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#include<p18f4550.h>
#include"vector_relocate.h"

#define LCD_DATA    PORTD                //LCD data port                //LCD signal
port
#define en          PORTEbits.RE2        // enable signal
#define rw          PORTEbits.RE1        // read/write signal
#define rs          PORTEbits.RE0        // register select signal

void LCD_cmd(unsigned char cmd);
void myMsDelay (unsigned int time)
{
    unsigned int i, j;
    for (i = 0; i < time; i++)
        for (j = 0; j < 665; j++);
}

void init_LCD(void)
{
    LCD_cmd(0x38);        // initialization of 16X2 LCD in 8bit mode
    myMsDelay(15);

    LCD_cmd(0x01);        // clear LCD
    myMsDelay(15);

    LCD_cmd(0x0E);        // cursor off
    myMsDelay(15);

    LCD_cmd(0x80);        // ---8 go to first line and --0 is for 0th position
    myMsDelay(15);

    // ---8 go to first line and --0 is for 0th position
}

//Function to pass command to the LCD
void LCD_cmd(unsigned char cmd)
{
    LCD_DATA = cmd;
    rs = 0;
    rw = 0;
    en = 1;
    myMsDelay(15);
    en = 0;
    myMsDelay(15);
}

//Function to write data to the LCD
void LCD_write(unsigned char data)

```

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{
    LCD_DATA = data;
    rs = 1;
    rw = 0;
    en = 1;
    myMsDelay(15);
    en = 0;
    myMsDelay(15);
}

void main(void)
{
    unsigned int val[4],ADC_Result=0,var;
    unsigned char i,str[]="Result:";

    TRISD = 0x00;          //Configuring PORTD as output

    TRISE=0;
    TRISA=0xFF;
    init_LCD();
    // ADC Initialization
    ADCON1=0x0A;    // Reference as VDD & VSS, AN0 set as analog pins
    ADCON2=0b10010110; // Result is right Justified
                                //Acquisition Time 4TAD
                                //ADC Clk FOSC/64

    ADCON0=0X09; //Turn ON ADC module

    LCD_cmd(0x80);
    for(i=0;str[i]!='\0';i++)
    {
        LCD_write(str[i]);
        myMsDelay(200);
    }
    while(1)
    {
        ADCON0bits.GO=1;
        while(ADCON0bits.GO==1);
        var=((unsigned int)ADRESH) << 8;
        ADC_Result=var+ADRESL;

        for(i=0;i<4;i++)
        {
            val[i]=ADC_Result%0x0A;
            val[i]=val[i]+0x30;
            ADC_Result=ADC_Result/0x0A;
        }
    }
}

```

```
LCD_cmd(0x87);  
LCD_write(val[3]);  
LCD_write(val[2]);  
LCD_write(val[1]);  
LCD_write(val[0]);
```

```
//myMsDelay(500);  
}  
}
```