25 Lecture - CS301

Important Mcqs

1. **What is an expression tree?**
   a) A binary tree with nodes representing operands
   b) A binary tree with nodes representing operators
   c) A binary tree with nodes representing both operands and operators
   d) A binary tree with nodes representing numbers

Answer: c

2. **What is the purpose of an expression tree?**
   a) To represent a mathematical expression
   b) To store data in a tree structure
   c) To sort data in a binary tree
   d) To perform search operations on data in a binary tree

Answer: a

3. **Which traversal of an expression tree is used to evaluate the expression?**
   a) Preorder
   b) Inorder
   c) Postorder
   d) Level order

Answer: c

4. **What is the time complexity of evaluating an expression tree?**
   a) O(n)
   b) O(log n)
   c) O(n^2)
   d) O(2^n)

Answer: a

5. **How is an expression tree created from an infix expression?**
   a) Using the preorder traversal
   b) Using the inorder traversal
   c) Using the postorder traversal
   d) Using a stack

Answer: d

6. **What is the maximum number of children a node in an expression tree can have?**
   a) 0
   b) 1

c) 2
d) 3

Answer: c

7. **Which of the following operations can be performed on an expression tree?**
   a) Insertion of a node
   b) Deletion of a node
   c) Rotation of a node
   d) All of the above

Answer: d

8. **What is the purpose of a leaf node in an expression tree?**
   a) To represent an operator
   b) To represent an operand
   c) To represent a binary operation
   d) To represent a unary operation

Answer: b

9. **Can an expression tree have duplicate nodes?**
   a) Yes
   b) No

Answer: b

10. **What is the advantage of using an expression tree over a postfix expression?**
    a) Faster evaluation
    b) Easier to read
    c) Takes less space
    d) All of the above

Answer: d