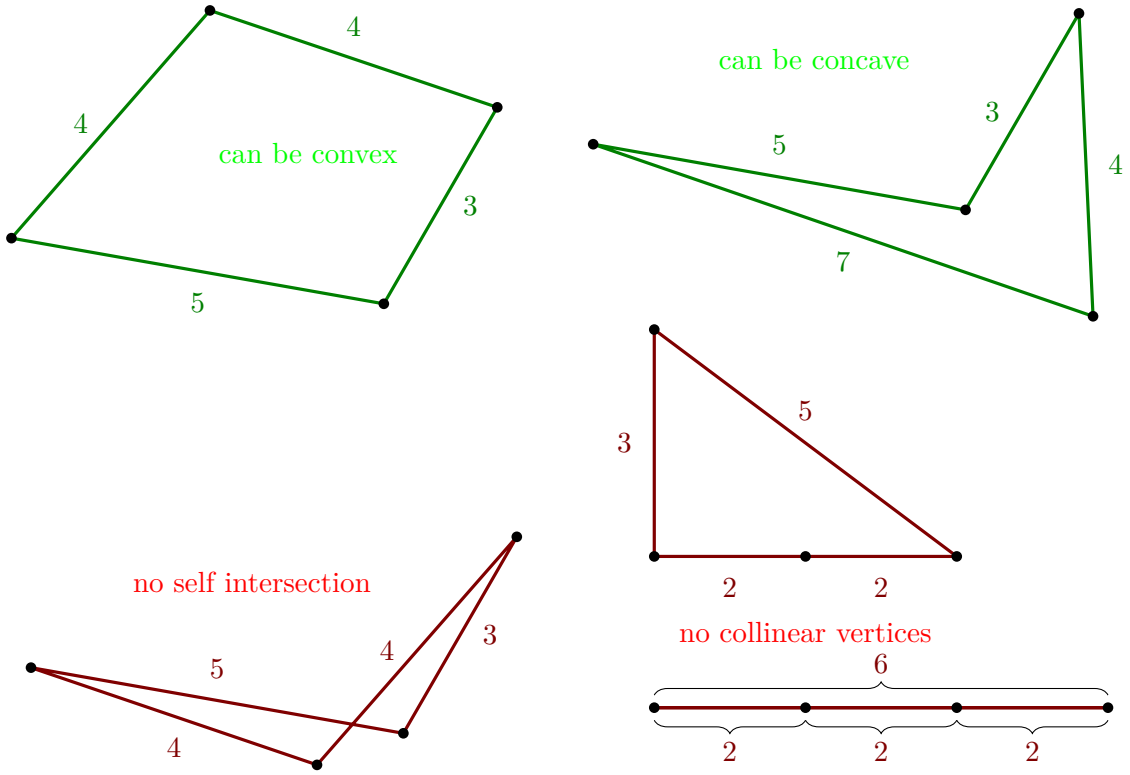
Quadrilateral Check (quadrilateral)

Alice has N wooden sticks. Their lengths are $S_0, S_1, \ldots, S_{N-1}$, and all of them are integer numbers. Alice wants to choose four sticks so that she can create a **quadrilateral** with the sticks as sides of the quadrilateral (see the images below). Each stick has to correspond to one side, she cannot cut the sticks or combine two or more into one. The sticks have to be exactly as long as the side of the quadrilateral, they cannot be longer or shorter.

Can you help her to create a quadrilateral from those sticks? It might not be possible to create a quadrilateral from the sticks, in this case your program should print "`-1`".



☞ Among the attachments of this task you may find a template file `quadrilateral.*` with a sample incomplete implementation.

Input

The input file consists of:

- a line containing integer N.
- a line containing the N 64-bit integers $S_0, \ldots, S_{N-1}$.

Output

If no *quadrilateral* exists, the output file must consist of a single line containing only the string "`-1`", otherwise, the output file must contain one line, 4 numbers, the length of the sides of one possible solution (in any order).

Constraints

- $4 \leq N \leq 100\,000$.
- $1 \leq S_i \leq 10^{18}$ for each $i = 0 \ldots N-1$.

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

– **Subtask 1** (0 points) Examples.

– **Subtask 2** (30 points) $N \leq 10$, $S_i \leq 10^9$ for each $i = 0 \ldots N-1$.

– **Subtask 3** (30 points) $N \leq 500$, $S_i \leq 10^9$ for each $i = 0 \ldots N-1$.

– **Subtask 4** (40 points) No additional limitations.

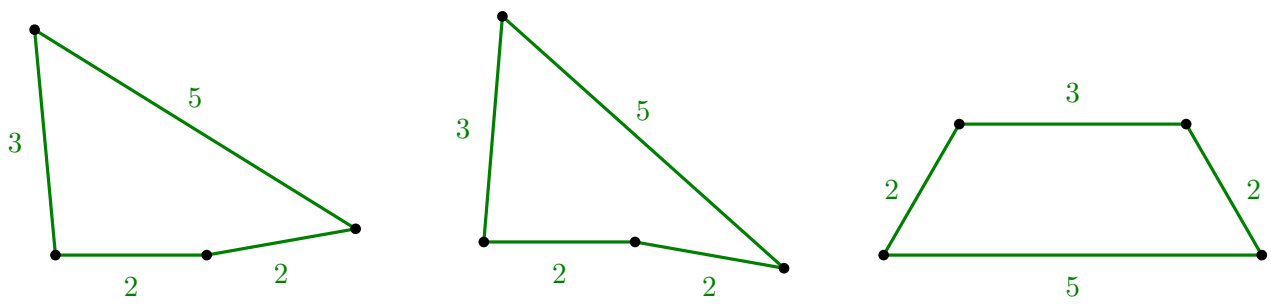
Examples

input	output
5 2 6 2 100 2	-1
4 5 2 2 3	2 3 2 5
5 5 3 4 7 4	5 3 4 7

Explanation

In the **first sample case** Alice can not create a quadrilateral.

In the **second sample case** Alice can create a quadrilateral. Although the above picture shows an incorrect one, if the sticks are connected by rotating hinges: changing the angle between the length 2 sticks a bit creates a desired quadrilateral. (There are other possibilities!)



In the **third sample case** we have more than one solution (see for example the green quadrilaterals in the text above). If there are more solutions you can print any of them.