

## 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  $a_1, \dots, a_n$ . 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  $a_1, a_2, \dots, a_n$  ( $1 \leq a_i \leq 100\,000$ ).

### 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  $[6, 10]$ .

### 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 in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

#### → Problem tags

dp two pointers

No tag edit access

#### → Contest materials

- Tutorial