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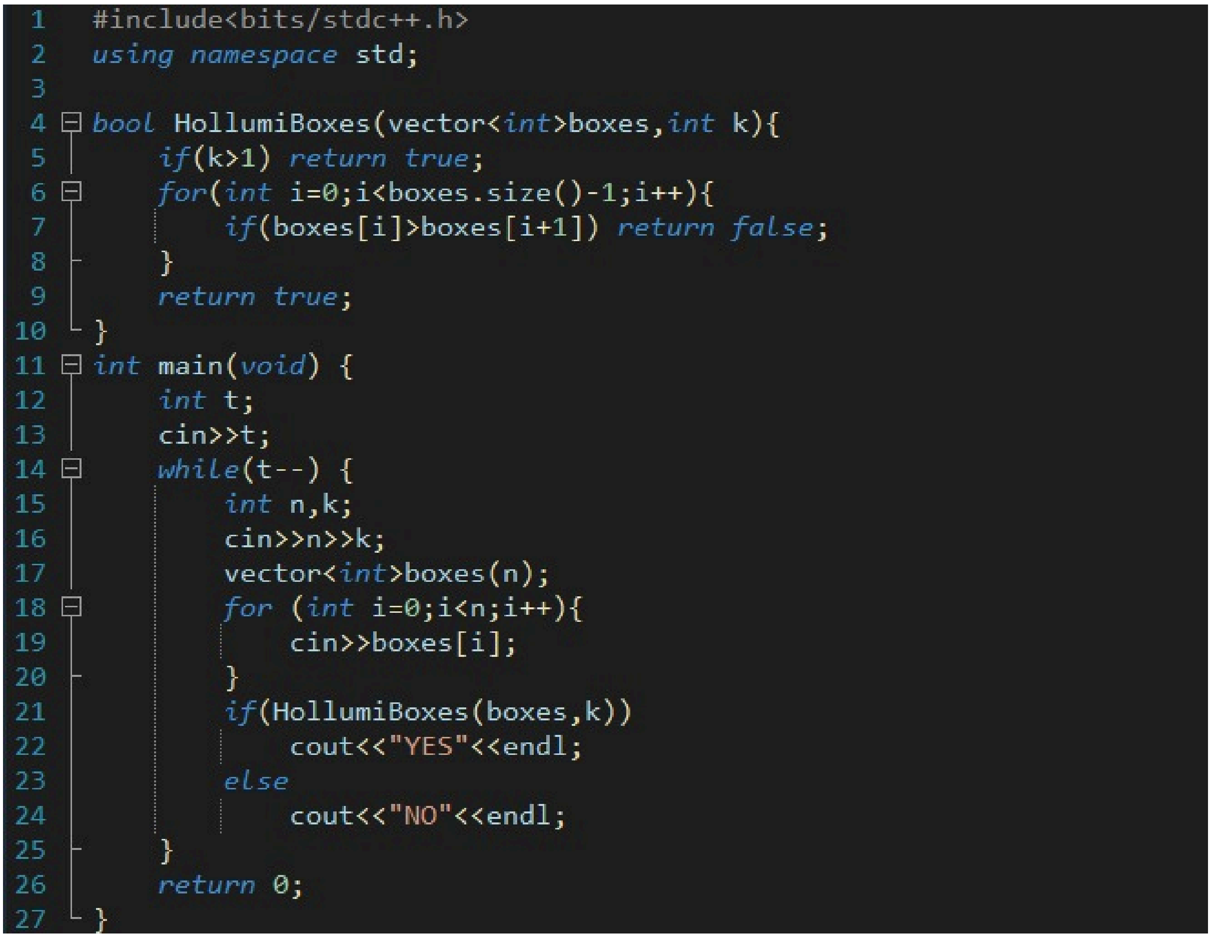
COURSE CODE: CT-159
ASSIGNMENT: DSA PRACTICE SESSION TASK#6

Q1. HALLOUMI BOXES

SOURCE CODE:

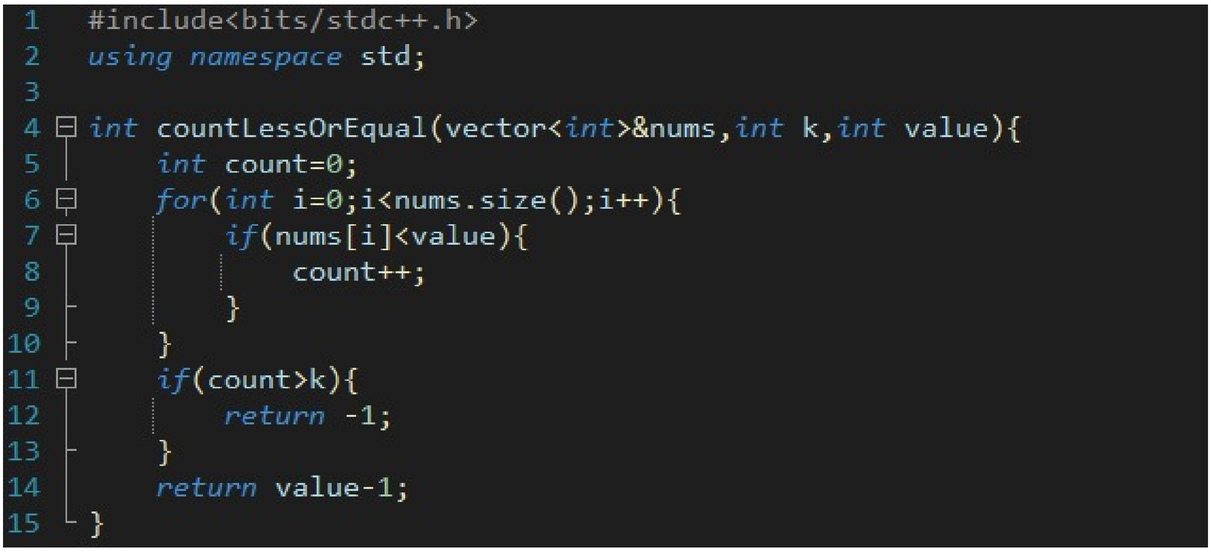


```cpp
#include<bits/stdc++.h>
using namespace std;

bool HollumiBoxes(vector<int>boxes,int k){
    if(k>1) return true;
    for(int i=0;i<boxes.size()-1;i++){
        if(boxes[i]>boxes[i+1]) return false;
    }
    return true;
}
int main(void) {
    int t;
    cin>>t;
    while(t--) {
        int n,k;
        cin>>n>>k;
        vector<int>boxes(n);
        for (int i=0;i<n;i++){
            cin>>boxes[i];
        }
        if(HollumiBoxes(boxes,k))
            cout<<"YES"<<endl;
        else
            cout<<"NO"<<endl;
    }
    return 0;
}
```

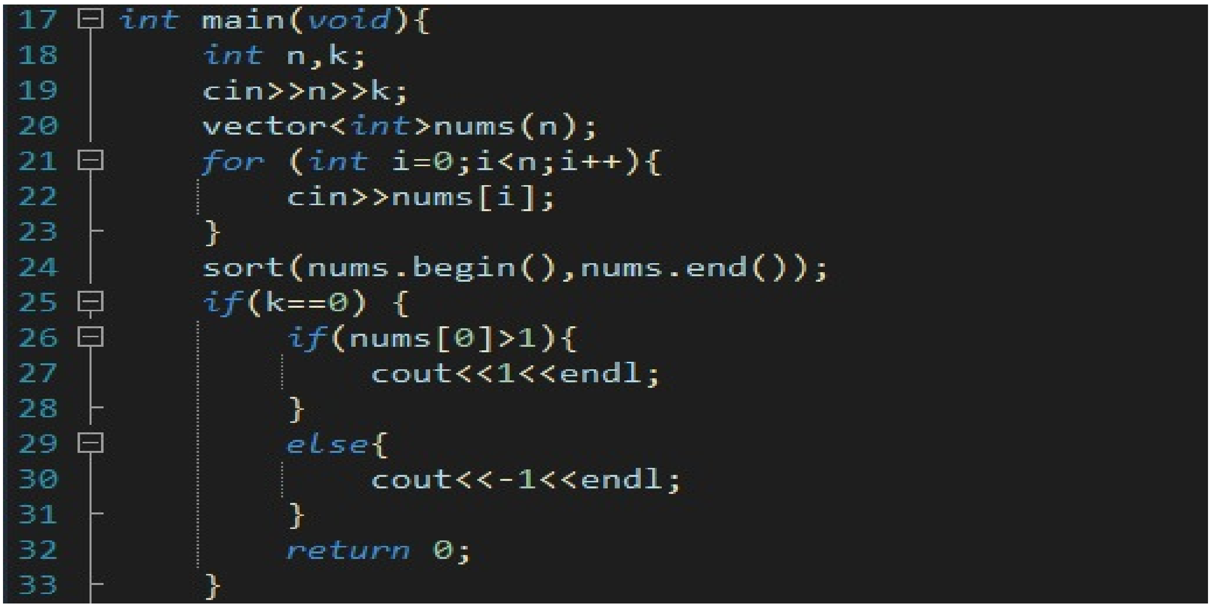
Q2. LESS OR EQUAL

SOURCE CODE:

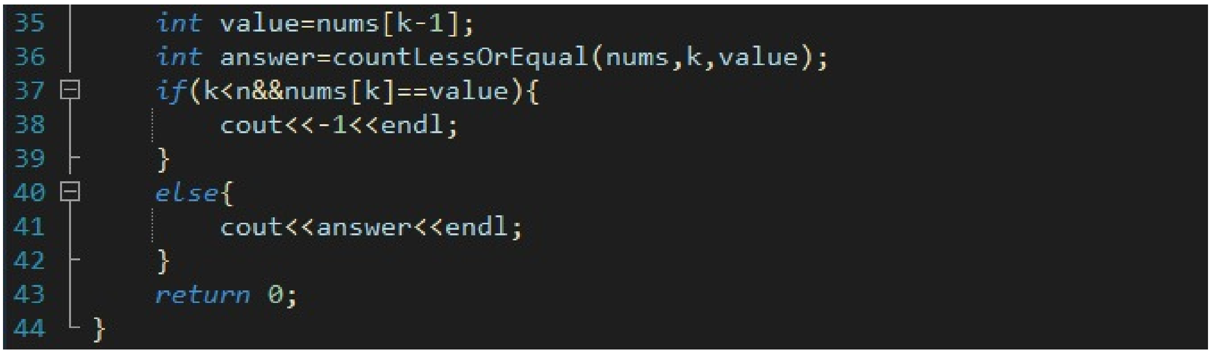


```
#include<bits/stdc++.h>
using namespace std;

int countLessOrEqual(vector<int>&nums,int k,int value){
    int count=0;
    for(int i=0;i<nums.size();i++){
        if(nums[i]<value){
            count++;
        }
    }
    if(count>k){
        return -1;
    }
    return value-1;
}
```



```
int main(void){
    int n,k;
    cin>>n>>k;
    vector<int>nums(n);
    for (int i=0;i<n;i++){
        cin>>nums[i];
    }
    sort(nums.begin(),nums.end());
    if(k==0) {
        if(nums[0]>1){
            cout<<1<<endl;
        }
        else{
            cout<<-1<<endl;
        }
        return 0;
    }
```

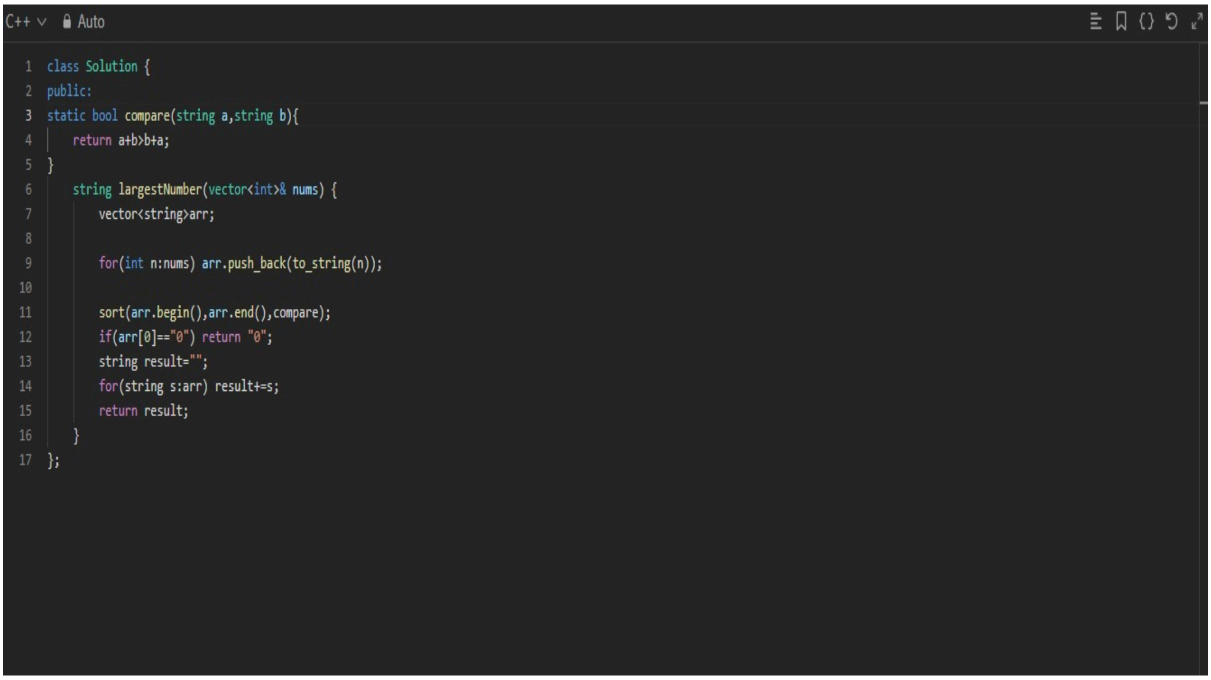


```
    int value=nums[k-1];
    int answer=countLessOrEqual(nums,k,value);
    if(k<n&&nums[k]==value){
        cout<<-1<<endl;
    }
    else{
        cout<<answer<<endl;
    }
    return 0;
}
```

// I took a screenshot of the code for Question 1 and Question 2 because the server was down.

Q3. RELATIVE RANKS

SOURCE CODE:

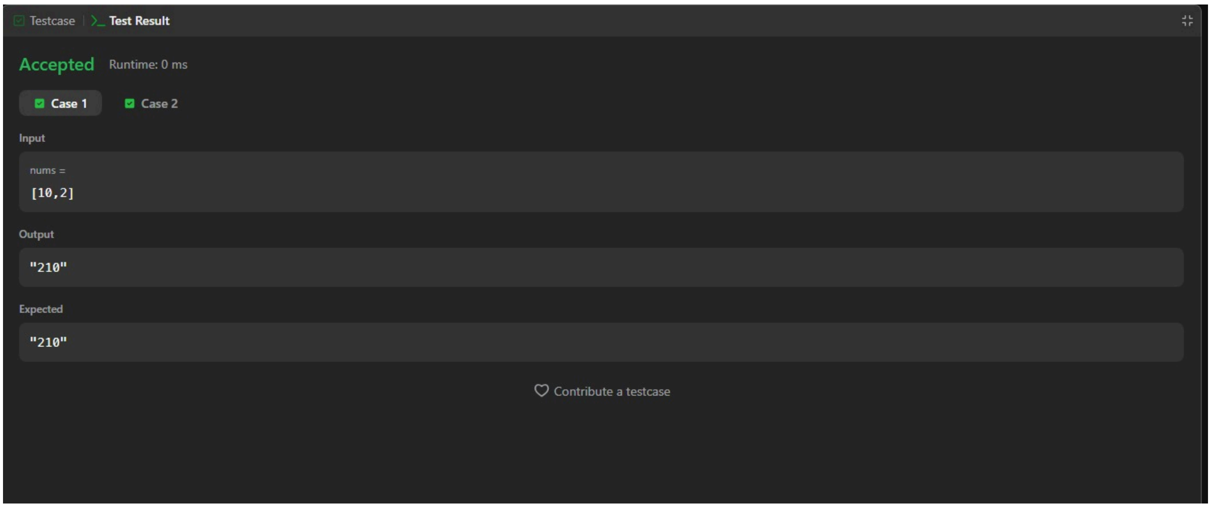


```cpp
class Solution {
public:
static bool compare(string a,string b){
    return a+b>b+a;
}
    string largestNumber(vector<int>& nums) {
        vector<string>arr;

        for(int n:nums) arr.push_back(to_string(n));

        sort(arr.begin(),arr.end(),compare);
        if(arr[0]=="0") return "0";
        string result="";
        for(string s:arr) result+=s;
        return result;
    }
};
```

ACCEPTANCE STATUS:



Accepted Runtime: 0 ms

Input

nums =

[10,2]

Output

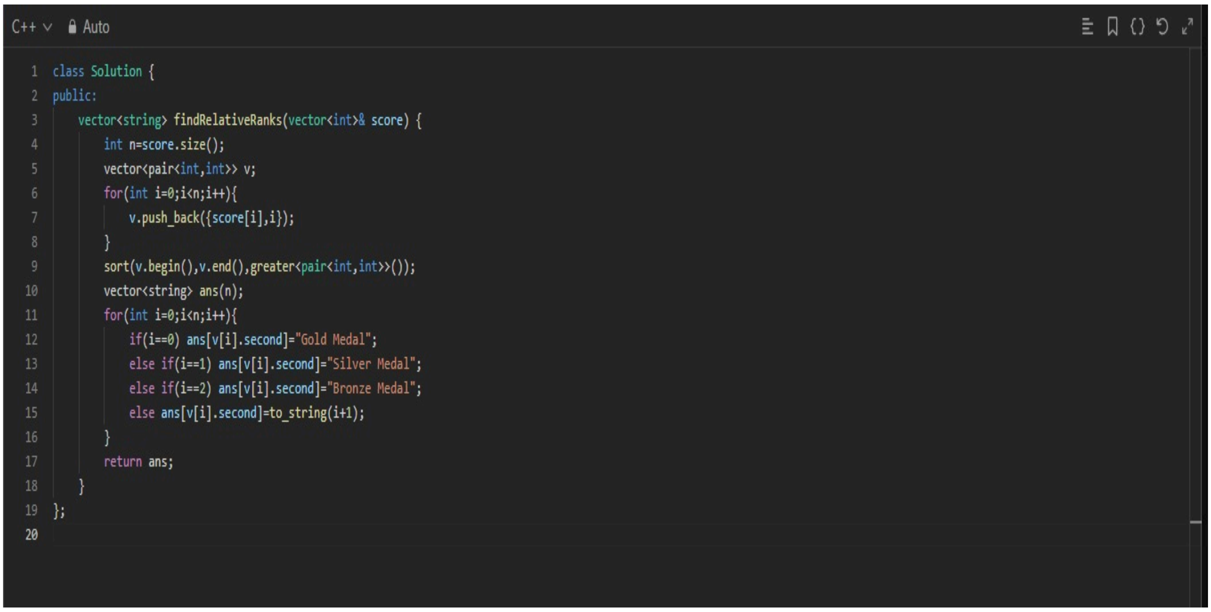
"210"

Expected

"210"

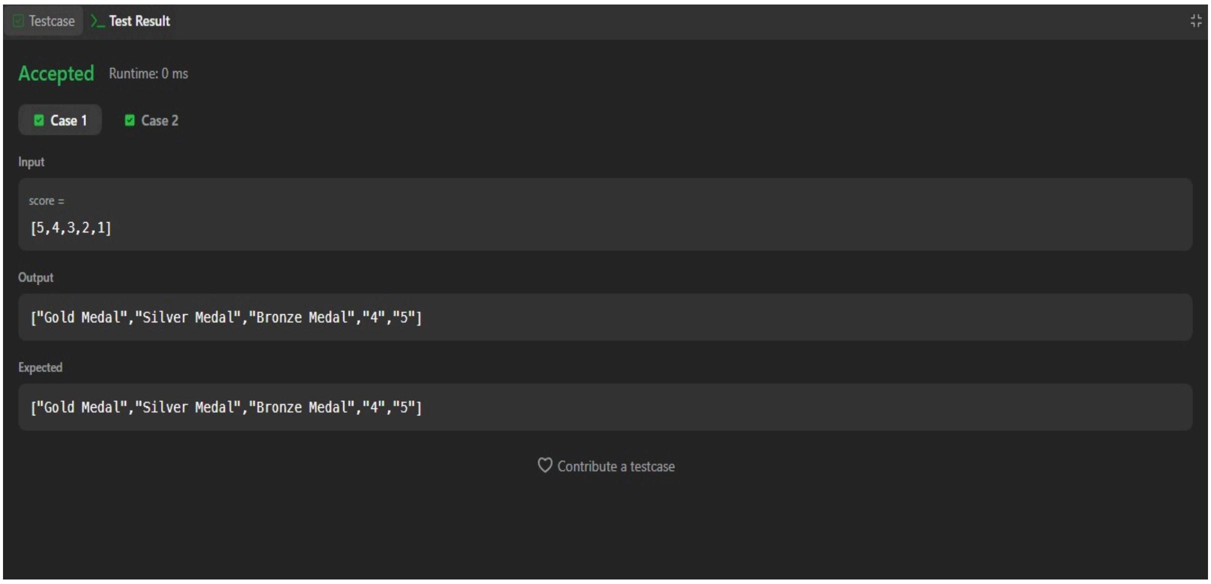
Q4. LARGEST NUMBER

SOURCE CODE:



```cpp
class Solution {
public:
    vector<string> findRelativeRanks(vector<int>& score) {
        int n=score.size();
        vector<pair<int,int>> v;
        for(int i=0;i<n;i++){
            v.push_back({score[i],i});
        }
        sort(v.begin(),v.end(),greater<pair<int,int>>());
        vector<string> ans(n);
        for(int i=0;i<n;i++){
            if(i==0) ans[v[i].second]="Gold Medal";
            else if(i==1) ans[v[i].second]="Silver Medal";
            else if(i==2) ans[v[i].second]="Bronze Medal";
            else ans[v[i].second]=to_string(i+1);
        }
        return ans;
    }
};
```

ACCEPTANCE STATUS:



Accepted Runtime: 0 ms

Input

score =

```
[5,4,3,2,1]
```

Output

```
["Gold Medal","Silver Medal","Bronze Medal","4","5"]
```

Expected

```
["Gold Medal","Silver Medal","Bronze Medal","4","5"]
```