B. Approximating a Constant Range

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

When Xellos was doing a practice course in university, he once had to measure the intensity of an effect that slowly approached equilibrium. A good way to determine the equilibrium intensity would be choosing a sufficiently large number of consecutive data points that seems as constant as possible and taking their average. Of course, with the usual sizes of data, it's nothing challenging — but why not make a similar programming contest problem while we're at it?

You're given a sequence of n data points $a_1, ..., a_n$. There aren't any big jumps between consecutive data points — for each $1 \leq i < n$, it's guaranteed that $|a_{i+1} - a_i| \leq 1$.

A range $[l, r]$ of data points is said to be *almost constant* if the difference between the largest and the smallest value in that range is at most 1. Formally, let M be the maximum and m the minimum value of a_i for $l \leq i \leq r$; the range $[l, r]$ is almost constant if $M - m \leq 1$.

Find the length of the longest almost constant range.

Input

The first line of the input contains a single integer n ($2 \leq n \leq 100\,000$) — the number of data points.

The second line contains n integers $a_1, a_2, ..., a_n$ ($1 \leq a_i \leq 100\,000$).

Output

Print a single number — the maximum length of an almost constant range of the given sequence.

Examples

input
5 1 2 3 3 2
output
4

input
11 5 4 5 5 6 7 8 8 8 7 6
output
5

Note

In the first sample, the longest almost constant range is $[2, 5]$; its length (the number of data points in it) is 4.

In the second sample, there are three almost constant ranges of length 4: $[1, 4]$, $[6, 9]$ and $[7, 10]$; the only almost constant range of the maximum length 5 is $[6, 10]$.