

Cost/time how many times

for $j = 1$ to $A.length - 1$ do

key = $A[j]$

// Insert $A[j]$ into the sorted sequence $A[0..j-1]$

$i = j - 1$

while $i \geq 0$ and $A[i] > \text{key}$ do

$A[i + 1] = A[i]$

$i = i - 1$

end while

$A[i + 1] = \text{key}$

]

C_1

C_2

C_3

C_4

C_5

C_6

C_7

C_8

n

$n - 1$

$n - 1$

$n - 1$

$n - 1$

$n - 1$

$n - 1$

$n - 1$

$n - 1$

$n - 1$

$n - 1$

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$n - 1$

$n - 1$

$n - 1$

$n - 1$

$n - 1$

$n - 1$

$n - 1$

$n - 1$

init + condition

$1 + n - 1$

init + condition

$1 + n - 1 = 2n$

$\sum_{i=1}^{n-1} 1$

Look at course slides for explanation further.

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0 1 2
1 3 2

$n = 3$
 $j = 1, 2$

$j = 1$
while

$j = 2$