/\*

LCD16x2 8 bit 8051 interface

\*/

#include<reg51.h>

sfr lcd\_data\_port=0x90; /\* P1 port as data port \*/

sbit rs=P2^0; /\* Register select pin \*/

sbit rw=P2^1; /\* Read/Write pin \*/

sbit en=P2^2; /\* Enable pin \*/

void delay(unsigned int count) /\* Function to provide delay Approx 1ms \*/

{

int i,j;

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

for(j=0;j<112;j++);

}

void LCD\_Command (unsigned char cmd) /\* LCD16x2 command funtion \*/

{

lcd\_data\_port= cmd;

rs=0; /\* command reg. \*/

rw=0; /\* Write operation \*/

en=1;

delay(1);

en=0;

delay(5);

}

void LCD\_Char (unsigned char char\_data) /\* LCD data write function \*/

{

lcd\_data\_port=char\_data;

rs=1; /\* Data reg.\*/

rw=0; /\* Write operation\*/

en=1;

delay(1);

en=0;

delay(5);

}

void LCD\_String (unsigned char \*str) /\* Send string to LCD function \*/

{

int i;

for(i=0;str[i]!=0;i++) /\* Send each char of string till the NULL \*/

{

LCD\_Char (str[i]); /\* Call LCD data write \*/

}

}

void LCD\_String\_xy (char row, char pos, char \*str) /\* Send string to LCD function \*/

{

if (row == 0)

LCD\_Command((pos & 0x0F)|0x80);

else if (row == 1)

LCD\_Command((pos & 0x0F)|0xC0);

LCD\_String(str); /\* Call LCD string function \*/

}

void LCD\_Init (void) /\* LCD Initialize function \*/

{

delay(20); /\* LCD Power ON Initialization time >15ms \*/

LCD\_Command (0x38); /\* Initialization of 16X2 LCD in 8bit mode \*/

LCD\_Command (0x0C); /\* Display ON Cursor OFF \*/

LCD\_Command (0x06); /\* Auto Increment cursor \*/

LCD\_Command (0x01); /\* clear display \*/

LCD\_Command (0x80); /\* cursor at home position \*/

}

void main()

{

LCD\_Init(); /\* initialization of LCD\*/

LCD\_String("ElectronicWINGS"); /\* write string on 1st line of LCD\*/

LCD\_Command(0xC0);

LCD\_String("Hello World"); /\*write string on 2nd line\*/

while(1); /\* Infinite loop. \*/

}