

## **Assignment - 4**

### **1. Write a program to perform the following operations using Java.**

1. Read the count of elements from the user to create the circular queue using an array.
2. Create the class and methods for the following and call them using a menu based program and call them using a loop.
  - a. Show the contents of circular queue
  - b. Enqueue the data in the circular queue
  - c. Access the data from the circular queue
  - d. Check how many elements are there in the circular queue.
  - e. Check to see if the circular queue is full?
  - f. Check to see if the circular queue is empty.

### **2. Write a program to perform the following operations using Java.**

1. Read the count of elements from the user to create the simple queue using an array.
2. Create the class and methods for the following and call them using a menu based program and call them using a loop.
  - a. Show the queue
  - b. Store the data in the queue

- c. Access the data from the queue
- d. Check how many elements are there in the queue.
- e. Check to see if the queue is full?
- f. Check to see if the queue is empty.

**3. Write a program to perform the following operations using Java.**

1. Read a number from the user to find the sum of digits of the number using a recursive function.
2. Write a recursive function to find the square of the number.
3. Write a program to demonstrate the tail recursion for finding the factorial of the number.
4. Write a method to check whether the number is palindrome or not?