

Inversion

Time limit: 1 sec

Given an array **A** of **N** integers, the inversion of **A** is the number of pair **(i,j)** such that $0 \leq i < j < N$ and $A[i] > A[j]$. Consider $A = [10, 30, 40, 20]$ for example, the number of inversion is 2 from two pairs of (1,3) and (2,3).

Your task is to compute the number of inversion from the given array.

Input

- The first line of input contains one integers **N** ($1 \leq N \leq 10^5$) indicating the size of the array.
- The second line contains **N** integer $A[i]$ ($-1 \times 10^6 \leq A[i] \leq 10^6$) that indicates the elements of the array.

Output

The only line of the output is the number of inversion of the given array.

Example

Input	Output
4 10 30 40 20	2
6 1 5 4 2 3 -1	10