CYCLE - 2   CN LAB Program - 1

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

```
#include<stdio.h>
char m[50]
          , g[50],   r[50]   , q[50], temp[50]

void   calc_trans( int n) {

      int  i , k=0 ;
    for ( i = n-16 ; i<n ; i++) {
          m[i] = ((int)m[i] -48) ^ ((int)r[k++] -48) +48;
          m[i]  =  '\0';
        }
   }


void   cal_rem() {
      int i,j;
      for ( i=1; i<=16 ; i++ ) {
          r[i-1] =((int)temp[i] -48 ) ^ ((int)g[i] -48) +48;
      }


Void shift() {
          int i;
          for (i=1; i<=16 ;i++)
              r[i-1] = r[i];

      }


Void  crc (int n) {
      int  i, j;
     for (i=0 ; i<n ; i++) {
          temp [i] = m[i];
    for (i=0; i<16; i++)
          r[i] = m[i];
printf("\n intermidiate rem \n");

for (i=0; i<n-16; i++){
    if (r[0] == '1'){
        q[i] = '1';
        cal_rem();
    }
    else {
        q[i]='0';
        shift1();
    }
    r[16] = n[17+i];
    r[17] = '\0';
    printf("\n remainder %d: %s", i+1, r);

    for (j=0; j<=17; j++)
        temp[j] = r[j];
}
q[n-16] = '\0';
}
```