

Maximum Perimeter Triangle





Given n sticks of lengths $l_0, l_1, \ldots l_{n-1}$, use n of the sticks to construct a non-degenerate triangle with the maximum possible perimeter. Then print the lengths of its sides as n space-separated integers in non-decreasing order.

If there are several valid triangles having the maximum perimeter:

- 1. Choose the one with the langest maximum side (i.e., the largest value for the longest side of any valid triangle having the maximum perimeter).
- 2. If more than one such triangle meets the first criterion, choose the one with the *longest minimum side* (i.e., the largest value for the shortest side of any valid triangle having the maximum perimeter).
- 3. If more than one such triangle meets the second criterion, print any one of the qualifying triangles.

If no non-degenerate triangle exists, print -1.

Input Format

The first line contains single integer, n, denoting the number of sticks.

The second line contains n space-separated integers, $l_0, l_1, \ldots, l_{n-1}$, describing the respective stick lengths.

Constraints

- $3 \le n \le 50$
- $1 \le l_i \le 10^9$



Output Format

Print 3 non-decreasing space-separated integers, a, b, and c (where $a \le b \le c$) describing the respective lengths of a triangle meeting the criteria in the above Problem Statement.

If no non-degenerate triangle can be constructed, print $\,$ -1 .

Sample Input 0

5 1 1 1 3 3

Sample Output 0

1 3 3

Sample Input 1

3 1 2 3

Sample Output 1

-1

Explanation

Sample Case 0:

There are ${\bf 2}$ possible unique triangles:

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1. (1, 1, 1)
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2. (1, 3, 3)

The second triangle has the largest perimeter, so we print its side lengths on a new line in non-decreasing order.

Sample Case 1:

The triangle (1, 2, 3) is degenerate and thus can't be constructed, so we print -1 on a new line.

f in

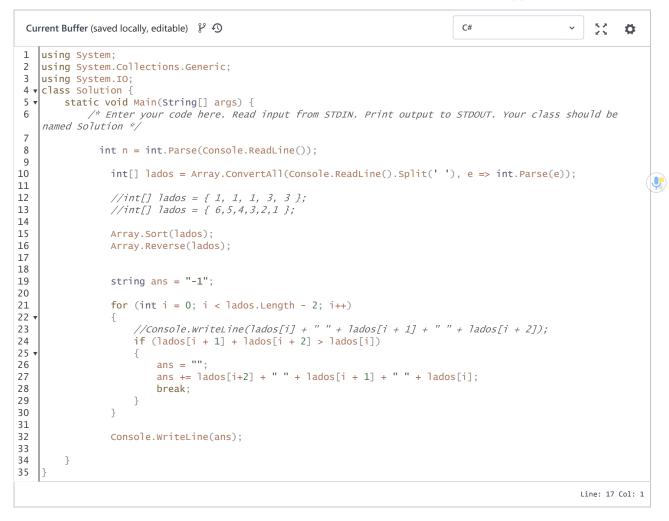
Submissions: 5535

Max Score: 20

Difficulty: Easy

Rate This Challenge:

★★★ Thanks!



<u>♣ Upload Code as File</u> Test against custom input

Run Code Submit Code

Congrats, you solved this challenge!

- ✓ Test Case #0
- ✓ Test Case #3
- ✓ Test Case #6
- ✓ Test Case #9

- ✓ Test Case #1
- ✓ Test Case #4
- ✓ Test Case #7
- ✓ Test Case #10

- ✓ Test Case #2
- ✓ Test Case #5
- ✓ Test Case #8
- ✓ Test Case #11

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