14 Lecture - CS301

Important Mcqs

1. **What is recursion?**
   a. A process of dividing a problem into smaller subproblems
   b. A process of repeating a set of instructions
   c. A process of sorting data in ascending order
   d. None of the above

Answer: a

2. **What is the base case in recursion?**
   a. The case where the function calls itself
   b. The case where the function returns a value without calling itself
   c. The case where the function uses a loop instead of recursion
   d. None of the above

Answer: b

3. **Which data structure is commonly used in recursion?**
   a. Stack
   b. Queue
   c. Linked list
   d. Array

Answer: a

4. **What is the maximum number of recursive calls that can be made?**
   a. 100
   b. 1000
   c. It depends on the available memory
   d. There is no limit

Answer: c

5. **Which of the following is a disadvantage of recursion?**
   a. It is easy to understand and implement
   b. It may cause stack overflow errors
   c. It always results in better performance than iterative solutions
   d. None of the above

Answer: b

6. **Which of the following algorithms uses recursion?**
   a. Quick sort
   b. Merge sort

c. Bubble sort
d. Selection sort

Answer: a and b

7. **Which of the following is true about recursive functions?**
   a. They are always faster than iterative functions
   b. They require less memory than iterative functions
   c. They may be more readable and concise than iterative functions
   d. None of the above

Answer: c

8. **What is tail recursion?**
   a. A type of recursion where the recursive call is the last operation performed by the function
   b. A type of recursion where the function calls itself multiple times
   c. A type of recursion where the function uses a loop instead of recursion
   d. None of the above

Answer: a

9. **What is the difference between direct and indirect recursion?**
   a. Direct recursion occurs when a function calls itself, while indirect recursion occurs when two or more functions call each other.
   b. Direct recursion occurs when two or more functions call each other, while indirect recursion occurs when a function calls itself.
   c. Direct and indirect recursion are the same thing.
   d. None of the above

Answer: a

10. **Which of the following is an example of a recursive data structure?**
    a. Linked list
    b. Stack
    c. Queue
    d. Array

Answer: a and b