

DS Lab 5

Code:

Tokenring.java

```
import java.io.*;
import java.util.*;

class tokenring {

    public static void main(String args[]) throws Throwable {
        Scanner scan = new Scanner(System.in);
        System.out.println("Enter the num of nodes:");
        int n = scan.nextInt();
        int m = n - 1;
        // Decides the number of nodes forming the ring
        int token = 0;
        int ch = 0, flag = 0;
        for (int i = 0; i < n; i++) {
            System.out.print(" " + i);
        }
        System.out.println(" " + 0);
        do{
            System.out.println("Enter sender:");
            int s = scan.nextInt();
            System.out.println("Enter receiver:");
            int r = scan.nextInt();
            System.out.println("Enter Data:");
            int a;
            a = scan.nextInt();
            System.out.print("Token passing:");
            for (int i = token, j = token; (i % n) != s; i++, j = (j +
1) % n) {
                System.out.print(" " + j + "->");
            }
            System.out.println(" " + s);
            System.out.println("Sender " + s + " sending data: " + a);
            for (int i = s + 1; i != r; i = (i + 1) % n) {
                System.out.println("data " + a + " forwarded by " +
i);
            }
            System.out.println("Receiver " + r + " received data: " + a
+"\n");
            token = s;
            do{
                try {
                    if( flag == 1)
                        System.out.print("Invalid Input!!...");
                    System.out.print("Do you want to send again?? enter
1 for Yes and 0 for No : ");
                    ch = scan.nextInt();
                    if( ch != 1 && ch != 0 )
                        flag = 1;
                    else
                        flag = 0;
                } catch (InputMismatchException e){
                    System.out.println("Invalid Input");
                }
            }
        }
```

```

        }while( ch != 1 && ch != 0 );
    }while( ch == 1 );
}
}

```

Output:

```

student@TAEComp-01: ~$ cd /home/student/Desktop/dsc/dcs$
bash: cd: /home/student/Desktop/dsc/dcs: No such file or directory
student@TAEComp-01: ~$ cd /home/student/Desktop/dsc/dcs$
student@TAEComp-01: ~/Desktop/dsc/dcs$ javac tokenring.java
student@TAEComp-01: ~/Desktop/dsc/dcs$ java tokenring
Enter the nun of nodes:
10
0 1 2 3 4 5 6 7 8 9 0
Enter sender:
4
Enter receiver:
8
Enter Data:
70
Token passing: 0 -> 1 -> 2 -> 3 -> 4
Sender 4 sencling data: 70
data 70 forwarded by 5
data 70 forwarded by 6
data 70 forwarded by 7
Receiver 8 received data: 70
Do you want to send again?? enter 1 for Yes and 0 for No : 0
student@TAEComp-01: ~/Desktop/dsc/dcs$

```