



# Small Triangles, Large Triangles ★

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Problem

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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 area of a triangle with sides  $a$ ,  $b$  and  $c$  is Heron's formula:

$$S = \sqrt{p \times (p - a) \times (p - b) \times (p - c)} \text{ where } p = \frac{a+b+c}{2}.$$

## Input Format

The first line of each test file contains a single integer  $n$ .  $n$  lines follow with three space-separated integers,  $a_i$ ,  $b_i$  and  $c_i$ .

## Constraints

- $1 \leq n \leq 100$
- $1 \leq a_i, b_i, c_i \leq 70$
- $a_i + b_i > c_i, a_i + c_i > b_i$  and  $b_i + c_i > a_i$

## Output Format

Print exactly  $n$  lines. On each line print 3 space-separated integers, the  $a_i$ ,  $b_i$  and  $c_i$  of the corresponding triangle.

## Sample Input 0

```
3
7 24 25
5 12 13
3 4 5
```

## Sample Output 0

```
3 4 5
5 12 13
7 24 25
```

## Explanation 0

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.

Change Theme

Language: C



```
47         if(area1 > area2)
48         {
49             swap(tr,i,j);
50         }
```



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```
51     }
52     }
53
54 }
55
56 int main()
57 {
58     int n;
59     scanf("%d", &n);
60     triangle *tr = malloc(n * sizeof(triangle));
61     for (int i = 0; i < n; i++) {
62         scanf("%d%d%d", &tr[i].a, &tr[i].b, &tr[i].c);
63     }
64     sort_by_area(tr, n);
65     for (int i = 0; i < n; i++) {
66         printf("%d %d %d\n", tr[i].a, tr[i].b, tr[i].c);
67     }
68     return 0;
69 }
```

Line: 69 Col: 2

[Upload Code as File](#)☐ Test against custom input

Run Code

Submit Code

You have earned 30.00 points!

You are now 50 points away from the gold level for your c badge.

83%

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## Congratulations

You solved this challenge. Would you like to challenge your friends?

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✓ Test case 0

✓ Test case 1

✓ Test case 2

✓ Test case 3

✓ Test case 4

✓ Test case 5

✓ Test case 6

Input (stdin)

1	30
2	67 38 58
3	57 32 46
4	61 70 70
5	29 27 27
6	59 41 33
7	45 50 11
8	59 56 59
9	29 59 51
10	68 53 53
11	70 70 5
12	22 58 52

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