

Assignment - 5

Code :

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

class token_ring {

    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("Num of nodes" + n);
            System.out.println("Enter sender:");
            int s = scan.nextInt();

            while(s<0 || s>=n){

                System.out.println("Invalid Process number");
                System.out.println("Enter Valid Sender");
                s = scan.nextInt();
            }

            System.out.println("Enter receiver:");
            int r = scan.nextInt();

            while(r<0 || r>=n){

                System.out.println("Invalid Process number");
```

```

        System.out.println("Enter Valid Receiver");
        r = scan.nextInt();

    }

    System.out.println("Enter Data:");
    String a;
    a = scan.next();

    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) % n; i != r; i = (i + 1) % n) {

        System.out.println("data " + a + " forwarded by " + i);
    }

    System.out.println("Receiver " + r + " received data: " + a + "\n");
    token = r;

    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 :

```

PS F:\Java\Java_1> javac token_ring.java
PS F:\Java\Java_1> java token_ring
Enter the num of nodes:
5
0 1 2 3 4 0
Enter sender:
1
Enter receiver:
4
Enter Data:
Hello
Token passing: 0-> 1
Sender 1 sending data: Hello
data Hello forwarded by 2
data Hello forwarded by 3
Receiver 4 received data: Hello

Do you want to send again?? enter 1 for Yes and 0 for No : 1
Enter sender:
4
Enter receiver:
2
Enter Data:
Hii
Token passing: 4
Sender 4 sending data: Hii
data Hii forwarded by 0
data Hii forwarded by 1
Receiver 2 received data: Hii

Do you want to send again?? enter 1 for Yes and 0 for No : 0
PS F:\Java\Java_1>

```