**Prelab-Week-3**

**Prelab Questions:**

1. Write an algorithm to traverse a tree by using pre-order traversal without recursion
2. Write tree traversal of the tree given below in three methods

Shape

Description automatically generated

1. What is the time complexity of post-order traversal using iterative approach? How is it different when compared to recursive approach?
2. Design an algorithm to print all even nodes of a BST. What is the time complexity
3. Derive the time complexity of the algorithm to determine the height of a BST.
4. Which traversal of a BST gives the sorted order of the elements? Design the recursive algorithm for it and write the time complexity.
5. Design an algorithm for level order traversal of a complete Binary search tree and determine its time complexity.

**Pre-lab Programs:**  
1.Implement post-order traversal of binary tree without recursion and without stack.  
2. Implement program to construct full binary tree using its preorder traversal and preorder traversal of its mirror tree.  
3. Implement program to find an in-order successor and predecessor of specified node in a tree.

4.Given a binary search tree (BST), convert it into a height-balanced binary search tree.

