

Quick Sort Algorithm

QUICKSORT(A, p, r)

if $p < r$

$q = \text{PARTITION}(A, p, r)$

 QUICKSORT($A, p, q - 1$)

 QUICKSORT($A, q + 1, r$)

PARTITION(A, p, r)

$x = A[r]$

$i = p - 1$

for $j = p$ **to** $r - 1$

if $A[j] \leq x$

$i = i + 1$

 exchange $A[i]$ with $A[j]$

exchange $A[i + 1]$ with $A[r]$

return $i + 1$