

A. Almost Arithmetical Progression

time limit per test: 5.0 s

memory limit per test: 256 megabytes

input: standard input

output: standard output

Gena loves sequences of numbers. Recently, he has discovered a new type of sequences which he called an almost arithmetical progression. A sequence is an *almost arithmetical progression*, if its elements can be represented as:

- $a_1 = p$, where p is some integer;
- $a_i = a_{i-1} + (-1)^{i+1} \cdot q$ ($i > 1$), where q is some integer.

Right now Gena has a piece of paper with sequence b , consisting of n integers. Help Gena, find there the longest subsequence of integers that is an almost arithmetical progression.

Sequence s_1, s_2, \dots, s_k is a subsequence of sequence b_1, b_2, \dots, b_n , if there is such increasing sequence of indexes i_1, i_2, \dots, i_k ($1 \leq i_1 < i_2 < \dots < i_k \leq n$), that $b_{i_j} = s_j$. In other words, sequence s can be obtained from b by crossing out some elements.

Input

The first line contains integer n ($1 \leq n \leq 4000$). The next line contains n integers b_1, b_2, \dots, b_n ($1 \leq b_i \leq 10^6$).

Output

Print a single integer — the length of the required longest subsequence.

Examples

input
2 3 5
output
2

input
4 10 20 10 30
output
3

Note

In the first test the sequence actually is the suitable subsequence.

In the second test the following subsequence fits: 10, 20, 10.