**Data Structure Lab Practical’s List**

1. **Write C programs by using Array data structure for the following problem domains:**
2. Create an array of integer with size n. Return the difference between the largest and the smallest value inside that array.
3. Initializes an array with ten random integers and then prints four lines of output, containing: Every element at an even index, Every odd element, All elements in reverse order, Only the first and last element
4. Consider an integer array of size 5 and display the following: Sum of all the elements, Sum of alternate elements in the array, and second highest element in the array
5. **Write a program to create a singly linked list of n nodes and perform:**
6. Insertion at the beginning
7. Insertion at the end
8. Insertion at a specific location
9. Deletion at the beginning
10. Deletion at the end
11. Deletion At a specific location
12. **Write a program to create a doubly linked list of n nodes and perform:**
13. Insertion at the beginning
14. Insertion at the end
15. Insertion at a specific location
16. Deletion at the beginning
17. Deletion at the end
18. Deletion At a specific location
19. **Write a program to create a singly circular and doubly linked list of n nodes and perform:**
20. Insertion at the beginning
21. Insertion at the end
22. Insertion at a specific
23. location
24. Deletion at the beginning
25. Deletion at the end
26. Deletion At a specific location
27. **Write a program to implement stack using arrays and linked lists.**
28. **Write a program to reverse a sentence/string using stack.**
29. **Write a program to check for balanced parenthesis in a given expression.**
30. **Write a program to convert infix expression to prefix and postfix expression.**
31. **Write a program to implement Linear Queue using Array and Linked Lists.**
32. **Write a program to implement Circular Queue using Array and Linked Lists.**
33. **Write a program to implement Doubly Ended Queue using Array and Linked Lists.**
34. **Write a Program to implement Binary Search Tree operations.**
35. **Write a program to implement Bubble Sort, Selection Sort, Heap Sort, Quick Sort, Merge Sort and Insertion Sort algorithm.**
36. **Write C Programs by using Graph data structure for the following problem domains:**
37. Graph Traversal: BFS
38. Graph Traversal: DFS