**CP Club 365 Days Challenge**

**Programming language – C++**

**Problem Statement**

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

**Your Code**:

// 0x90Day of 0x365Days challenge

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// 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);

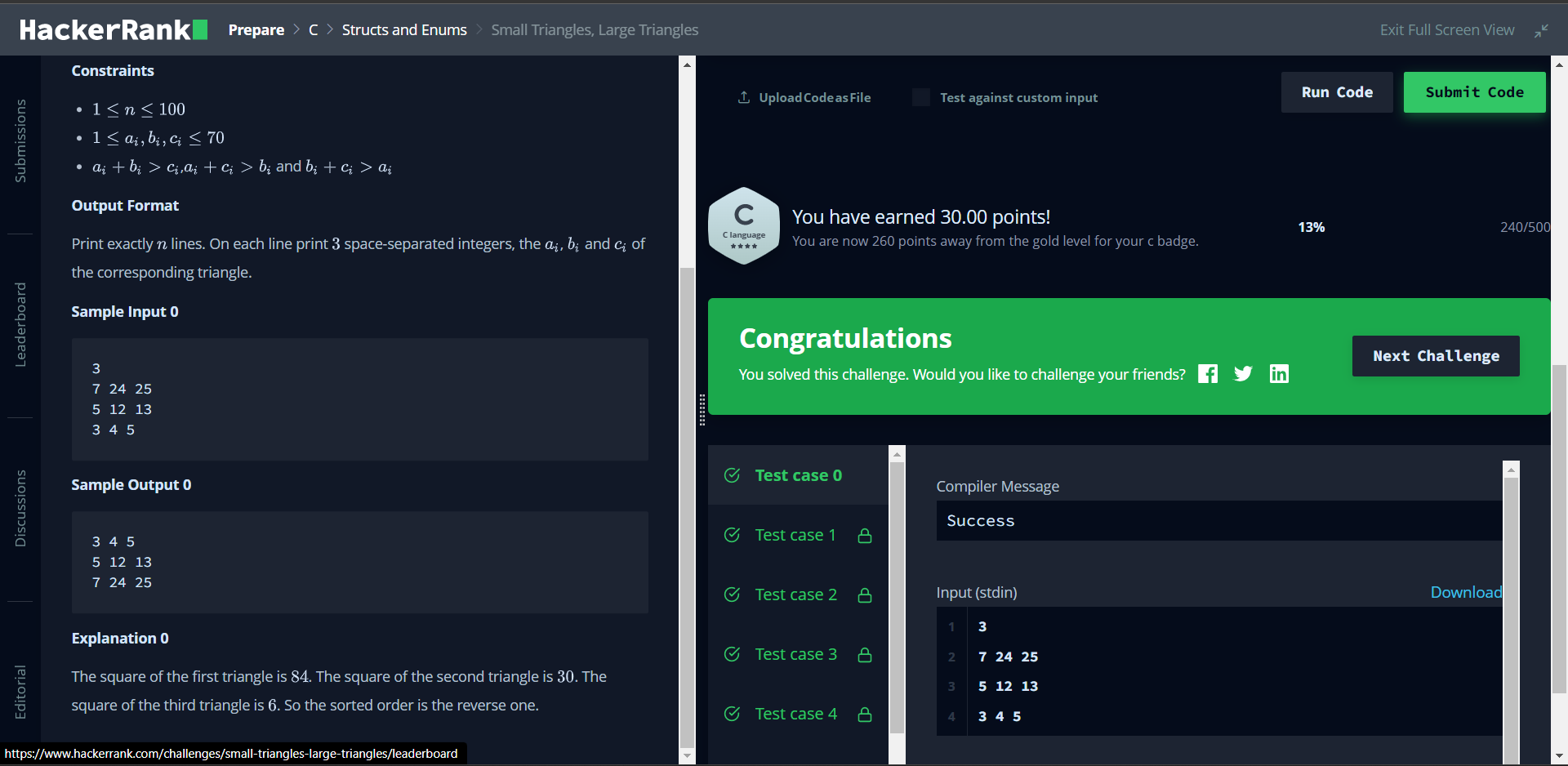
    for (int i = 0; i < n; i++) {

        printf("%d %d %d\n", tr[i].a, tr[i].b, tr[i].c);

    }

    return 0;

**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