Problem E
Inversions

Input File: E.DAT
Program Source File: E.PAS or E.C or E.CPP

Let $a_1, a_2, \ldots a_n$ be a sequence of n distinct integer numbers. If $i < j$ and $a_i > a_j$ then the pair (i, j) is called an inversion. For example, the sequence **3, 2, 1, 5, 6, 7, 8, 9** has **3** inversions, whereas the sequence **1, 2, 3, 4** has no inversion.

A text file contains non empty sequences of integers. Each sequence starts with a number $1 \le N \le 30000$ that specifies the number of integers in the sequence. This number is not part of the sequence. The numbers are separated freely by white-spaces (spaces, tabs and line breaks). The data in the text file are guaranteed correct.

Figure 1. An example of program input and output

Write a program that for each sequence of numbers from the text file prints the number of inversions in the sequence. Each result is printed on a separate line on the standard output, as illustrated in figure 1.