

IMPLEMENTING INSERTION SORT

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Idea:

take $arr[] \leftarrow n$ elements
if $n=1$: return arr

$arr1 = arr[:n] \leftarrow n-1$ 1st elements of arr in order

$insertionSort(arr1)$ $\leftarrow$ Provides $arr1$ sorted

$x = arr[n]$

$arr1[1] \quad arr1[2] \quad arr1[3] \dots$

loop $i = 1 \rightarrow n-1$

if $x \leq arr1[i]$: $arr[i] = x$

else: $arr[i] = arr1[i]$

end loop
(keep track of arr)

Test:
 $arr = [3, 7]$
 $n=2$
 $arr1 = [3]$
 $n=1 \Rightarrow arr1$

$x = 7$
 $i = 1 \rightarrow 1$
 $x \leq 3$? $arr[1] = 3$