# Lab Assignment 3
# Doubly and Circular Linked List

1. Develop a menu driven program for the following operations of on a Circular as well as a Doubly Linked List.
   (a) Insertion anywhere in the linked list (As a first node, as a last node, and after/before a specific node).
   (b) Deletion of a specific node, say 'Delete Node 60'. That mean the node to be deleted may appear as a head node, last node or a node in between.
   (c) Search for a node.
2. Display all the node values in a circular linked list, repeating value of head node at the end too. For example, if elements present in the circular linked list starting from head are 20 → 100 → 40 → 80 → 60, then output should be displayed as 20 100 40 80 60 20.
3. Write a program to find size of
   (a) Doubly Linked List.
   https://www.geeksforgeeks.org/program-find-size-doubly-linked-list/
   (b) Circular Linked List.
   https://www.geeksforgeeks.org/count-nodes-circular-linked-list/
4. Write a program to check if a doubly linked list of characters is palindrome or not.
   https://www.geeksforgeeks.org/check-doubly-linked-list-characters-palindrome-not/
5. Write a program to check if a linked list is Circular Linked List or not.
   https://www.geeksforgeeks.org/check-if-a-linked-list-is-circular-linked-list/

**Additional Questions:**

- https://www.geeksforgeeks.org/split-a-circular-linked-list-into-two-halves/
- https://www.geeksforgeeks.org/remove-all-even-parity-nodes-from-a-doubly-and-circular-singly-linked-list/
- https://www.geeksforgeeks.org/reverse-doubly-linked-list-groups-given-size/
- https://www.geeksforgeeks.org/correct-the-random-pointer-in-doubly-linked-list/
- https://www.geeksforgeeks.org/construct-a-doubly-linked-linked-list-from-2d-matrix/?ref=rp