

```

import java.util.Scanner;
public class CRC {
    public static int n;
    public static void main(String[] args)
    {
        Scanner sc=new Scanner(System.in); CRC crc=new
        CRC();
        String copy,rec,code,zero="0000000000000000";
        System.out.println("enter the dataword to be sent");
        code=sc.nextLine();
        n=code.length();
        copy=code; code+=zero; code=crc.divide(code);
        System.out.println("dataword="+copy);
        copy=copy.substring(0,n)+code.substring(n);
        System.out.print("CRC=");

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        System.out.println(code.substring(n));
        System.out.println("transmitted frame is="+copy);
        System.out.println("enter received data:");
        rec=sc.nextLine();
        if(zero.equals(crc.divide(rec).substring(n)))
        System.out.println("correct bits received"); else
        System.out.println("received frame contains one or more
        error");
        sc.close();
    }
    public String divide(String s)
    {
        String div="10001000000100001";
        int i,j;
        char x;

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for(i=0;i<n;i++)
{
x=s.charAt(i);
for(j=0;j<17;j++)
{
if(x=='1')
{
if(s.charAt(i+j)!=div.charAt(j))
s=s.substring(0,i+j)+"1"+s.substring(i+j+1);
else
s=s.substring(0,i+j)+"0"+s.substring(i+j+1);
} } }
return s;
}
}

```

Output 1 –

enter the dataword to be sent 1100
dataword =1100 CRC=1100000110001100
transmitted frame is=11001100000110001100 enter
received data:
1100110000010001100
received frame contains one or more error

Output 2 –

enter the dataword to be sent 1100
dataword =1100 CRC=1100000110001100
transmitted frame is=11001100000110001100 enter
received data:
11001100000110001100
correct bits received