
1 用归并排序求逆序数

: *Array* 数组, *n* 数组大小

: 逆序数

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