

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