

Prog-8 : Prog for error detecting code using CRC-  
CCITT (16 bits)

```
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 msg");
        code = in.nextLine();
        n = code.length();
        copy = code;
        code += zero;
        code = ob.divide (code);
        System.out.println ("msg = " + 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 recieved");
        else
            System.out.println ("Recieved 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;
}

```

