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LAB-8

CRC

```c
# include < stdio.h>
# define    gen    0x11021
long int  msb ( long int temp);
long int  checksum ( long int frame);

int main()
{
    long int opframe, inframe, flag, r_frame;
    printf (" Enter the frame
    scanf ("%.lx", & inframe);
    inframe = inframe << 16;
    opframe = inframe ^ ( checksum ( inframe));
    printf (" The frame to be transmitted is %.lx\n",
        opframe);
    printf (" Enter the received frame:    ");
    scanf ("%.lx" , & r_frame);
    printf (" For the received frame ");
    flag = checksum ( r_frame);
    if ( flag > 0)
            printf (" \n error !!! \n ");
    els
        printf (" \n data received is error free");
}

long int  checksum ( long int frame)
{
    long int posit_frame, posit_gen, g = gen,
        g1, temp;
```

```c
posit_frame = msb( frame);
posit_gen =  msb( gen);

while ( posit_gen <= posit_frame)
{
        g1 = g << (positframe - posit gen);
        frame = g1 ^ frame;
        positframe = msb( frame);
}
printf(" The checksum is %Lx \n", frame);
return (frame);
}

long int  msb( long int  temp)
{
        int i=0;
        if ( temp ==0)
                return 0;
        while ( temp >0)
        {
                temp = temp << 1;
                i++;
        }
}
```