Problem F. Fence Job

Input file:	standard input
Output file:	standard output
Time limit:	1 second
Memory limit:	256 megabytes

Fred the Farmer wants to redesign the fence of his house. Fred's fence is composed of n vertical wooden planks of various heights. The i-th plank's height is h_i ($1 \le h_i \le n$). **Initially, all heights are distinct.**

In order to redesign the fence, Fred will choose some contiguous segment $[l...r]$ of planks and "level" them, by cutting them in order to make all heights equal to the minimum height on that segment. More specifically, the new heights of the segment become $h'_i = \min\{h_l, h_{l+1}, ..., h_r\}$ for all $l \le i \le r$.

How many different designs can Fred obtain by applying this procedure several (possibly 0) times? Since the answer may be huge, you are required to output it modulo $10^9 + 7$.

Two designs A and B are different if there is some plank that has a different height in A than in B.

Input

The first line of the input contains n ($1 \le n \le 3\,000$), the number of planks of Fred's fence.

The second line contains n **distinct** integers h_i ($1 \le h_i \le n, 1 \le i \le n$), the heights of each of the planks.

Output

Output a single integer, the number of different possible fence designs that can be obtained, modulo $10^9 + 7$.

Examples

standard input	standard output
3 1 3 2	4
5 1 2 3 4 5	42
7 1 4 2 5 3 6 7	124