Practical List

Pr. No.	Aim
1	Write a program to implement following: a) To traverse elements of an array. b) To calculate N^{th} term of a Fibonacci series using recursion. c) To find the address of a variable using pointers. d) To find the minimum, maximum and average values of the given Array. e) Add two numbers using a pointer and display the sum of two numbers.
2	A) Write a Program i) To implement an Array representation of the sparse matrices. ii) To search the element in 2-D array. iii) To create, initialize and print the values of the 3-D array. B) Discuss following concepts with an example i) Address Calculation of 1-D Array. ii) Address Calculation of 2-D Array using Row Major and Column Major Order.
3	Implement stack with following operations: push(), pop(), display(), isempty() and isfull()
4	Write a program to implement following applications of stack. a) To recognize string with language $L=\{wCw^R / w$ takes multiple occurrences of {a,b}. b) To check the validity of expressions, which contains multiple opening and closing brackets. (i.e., [{(a+b) * c} – d]). c) To convert unparenthesized infix expression to postfix. d) To evaluate the given postfix expression. e) Tower of Hanoi problem.
5	Implementation of various types of Queues a) Implement Simple Queue with following operations: enqueue(), dequeue(), display(), isempty() and isfull() b) Implement Circular Queue with following operations: enqueue(), dequeue(), display(), isempty() and isfull() c) Implement DEqueue with following operations: • InsertionAtRear() • InsertionAtFront() • DeletionAtRear() • DeletionAtFront() • isempty() • isfull()

6	Write a program a) To implement singly linked list with following operations: • InsertAtFirst() • InsertAtLast() • InsertAfterspecifiednode() • DeleteAtFirst() • DeleteAtLast() • DeleteAfterspecifiednode() • Traverse() (Display) b) To implement circular linked list with above functions. c) To implement doubly linked list with above functions.
7	Write a program to implement following operations of Binary Search Tree (BST): Create, Insert and Delete
8	Implement following sorting techniques: 1) Bubble sort 6) Shell sort 2) Insertion sort 7) Heap sort 3) Selection sort 8) Counting sort 4) Quick sort 9) Radix sort 5) Merge sort
9	Write a program to implement following searching algorithms: a) Linear Search (Sequential Search) b) Binary Search
10	Write a program to implement Hashing.