

## Assignment 5

### Code:

#### TokenRing.java

```
import java.util.Scanner;

public class TokenRing {

    public static void main(String args[]) {

        Scanner sc = new Scanner(System.in);

        System.out.print("Enter the number of nodes you want in the Ring: ");
        int n = sc.nextInt();

        System.out.println("Ring is formed as below");

        for (int i = 0; i < n; i++) {
            System.out.print(i + " ");
        }

        System.out.println("0");

        int choice = 0;

        do {
            System.out.print("Enter Sender: ");
            int sender = sc.nextInt();

            System.out.print("Enter Receiver: ");
            int receiver = sc.nextInt();

            System.out.print("Enter Data: ");
            int data = sc.nextInt();

            int token = 0;

            System.out.println("Token Passing :");

            for (int i = token; i < sender; i++) {
                System.out.print(" " + i + " -> ");
            }

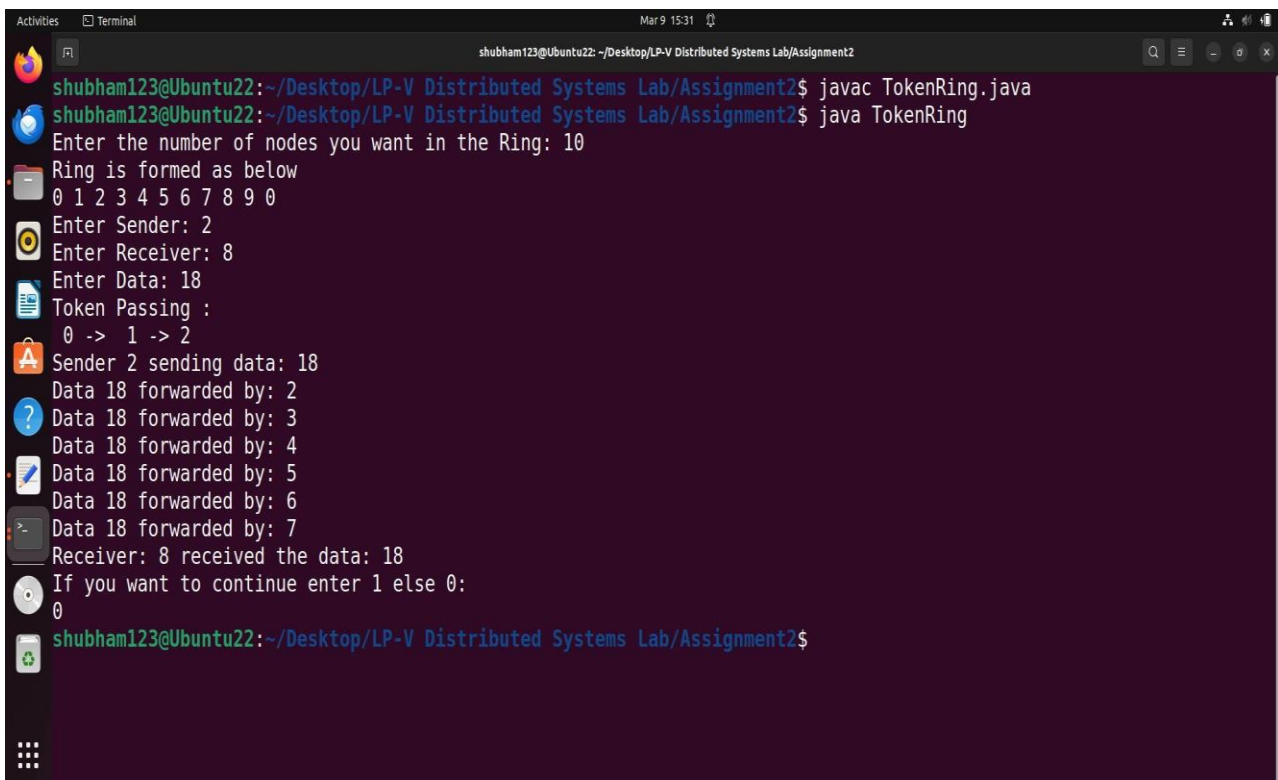
            System.out.println(sender);
            System.out.println("Sender " + sender + " sending data: " + data);

            for (int i = sender; i != receiver; i = (i + 1) % n) {
                System.out.println("Data " + data + " forwarded by: " + i);
            }
        }
```

```
        System.out.println("Receiver: " + receiver + " received the data: " + data);  
        token = sender;  
  
        System.out.println("If you want to continue enter 1 else 0: ");  
        choice = sc.nextInt();  
  
    } while (choice == 1);  
}  
}
```

## Output

:



```
shubham123@Ubuntu22: ~/Desktop/LP-V Distributed Systems Lab/Assignment2$ javac TokenRing.java  
shubham123@Ubuntu22: ~/Desktop/LP-V Distributed Systems Lab/Assignment2$ java TokenRing  
Enter the number of nodes you want in the Ring: 10  
Ring is formed as below  
0 1 2 3 4 5 6 7 8 9 0  
Enter Sender: 2  
Enter Receiver: 8  
Enter Data: 18  
Token Passing :  
0 -> 1 -> 2  
Sender 2 sending data: 18  
Data 18 forwarded by: 2  
Data 18 forwarded by: 3  
Data 18 forwarded by: 4  
Data 18 forwarded by: 5  
Data 18 forwarded by: 6  
Data 18 forwarded by: 7  
Receiver: 8 received the data: 18  
If you want to continue enter 1 else 0:  
0  
shubham123@Ubuntu22: ~/Desktop/LP-V Distributed Systems Lab/Assignment2$
```

## Conclusion:

In this way Token Ring algorithm has been implemented. This algorithm is easy to implement and verify but the biggest drawback of this algorithm is that if a token is lost, it will have to be generated. Determining that a token is lost can be difficult.