MiniCom

❖ MiniCom

○ SimpleTimer, 16x2 LCD의 간편 사용을 위한 클래스

MiniCom

❖ MiniCom/MiniCom.h

```cpp
#pragma once

#include <Arduino.h>
#include <LiquidCrystal_I2C.h>
#include <SimpleTimer.h>

class MiniCom {
protected:
    long serial_bps;           // Serial 속도
    LiquidCrystal_I2C lcd;     // 1602 LCD
    SimpleTimer timer;         // 타이머
    bool no_lcd;               // LCD 사용 여부

public:
    MiniCom(long serial_bps=115200, int lcd_addr=0x27);
    void setNoLcd() { no_lcd = true;};
    void init();
    int setInterval(unsigned long interval, timer_callback f);
    void run();

    SimpleTimer& getTimer() { return timer; }
```

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❖ **minicom/MiniCom.h**

```
    // LCD 출력 지원 메서드(helper 함수)
    void print(int row, const char *pMsg);
    void print(int row, String title, int value);
    void print(int row, String title1, int value1, String title2, int value2);
    void print(int row, String title, double value);
    void print(int row, String title1, double value1,
            String title2, double value2);
};
```

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❖ **minicom/MiniCom.cpp**

```cpp
#include "MiniCom.h"

MiniCom::MiniCom(long serial_bps, int lcd_addr)
    :serial_bps(serial_bps), lcd(lcd_addr, 16, 2) {
    no_lcd = false;
}

void MiniCom::init() {
    Serial.begin(serial_bps);
    if(!no_lcd) {
        lcd.init();
        lcd.backlight();
    }
}

int MiniCom::setInterval(unsigned long interval, timer_callback f) {
    return timer.setInterval(interval, f);
}

void MiniCom::run() {
    timer.run();
}
```

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❖ **MiniCom.cpp**

```cpp
void MiniCom::print(int row, const char *pMsg) {
    if(no_lcd) return;
    char buf[17];
    sprintf(buf, "%-16s", pMsg);
    lcd.setCursor(0, row);
    lcd.print(buf);

}

void MiniCom::print(int row, String title, int value) {
    if(no_lcd) return;
    String buf = title + value;
    print(row, buf.c_str());
}

void MiniCom::print(int row, String title1, int value1,
                             String title2, int value2) {
    if(no_lcd) return;
    String buf = title1 + value1 + "," + title2 + value2;
    print(row, buf.c_str());
}
```

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❖ **MiniCom.cpp**

```cpp
void MiniCom::print(int row, String title, double value) {
    if(no_lcd) return;
    String buf = title + value;
    print(row, buf.c_str());
}

void MiniCom::print(int row, String title1, double value1,
                    String title2, double value2) {
    if(no_lcd) return;
    String buf = title1 + value1 + "," + title2 + value2;
    print(row, buf.c_str());
}
```

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❖ **minicom/app.ino**

```
#include "MiniCom.h"
#include <Led.h>

Led led(8);
MiniCom com;

void setup() {
    com.init();
    com.print(0, "[[MiniCom]]");
    com.setInterval(1000, check);   // 1초 간격으로
}

void loop() {
    com.run();
}

void check() {
    int on = led.toggle();
    if(on) {
        com.print(1, "led on");
    } else {
        com.print(1, "led off");
    }
}
```