

Data Structures

Lab Work Assignments

1. Implement a singly linked list with the following operations:
 - Insert at the beginning, end and a given position.
 - Delete from the beginning, end and a given position.
 - Display the list
2. Implement a stack using an array with the following operations:
 - Push
 - Pop
 - Peek
 - Display
3. Implement a queue using an array with the following operations:
 - Enqueue
 - Dequeue
 - Peek
 - Display
4. Implement a binary tree and insert nodes into the binary tree recursively with the following traversals:
 - In-order
 - Pre-order
 - Post-order
5. Count the total number of nodes and leaf nodes in a binary tree.
6. Implement a Binary Search Tree (BST) with In-order Traversal.
7. Write recursive functions for the following:
 - Factorial of a number
 - Fibonacci series
 - Binary search
 - Tower of Hanoi

