

## Assignment 9

1. Write a program to merge two circular linked lists into a single circular linked list. Display the merged list after the operation.
2. Write a program to split a circular linked list into two halves. If the number of nodes is odd, the extra node should go into the first list.
3. Develop a program to find and return the middle element of a circular linked list.
4. Write a program to concatenate two circular linked lists into one circular linked list.
5. Write a program to check whether a given circular linked list is sorted in ascending order.
6. Write a program to check whether the elements of a circular linked list form a palindrome.
7. Write a program to create a doubly linked list and perform the following operations:
  - a) Insert at the beginning
  - b) Insert at the end
  - c) Insert at a specific position.
8. Write a program to delete nodes from a doubly linked list:
  - a) Delete the first node
  - b) Delete the last node
  - c) Delete a node at a specific position
9. Write a program to traverse a doubly linked list in both forward and reverse directions and print the data in each node.
10. Develop a program to calculate and return the length (number of nodes) of a doubly linked list.