Problem A. Array As Palindrome

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	512 megabytes

Let us call a zero-based array a of length n *palindromic*, if for any index i $(0 \le i < n)$ $a[i] = a[n-1-i]$.

Given an array, your task is to insert **exactly one** element in it to make an array palindromic, or determine that it is impossible.

Input

The first line of the input consists of one integer n $(1 \le n \le 100\,000)$, the length of array.

The second line contains n integers $a_0, a_1, \ldots, a_{n-1}$ $(-10^9 \le a_i \le 10^9)$.

Output

If it is impossible to insert exactly one integer into the array to make it palindromic, print -1.

Otherwise print two integers: index k $(0 \le k \le n)$ of inserted element in the new array and value of this element v $(-10^9 \le v \le 10^9)$.

For example, if you are inserting an element at the beginning, $k = 0$, if you are inserting an element between $a[i-1]$ and $a[i]$, $k = i$, and if you are inserting an element at the end, $k = n$.

If there is more than one way to obtain a palindromic array from the given one, you can choose any of them.

Examples

standard input	standard output
2 20 18	2 20
1 -2018	0 -2018
4 2 0 1 8	-1
2 8 8	1 2018

Note

- In the first sample, you add `20` to the end of array, obtaining an palindromic array `20 18 20`.
- In the second sample, you add `-2018` to the beginning of array, obtaining an palindromic array `-2018 -2018`.
- In the third sample, you cannot make an array palindromic by inserting one element, so the answer is -1.
- In the fourth sample you may insert any integer between two 8's, because `8 x 8` is a palindrome for any x. So let it be 2018.