Status	Finished
Started	Tuesday, 14 January 2025, 10:14 PM
Completed	Tuesday, 14 January 2025, 10:23 PM
Duration	8 mins 53 secs

Question 1 Correct

Flag question

You are transporting some boxes through a tunnel, where each box is a parallelepiped, and is characterized by its length, width and height.

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 - lengthi, widthi and heighti which are length, width and height in feet of the i-th box.

Constraints

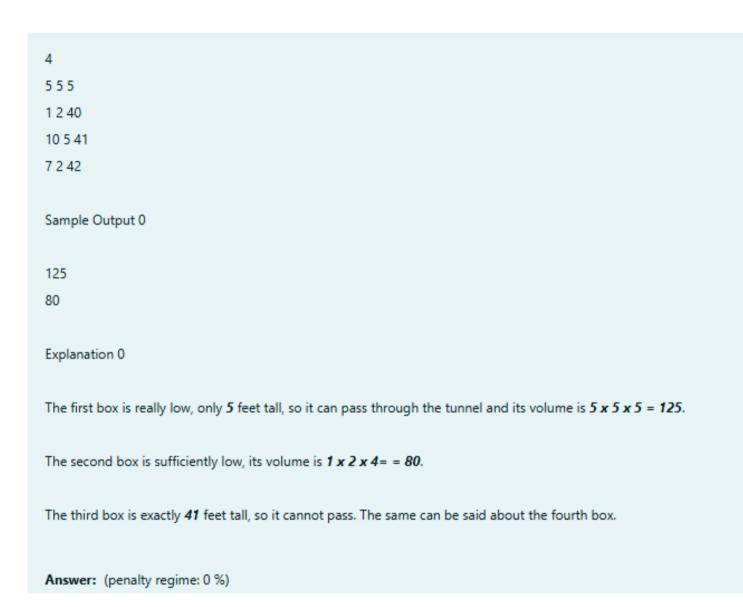
 $1 \le n \le 100$

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

Output Format

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

Sample Input 0



```
1 #include<stdio.h>
 2 - struct Box{
 3
       int length;
       int width;
 4
       int height;
 5
   int main()
8 + {
       int n;
 9
       scanf("%d",&n);
10
        struct Box z[n];
11
        for(int i=0;i<n;i++)
12
13 +
           scanf("%d %d %d",&z[i].length,&z[i].width,&z[i].height);
14
           if(z[i].height<41)
15
16
               printf("%d\n",z[i].length*z[i].width*z[i].height);
17
18
        return 0;
19 }
```

	Input	Expected	Got	
~	4	125	125	~
	5 5 5	80	80	
	1 2 40			
	10 5 41			
	7 2 42			

Passed all tests! <

Question 2

F Flag question

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 areas are different.

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

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

Input Format

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

Constraints

$$1 \le n \le 100$$

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

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

Output Format

Print exactly n lines. On each line print 3 integers separated by single spaces, which are a_i , b_i and c_i of the corresponding triangle.

Sample Input 0

3

7 24 25



```
1 #include<stdio.h>
 2 #include<math.h>
 3 struct Triangle
 4 + {
        int a,b,c;
 5
 6
        double area;
7 };
 8
   int main()
9 + {
        int n;
10
        scanf("%d",&n);
11
        struct Triangle z[n];
12
        for(int i=0;i<n;i++)</pre>
13
14 *
            scanf("%d %d %d",&z[i].a,&z[i].b,&z[i].c);
15
            double p=(z[i].a+z[i].b+z[i].c)/2.0;
16
            z[i].area=sqrt(p*(p-z[i].a)*(p-z[i].b)*(p-z[i].c));
17
18
19
        for(int i=0;i<n-1;i++)
20 +
21
            for(int j=i+1;j<n;j++)</pre>
22 v
                if(z[i].area>z[j].area)
23
24 ,
25
                    struct Triangle temp=z[i];
                    z[i]=z[j];
26
27
                    z[j]=temp;
28
29
30
        for(int i=0;i<n;i++)</pre>
31
            printf("%d %d %d\n",z[i].a,z[i].b,z[i].c);
32
33
        return 0;
34 }
```

	Input	Expected	Got	
~	3 7 24 25 5 12 13 3 4 5		3 4 5 5 12 13 7 24 25	~

Passed all tests! 🗸