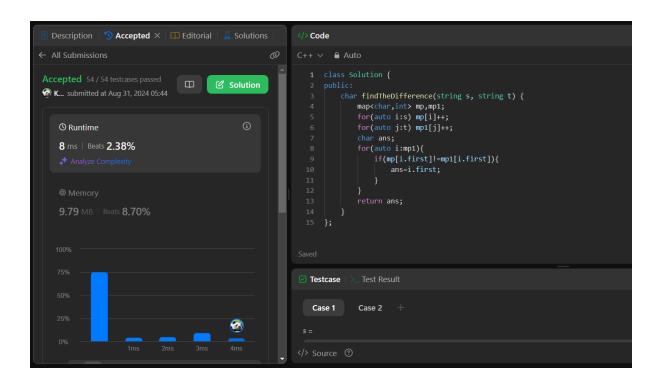
Name: Krishna Sharma

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Section: FL-IOT-641-A

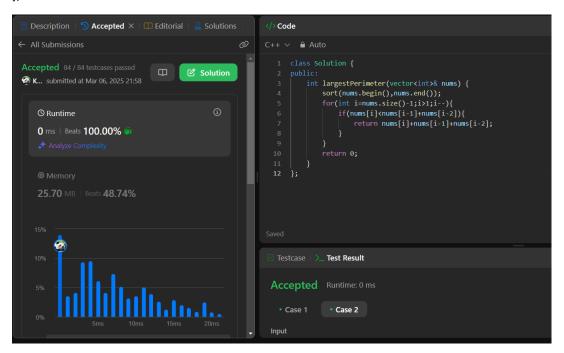
389. Find the Difference

```
class Solution {
  public:
    char findTheDifference(string s, string t) {
      map<char,int> mp,mp1;
      for(auto i:s) mp[i]++;
      for(auto j:t) mp1[j]++;
      char ans;
      for(auto i:mp1){
         if(mp[i.first]!=mp1[i.first]){
            ans=i.first;
         }
      }
      return ans;
}
```



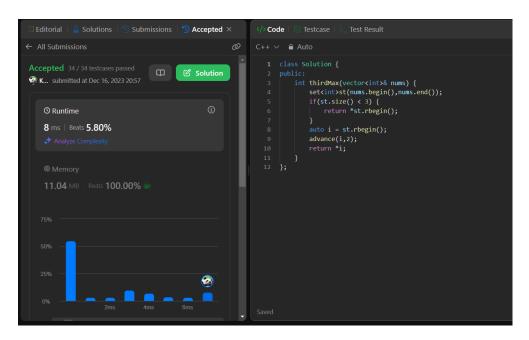
976. Largest Perimeter Triangle

```
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) {
        set<int>st(nums.begin(),nums.end());
        if(st.size() < 3) {
            return *st.rbegin();
        }
        auto i = st.rbegin();
        advance(i,2);
        return *i;
    }</pre>
```



451. Sort Characters By Frequency

```
class Solution {
public:
    string frequencySort(string s) {
    int n = s.size();
    unordered_map<char, int> mp;
    for(auto i: s) {
        mp[i]++;
    }
    sort(s.begin(), s.end(), [&](char a, char b) {
        if(mp[a] == mp[b]) return a < b;
        return mp[a] > mp[b];
    });
    return s;
}
```

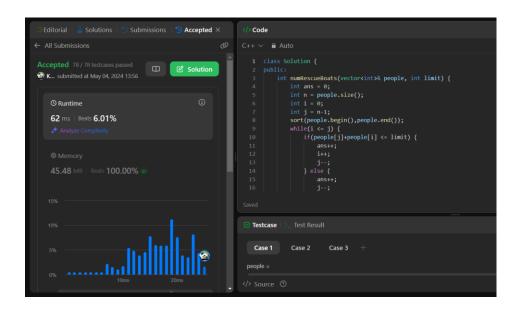
452. Minimum Number of Arrows to Burst Balloons

```
class Solution {
public:
   int findMinArrowShots(vector<vector<int>>& points) {
      int n = points.size();
      sort(points.begin(), points.end(), [&](vector<int>& v1, vector<int>& v2) {
         return v1[1] < v2[1];
      });
      int count = 1;
      int lastEnd = points[0][1];
      for(int i=1; i<n; ++i) {
        int currStart = points[i][0];
        if(currStart > lastEnd) {
            ++count;
            lastEnd = points[i][1];
        }
      }
      return count;
   }
};
    O Runtime
                                                     t = 1;
End = points[0][1];
i=1; i<n; ++i) {
currStart = points[i][0];
urrStart > lastEnd) {
                                                     ++count;
lastEnd = points[i][1];
```

Case 3

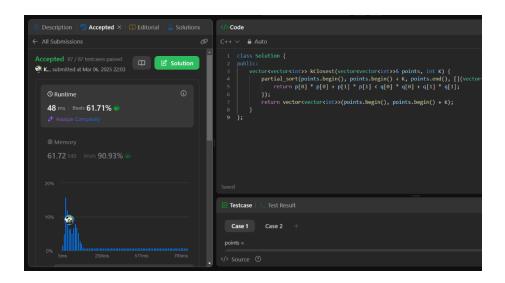
881. Boats to Save People

```
i++;
    j--;
} else {
    ans++;
    j--;
}
return ans;
}
```



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 n = arr.size();
    unordered_map<int, int> cnt;
    for (int x : arr) ++cnt[x];
    vector<int> counting(n + 1);
    for (auto [it, freq] : cnt) ++counting[freq];
    int ans = 0, removed = 0, half = n / 2, freq = n;
    while (removed < half) {
       ans += 1;
       while (counting[freq] == 0) --freq;
       removed += freq;
       --counting[freq];
    }
    return ans;
  }
};
```

