# Problem F. Mountainous Palindromic Subarray

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|---|---|
| Input file: | *standard input* |
| Output file: | *standard output* |
| Time limit: | 2 seconds |
| Memory limit: | 1024 mebibytes |

An array is Mountainous if it is strictly increasing, then strictly decreasing. Note that Mountainous arrays must therefore be of length three or greater.

A Subarray is defined as an array that can be attained by deleting some prefix and suffix (possibly empty) from the original array.

An array or subarray is a Palindrome if it is the same sequence forwards and backward.

Given an array of integers, compute the length of the longest Subarray that is both Mountainous and a Palindrome.

## Input

The first line of input contains an integer $n$ ($1 \le n \le 10^6$), which is the number of integers in the array.

Each of the next $n$ lines contains a single integer $x$ ($1 \le x \le 10^9$). These values form the array. They are given in order.

## Output

Output a single integer, which is the length of the longest Mountainous Palindromic Subarray, or $-1$ of no such array exists.

## Examples

| standard input | standard output |
|---|---|
| 8<br>2<br>1<br>2<br>3<br>2<br>1<br>7<br>8 | 5 |
| 5<br>2<br>5<br>8<br>7<br>2 | -1 |