

Write a program for error detecting code
using CRC-CCITT (16 bits)

Java

```
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 polynomial")  
        code = in.nextLine();  
        n = code.length();  
        copy = code;  
        code = code + zero;  
        code = ob.Divide (code);  
        S.o.Pl ("Polynomial" = " + 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);  
    }  
}
```

PAGE NO. _____
DATE: / / 201

```
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 =  
        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;
```

```
    }  
}
```