Assignment 11

1. Write a program to implement a queue using an array with basic operations: enqueue, dequeue, and display. Include checks for queue overflow and underflow.

2. Write a program to implement a queue using a linked list with basic operations: enqueue, dequeue, and display.

3. Write a program to count the number of elements in a queue implemented using either an array or a linked list.

4. Write a program that implements a queue and includes a peek operation to display the front element of the queue without removing it.

5. Write a program to reverse the elements of a queue using only stack operations.

6. Write a program to implement a circular queue using an array. Implement enqueue, dequeue, and display operations, and handle circular indexing.

7. Write a program that finds the minimum element in a queue without altering the queue's content. Display the minimum element without dequeuing it.

8. Write a program to merge two queues into a third queue. The resulting queue should contain elements from both queues in their original order.

9. Write a program to implement a queue using two stacks. Implement enqueue and dequeue operations.

10. Write a program to find and display the sum of all elements in a queue without modifying the queue's content.

11. Write a program that uses a queue to check if a string is a palindrome. Enqueue each character, then dequeue to verify the order.

12. Write a program that takes a queue and an integer k as input and reverses the first k elements of the queue, leaving the rest in the same order.