ELEC 3300

LAB 3: COLOR LCD INTERFACING

A. OBJECTIVE:
1. To familiarize yourself with the MINI-V3 Development Board.
2. To understand the control of the Graphic LCD.

B. PRE-LAB ASSIGNMENT:
1. Study the information about MINI-V3 Development Board from the course website.
2. Study the information about Fire Debugger from the course website.
3. Study the tutorial information related to LAB3.
4. Study the Graphic LCD Datasheet from the course website.

C. LAB SETUP DETAILS
1. Download the LAB3.zip from the course website and unzip it.
2. Open Keil. Go Project → Open Project... Navigate to the project file for this lab, the project file should be under …/LAB3/Project/RVMDK/LAB3.uvprojx.
3. Connect the Fire Debugger according to the information about Fire debugger. Make sure that the Green LED of the Fire Debugger is ON.

D. EXPERIMENT
In this LAB, there are 4 tasks.

Task 1 – Use either LCD_DrawChar or LCD_DrawString procedures in main.c to write your name on the LCD.

Task 2 – Implement the LCD_DrawDot to turn on a particular dot on the LCD.

Task 3 – Implement LCD_DrawCircle by using LCD_DrawDot

Task 4 – Program display white background color at the beginning.
After K2 pressed, it will display Olympic Sign

E. PROCEDURE
Task 1 – Use either LCD_DrawChar or LCD_DrawString procedures in main.c to write your name on the LCD.

You can draw at anywhere of the LCD

Show, your result to TA

Task 2 – Implement the LCD_DrawDot to turn on a particular dot on the LCD.

Open the lcd.c, locate the line;

```
//Task 2
void LCD_DrawDot(uint16_t usCOLUMN, uint16_t usPAGE, uint16_t usColor)
```
Please implement the LCD_DrawDot using the information described in Tutorial 3. You can implement your own function or with reference to the 2 functions.

```
void LCD_OpenWindow
void LCD_FillColor
```

Show, your result to TA

Task 3 – Implement LCD_DrawCircle by using LCD_DrawDot
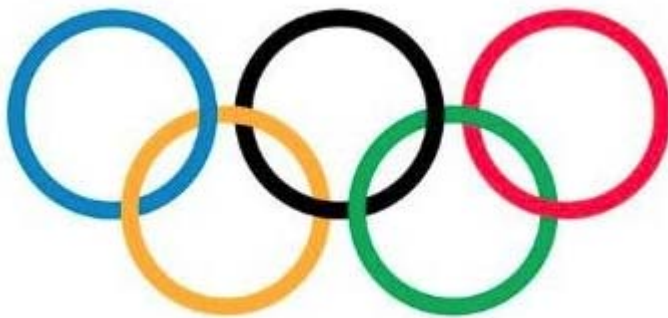
Open the lcd.c, locate the line;

```
 //Task 3
void LCD_DrawCircle(uint16_t usC, uint16_t usP, uint16_t R, uint16_t usColor)
```

Verify your LCD_DrawCircle function by writing the line below at main.c

```
LCD_DrawCircle(50, 50, 100, BLACK);
```

Show, your result to TA

Task 4 – Program display white background color at the beginning.
After K2 pressed, it will display Olympic Sign

Show, your result to TA