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Program 2 : 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 += zero;
        code = ob.divide (code);
        system.out.println ("entered
                        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);
        System.out.println ("Enter recieved data");
        rec = in.nextline ();
    if (zero.equals(ob.devide (rec).substring (n)))
        system.out.println ("correct bit recieved");
    else
        system.out.println (" corrupted "); in.close (); }
```

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```java
public String devide (String s) {
    int i, j;    char x;
    String  div = "1000100000001000001";
    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;
}
```

}.

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