D. Two Melodies

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Alice is a beginner composer and now she is ready to create another masterpiece. And not even the single one but two at the same time!

Alice has a sheet with n notes written on it. She wants to take two such non-empty non-intersecting subsequences that both of them form a *melody* and sum of their lengths is maximal.

Subsequence is a sequence that can be derived from another sequence by deleting some elements without changing the order of the remaining elements.

Subsequence forms a melody when each two adjacent notes either differs by 1 or are congruent modulo 7.

You should write a program which will calculate maximum sum of lengths of such two non-empty non-intersecting subsequences that both of them form a melody.

Input

The first line contains one integer number n ($2 \le n \le 5000$).

The second line contains n integer numbers $a_1, a_2, ..., a_n$ ($1 \le a_i \le 10^5$) — notes written on a sheet.

Output

Print maximum sum of lengths of such two non-empty non-intersecting subsequences that both of them form a melody.

Examples

input	Copy
4 1 2 4 5	

output	Copy
4	

input	Copy
6 62 22 60 61 48 49	

output	Copy
5	

Note

In the first example subsequences $[1, 2]$ and $[4, 5]$ give length 4 in total.

In the second example subsequences $[62, 48, 49]$ and $[60, 61]$ give length 5 in total. If you choose subsequence $[62, 61]$ in the first place then the second melody will have maximum length 2, that gives the result of 4, which is not maximal.