B. The Fibonacci Segment

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

You have array $a_1, a_2, \ldots, a_n$. Segment $[l, r]$ $(1 \le l \le r \le n)$ is good if $a_i = a_{i-1} + a_{i-2}$, for all i $(l + 2 \le i \le r)$.

Let's define $len([l, r]) = r - l + 1$, $len([l, r])$ is the length of the segment $[l, r]$. Segment $[l_1, r_1]$, is longer than segment $[l_2, r_2]$, if $len([l_1, r_1]) > len([l_2, r_2])$.

Your task is to find a good segment of the maximum length in array a. Note that a segment of length 1 or 2 is always good.

Input

The first line contains a single integer n $(1 \le n \le 10^5)$ — the number of elements in the array. The second line contains integers: $a_1, a_2, \ldots, a_n$ $(0 \le a_i \le 10^9)$.

Output

Print the length of the longest good segment in array a.

Examples

input
10 1 2 3 5 8 13 21 34 55 89
output
10

input
5 1 1 1 1 1
output
2

Codeforces Round #213 (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**

implementation

No tag edit access

→ **Contest materials**

- Announcement
- Tutorial