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 : 5

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

2

Ans. https://github.com/PRAVALSHARMA/PW\_JAVA\_DSA\_ASSIGNMENT.git

What is the time complexity of the Quick Select algorithm?

a) O(n)

b) O(nlogn)

c) O(n^2)

d) O(logn)

ANS. A) O(n).

Which data structure is used in Quick Select algorithm?

a) Linked List

b) Array

c) Binary Tree

d) Stack

ANS. B) ARRAY.

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

ANS. A)

What is the worst-case time complexity of Quick Select algorithm?

a) O(n)

b) O(n^2)

c) O(nlogn)

d) O(logn)

ANS.B)O(n^2)

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

ANS. A) THE FIRST ELEMENT ( BUT WE CAN ALSO CHOOSE A RANDOM ELEMENT TO REDUCE THE TIME COMMPLEXITY OF O(n)^2.