

I YEAR SEM-II B.Tech CSE	LAB	L	T	P	C
CODE:CS1802	DATA STRUCTURES	0	0	2	2

Recursion:

- 1) Program to find GCD for given 2 nos.
- 2) Program to multiply 2 nos without using * operator
- 3) Program to divide 2 nos without using / operator
- 4) Program to find power of a number (xy)
- 5) Program to Check Whether a Number is Palindrome or Not
- 6) Program for Tower of Hanoi problem

Linked List:

- 1) Program to create a SLL and perform all insertion and deletion cases
- 2) Program to create a CLL and perform insertion and deletion at beginning and end
- 3) Program to create a DLL and perform all insertion and deletion cases
- 4) Program to create a SLL and reverse all the links.
- 5) Program to store polynomial in a linked list and apply add and subtract operations on 2 polynomials
- 6) Program to sort the numbers given in a LL
- 7) Program to create LL which stores details of students and print the name of the students who got first class

Stacks:

- 1) Program to perform push, pop and peek operations on a stack using arrays
- 2) Program to implement stack using LL
- 3) Program to reverse the contents of stack
- 4) Program to check nesting of parathesis
- 5) Program to convert infix to postfix and prefix
- 6) Program to evaluate a postfix and prefix expressions

Queues:

- 1) Program to implement linked queue
- 2) Program to implement circular queue
- 3) Program to implement queue which permits insertion and deletion at both the ends

Binary Search Tree:

- 1) Program to create BST and perform insertion deletion and 3 traversal operations
- 2) Program to count number of nodes of a BST
- 3) Program to find nth node in the InOrder traversal of a BST
- 4) Program to find largest and smallest elements of a BST
- 5) Program to find all the elements of Nth level
- 6) Program to find nodes which are at max distance from the root in a BST

Heaps:

- 1) Program to create max heap
- 2) Program to create min heap

Hash:

- 1) Program to search for an element in a hash table

Reference Books:

Data Structures by Reema Thareja, Let Us C by Yashavant P. Kanetkar