

L128-DATA STRUCTURES LAB

LIST OF LAB PROGRAMS:

1. Write a C program to implement various operations on List using arrays.
2. Write a C program to implement various operations on Single linked List using pointers.
3. Write an interactive C program to create a linear linked list of customer names and their telephone numbers. The program should be menu-driven and include features for adding a new customer, deleting an existing customer and for displaying the list of all customers.
4. Write a C program to create a circular linked list so that the input order of data items is maintained. Add the following functions to carry out the following operations on circular single linked lists. a) Count the number of nodes. b) insert a node c) delete a node
5. Write a C program that will remove a specified node from a given doubly linked list and insert it at the end of the list on an existing list. Also write a function to display the contents of the list.
6. Write a C program to implement a stack using array & linked list in which Push, Pop and display can be performed.
7. Write a program to convert infix expression to post fix expressions using array implementation of stack
8. Write a program for evaluating post fix expressions using array implementation of stack
9. Write a C program to implement a queue using arrays and linked list in which insertions, deletions and display can be performed.
10. Write a C program to implement insertion sort & shell sort
11. Write a C program to implement Selection sort.
12. Write a C Program to implement Merge Sort
13. Sort a sequence of n integers using Quick sort technique and then search for a key in the sorted array using Binary search, linear search techniques.
14. Write a C program to Heap sort
15. Write a C program to construct a binary tree and do inorder, preorder and postorder traversals, printing the sequence of nodes visited in each case.
16. Write a C program to implement BST operations- insert, search and delete
17. Write a C program to implement the following graph Traversals
 - a) BFS
 - b) DFS