

Assignment - 05

(Week - 6)

Question 1:

Write a java program by using the following QuickSort Pseudocodes. Your program should include a test function which generates 3 random unordered arrays of length 30 and calls the QuickSort function with these generated arrays as parameter A.

QuickSort Pseudocodes

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  $i + 1$ 
```