算法 1 用归并排序求逆序数

输入: $Array$ 数组，n 数组大小

输出: 逆序数

1: **function** MERGERSORT($Array, left, right$)
2:     $result \leftarrow 0$
3:     **if** $left < right$ **then**
4:         $middle \leftarrow (left + right)/2$
5:         $result \leftarrow result+$ MERGERSORT($Array, left, middle$)
6:         $result \leftarrow result+$ MERGERSORT($Array, middle, right$)
7:         $result \leftarrow result+$ MERGER($Array, left, middle, right$)
8:     **end if**
9:     **return** $result$
10: **end function**
11:
12: **function** MERGER($Array, left, middle, right$)
13:     $i \leftarrow left$
14:     $j \leftarrow middle$
15:     $k \leftarrow 0$
16:     $result \leftarrow 0$
17:     **while** $i < middle$ **and** $j < right$ **do**
18:         **if** $Array[i] < Array[j]$ **then**
19:             $B[k + +] \leftarrow Array[i + +]$
20:         **else**
21:             $B[k + +] \leftarrow Array[j + +]$
22:             $result \leftarrow result + (middle - i)$
23:         **end if**
24:     **end while**
25:     **while** $i < middle$ **do**
26:         $B[k + +] \leftarrow Array[i + +]$
27:     **end while**
28:     **while** $j < right$ **do**
29:         $B[k + +] \leftarrow Array[j + +]$
30:     **end while**
31:     **for** $i = 0 \rightarrow k - 1$ **do**
32:         $Array[left + i] \leftarrow B[i]$
33:     **end for**
34:     **return** $result$
35: **end function**