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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:");
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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");
    }
}

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

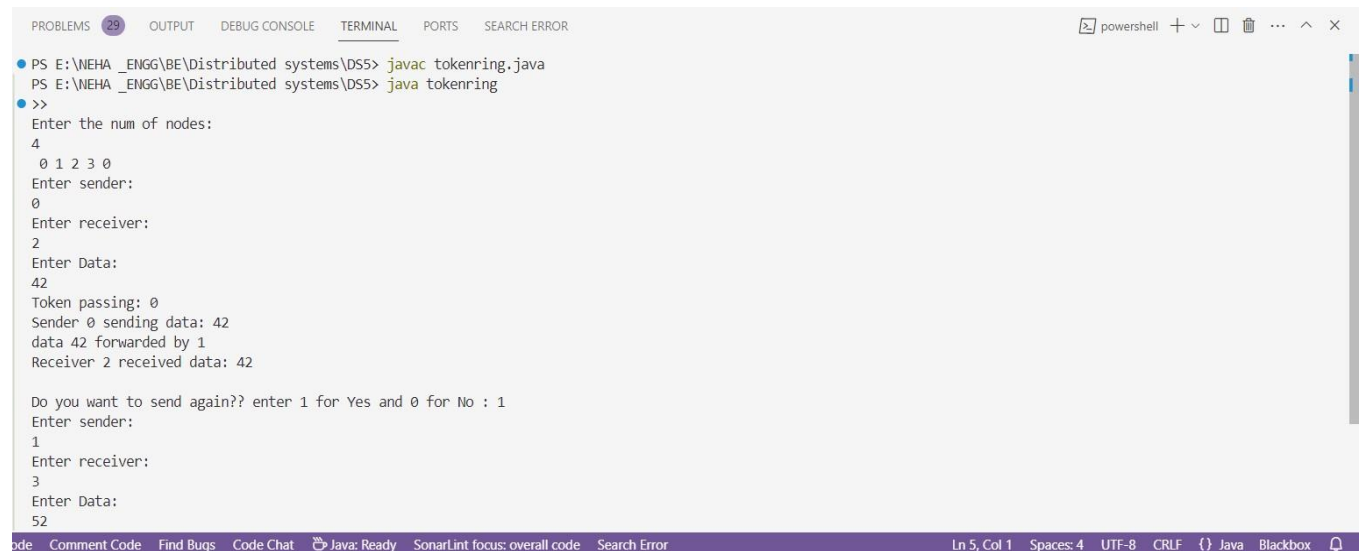
}while( ch == 1 );

}

}

```

OUTPUT:



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PS E:\NEHA _ENGG\BE\Distributed systems\DS5> javac tokenring.java
PS E:\NEHA _ENGG\BE\Distributed systems\DS5> java tokenring
>>
Enter the num of nodes:
4
0 1 2 3 0
Enter sender:
0
Enter receiver:
2
Enter Data:
42
Token passing: 0
Sender 0 sending data: 42
data 42 forwarded by 1
Receiver 2 received data: 42

Do you want to send again?? enter 1 for Yes and 0 for No : 1
Enter sender:
1
Enter receiver:
3
Enter Data:
52

```



```

0
Enter receiver:
2
Enter Data:
42
Token passing: 0
Sender 0 sending data: 42
data 42 forwarded by 1
Receiver 2 received data: 42

Do you want to send again?? enter 1 for Yes and 0 for No : 1
Enter sender:
1
Enter receiver:
3
Enter Data:
52
Token passing: 0-> 1
Sender 1 sending data: 52
data 52 forwarded by 2
Receiver 3 received data: 52

Do you want to send again?? enter 1 for Yes and 0 for No : 0
PS E:\NEHA _ENGG\BE\Distributed systems\DS5> 

```