



HOME CONTESTS GYM PROBLEMSET GROUPS RATING API CANADA CUP 🖫 SECTIONS

PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

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 $1 \le i < n$, it's guaranteed that $|a_{i+1} - a_{i}| \le 1$.

A range [I, 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 $i \le j \le r$; the range [I, r] is almost constant if $M - m \le 1$.

Find the length of the longest almost constant range.

Input

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

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

Output

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

Examples

input		
5 12332		
output		
4		

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].

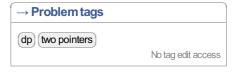
Codeforces Round #333 (Div. 2)

Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest



→ Contest materials

Tutorial

Codeforces (c) Copyright 2010-2016 Mike Mirzayanov
The only programming contests Web 2.0 platform
Server time: Nov/30/2016 19:18:22^{UTC+8} (c4).
Desktop version, switch to mobile version.