Sally the Segment Sorter

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Input file	Output file	Time limit	Memory limit
stdin	stdout	1 second	64 MB

Statement

Your name is Sally (for alliteration purposes). You are given a permutation $(a_1, a_2, \ldots, a_N)$ of $(1, 2, \ldots, N)$. Using your magical abilities, you can perform the following operation:

- Pick a subsequence $a_i, a_{i+1}, \ldots, a_j$ and sort it in ascending order.

However, this operation drains you of all your powers, and so you can do it **at most once**. How many distinct permutations can you create?

Input

The first line of input contains an integer N. The next line contains N integers, with the ith integer being a_i

Output

Output the number of permutations that can be produced after performing the operation once.

Sample input

```
3
3 2 1
```

Sample output

```
4
```

Explanation

We can create the following permutations: $(3, 2, 1), (2, 3, 1), (3, 1, 2), (1, 2, 3)$

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Constraints

- $1 \leq N \leq 10^5$

- $1 \leq a_i \leq N$

- a_i are unique for all i

Subtasks

Number	Points	Additional Constraints
1	40	$N \leq 10^3$
2	60	None