import java.util.\*;

public class TokenRing{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter Number Of Nodes You Want In The Ring : ");

int n = sc.nextInt();

System.out.println("Ring Formed Is 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 To Send : ");

int data = sc.nextInt();

int token = 0;

System.out.print("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.print("Do You Want To Send Data Again? If YES Enter 1, If NO Enter 0: ");

choice = sc.nextInt();

}while(choice == 1);

}

}