Try all the programs with various inputs, including integers, floats, and alphanumeric values (characters, strings, special characters, and negative numbers). Also, check for out-of-range cases for the respective data types

Data Structure Practical Lab Assignment

i. Write Programs to demonstrate the concept of recursion
   - Factorial
   - Print n Number of Fibonacci series, where n is positive integer from user input

ii. Implement various string handling functions through C coding.

iii. Write Programs for matrix operations
   - Addition
   - Subtraction
   - Multiplication

iv. Create a program showing the difference between Structures and Unions.

v. Write a program of file handling in which you're required to open a file and then
   a. Count the number of words in the file.
   b. Sort a file

vi. Create a program to insert, delete, and search for an element in an array.

vii. Implement sorting using
   - Bubble sort
   - Merge sort
   - Quick sort
   - insertion sort.

viii. Implement a single linked list with operations to
   - Add nodes
   - Delete nodes
   - Search nodes

ix. Implement doubly linked list and circular linked list for ADD and DEL of Nodes

x. Create a stack with push, pop, and check_peek (TOP) operations. Also, check overflow and underflow conditions.

xi. Implement a queue with enqueue and dequeue operations using a linked list.

xii. Implement a binary and linear search to find an element in a sorted array.

xiii. Create a binary tree to perform
   - in-order
   - pre-order
   - post-order traversals.

xiv. Implement a BST with insert, delete, and search functions.

xv. Implement BFS, and DFS traversal on a graph starting from a given node.