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Merge-and-Count( $A, B$ )

Maintain a *Current* pointer into each list, initialized to point to the front elements

Maintain a variable *Count* for the number of inversions, initialized to 0

While both lists are nonempty:

Let  $a_i$  and  $b_j$  be the elements pointed to by the *Current* pointer

Append the smaller of these two to the output list

If  $b_j$  is the smaller element then

Increment *Count* by the number of elements remaining in  $A$

Endif

Advance the *Current* pointer in the list from which the smaller element was selected.

EndWhile

Once one list is empty, append the remainder of the other list to the output

Return *Count* and the merged list

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