WEEK-14 Name: ARAVIND RAJESH

Reg No: 240701046

characterized by its length, width and height.

Flag question

Correct

Question 1

You are transporting some boxes through a tunnel, where each box is a parallelepiped, and is

The height of the tunnel 41 feet and the width can be assumed to be infinite. A box can be

carried through the tunnel only if its height is strictly less than the tunnel's height. Find the volume of each box that can be successfully transported to the other end of the tunnel. Note: Boxes cannot be rotated.

Input Format The first line contains a single integer n, denoting the number of boxes.

n lines follow with three integers on each separated by single spaces - length;, width; and

height; which are length, width and height in feet of the *i*-th box.

Constraints

 $1 \le n \le 100$

Output Format

 $1 \le length_i$, width_i, height_i ≤ 100

separate line.

Sample Input 0

4

For every box from the input which has a height lesser than 41 feet, print its volume in a

555 1240

Sample Output 0

Explanation 0

 $5 \times 5 \times 5 = 125$.

8

9

Answer: (penalty regime: 0 %)

10 5 41

7 2 42

125

80

The first box is really low, only 5 feet tall, so it can pass through the tunnel and its volume is

The third box is exactly 41 feet tall, so it cannot pass. The same can be said about the fourth box.

The second box is sufficiently low, its volume is $1 \times 2 \times 4 = 80$.

#include<stdio.h> 2 √ int main(){ int n; scanf("%d",&n); 4

scanf("%d %d %d",&length,&width,&height);

5 for(int i=0;i<n;i++)</pre> 6 ▼ int length, width, height; 7

if(height<41)</pre>

```
10 ▼
               {
                    int volum = length*width*height;
 11
                   printf("%d\n",volum);
 12
 13
 14
      }
 15
      Input
               Expected
                         Got
      4
               125
                         125
                               /
      5 5 5
               80
                         80
      1 2 40
      10 5 41
      7 2 42
Passed all tests! <
```

```
The best way to calculate a volume of the triangle with sides \boldsymbol{a}, \boldsymbol{b} and \boldsymbol{c} is Heron's formula:
```

Input Format

 $1 \le n \le 100$

 $1 \le a_i, b_i, c_i \le 70$

Output Format

Sample Input 0

7 24 25

5 12 13

5 12 13

7 24 25

separated by single spaces.

Question 2

Flag question

areas are different.

Correct

Constraints

Print exactly n lines. On each line print a integers separated by single spaces, which are a_i , b_i

First line of each test file contains a single integer n. n lines follow with a_i , b_i and c_i on each

You are given n triangles, specifically, their sides a_i , b_i and c_i . Print them in the same style

but sorted by their areas from the smallest one to the largest one. It is guaranteed that all the

 $a_i + b_i > c_i$, $a_i + c_i > b_i$ and $b_i + c_i > a_i$

 $S = \ddot{O} p * (p - a) * (p - b) * (p - c)$ where p = (a + b + c) / 2.

3

and c_i of the corresponding triangle.

3 4 5

Sample Output 0 3 4 5

Answer: (penalty regime: 0 %)

#include<stdio.h> #include<math.h>

#include<stdlib.h>

The square of the first triangle is **84**. The square of the second triangle is **30**. The square of the third triangle is **6**. So the sorted order is the reverse one.

1

2 3

8 9

Explanation 0

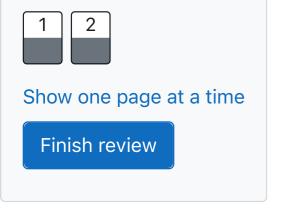
4 typedef struct 5 ▼ { 6 double area; 7 int a,b,c;

```
17
18
```

Triangle;

```
double calculate_area(int a,int b,int c)
10
11 ▼ | {
12
        double p=(a+b+c)/2.0;
        return sqrt(p*(p-a)*(p-b)*(p-c));
13
14
    int compare(const void*x,const void*y)
15
16 🔻
        Triangle *t1=(Triangle *)x;
        Triangle *t2=(Triangle *)y;
19
        if(t1->area < t2->area) return -1;
        if(t1->area > t2->area) return 1;
20
21
        return 0;
22
    int main()
23
24 ▼
25
        int n;
        scanf("%d",&n);
26
        Triangle triangles[n];
27
28
        for(int i=0;i<n;i++)</pre>
29
30 ▼
        {
31
             int a,b,c;
            scanf("%d %d %d",&a,&b,&c);
32
            triangles[i].a = a;
33
            triangles[i].b = b;
34
            triangles[i].c = c;
35
            triangles[i].area = calculate_area(a,b,c);
36
37
        qsort(triangles,n,sizeof(Triangle),compare);
38
        for(int i=0;i<n;i++)</pre>
39
40 ▼
            printf("%d %d %d\n",triangles[i].a,triangles[i].b,triangles[
41
42
        return 0;
43
44
   | }
```

Passed all tests! < Finish review



Quiz navigation

Expected

3 4 5

7 24 25 5 12 13

5 12 13 7 24 25

Got

3 4 5

5 12 13

7 24 25

Input

3 4 5

3