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**算法 1** 用归并排序求逆序数

**输入:** 待训练参数  $\theta$ , 一间房子的属性  $x^{(i)}$ , 这间房子的实际价格  $y^{(i)}$ , 训练轮次  $ep$

**输出:** 更新后的参数  $\theta$

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1: while  $i < middle$  and  $j < right$  do
2:   if  $Array[i] < Array[j]$  then
3:      $B[k++] \leftarrow Array[i++]$ 
4:   else
5:      $B[k++] \leftarrow Array[j++]$ 
6:      $result \leftarrow result + (middle - i)$ 
7:   end if
8: end while
9: while  $i < middle$  do
10:   $B[k++] \leftarrow Array[i++]$ 
11: end while
12: while  $j < right$  do
13:   $B[k++] \leftarrow Array[j++]$ 
14: end while
15: for  $i = 0 \rightarrow k - 1$  do
16:   $Array[left + i] \leftarrow B[i]$ 
17: end for
18: return  $result$ 

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