# 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