**電通二乙微處理器實驗 實驗結報**

|  |  |  |  |
| --- | --- | --- | --- |
| **實驗名稱** | **CP02** | | |
| **組別** |  | **組員** | **柯鈺傑** |

1. **實驗目的**

**將超音波測距之值顯示於 LCD，並使用中斷改變LCD顯示狀態**

1. **實驗步驟**

**Arduino接lcd&超音波感測器**

1. **程式碼**

|  |
| --- |
| **#include <LiquidCrystal.h>**  **#include <Ultrasonic.h>**  **#define TRIGGER 4**  **#define ECHO 5**  **Ultrasonic ultrasonic(TRIGGER, ECHO);**  **LiquidCrystal lcd(12, 11, 10, 9, 8, 7);**  **void setup() {**  **lcd.begin(16,2);**  **pinMode(2, INPUT\_PULLUP);**  **attachInterrupt(2, int0,FALLING);**  **}**  **void loop(){**  **}**  **void int0() {**  **lcd.clear();**  **float cmMsec, inMsec;**  **long microsec = ultrasonic.timing();**  **cmMsec = ultrasonic.convert(microsec, Ultrasonic::CM);**  **inMsec = ultrasonic.convert(microsec, Ultrasonic::IN);**  **lcd.print("MS: "); lcd.print(microsec);**  **lcd.setCursor(0, 1);**  **lcd.print("CM: "); lcd.print(cmMsec);**  **}** |

1. **實驗結果及分析**

**在沒有delay的情況下使用中斷的瞬間，可以使LCD改變顯示的超音波讀值**

1. **心得討論**

**加入中斷之後可以方便控制螢幕的顯示**