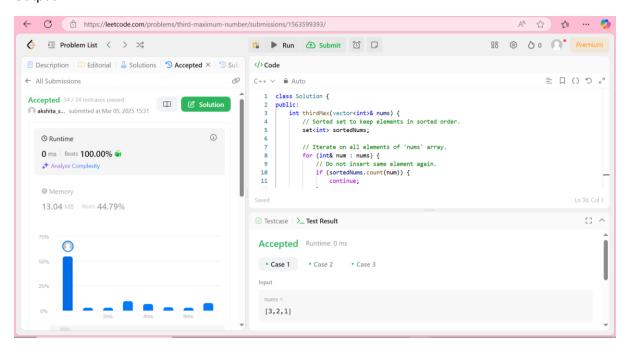
### 414. Third Maximum Number

```
class Solution {
public:
    int thirdMax(vector<int>& nums) {
        // Sorted set to keep elements in sorted order.
        set<int> sortedNums;

        // Iterate on all elements of 'nums' array.
        for (int& num : nums) {
            // Do not insert same element again.
            if (sortedNums.count(num)) {
                 continue;
            }

            // If sorted set has 3 elements.
            if (sortedNums.size() == 3) {
```

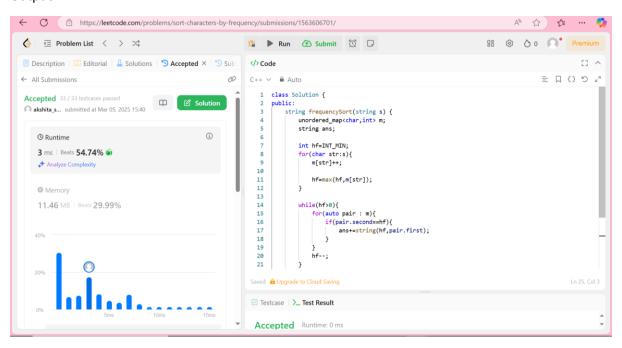
```
// And the smallest element is smaller than current element.
                if (*sortedNums.begin() < num) {</pre>
                     // Then remove the smallest element and push the current
element.
                     sortedNums.erase(sortedNums.begin());
                    sortedNums.insert(num);
                }
            }
            // Otherwise push the current element of nums array.
            else {
                sortedNums.insert(num);
            }
        }
        // If sorted set has three elements return the smallest among those 3.
        if (sortedNums.size() == 3) {
            return *sortedNums.begin();
        }
        // Otherwise return the biggest element of nums array.
        return *sortedNums.rbegin();
    }
};
```



## 451. Sort Characters By Frequency

```
class Solution {
```

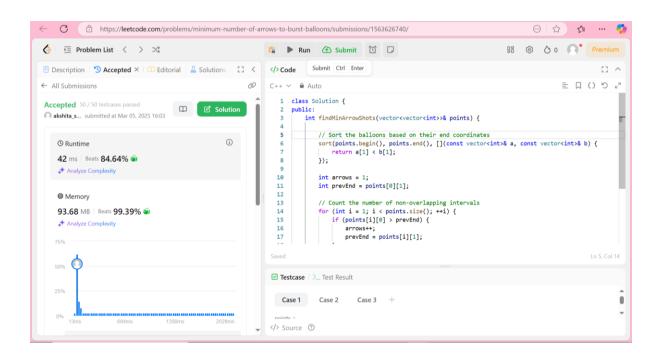
```
public:
    string frequencySort(string s) {
        unordered_map<char,int> m;
        string ans;
        int hf=INT_MIN;
        for(char str:s){
            m[str]++;
            hf=max(hf,m[str]);
        }
        while(hf>0){
            for(auto pair : m){
                if(pair.second==hf){
                    ans+=string(hf,pair.first);
                }
            }
            hf--;
        }
        return ans;
    }
};
```



# 452. Minimum Number of Arrows to Burst Balloons

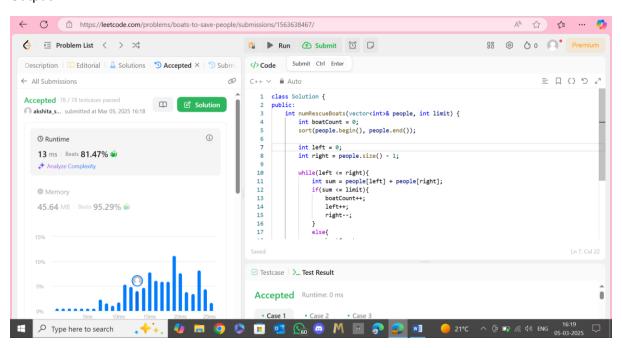
```
class Solution {
```

```
public:
    int findMinArrowShots(vector<vector<int>>& points) {
        // Sort the balloons based on their end coordinates
        sort(points.begin(), points.end(), [](const vector<int>& a, const
vector<int>& b) {
            return a[1] < b[1];</pre>
        });
        int arrows = 1;
        int prevEnd = points[0][1];
        // Count the number of non-overlapping intervals
        for (int i = 1; i < points.size(); ++i) {</pre>
            if (points[i][0] > prevEnd) {
                arrows++;
                prevEnd = points[i][1];
            }
        }
        return arrows;
    }
};
```



# 881. Boats to Save People

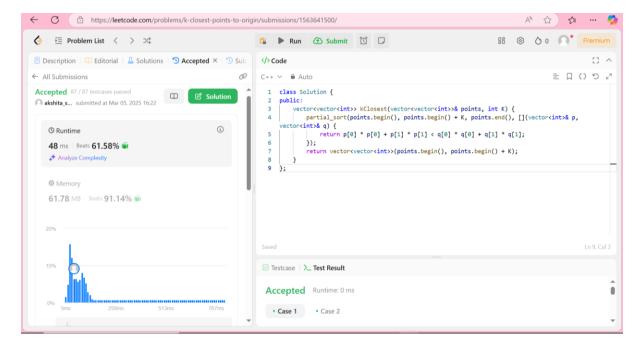
```
class Solution {
public:
    int numRescueBoats(vector<int>& people, int limit) {
        int boatCount = 0;
        sort(people.begin(), people.end());
        int left = 0;
        int right = people.size() - 1;
        while(left <= right){</pre>
            int sum = people[left] + people[right];
            if(sum <= limit){</pre>
                 boatCount++;
                 left++;
                 right--;
            }
            else{
                 boatCount++;
                 right--;
            }
        return boatCount;
    }
};
```



# 973.K Closest Points to Origin

```
class Solution {
```

```
public:
    vector<vector<int>>> kClosest(vector<vector<int>>& points, int K) {
        partial_sort(points.begin(), points.begin() + K, points.end(),
[](vector<int>& p, vector<int>& q) {
            return p[0] * p[0] + p[1] * p[1] < q[0] * q[0] + q[1] * q[1];
        });
        return vector<vector<int>>(points.begin(), points.begin() + K);
    }
};
```



# 1338. Reduce Array Size to The Half

```
class Solution {
public:
    int minSetSize(vector<int>& arr) {
        int ans=0;
        int n1=0;
        vector<int> v;
        int n= arr.size();
        unordered_map<int, int> um;
        for(int i=0; i< n; i++)
        {
            um[arr[i]]++;
        }
        for (auto x : um)
        {
            v.push_back(x.second);
        }
}</pre>
```

```
if(v.size()==1)return 1;
sort(v.begin(), v.end());
for(int i=v.size()-1; i>=0; i--)
{
    if(ans>=n/2){
        return n1;
    }
    n1++;
    ans= ans+ v[i];
}
return 0;
}
```

