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**EXP\_10**

**ADC**

#include<stdio.h>

#include <p18f4550.h>

#define RS LATCbits.LATC0

#define E LATCbits.LATC1

#define LCDPORT LATB

void delay()

{

unsigned int i;

for(i=0;i<30000;i++)

{

}

}

void sendCommand(unsigned char command)

{

LCDPORT=command;

delay();

RS=0;

delay();

E=1;

delay();

E=0;

delay();

}

void sendData(unsigned char data)

{

LCDPORT=data;

delay();

RS=1;

delay();

E=1;

delay();

E=0;

delay();

}

void InitLCD(void)

{

sendCommand(0x38);

sendCommand(0x01);

sendCommand(0x0F);

sendCommand(0x06);

}

void ADCInit()

{

TRISEbits.RE2 = 1;

ADCON0 = 0b00011101;

ADCON1 = 0b00000111;

ADCON2 = 0b10101110;

}

unsigned short Read\_ADC()

{

GODONE = 1;

while(GODONE == 1 );

return ADRES;

}

void DisplayResult(unsigned short ADCVal)

{

unsigned char i,text[16];

unsigned short tempv;

tempv = ADCVal;

ADCVal = (5500/1024)\*tempv;

sprintf(text,"%04dmv",ADCVal);

sendCommand(0x80);

for(i=0;i<6;i++)

{

sendData(text[i]);

}

sendCommand(0xC0);

for(i=0;i<10;i++)

{

if(tempv & 0x200)

{

sendData('1');

}

else

{

sendData('0');

}

tempv=tempv<<1;

}

}

void main()

{

unsigned short Ch\_result;

TRISB = 0x00;

TRISCbits.RC0 = 0;

TRISCbits.RC1 = 0;

ADCInit();

InitLCD();

while(1)

{

Ch\_result = Read\_ADC();

DisplayResult(Ch\_result);

delay();

delay();

}

}