Marwadi University	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Sem : 4	**Name : VEDANT BHARAD**	
Day : 90	**Date : 15/01/2023**	**Enrollment No: 92100133023**

CP Club 365 Days Challenge

Programming language – C++

Problem Statement

https://www.hackerrank.com/challenges/small-triangles-large-triangles/problem?isFullScreen=true

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Your Code:

```c
// 0x90Day of 0x365Days challenge
// VEDANT BHARAD
// 15-1-2023
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
struct triangle
{
    int a;
    int b;
    int c;
};
typedef struct triangle triangle;
void sort_by_area(triangle* tr, int n) {
    int *arr=malloc(n*sizeof(int));
    for(int loop1=0;loop1<n;loop1++){
        float p=(tr[loop1].a+tr[loop1].b+tr[loop1].c)/2.0;
        arr[loop1]=(p*(p-tr[loop1].a)*(p-tr[loop1].b)*(p-tr[loop1].c));
    }
    for(int loop1=0;loop1<n;loop1++){
        for(int loop2=0;loop2<n-loop1-1;loop2++){
            if(arr[loop2]>arr[loop2+1]){
                int temp=arr[loop2];
                arr[loop2]=arr[loop2+1];
                arr[loop2+1]=temp;
                temp=tr[loop2].a;
                tr[loop2].a=tr[loop2+1].a;
                tr[loop2+1].a=temp;
                temp=tr[loop2].b;
                tr[loop2].b=tr[loop2+1].b;
                tr[loop2+1].b=temp;
                temp=tr[loop2].c;
                tr[loop2].c=tr[loop2+1].c;
                tr[loop2+1].c=temp;}
        }
    }
}
int main()
{
    int n;
    scanf("%d", &n);
    triangle *tr = malloc(n * sizeof(triangle));
    for (int i = 0; i < n; i++) {
        scanf("%d%d%d", &tr[i].a, &tr[i].b, &tr[i].c);
    }
    sort_by_area(tr, n);
    for (int i = 0; i < n; i++) {
        printf("%d %d %d\n", tr[i].a, tr[i].b, tr[i].c);
    }
    return 0;
```

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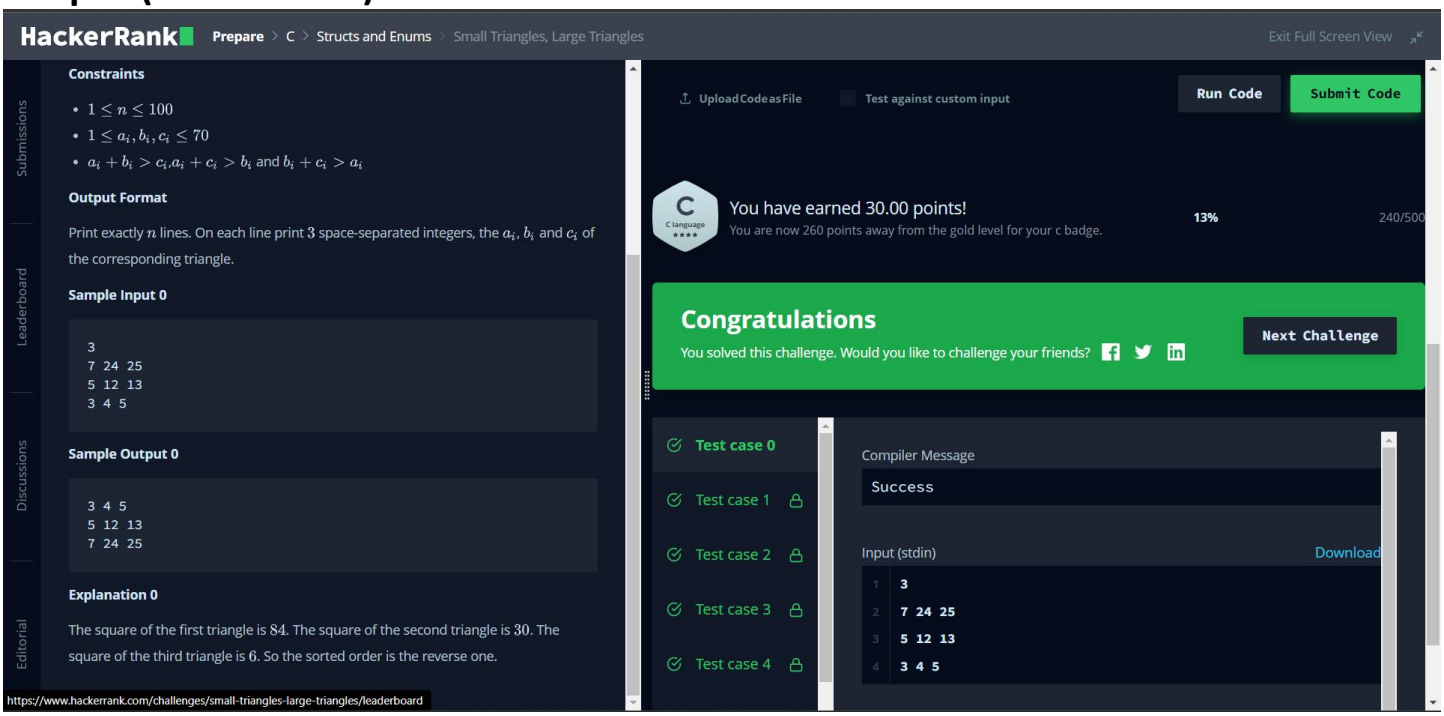
Output (Screen Shot):



Understanding about problem:

- In this task I need to sort the array based on their area.
- First stores their area into arr[] then based on that sort the main array.

Note: If you can't understand the problem, feel free to contact us and we'll help you. Please don't copy and paste from anywhere.

ALL THE BEST

Team CP Club