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Write a program for errors 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 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(0));
    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<x; i++)
    {
      x = s.charAt(i);
      for (j=0; j<17; j++)
      {
        if (x == '1')
        {   if (s.charAt(i+j) 1 = 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
  }
}
```