**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=");

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;

**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