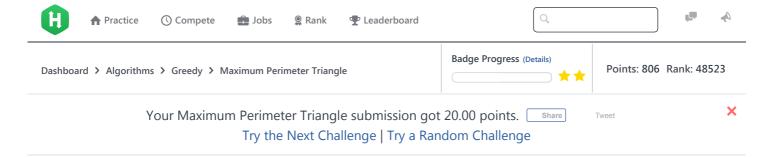
1/21/2018 HackerRank



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 longest 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

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-1

Explanation

Sample Case 0:

There are 2 possible unique triangles:

```
1. (1, 1, 1)
```

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:<u>11099</u> Max Score:20 Difficulty: Easy Rate This Challenge: ☆☆☆☆☆

```
Current Buffer (saved locally, editable) \ \mathscr{V} \ \mathfrak{O}
                                                                                           C + + 14
                                                                                                                              *
 1 ▼ #include <cmath>
 2 #include <limits>
 3
   #include <set>
   #include <vector>
   #include <iostream>
 6
   #include <algorithm>
    #include <iterator>
 8
    using namespace std;
    #define ull unsigned long long int
10
11
   int main()
12 ▼ {
        ios\_base::sync\_with\_stdio(0);
13
14
        cin.tie(0);
15
        cout.tie(0);
16
17
        ull n, miles=0;
18
        cin>>n;
19
        multiset<ull> mySet;
20
        for(auto i=0; i<n;++i)</pre>
21 ,
22
            ull temp=0;
23
            cin>>temp;
24
            mySet.insert(temp);
25
26
27
        ull a,b,c;
28
        int idx=0;
        for(auto itr=mySet.rbegin(); itr!=mySet.rend(); ++itr)
29
30
               if(idx <= (n-3))
31
32 🔻
                  a= *(itr++);
33
                  b= *(itr++);
34
                  c= *(itr++);
35
36
37
                  if(a < (b+c))
38
                     break;
39
                  itr--; itr--; itr--;
40
41
               }
42
               ++idx;
43
            }
        if(a < (b+c))
```

```
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    45
              cout<<c <<" "<<b <<" "<<a<<endl;</pre>
    46
            else
    47
              cout<<"-1"<<endl;
    48
            return 0;
    49
        }
    50
                                                                                                                     Line: 50 Col: 1
                                                                                                          Run Code
                                                                                                                       Submit Code
                           ☐ Test against custom input
   1 Upload Code as File
                            3 9 2 15 3
                                            Congrats, you solved this challenge!
                                                   Challenge your friends: f y in
                   ✓ Test Case #0
                                                            ✓ Test Case #1
                                                                                                     ✓ Test Case #2
                   ✓ Test Case #3
                                                            ✓ Test Case #4
                                                                                                     ✓ Test Case #5
                   ✓ Test Case #6
                                                            ✓ Test Case #7
                                                                                                     ✓ Test Case #8
                   ✓ Test Case #9
                                                           ✓ Test Case #10
                                                                                                     ✓ Test Case #11
```

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You've earned 20.00 points.