



WIZnet Academy 2017

아두이노 가로등 만들기



WIZnet page

<http://wiznetacademy.com/>

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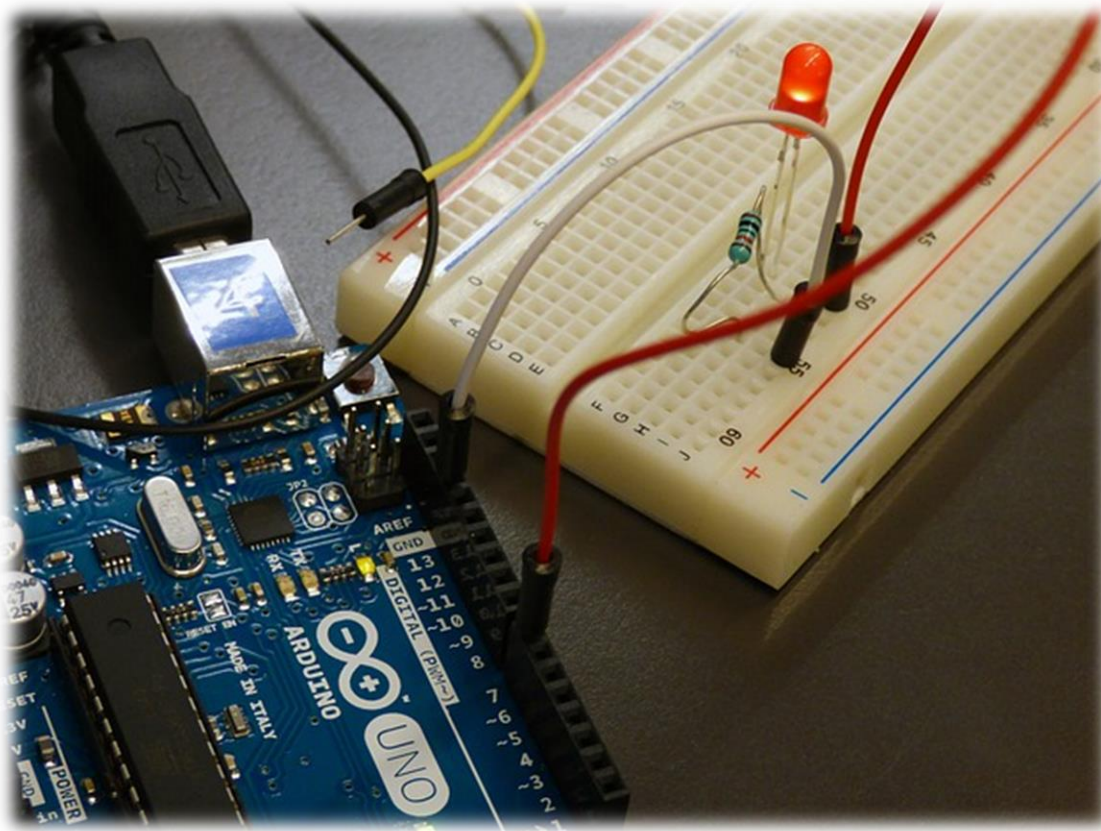


복습

LED 제어하기

LED 제어하기

» 나만의 방식으로 제어하기



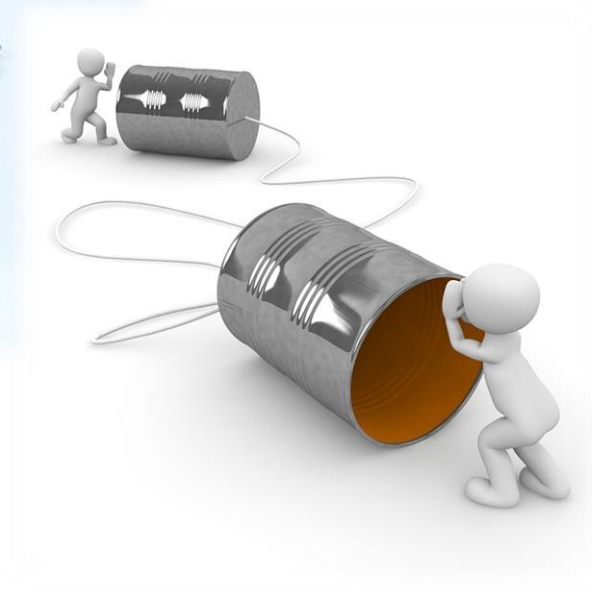
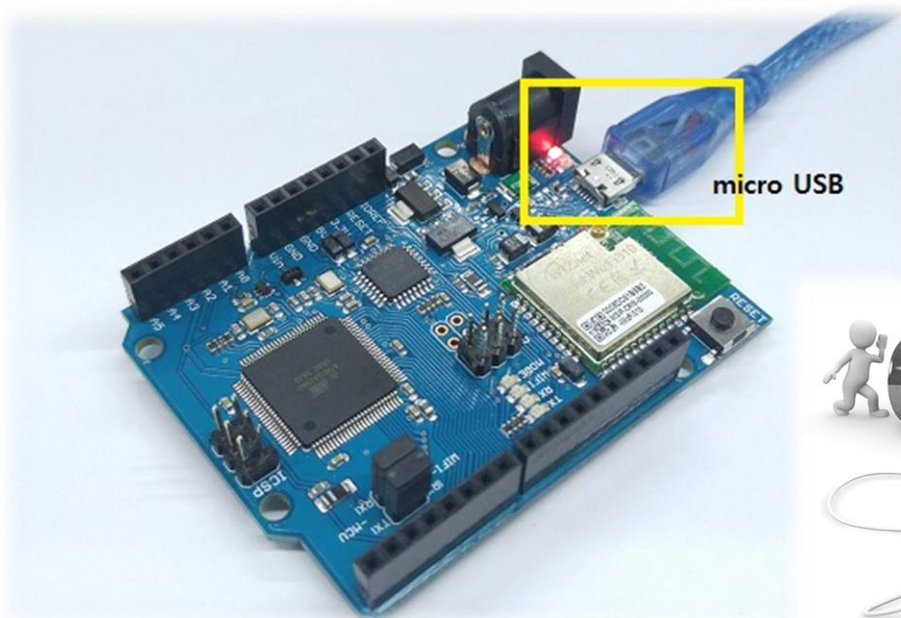


시리얼 모니터

시리얼?

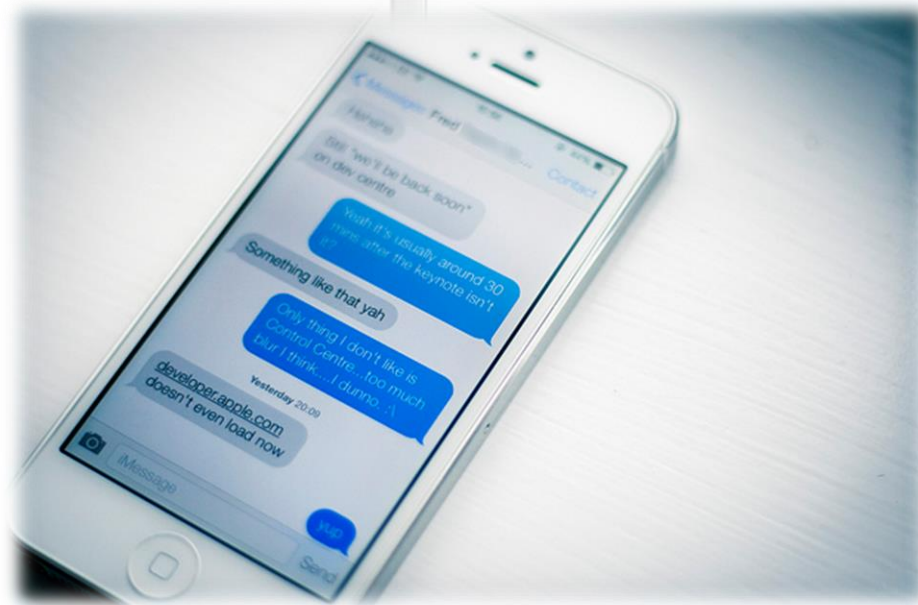
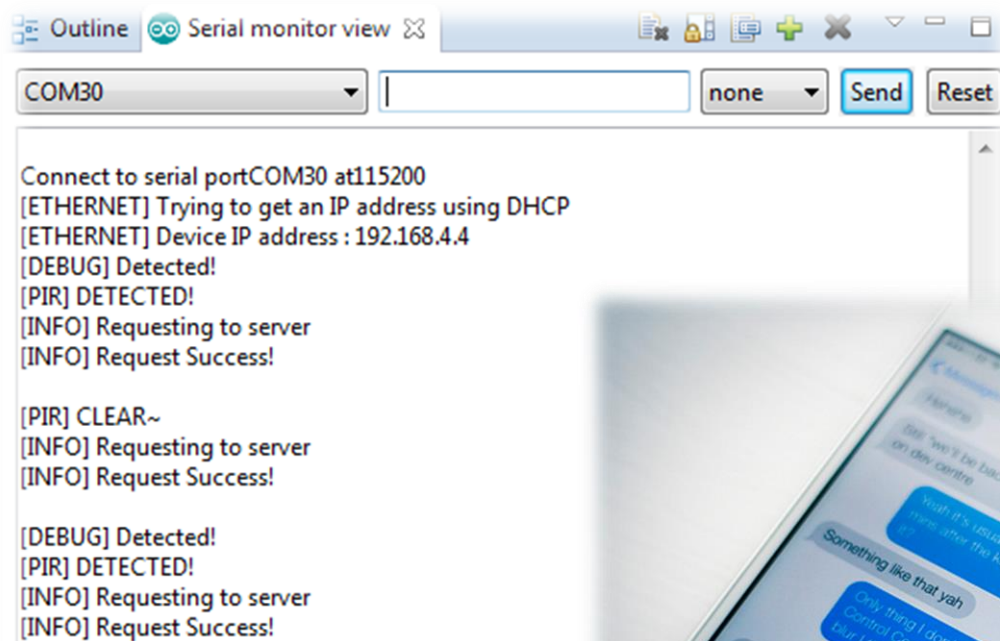
시리얼 통신

» 통신 방법 중 하나



시리얼 모니터

» 상대방의 말을 볼 수 있어요



출처 : [William Hook](#) (CC BY-SA)

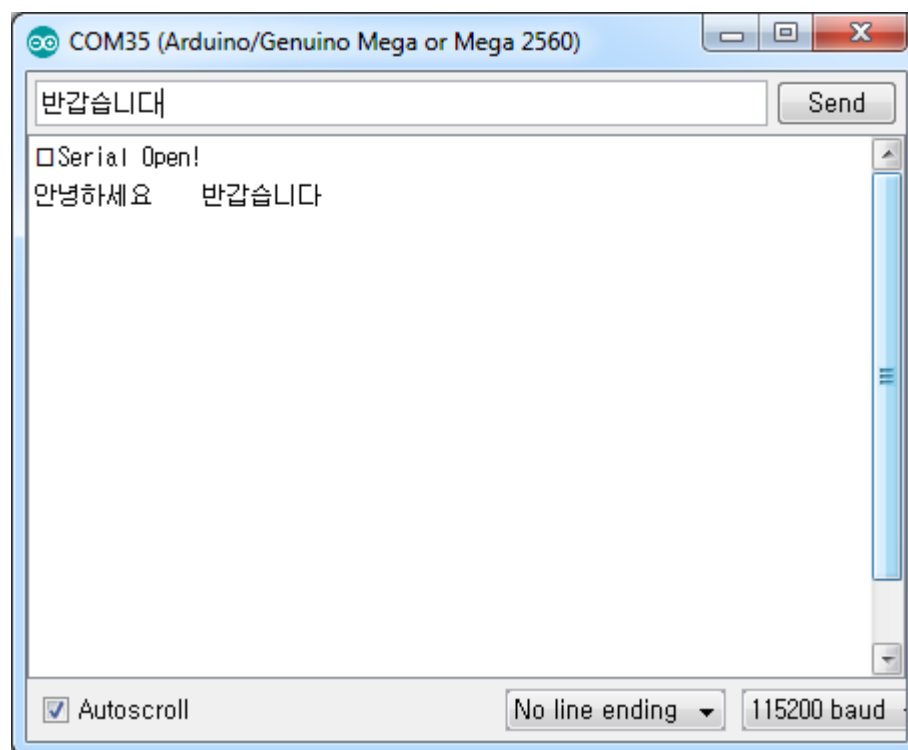
예제로 배워봅시다

>> 내가 작성한 메시지 돌려받기

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

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

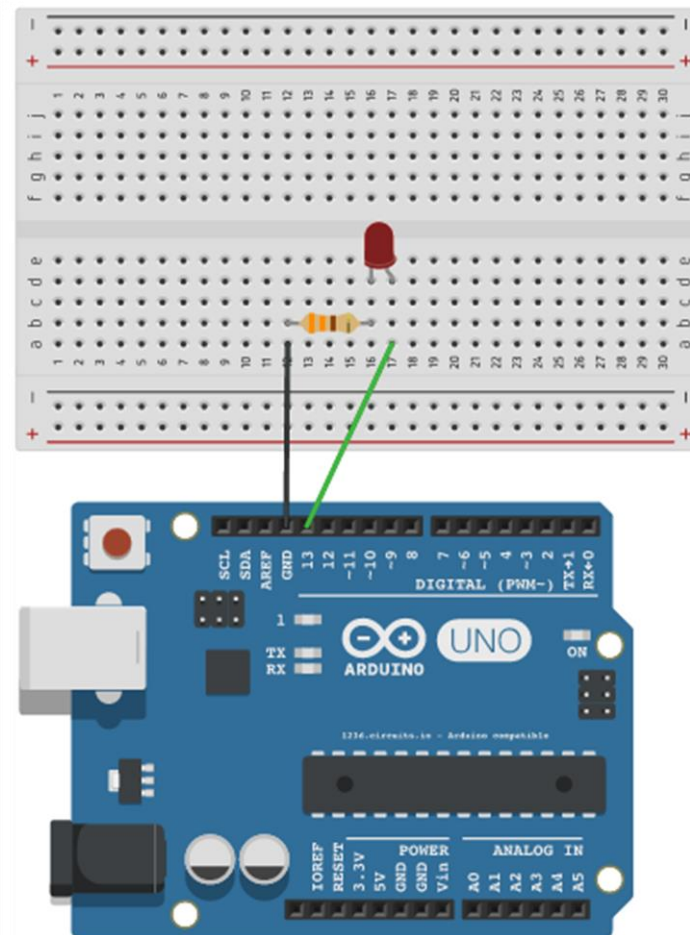
void loop()
{
  while (Serial.available())
  {
    char c = Serial.read();
    Serial.print(c);
  }
}
```



예제 응용하기

>> Serial로 LED제어하기

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





10분 휴식



조도센서

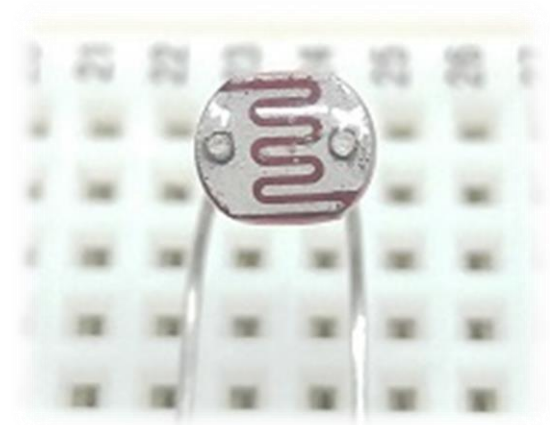
조도? 센서?

조도 센서

>> 조도? 센서?

조도 : 밝은 정도

센서 : 감지(측정)하는 장비



밝기↑ 저항↓

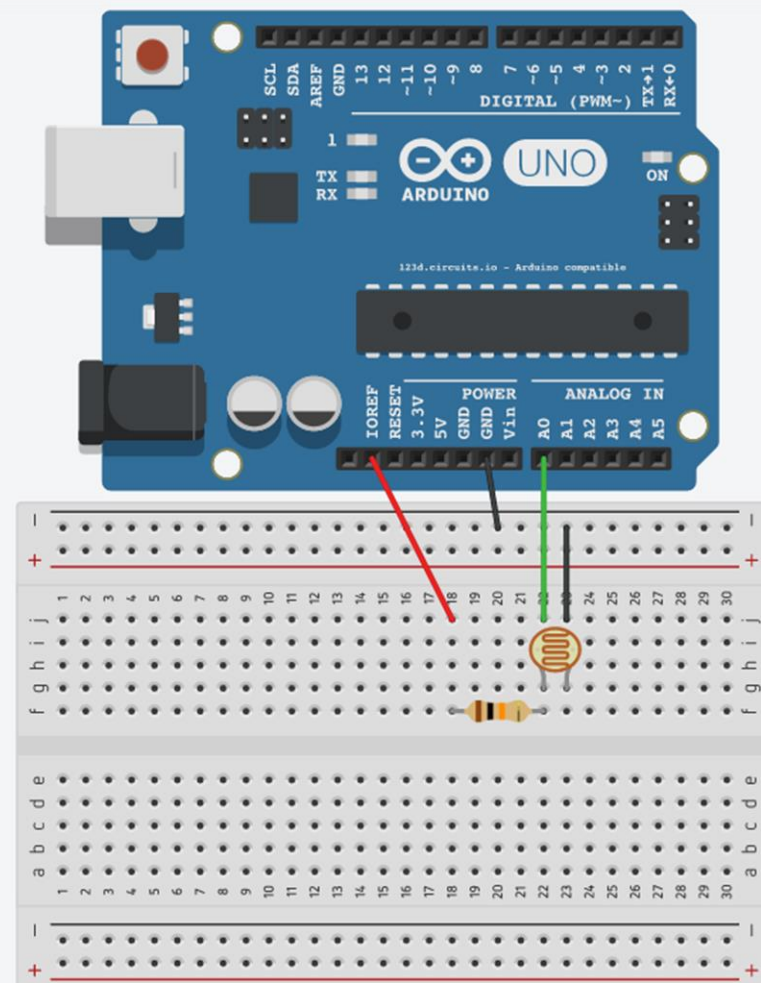
조도 센서

>> 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

조도센서와 LED 활용

가로등 만들기

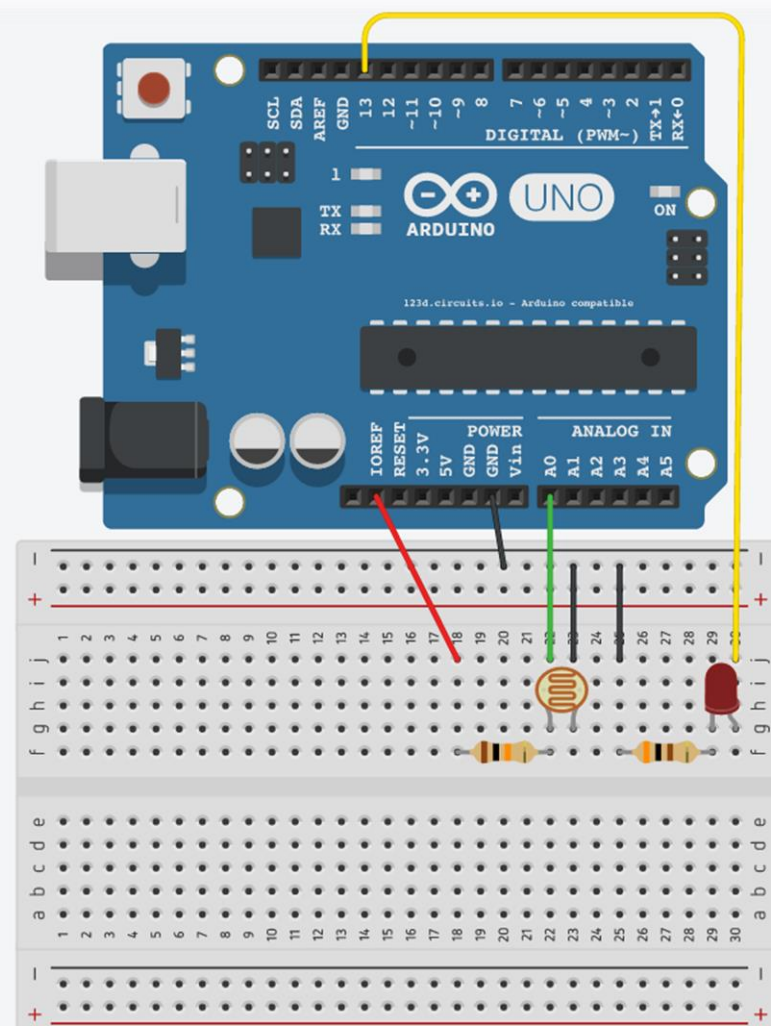


가로등 만들기

```
#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);
    }
}
```





Thank you