socrative

ADS - 1 Merge and Quick ('Copy') Score:

1. **Which of the following is/are not a stable sorting algorithm in its typical implementation?**

(A) Insertion Sort

(B) Quick Sort

(C) Selection Sort

(D) Merge Sort

2. **Which sorting algorithm makes one swap per pass (possibly swapping an element with itself)?**

(A) Selection Sort

(B) Merge Sort

(C) Insertion Sort

(D) Quick Sort

3. **What are the correct intermediate steps of the following data set when it is being sorted with the Insertion sort?**

15,20,10,18

(A) 15,20,10,18
10,15,20,18
10,15,18,20
10,15,18,20

(B) 10,15,18,20
15,20,10,18
10,15,20,18
10,15,18,20

(C) 10,15,18,20
15,20,10,18
10,15,18,20
10,15,20,18

(D) 10,15,18,20
15,20,10,18
10,15,18,20
10,15,20,18

4. **If all the elements in an input array are equal for example {1,1,1,1,1,1}, What would be the running time of the Insertion Algorithm?**

(A) O(2N)

(B) O(N^2)

(C) O(N)

(D) None of the above

5. **Which one of the following is an application of Stack Data Structure?**

A Managing function calls

B Undo operation

C Arithmetic expression evaluation

D All of the above

E None of the above

6. **The minimum number of stacks needed to implement a queue is**

A 0

B 2

C 3

D 4

E 1

7. **If the sequence of operations -**
push (1)
push (2)
pop
push (1)
push (2)
pop
pop
pop
push (2)
pop
are performed on a stack, the sequence of popped out values

A 2,2,1,2,2

B 2,2,1,1,2

C 2,1,2,2,1

D 2,1,2,2,2

8. **What is the worst-case time complexity of quicksort?**

A O(N log N)

B O(N^2)

C O(N)

D O(1)

9. **Quicksort is stable and in place?**

A True

B False

10. Which of the following algorithms are examples of the divide and conquer technique?

A) Merge Sort

B) Insertion Sort

C) Quick Sort

D) Selection Sort