14 Lecture - CS301

Important Subjective

1. What is recursion?

Answer: Recursion is a programming technique where a function calls itself within its own code.

2. What is the base case in recursion?

Answer: The base case is the case where the function returns a value without calling itself, stopping the recursive process.

3. What is the difference between direct and indirect recursion?

Answer: Direct recursion occurs when a function calls itself, while indirect recursion occurs when two or more functions call each other.

4. What is tail recursion?

Answer: Tail recursion is a type of recursion where the recursive call is the last operation performed by the function.

5. What is the maximum number of recursive calls that can be made?

Answer: The maximum number of recursive calls that can be made depends on the available memory.

6. What is a stack overflow error?

Answer: A stack overflow error occurs when the maximum stack size is exceeded due to too many recursive calls.

7. What are the advantages of recursion?

Answer: Recursion can simplify complex problems by breaking them down into smaller subproblems, and can be more readable and concise than iterative solutions.

8. What are the disadvantages of recursion?

Answer: Recursion may cause stack overflow errors and can be less efficient than iterative solutions.

9. What is the role of the base case in recursion?

Answer: The base case provides a stopping condition for the recursive process.

10. What are some common algorithms that use recursion?

Answer: Quick sort, merge sort, and binary search are common algorithms that use recursion.