22 Lecture - CS301

Important Mcqs

- 1. Which of the following is not a type of rotation in a binary search tree?
 - A. Left rotation
 - B. Right rotation
 - C. Upward rotation
 - D. Double rotation

Answer: C

- 2. When is a single left rotation used in a binary search tree?
 - A. When the imbalance occurs in the immediate left child
 - B. When the imbalance occurs in the immediate right child
 - C. When the imbalance occurs in the grandchild of the left child
 - D. When the imbalance occurs in the grandchild of the right child

Answer: A

- 3. Which of the following is a case of double rotation in a binary search tree?
 - A. Left-Left case
 - B. Left-Right case
 - C. Right-Left case
 - D. Right-Right case

Answer: B

- 4. In a left-right double rotation, what is the first step performed?
 - A. A single left rotation on the right child
 - B. A single right rotation on the left child
 - C. A double right rotation on the left child
 - D. A double left rotation on the right child

Answer: B

- 5. Which of the following is not a benefit of rotations in a binary search tree?
 - A. Maintaining balance
 - B. Ensuring efficient search operations
 - C. Reducing the height of the tree
 - D. Increasing the height of the tree

Answer: D

- 6. What is the maximum number of rotations required to balance a node in a binary search tree?
 - A. 1
 - B. 2
 - C. 3
 - D. 4

Answer: B

7. When is a single right rotation used in a binary search tree?

- A. When the imbalance occurs in the immediate left child
- B. When the imbalance occurs in the immediate right child
- C. When the imbalance occurs in the grandchild of the left child
- D. When the imbalance occurs in the grandchild of the right child

Answer: B

8. Which of the following is a case of single rotation in a binary search tree?

- A. Left-Left case
- B. Left-Right case
- C. Right-Left case
- D. Right-Right case

Answer: A

9. In a left-left single rotation, what is the new root of the subtree?

- A. The left child of the original root
- B. The right child of the original root
- C. The parent of the original root
- D. The original root itself

Answer: A

10. Which of the following is a disadvantage of using rotations in a binary search tree?

- A. Increased tree height
- B. Reduced search efficiency
- C. Increased complexity
- D. None of the above

Answer: D