

# INTERNATIONAL TOURNAMENT IN INFORMATICS

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Junior Group

## Task B1. COUNTING INVERSIONS

A permutation of integers from 1 to  $n$  is a sequence  $a_1, a_2, a_3, \dots, a_n$ , such that each integer from 1 to  $n$  is appeared in the sequence exactly once.

Two integers in a permutation form an inversion, when the bigger one is before the smaller one.

As an example, in the permutation 4 2 7 1 5 6 3, there are 10 inversions in total. They are the following pairs: 4-2, 4-1, 4-3, 2-1, 7-1, 7-5, 7-6, 7-3, 5-3, 6-3.

Write program **invcnt** that computes the number of the inversions in a given permutation.

### Input

The value for the number  $n$  is written on the first line of the standard input. The permutation is written on the second line:  $n$  numbers, delimited by spaces.

### Output

Write the count of inversions on the standard output.

### Constraints

$$2 \leq n \leq 1000000$$

### Example

#### Input

```
7
4 2 7 1 5 6 3
```

#### Output

```
10
```