

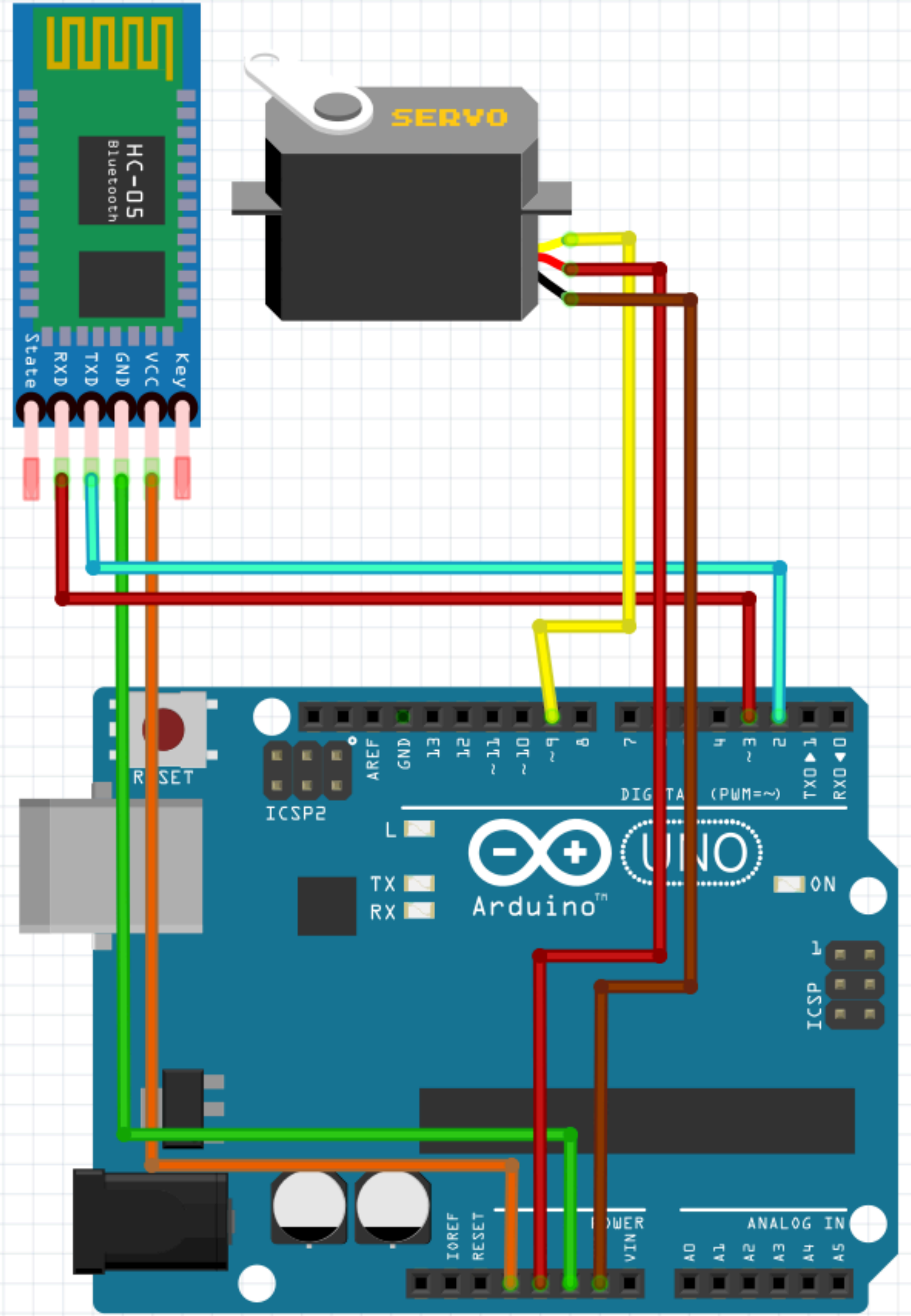
Arduino로 형광등 제어하기

With Servo Motor, Bluetooth Module

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1. 회로 연결



2. Servo Motor 제어



The screenshot shows the Arduino IDE interface. The title bar reads "01-control_servo | 아두이노 1.8.13". The toolbar includes icons for checking, running, saving, and uploading. The file explorer shows a tab for "01-control_servo". The main editor contains the following C++ code:

```
#include <Servo.h>

Servo myservo;          // 서보모터 선언

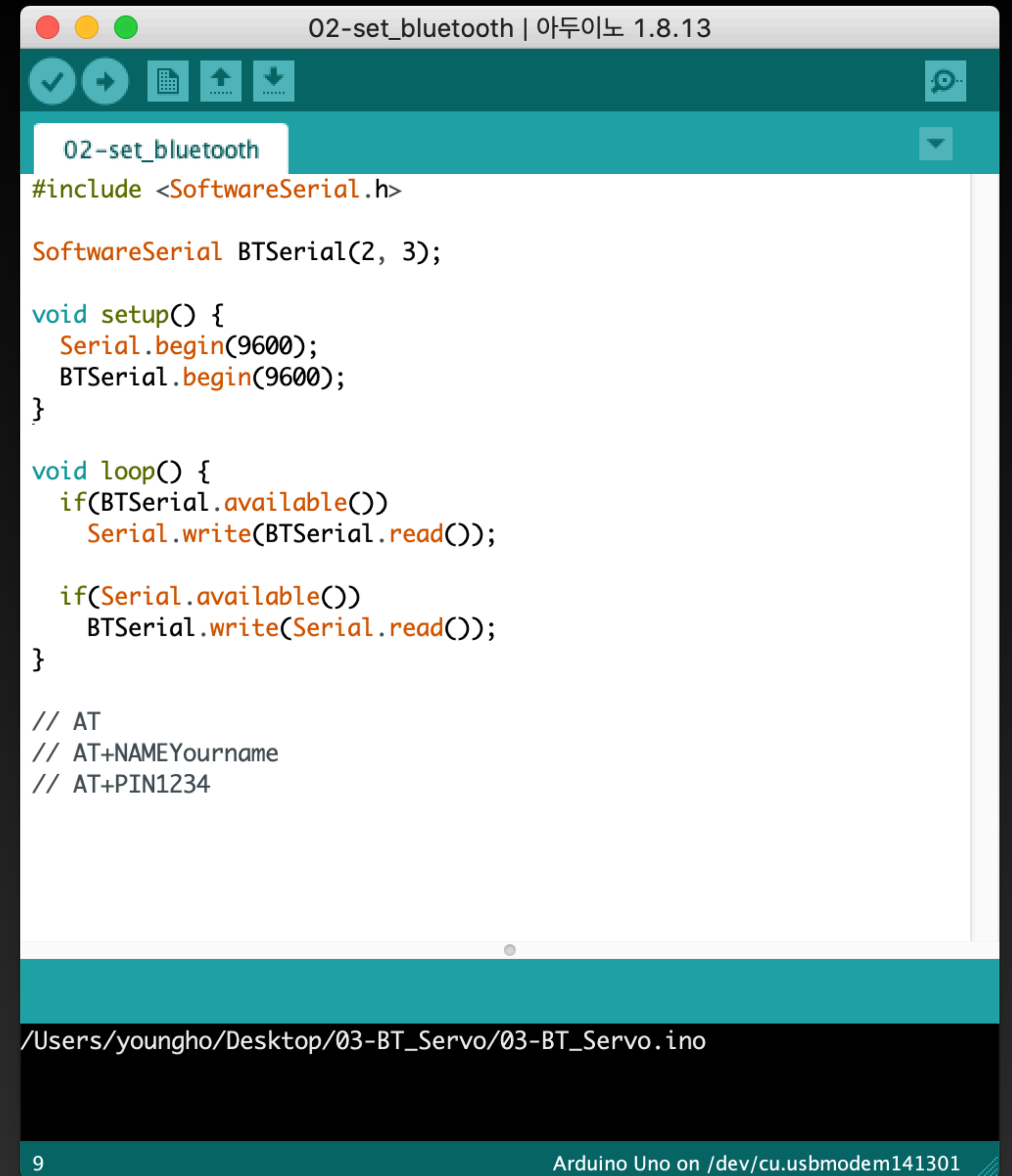
void setup() {
  myservo.attach(9);     // myservo.attach(서보모터 연결한 핀) : 서보모터 초기화
}

void loop() {            //loop
  myservo.write(180);     // myservo.write(원하는 각도) : 원하는 각도로 설정
  delay(1000);           // delay(밀리 초) : 밀리 초만큼 delay (1000ms = 1s)

  myservo.write(0);
  delay(1000);
}
```

The status bar at the bottom indicates the file path: "/Users/youngho/Desktop/02-set_bluetooth/02-set_bluetooth.ino". The bottom left shows the line number "1", and the bottom right shows the connection status: "Arduino Uno on /dev/cu.usbmodem141301".

3. Bluetooth Module 설정



The screenshot shows the Arduino IDE interface with a sketch named "02-set_bluetooth" open. The sketch is written in C++ and uses the SoftwareSerial library for Bluetooth communication. The code includes a setup function for initializing the serial ports and a loop function for reading and writing data between them. Comments at the bottom of the sketch indicate the AT commands for setting the module's name and PIN.

```
02-set_bluetooth | 아두이노 1.8.13

#include <SoftwareSerial.h>

SoftwareSerial BTSerial(2, 3);

void setup() {
  Serial.begin(9600);
  BTSerial.begin(9600);
}

void loop() {
  if(BTSerial.available())
    Serial.write(BTSerial.read());

  if(Serial.available())
    BTSerial.write(Serial.read());
}

// AT
// AT+NAMEYourname
// AT+PIN1234
```

/Users/youngho/Desktop/03-BT_Servo/03-BT_Servo.ino

9 Arduino Uno on /dev/cu.usbmodem141301

/dev/cu.usbmodem141301

AT

전송

☒ 자동 스크롤

☐ 타임스탬프 표시

/dev/cu.usbmodem141301

전송

OK

☒ 자동 스크롤

☐ 타임스탬프 표시

/dev/cu.usbmodem141301

AT+NAMEYoungho

전송

OK

☒ 자동 스크롤

☐ 타임스탬프 표시

/dev/cu.usbmodem141301

AT+PIN1218

전송

OKOKsetname

☒ 자동 스크롤

☐ 타임스탬프 표시

/dev/cu.usbmodem141301

전송

OKOKsetnameOKsetPIN

☒ 자동 스크롤

☐ 타임스탬프 표시

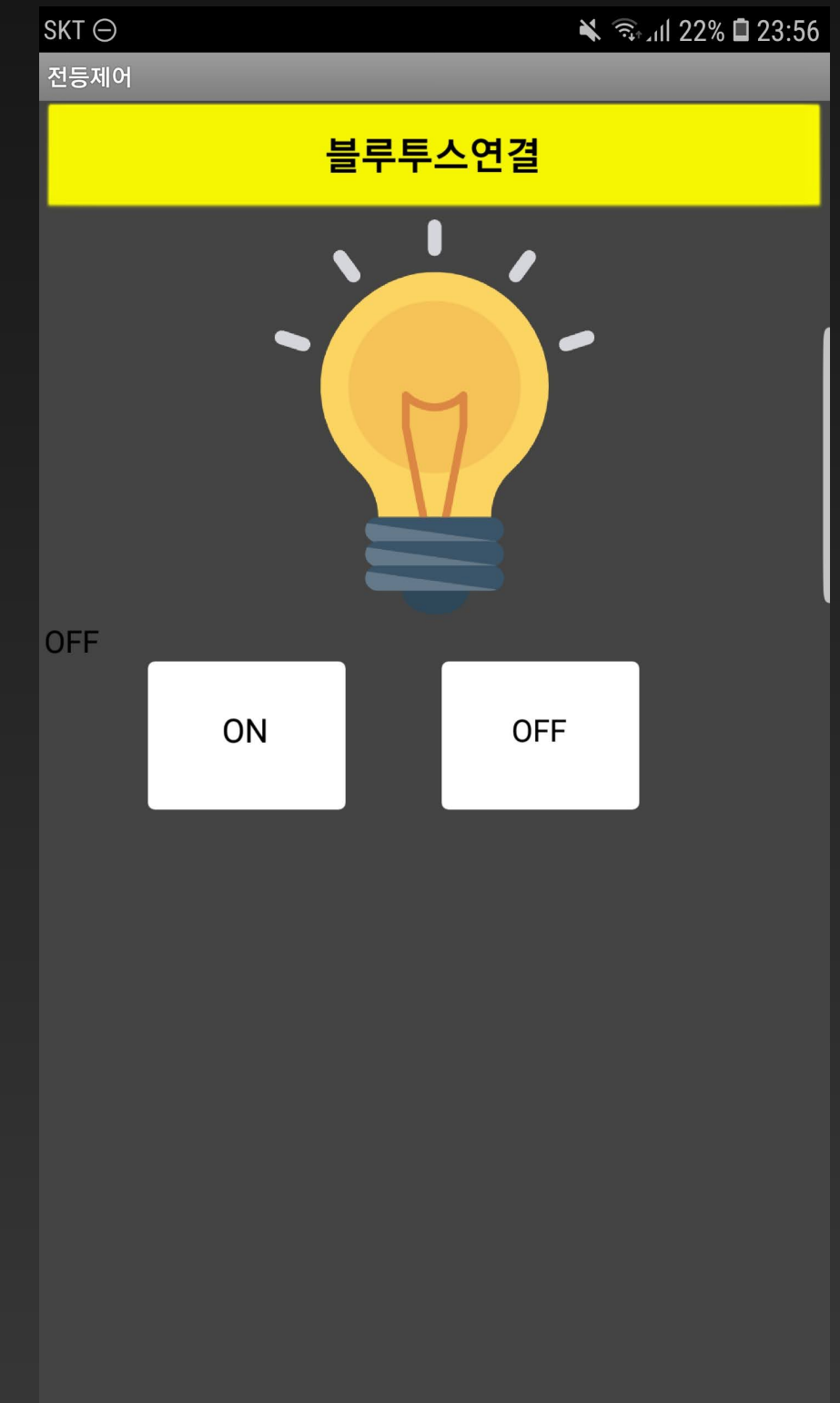
line ending 없음

9600 보드레이트

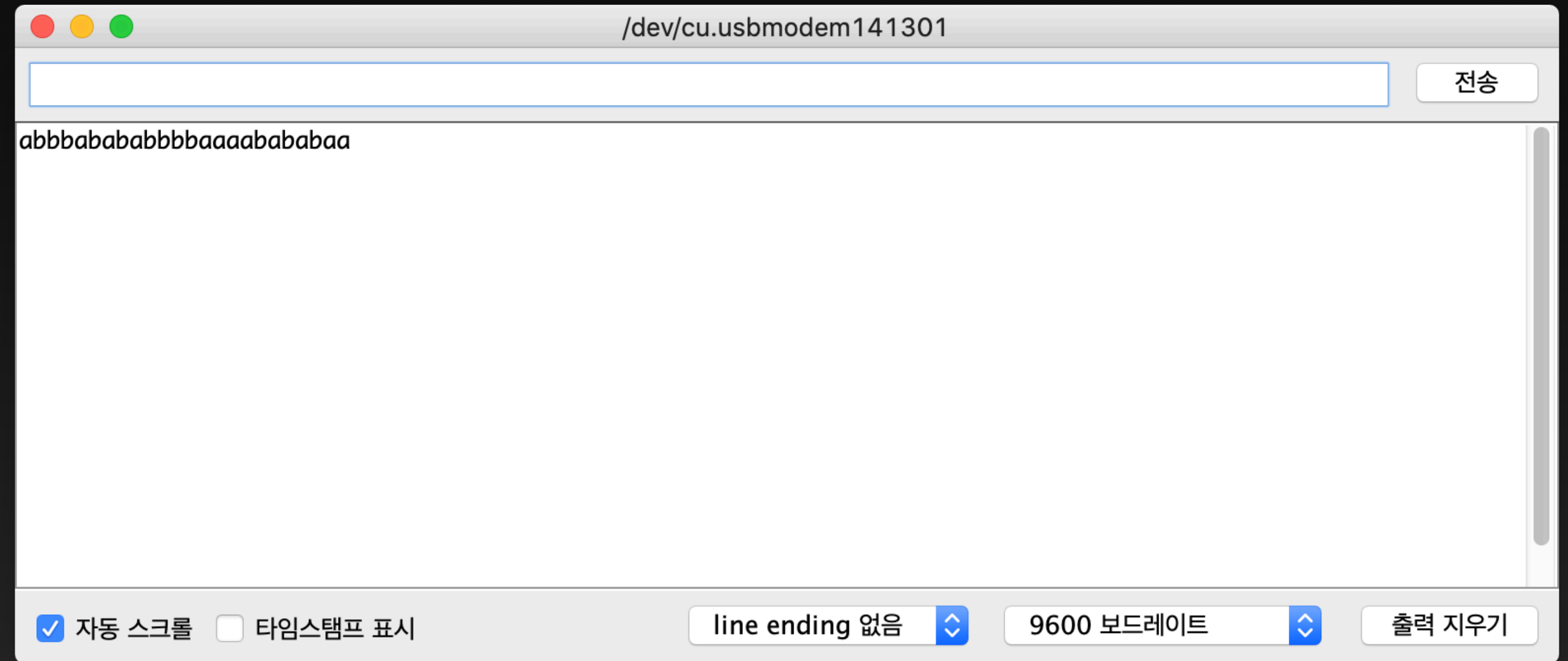
출력 지우기

3. App download

- <https://drive.google.com/file/d/1TyzP1zPN2A4Pefi5OtZvyJKcA0yYum3C/view?usp=sharing>



3. 연결 확인



4.2 + 3



```
03-BT_Servo | 아두이노 1.8.13
03-BT_Servo
#include <SoftwareSerial.h>
#include <Servo.h>

SoftwareSerial BTSerial(2, 3);
Servo myservo;

void setup() {
  Serial.begin(9600);
  BTSerial.begin(9600);
  myservo.attach(9);
}

void loop() {
  if(BTSerial.available()) {
    char data = BTSerial.read(); // 블루투스로 받은 값을 변수 data에 저장

    if(data == 'a') {           // data가 a면
      myservo.write(180);       // 서보모터 180도로 설정
    } else if(data == 'b') {
      myservo.write(0);
    }
  }
}
```

7 Arduino Uno on /dev/cu.usbmodem141301

EOF