Satchel Out!

Raze is an agent featured in the popular game Valorant. Today she is practicing her satchel jumps in the practice range. The practice range contains n jump locations with heights represented by the array a of n integers: $a[1], a[2], \ldots, a[n]$.

For any k ($1 \leq k \leq n$), Raze can start at any location $p[1]$ and perform a sequence of jumps at locations $p[1], p[2], \ldots, p[k]$ where $1 \leq p[i-1] < p[i] \leq n$ (for all $2 \leq i \leq n$). Raze considers a jump sequence *beautiful* if for all $3 \leq i \leq k$ the following holds –

$$a[p[i]] \leq a[p[i-1]] + a[p[i-2]]$$

For example, If $a = [-1, 0, 1]$, then the possible jump sequences are –

- $[1]$
- $[2]$
- $[3]$
- $[1, 2]$
- $[1, 3]$
- $[2, 3]$
- $[1, 2, 3]$

Among these, $[1, 2, 3]$ is not a *beautiful* jump sequence. As for $i = 3$ we have $1 = a[3] \not\leq a[2] + a[1] = -1$.

Now she wonders how many different *beautiful* jump sequences can be formed. Since the number can be large, she just wants the number modulo $10^9 + 7$. As she is busy with her practice, she wants your help.

Input

Read the input from the standard input in the following format:

- line 1: n
- line 2: $a[1]$ $a[2]$ $\ldots$ $a[n]$

Output

Write the output to the standard output in the following format:

- line 1: number of *beautiful* jump sequences that can be formed modulo $10^9 + 7$.

Constraints

- $1 \leq n \leq 10^4$
- $-10^9 \leq a[i] \leq 10^9$ (for all $1 \leq i \leq n$)

Subtasks

1. (7 points) $n \leq 10^4$, and $a[i] = a[j]$ (for all $1 \leq i < j \leq n$)
2. (13 points) $n \leq 10^4$, and $a[i] = 0$ or -1 (for all $1 \leq i \leq n$)
3. (40 points) $n \leq 500$
4. (15 points) $n \leq 2000$
5. (25 points) No further constraints.

Examples

Example 1

```
3
-1 0 1
```

The correct output is:

```
6
```

Example 2

```
5
1 1 2 3 5
```

The correct output is:

```
23
```

Example 3

```
10
5 -2 4 3 8 10 -5 7 3 10
```

The correct output is:

```
253
```

Example 4

```
25
101 97 95 91 78 69 66 62 59 53 42 39 35 33 29 28 23 11 15 13 11 7 5 3
 2
```

The correct output is:

```
33554431
```