

```

1822_i2c_test_main
/*****
MSSP i2c LCD TEST of PIC12F1822
    By nobcha all right reserved

Ver 1.1 07/08/2012 for i2c LCD TEST

PIC12F1822
PIN Assign  #7 RA0:monitor LED
            #6 RA1:SCL
            #5 RA2:SDA

OSC INT 8MHz
Development Circumstance
MPLAB IDE V8.73 HiTECH C V9.83
*****/
#define _LEGACY_HEADERS
#define _XTAL_FREQ 8000000

#include <htc.h>

#include "lcd_i2c_mssp.h"

__CONFIG(
    FOSC_INTOSC & WDTE_OFF & PWRTE_ON & MCLRE_ON & CP_OFF
    & CPD_OFF & BOREN_OFF & CLKOUTEN_OFF & IESO_OFF & FCMEN_OFF
);

__CONFIG(
    WRT_OFF & PLLEN_OFF & STVREN_ON & LVP_OFF
);

void itostrng(char digit, unsigned int data, char *buffer);
void mssp_init(void);
unsigned char Msg1[17] = "i2c LCD test ";
unsigned char Msg2[17] = "Counter = xxxxx ";

void main(void)
{
    unsigned int Count;
    unsigned char i;

    /* INITIALIZE REGISTER */
    OSCCON = 0b01110000; // Set 8MHz
    PORTA = 0b00000000; // Clear
    TRISA = 0b00000110; // RA1,RA2 INPUT
    ANSELA = 0b00000000; // All digital
    CM1CON0 = 0b00000111; // No using compalator

    mssp_init(); // MSSP initialize
    Count = 0;
    RA0 = 1;
    lcd_init2(); // LCD initialize continue
                // 07/08/12

    while(1)
    {
        __delay_ms(100);

        LATA0 ^= 1; // Heart beat
        lcd_cmd(0x80); // Move cursor 1st line
        lcd_str(Msg1); // Display test message
        itostrng(5, Count++, Msg2+10);
        lcd_cmd(0xC0); // Move cursor to 2nd line
        lcd_str(Msg2); // Display count message
        for(i=5;i>0;i--){ // 500ms waiting
            __delay_ms(100);
        }
    }
}
/*****
* Converting binary to ASCII
*****/
void itostrng(char digit, unsigned int data, char *buffer)
{

```

```

                                                    1822_i2c_test_main
char i;
buffer += digit;                                // last data
for(i=digit; i>0; i--) {                        //
    buffer--;                                    //
    *buffer = (data % 10) + '0';                // ASCII code
    data = data / 10;                            // next digit
}
}

/*****
* MSSP initialize
*****/
void mssp_init(void) {
    /* SSP1CON1 REGISTERS */
    SSPEN    = 1;    //Enables Serial Port Mode
    SSPM3    = 1;    //
    SSPM2    = 0;    //I2C Master Mode
    SSPM1    = 0;    // clock= Fosc/(4*(SSP1ADD+1))
    SSPM0    = 0;    //

    /* SSPCON2 REGISTERS */
    SSP1CON2 = 0x00;
    /* SSPCON3 REGISTERS */
    SSP1CON3 = 0x00;

    /* SSP1STAT REGISTERS */
    SMP      = 1;    //SPI MASTER MODE
    CKE      = 1;    //SMBus Specific Inputs Enabled

    //SSP1ADD = 0x19;    //~75kHz
    //SSP1ADD = 0x13;    //~100kHz
    //SSP1ADD = 0x07;    //~400kHz
    SSP1ADD  = 0x50;
}

```