

Problem A. Ale

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 256 mebibytes

A *chetree* is a rooted labeled tree in which for every vertex, the order of its children is fixed. We can obtain several chetrees from a single rooted tree by changing the order of children for some vertices. For example, from the rooted tree with root 1 and edges (1, 2), (1, 3) one can obtain two different chetrees, changing the order of children of vertex 1: (2, 3) or (3, 2).

We consider two chetrees with n vertices equal if for every $i = 1, 2, \dots, n$, the sets of children of i -th vertices are equal, and their order is the same.

You are given an integer n and an array a of size n .

Count the number of different chetrees with n vertices marked with labels $1, 2, \dots, n$ such that for each i , vertex number i is on the level with number not greater than a_i . We define the level of the vertex as its distance from the root.

Since the answer can be very large, you must print it modulo $10^9 + 7$.

Input

The first line contains an integer n ($1 \leq n \leq 100$): the number of vertices.

The second line contains n integers a_1, a_2, \dots, a_n ($0 \leq a_i < n$).

Output

Output the only integer: the answer to the problem modulo $10^9 + 7$.

Examples

standard input	standard output
1 0	1
2 1 1	2
3 0 1 2	3