Swap the numbers (`swap`)

In this task you are given a vector V of length N. The vector V is generated such that is ordered, except for a single element, e.g. in $V = [1, 2, 9, 5, 6]$ only the number 9 is not placed correctly.

Your task is to count how many swaps of two elements of the vector (even not adjacent) are required to sort increasingly the vector.

Given the previous vector V, the solution is thus 2 as:

1. Swap (9, 6) to get $V = [1, 2, 6, 5, 9]$
2. Swap (6, 5) to get $V = [1, 2, 5, 6, 9]$

Input data

The first line of the input contains one integer **N**, the length of the vector V.

The following line contains **N** space-separated integers, the vector V.

Output data

The output must contains a single line with an integer, representing the number of swaps needed to sort the vector V.

Scoring

For each of the subtasks, the following constraints are met:

- Subtask 1 (50 points): In this subtask $N = 100$ and V contains all the numbers from 0 to $N - 1$.
- Subtask 2 (50 points): In this subtask $N \leq 100\,000$ and V can contain any number.

Examples

input	output
6 1 2 3 9 5 6	2