Swaps in Merge Sort

Problem Description

The following problem has to analyze a particular type of sorting algorithm. This algorithm processes a sequence of n distinct integers by exchanging adjacent elements until the sequence is sorted in ascending order. For the following input data:

9 1 0 5 4

Produce the next output after the sorting:

0 1 4 5 9

Your task is say the number of adjacent exchanging operations are requiered to sort the input in ascending order.
The orden of the algorithm should be of O(**nlog2n**).

Input

There are several cases, for each case comes the size of the case (n <= 5*10^5). Each next n lines comes with a positive integer (d <= 10^9). The input ends with a size of 0.

Output

For each case, display a line with the minimum number of of adjacent exchanging operations of the input.

Sample Input

```
5
9
1
0
5
4
3
1
2
3
0
```

Sample Output

```
6
0
```