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# 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  $i$  ( $0 \leq i < n$ )  $a[i] = a[n - 1 - i]$ . 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  $n$  ( $1 \leq n \leq 100\,000$ ), the length of array.

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

## Output

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

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

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.