

Inversion Count

Let $A[0 \dots n - 1]$ be an array of n distinct positive integers. If $i < j$ and $A[i] > A[j]$ then the pair (i, j) is called an inversion of A . Given n and an array A your task is to find the number of inversions of A .

Input

The first line contains t , the number of testcases followed by a blank space. Each of the t tests start with a number n ($n \leq 200000$). Then $n + 1$ lines follow. In the i th line a number $A[i - 1]$ is given ($A[i - 1] \leq 10^7$). The $(n + 1)$ th line is a blank space.

Output

For every test output one line giving the number of inversions of A .

Example

Input:

2

3

3

1

2

5

2

3

8

6

1

Output:

2

5