```
#include <xc.h>



#pragma config WDT = OFF
#pragma config LVP = OFF
#pragma config PBADEN = OFF

#define LCD_DATA PORTD
#define en PORTEbits.RE2
#define rw PORTEbits.RE1
#define rs PORTEbits.RE0

void ADC_Init(void);
unsigned int Get_ADC_Result(void);
void Start_Conversion(void);
void msdelay (unsigned int time);
void init_LCD(void);
void LCD_command(unsigned char cmd);
void LCD_data(unsigned char data);
void LCD_write_string( char *str);

void main()
{
char msg1[] = "LM35 Interface";
char msg2[] = "Temp.:";
char msg3[] = {0xDF, 0x43, 0x00};
unsigned char temp=0;
unsigned char i=0, Thousands,Hundreds,Tens,Ones;
unsigned int adc_val;
unsigned char val, pot0[6];
ADCON1 = 0x0F;
```

```
TRISD = 0x00;
TRISE = 0x00;
ADC_Init();
init_LCD();
LCD_write_string(msg1);
LCD_command(0xC0);
LCD_write_string(msg2);
while(1)
{
 Start_Conversion();
 adc_val= Get_ADC_Result();
 adc_val = adc_val/2;
 LCD_command (0xC7);

 val = (unsigned char) adc_val;
 i = (val/100);
 Hundreds = i + 0x30;
 LCD_data (Hundreds);

 i = (val%100)/10;
 Tens = i + 0x30; // Convert it to ASCII
 LCD_data (Tens); //Display Tens place

 i = adc_val%10 ;
 Ones = i + 30;
 LCD_data (i + 0x30);
 LCD_write_string(msg3);
 msdelay(300);
}
}
```

```
void ADC_Init()
{
ADCON0=0b00000100;
ADCON1=0b00001110;
ADCON2=0b10001110;


ADCON0bits.ADON=1;
}
void Start_Conversion()
{
ADCON0bits.GO=1;
}

unsigned int Get_ADC_Result()
{
unsigned int ADC_Result=0;
while(ADCON0bits.GO);
ADC_Result=ADRESL;
ADC_Result|=((unsigned int)ADRESH) << 8;
return ADC_Result;
}
void msdelay (unsigned int time)
{
unsigned int i, j;
 for (i = 0; i < time; i++)
for (j = 0; j < 275; j++);
}
void init_LCD(void)
{
 LCD_command(0x38);
```

```
 msdelay(15);
 LCD_command(0x01);
 msdelay(15);
 LCD_command(0x0C);
 msdelay(15);
 LCD_command(0x80);
 msdelay(15);
}
void LCD_command(unsigned char cmd)
{
 LCD_DATA = cmd;
 rs = 0;
 rw = 0;
 en = 1;
 msdelay(15);
 en = 0;
}
void LCD_data(unsigned char data)
{
 LCD_DATA = data;
 rs = 1;
 rw = 0;
 en = 1;
 msdelay(15);
 en = 0;
}

void LCD_write_string(char *str)
{
 int i = 0;
 while (str[i] != 0)
```

```
 {
 LCD_data(str[i]);
 msdelay(15);
 i++;
 }
}
```