Inversion Count and Selection Algorithms

Assignment Questions

PW SKILLS

Q1. Given an integer array, find the kth largest element using the quickselect algorithm.

Input1:
arr[] = {1,3,2,4,5,6,7} , k = 3

Output 1:
output 1 : 5

Input 2:
arr[] = {4,3,3,2,1} , k = 4

Output 2:
2

What is the time complexity of the Quick Select algorithm?
a) O(n)
b) O(nlogn)
c) O(n^2)
d) O(logn)

Which data structure is used in Quick Select algorithm?
a) Linked List
b) Array
c) Binary Tree
d) Stack

Which partitioning scheme is used in Quick Select algorithm?
a) Lomuto partition scheme
b) Hoare partition scheme
c) Merge sort partition scheme
d) Heap sort partition scheme

What is the worst-case time complexity of Quick Select algorithm?
a) O(n)
b) O(n^2)
c) O(nlogn)
d) O(logn)

In the Quick Select algorithm, which element is chosen as the pivot element?
a) The first element
b) The middle element
c) The last element
d) A random element