

```
import java.util.Scanner;
import java.io.*;
public class crc1
{
    public static void main(String args[])
    {
        Scanner sc = new Scanner(System.in);
        //Input Data Stream
        System.out.print("Enter message bits: ");
        String message = sc.nextLine();
        System.out.print("Enter generator: ");
        String generator = sc.nextLine();
        int data[] = new int[message.length() + generator.length() - 1];
        int divisor[] = new int[generator.length()];
        for(int i=0;i<message.length();i++)
            data[i] = Integer.parseInt(message.charAt(i)+"");
        for(int i=0;i<generator.length();i++)
            divisor[i] = Integer.parseInt(generator.charAt(i)+"");
        //Calculation of CRC
        for(int i=0;i<message.length();i++)
        {
            if(data[i]==1) for(int j=0;j<divisor.length;j++)
                data[i+j] ^= divisor[j];
        }
        //Display CRC
        System.out.print("The checksum code is: ");
        for(int i=0;i<message.length();i++)
            data[i] = Integer.parseInt(message.charAt(i)+"");
        for(int i=0;i<data.length;i++)
            System.out.print(data[i]);
        System.out.println();
```

```
//Check for input CRC code
System.out.print("Enter checksum code: ");
message = sc.nextLine();
System.out.print("Enter generator: ");
generator = sc.nextLine();
data = new int[message.length() + generator.length() - 1];
divisor = new int[generator.length()];
for(int i=0;i<message.length();i++)
    data[i] = Integer.parseInt(message.charAt(i)+"");
for(int i=0;i<generator.length();i++)
    divisor[i] = Integer.parseInt(generator.charAt(i)+"");
//Calculation of remainder
for(int i=0;i<message.length();i++)
{
    if(data[i]==1) for(int j=0;j<divisor.length;j++)
        data[i+j] ^= divisor[j];
}
//Display validity of data
boolean valid = true;
for(int i=0;i<data.length;i++)
if(data[i]==1)
{
    valid = false;
    break;
}
if(valid==true)
    System.out.println("Data stream is valid");
else
    System.out.println("Data stream is invalid. CRC error occurred.");
}
```