8 Lecture - CS301

Important Mcqs

1. **Which of the following data structures is commonly used for converting infix expressions to postfix expressions?**
   a. Stack
   b. Queue
   c. Linked List
   d. Heap
   Answer: a. Stack

2. **In infix notation, where are operators written in relation to their operands?**
   a. Before
   b. After
   c. Between
   d. Both a and c
   Answer: d. Both a and c

3. **What is the first step in converting an infix expression to postfix notation?**
   a. Scan the expression from left to right
   b. Initialize an empty stack and postfix expression
   c. Check for balanced parentheses
   d. Add operands to the postfix expression
   Answer: b. Initialize an empty stack and postfix expression

4. **Which of the following operators has the highest precedence in mathematical expressions?**
   a. Multiplication
   b. Division
   c. Addition
   d. Subtraction
   Answer: a. Multiplication

5. **What is the role of a stack in converting infix to postfix notation?**
   a. To keep track of operators and their precedence levels
   b. To keep track of operands and their positions
   c. To perform the necessary calculations
   d. To check for errors in the expression
   Answer: a. To keep track of operators and their precedence levels

6. **What happens to a left parenthesis when converting from infix to postfix notation?**
   a. It is added to the postfix expression
   b. It is pushed onto the stack
   c. It is discarded
   d. It is popped off the stack
   Answer: b. It is pushed onto the stack

7. **How can errors be handled while converting infix to postfix notation?**
   a. By checking for balanced parentheses
   b. By checking for errors during scanning
   c. By using a queue data structure
   d. Both a and b
   Answer: d. Both a and b

8. **Which of the following expressions is equivalent to "a + b * c" in postfix notation?**
   a. "a b c * +"
   b. "a b + c *"
   c. "a + b c *"
   d. "a b c + *"
   Answer: a. "a b c * +"

9. **What is the final step in converting an infix expression to postfix notation?**
   a. Pop any remaining operators off the stack and add them to the postfix expression
   b. Add operands to the postfix expression
   c. Discard the left parenthesis
   d. Push the right parenthesis onto the stack
   Answer: a. Pop any remaining operators off the stack and add them to the postfix expression

10. **Which of the following is an advantage of postfix notation over infix notation?**
    a. It is easier to read and write
    b. It eliminates the need for parentheses to indicate the order of operations
    c. It is more commonly used in mathematical expressions
    d. Both a and b
    Answer: b. It eliminates the need for parentheses to indicate the order of operations.