# DATA STRUCTURES AND ALGORITHMS

## CYCLE SHEET-2

1.Write a C program to implement the following operations on singly linked list.

i. creation

ii.insertion all cases

iii. deletion all cases

iv. display

2. Write a C program to implement the following operations on doubly linked list.

i. creation

ii.insertion all cases

iii. deletion all cases

iv. display

3. Write a C program to implement the following operations on singly circular linked list.

i. creation

ii.insertion all cases

iii. deletion all cases

iv. display

4. Write a C program to implement the following operations on doubly circular linked list.

i. creation

ii.insertion all cases

iii. deletion all cases

iv. display

5. Write a C program to implement stack using linked list.

6. Write a C program to implement queue using linked list.

7. Write a C program to implement polynomial addition using linked list.

8. Given two sorted lists L1 and L2 write a program to merge the two lists in sorted order.

9.  Given two list L1 and L2 write a C program to find the intersection of two list.

**CHALLENGING EXPERIMENT**

Assume FLAMES game that tests for relationship has to be implemented using a dynamic structure. The letters in the FLAMES stand for Friends, Love, Affection, Marriage, Enmity and Sister. Initially store the individual letters of the word 'flames' in the nodes of the dynamic structure. Given the count of the number of uncommon letters in the two names 'n', write a program to delete every nth node in it, till it is left with a single node. If the end of the dynamic structure is reached while counting, resume the counting from the beginning. Display the letter that still remains and the corresponding relationship
Eg., If Ajay and Jack are the two names, there are 4 uncommon letters in these.

So delete 4th node in the first iteration and for the next iteration start counting

from the node following the deleted node.