Lab Cycle-CSL 201 Data Structures Lab

1. Write a program to implement Linear Search
2. Write a program to perform Bubble Sort
3. Write a program to read two polynomials and store them in an array. Calculate the sum of the two polynomials and display the first polynomial, second polynomial and the resultant polynomial
4. Write a C program to enter two sparse matrices in normal form. Convert them into tuple form and display it, find the transpose of these matrices and display in tuple form. Also find the sum of these matrices and display in tuple form.
5. Implement a stack using arrays with the following operations.
6. Pushing elements to the stack
7. Popping elements from the stack
8. Display stack
9. Implement queue using array with the following operations.
10. Insert elements to the queue
11. Delete elements from the queue
12. Display queue
13. Implement circular queue using array with the following operations.

1. Insert elements to the queue

2. Delete elements from the queue

3. Display queue

1. Implement priority queue using array with the following operations.
2. Insert elements to the priority queue
3. Delete elements from the priority queue
4. Display queue
5. Using stack convert an Infix expression to Postfix expression
6. Using stack evaluate a Postfix expression
7. Write a menu driven program for performing the following operations on a linked list.
8. Display
9. Insert at the Beginning
10. Insert at the End
11. Insert at a specified position.
12. Delete from Beginning
13. Delete from End
14. Delete from a specified position
15. Write a menu driven program for performing the following operations on a Circular linked list.
16. Display
17. Insert at the Beginning
18. Insert at the End
19. Insert at a specified position.
20. Delete from Beginning
21. Delete from End
22. Delete from a specified position
23. Write a menu driven program for performing the following operations on a Doubly linked list.
24. Display
25. Insert at the Beginning
26. Insert at the End
27. Insert at a specified position.
28. Delete from Beginning
29. Delete from End
30. Delete from a specified position
31. Implement a stack using linked list with the following operations.
32. Pushing elements to the stack
33. Popping elements from the stack
34. Display stack
35. Implement a queue using linked list with the following operations.
36. Insert elements to the queue
37. Delete elements from the queue
38. Display queue
39. Create a binary search tree with the following operations.

1. Inorder Traversal

2. Preorder Traversal

3. Postorder Traversal

4. Insert a new node

5. Search for a node

6. Delete a node

1. Write a program to perform binary search on a list of numbers.
2. Write a program to perform selection sort on a list of numbers
3. Write a program to perform Insertion sort on a list of numbers
4. Write a program to perform quick sort on a list of numbers
5. Write a program to perform Merge sort on a list of numbers
6. Write a program to perform heap sort on a list of numbers