4-a

(3,4)

(3,5)

(4,5)

(1,5)

(2,5)

4-b-1

If it is a decreasing array from the set{1,2,…,n}

4-b-2

(n-1+1)\*(n-1)/2 = (n^2-n)/2

4-c

Insertion sort的做法就是不斷的向前判斷是不是inversion如果是inversion就swap 然後就繼續向前比較

4-d

def merge(array\_left, array\_right)

while not (index\_left == left\_max or index\_right == right\_max)

if array\_left[index\_left] > array\_right[index\_right]

merge\_list.append(array\_right[index\_right])

index\_right += 1

else

merge\_list.append(array\_left[index\_left])

invers += index\_right

index\_left += 1

for i in range(index\_left, left\_max)

merge\_list.append(array\_left[i])

invers += index\_right

for i in range(index\_right, right\_max)

merge\_list.append(array\_right[i])

return merge\_list