

Problem D

Inversion

Time limit: 3 seconds

Memory limit: 256 megabytes

Problem Description

Given a positive integer n and a sequence s_1, \dots, s_n where s_i is an integer for each $i \in \{1, \dots, n\}$. The inversion number of the sequence s_1, \dots, s_n is the number of pairs (i, j) such that $s_i > s_j$ and $i < j$. For example, the inversion number of the sequence 1, 2, 5, 3, 4 is 2 since the only two pairs (3, 4) and (3, 5) satisfy the criteria. Write a program to compute the inversion number.

Input Format

The first line of contains an integer t indicating the number of test cases. The input contains at most 25 test cases. Each case consists of two lines. The first one contains only an integer n where $n \leq 100000$. The second one consists of n 32-bit signed integers s_1, \dots, s_n separated by blanks. You should compute the inversion number of s_1, \dots, s_n .

Output Format

For each case, output the inversion number in one line.

Sample Input

```
2
5
1 2 5 3 4
5
1 2 5 4 3
```

Sample Output

```
2
3
```