A subarray A[i], A[i+1], ..., A[j] of A is said to be *turbulent* if and only if:

* For i <= k < j, A[k] > A[k+1] when k is odd, and A[k] < A[k+1] when k is even;
* **OR**, for i <= k < j, A[k] > A[k+1] when k is even, and A[k] < A[k+1] when k is odd.

That is, the subarray is turbulent if the comparison sign flips between each adjacent pair of elements in the subarray.

Return the **length** of a maximum size turbulent subarray of A.

**Example 1:**

**Input:** [9,4,2,10,7,8,8,1,9]

**Output:** 5

**Explanation:** (A[1] > A[2] < A[3] > A[4] < A[5])

**Example 2:**

**Input:** [4,8,12,16]

**Output:** 2

**Example 3:**

**Input:** [100]

**Output:** 1

**Note:**

1. 1 <= A.length <= 40000
2. 0 <= A[i] <= 10^9