Problem 2:

Given a sequence of non-negative integers, we define the index of the sequence as the corresponding number at which it appears in the lexicographic ordering of the permutation of elements in the sequence. For a sequence, in which elements are in sorted order, the index is 1. For a sequence with *n* elements, which are sorted in descending order, the index is *n!*.
Assume the elements in the sequence are distinct.

Given a sequence of nonnegative integers, find the index corresponding to the sequence.

Input format:

n (number of elements in the sequence)
a_1
a_2
.. *(elements of the sequence)*
..
a_n

Output format:

I (Index number)

Example 1:

Input:

3
2
4
5

Output:

1 (Because, the sequence is sorted in ascending order)

Example 2:

Input:

3
5
4
2

Output:

6 (which is 3 factorial).

Example 3:

Input:

3
1
3
2

Output:

2
(Because it is the second lexicographic next permutation-when started from (1,2,3):the sorted version of sequence.)