

```
import java.util.*;
```

```
public class CRC
```

```
{
```

```
    public static int n;
```

```
    public static void main (String[] args)
```

```
{
```

```
        Scanner in = new Scanner (System.in);
```

```
        CRC ob = new CRC();
```

```
        String code, copy,
```

```
        rec, zero = "0000000000000000";
```

```
        System.out.println ("Enter message");
```

```
        code = in.nextLine();
```

```
        n = code.length();
```

```
        copy = code;
```

```
        code += zero;
```

```
        code = ob.divide (code);
```

```
        System.out.println ("Message = " + copy);
```

```
        copy = copy.substring (0, n) + code.substring  
                                (n);
```

```
        System.out.println ("CRC = ");
```



```
System.out.println(Code.substring(n));
```

```
System.out.println("transmitted  
frame is "+ copy);
```

```
System.out.println("Enter received  
data");
```

```
rec=in.nextLine();
```

```
if (zero.equals(ob.divide(rec).substring(n)))
```

```
System.out.println("Correct bits received");
```

```
else
```

```
System.out.println("Received frame contains
```

```
one or more errors");
```

```
in.close();
```

```
}
```

```
public String divide(String s)
```

```
{
```

```
int i, j;
```

```
char x;
```

```
String
```

```
div = "10001000000100001";
```

```
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;
```

```
}
```

```
}
```