

# 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**