20 Lecture - CS301

Important Mcqs

1.	What is AVL Tree? a) Binary Tree b) Self-balancing Binary Search Tree c) Hash Tree d) None of the above
Δı	nswer: b) Self-balancing Binary Search Tree
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2.	In AVL Tree, what is the maximum difference between the height of the left and right subtrees? a) 1 b) 2 c) 3 d) 4
Answer: a) 1	
3.	What is the time complexity of search operation in AVL Tree? a) O(log n) b) O(n) c) O(n log n) d) O(1)
Answer: a) O(log n)	
4.	In AVL Tree, what operation is performed to balance the tree? a) Rotation b) Inversion c) Deletion d) None of the above
Answer: a) Rotation	
5.	What is the worst-case time complexity of insertion operation in AVL Tree? a) O(log n) b) O(n) c) O(n log n) d) O(1)

Answer: a) O(log n)

6. What is the height of an AVL Tree with n nodes in the worst-case scenario?
a) log(n)

- b) log(n) + 1
- c) 2log(n)
- d) $2\log(n) + 1$

Answer: b) log(n) + 1

7. Which of the following statements is true about AVL Tree?

- a) AVL Tree is a balanced binary search tree
- b) AVL Tree is an unbalanced binary search tree
- c) AVL Tree is a type of heap data structure
- d) AVL Tree is a type of graph data structure

Answer: a) AVL Tree is a balanced binary search tree

- 8. What is the time complexity of deletion operation in AVL Tree?
 - a) O(log n)
 - b) O(n)
 - c) O(n log n)
 - d) O(1)

Answer: a) O(log n)

- 9. Which of the following is not a balancing rule in AVL Tree?
 - a) Right-Right (RR)
 - b) Left-Right (LR)
 - c) Left-Left (LL)
 - d) Right-Left (RL)

Answer: d) Right-Left (RL)

- 10. Can AVL Tree have duplicate keys?
 - a) Yes
 - b) No

Answer: b) No