List of Experiments Data Structure Lab

Problem-1: Write a program to Implement Linear Search in the C programming language.

Problem-2: Write a program to Implement Binary Search in the C programming language. Assume the list is already sorted.

Problem-3: Write a program to insert an element at the mid-position in the One-dimensional array.

Problem-4: Write a program to delete a given row in the two-dimensional array.

Problem-5: Write a program to implement a stack data structure and perform its operations.

Problem-6: Write a program to implement two stacks using a single array.

Problem 7: Write a program to find the minimum element of the stack in constant time with using extra space.

Problem 8: Write a program to find the minimum element of the stack in constant time without using extra space.

Problem 9: Write a program to implement Queue Data structure.

Program 10: Write a program to reverse the first k elements of a given Queue.

Problem11: Write a program to check whether the given string is Palindrome or not using DEQUEUE.

Problem12: Implement Tower of Hanoi Problem using Stack.

Problem 13: Write a program to implement the Linked List Data structure and insert a new node at the beginning, and at a given position.

Problem 14: Write a program to split a given linked list into two sub-list as Front sub-list and Back sub-list, if odd number of the element then add the last element into the front list.

Problem 15: Given a Sorted doubly linked list of positive integers and an integer, then finds all the pairs (sum of two nodes data part) that is equal to the given integer value. Example: Double Linked List 2, 5, 7, 8, 9, 10, 12, 16, 19, 25, and P=35 then pairs will be Pairs will be (10, 25), (16, 19).

Problem 16: Write a program to implement the Binary Tree using linked list and perform In-order traversal.

Problem 17: Write a Program to check whether the given tree is a Binary Search Tree or not.

Problem 18: Write a program to implement insertion in the AVL tree.

Problem 19: Write an Algorithm to count the number of leaf nodes in an AVL tree.

Problem 20: Write a program to Delete a key from the AVL tree.

Problem 21: Write a program to implement Stack Data Structure using Queue.

Problem-22 Write a program to implement Queue Data Structure using Stack.

Problem 23: Write a program to implement Graph Data Structure and Its traversal BFS and DFS.