



**WIZnet** Academy 2017

# 아두이노 가로등 만들기



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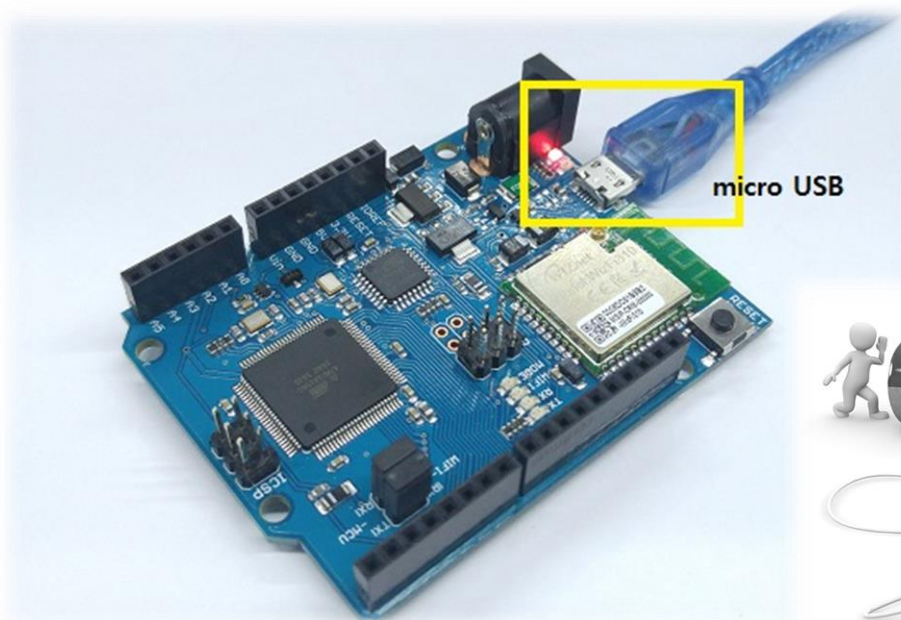
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Blog <http://blog.naver.com/opusk/>

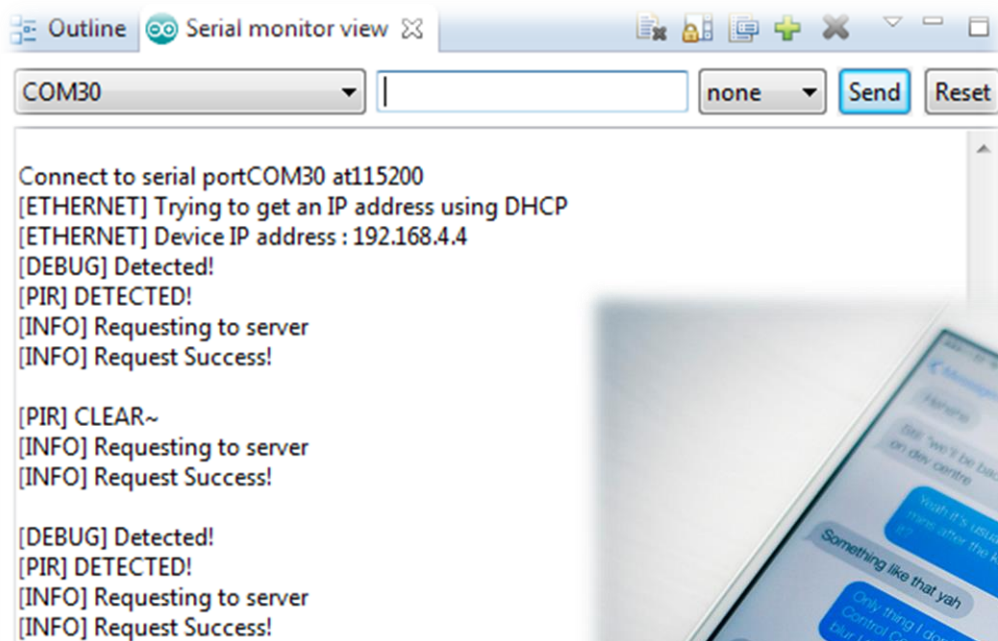
# 시리얼 통신

## >> 통신 방법 중 하나



# 시리얼 모니터

## >> 상대방의 말을 볼 수 있어요



출처 : [William Hook](#) (CC BY-SA)

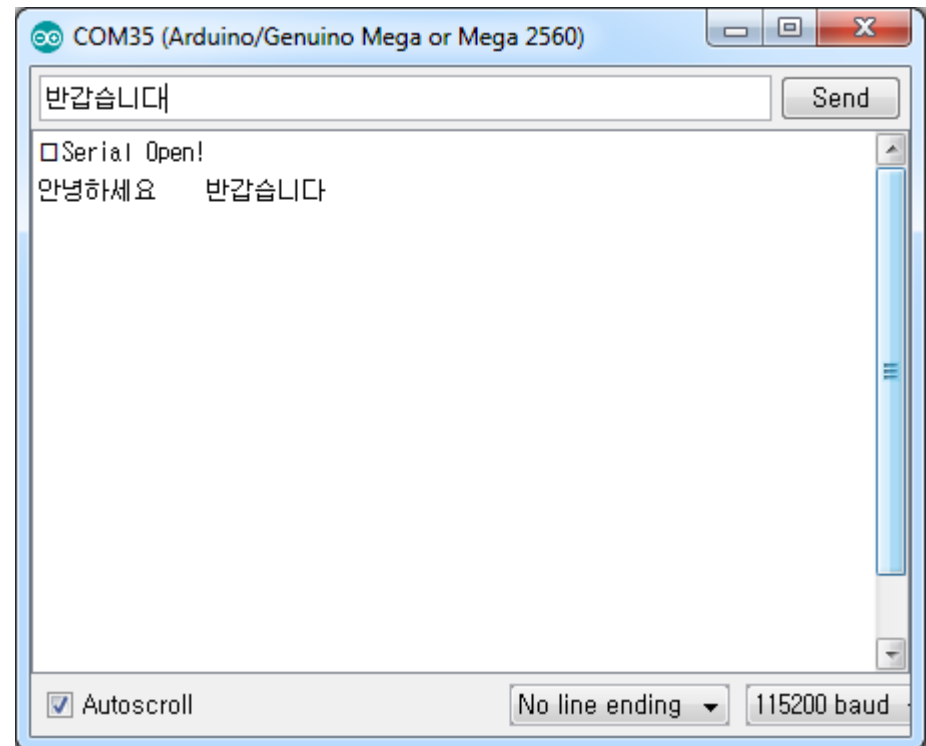
## 예제로 배워봅시다

### >> 내가 작성한 메시지 돌려받기

```
void setup()
{
    Serial.begin(115200);
    while (!Serial);

    Serial.println("Serial Open!");
}

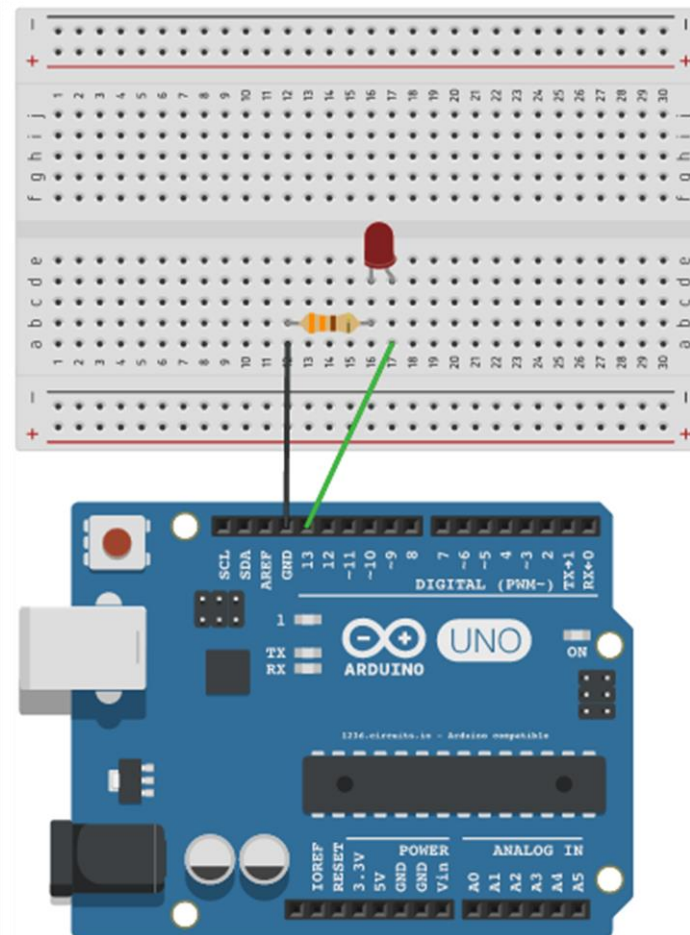
void loop()
{
    while (Serial.available())
    {
        char c = Serial.read();
        Serial.print(c);
    }
}
```



# 예제 응용하기

## >> Serial로 LED제어하기

- if (만약에...)
- 입력한 게 '1'이라면?  
LED 켜기
- else (그게 아니면...)
- 그게 아니라 '0'이라면?  
LED 끄기

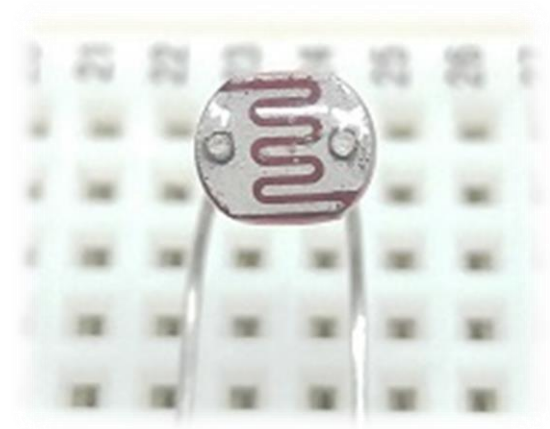


# 조도 센서

## >> 조도? 센서?

조도 : 밝은 정도

센서 : 감지(측정)하는 장비



밝기↑ 저항↓

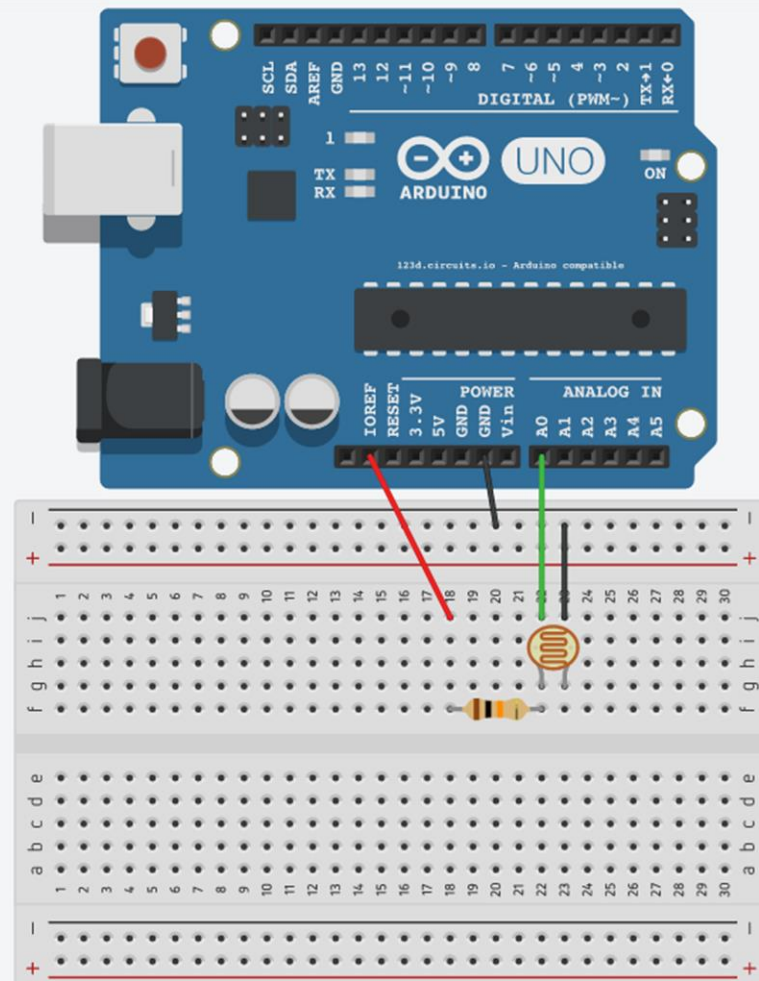
# 조도 센서

## >> 조도? 센서?

```
#define PIN_CDS 0

void setup() {
  Serial.begin(9600);
  pinMode(PIN_CDS, INPUT);
}

void loop() {
  Serial.print("CDS value = ");
  Serial.println(analogRead(PIN_CDS));
}
```



# 가로등 만들기

```
#define PIN_CDS 0
#define PIN_LED 13
#define CDS_LIMIT 500

void setup() {
    Serial.begin(9600);
    pinMode(PIN_CDS, INPUT);
    pinMode(PIN_LED, OUTPUT);
}

void loop() {
    int cds_value = analogRead(PIN_CDS);
    Serial.print("CDS value = ");
    Serial.println(cds_value);
    if(cds_value > CDS_LIMIT) {
        digitalWrite(PIN_LED, HIGH);
    } else {
        digitalWrite(PIN_LED, LOW);
    }
}
```

