

Lab Assignment 6

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 $20 \rightarrow 100 \rightarrow 40 \rightarrow 80 \rightarrow 60$, then output should be displayed as 20 100 40 80 60 20.
3. Write a program to find size of
 - i. Doubly Linked List.
 - ii. Circular Linked List.
4. Write a program to check if a doubly linked list of characters is palindrome or not.
5. Write a program to check if a linked list is Circular Linked List or not.

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>