 # DS QUIZ-01 & QUIZ-02

In a linear search algorithm, worst case occures:
A. If the key element is exist at first position in a collection/list.
B. If the key elemement is exist at last position in a collection/list.
C. If the key elemement does not exist in the list.
D. If either the key element exist at last position or does not exist in the list.
Answer: D

What is an asymptotic average case time complexity of a linear search algorithm?
A. O(n)
B. O(n/2)
C. θ(n)
D. θ(n/2)
E. Both C & D
Answer: C

An average case time complexity of a binary search algorithm is:
A. O(log n)
B. O(n)
C. θ(log n/2)
D. θ(log n)
Answer: D

There is a need of data structure in programming to achieve:
A. Encapsulation
B. Abstraction
C. Polymorphism
D. All of the above
E. None of the above
Answer: B

What is an asymptotic lower bound for binary search algorithm?
A. O(log n)
B. Ω(n)
C. θ(log n)

D. Ω(log n)
E. None of the above
Answer: E
Hint: Asymptotic lower bound of binary search i.e. best case time complexity of binary search algorithm is: Ω(1)

In which of following sorting algorithm elements which are at two consecutive positions gets compared?
A. Selection Sort
B. Bubble Sort
C. Insertion Sort
D. Quick Sort
Answer: B

In which of the following sorting algorithms magnitudes of time complexities are same in all the cases ?
A. Selection Sort
B. Bubble Sort
C. Insertion Sort
D. Merge Sort
E. Both C & D
F. Both A & D
Answer: F

_____ Sort is also reffered as Sinking Sort.
A. Selection Sort
B. Bubble Sort
C. Insertion Sort
D. None of the above
Answer: B

In which of the following algorithm divide-and-conquer stratergy is not used?
A. Binary Search
B. Merge Sort
C. Insertion Sort
D. Quick Sort
E. None of the above

Answer: C

In Selection Sort algorithm, what will the array status after 3 iterations for given input: 30 20 60 50 10 40.
A. 10 20 30 40 50 60
B. 10 30 20 40 50 60
C. 10 20 30 60 50 40
D. 10 20 30 50 60 40
Answer: C

In Bubble Sort algorithm, what will the array status after 3 iterations for given input: 30 20 60 50 10 40.
A. 20 10 30 40 50 60
B. 30 10 20 40 50 60
C. 30 20 10 50 40 60
D. None of the above
Answer: A

In a selection sort max ____ no. of iterations are required to sort all array elements.
A. n
B. n+1
C. n-1
D. 2n
Answer: n-1

Which of the following statement is false about an array data structure?
A. Array elements can be accessed by using random access which is faster access.
B. Array is static
C. Array is a linear data structure
D. Addition and deletion operations are efficient on an array data structure.
Answer: D