DMOPC '14 Contest 5 P3 - Brotherly Sequence

Time limit: 2.0s **Memory limit:** 64M

Kamina is interested in brotherly sequences. A **brotherly sequence** is a sequence B where for every index i between $[2, N]$, $|B[i-1] - B[i]| \leq 2$. Given a sequence of numbers S of length N $(3 \leq N \leq 100)$, what is the length of the longest **contiguous brotherly *sub*sequence** it contains?

Input Specification

The first line of input will contain the integer N.
The second line of input will contain N space-separated integers making up the sequence S. The numbers in S are in the range $[-1000, +1000]$.

Output Specification

The positive integer length of the longest contiguous brotherly subsequence in the sequence S.

Sample Input

```
5
1 1 2 4 8
```

Sample Output

```
4
```

Note

A *subsequence* of a sequence is a sequence that is formed by deleting some elements of the original sequence, but preserving the relative order of the remaining elements. A *contiguous* subsequence is a subsequence formed by deleting some prefix and some suffix of the sequence (possibly empty for either or both).