Quick Sort is a very practical algorithm

Run Time (n log n)

Input: an array of n elements in any order

Output: returns array in no decreasing order

QuickSort (A)

If A.length <= 1 then

Return A

Pivot\_index = CHOOSE-PIVOT (A)

Left, right = PARTITION(A, pivot\_index)

Left = QUICKSORT(left)

Right = QUICKSORT(right)

Return left ++ A[pivot\_index] ++ right