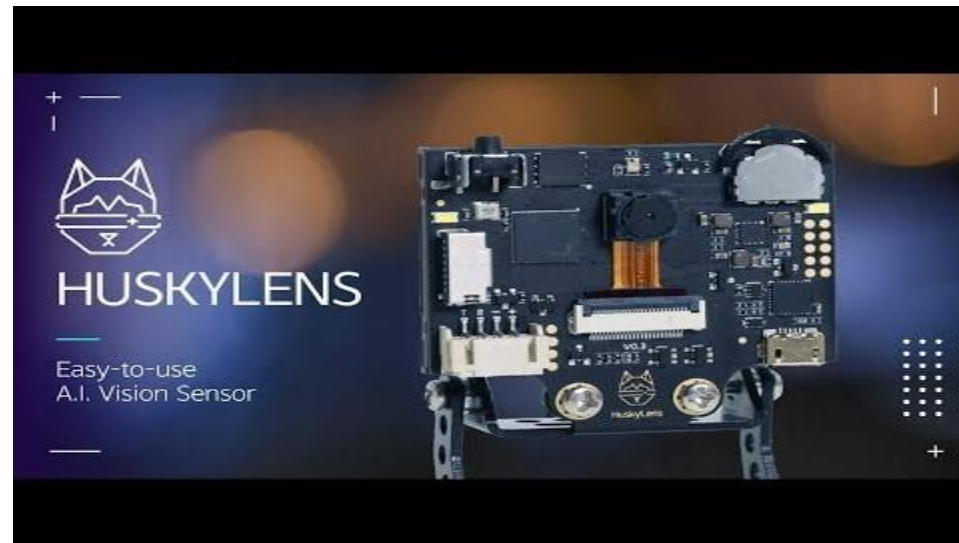


허스키 렌즈 with 아두이노

2024.07.16

경남대학교 전하용

HUSKYLENS란?

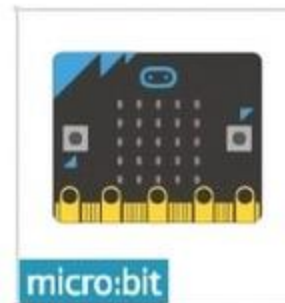
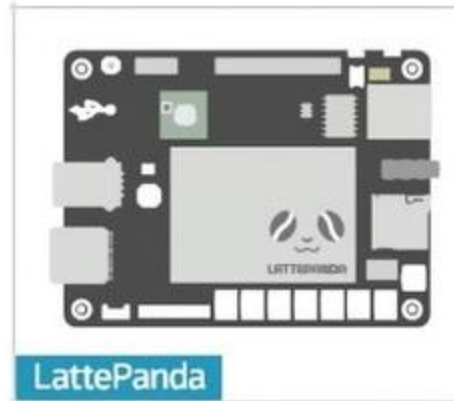


- <https://www.youtube.com/watch?v=Kv1HiN7nmg4>

허스키렌즈 주요 기능

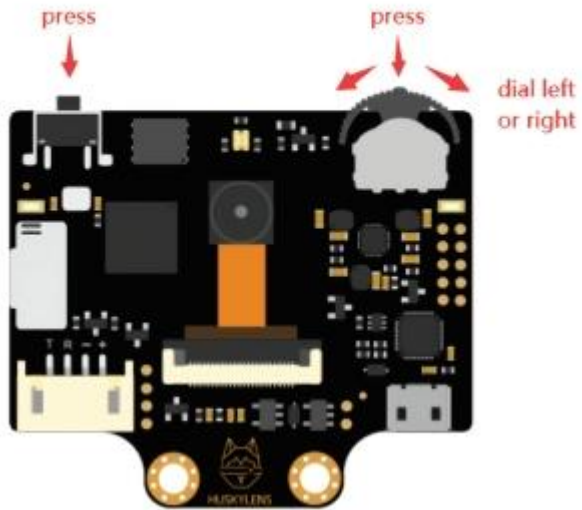


허스키렌즈와 호환가능한 제품군

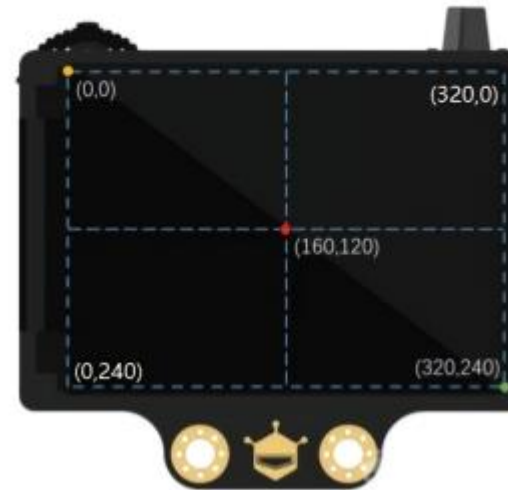


허스키렌즈 인터페이스

[그림 5] 허스키렌즈 인터페이스



[그림 6] 허스키렌즈 좌표계 설정



color 인식하기

1. 허스키렌즈 전원 공급하기
2. 허스키렌즈 기능 버튼을 눌러 color recognition 모드 선택하기
3. color recognition 길게 누른 뒤 Learn Multiple 메뉴 호출하기
4. 허스키렌즈로 첫번째 color 학습하기
5. 허스키렌즈로 두번째 color 학습하기
6. 허스키렌즈로 여러가지 color 인식하기

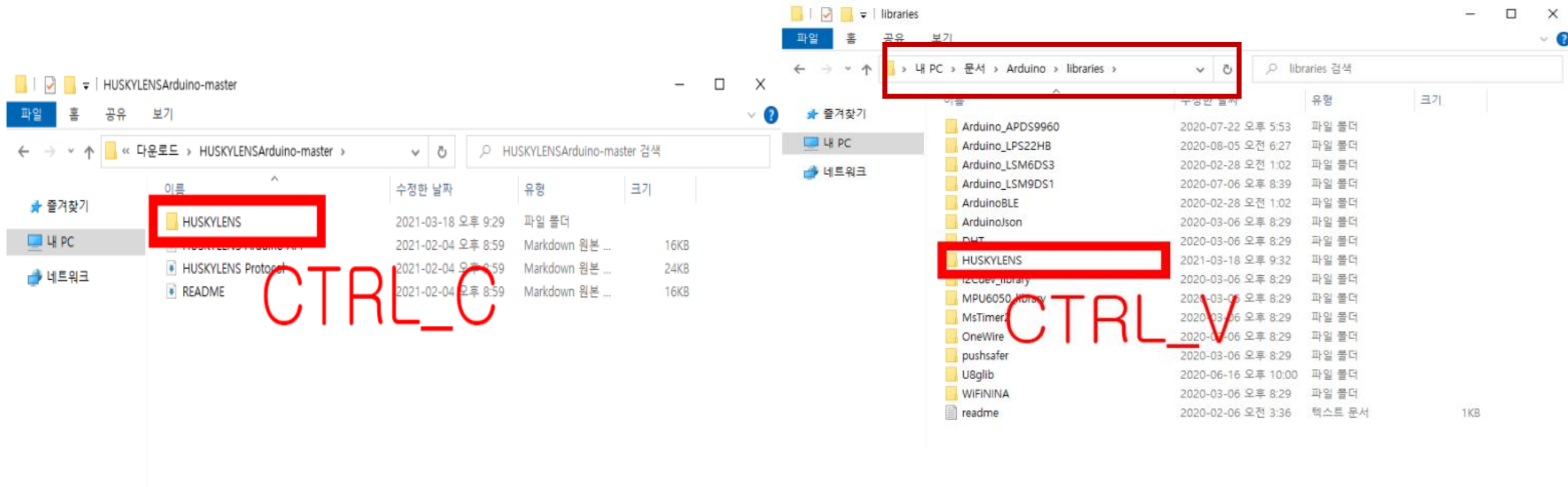
얼굴 인식하기

1. 허스키렌즈 전원 공급하기
2. 허스키렌즈 기능 버튼을 눌러 face recognition 모드 선택하기
3. face recognition 길게 누른 뒤 Learn Multiple 메뉴 호출하기
4. 허스키렌즈로 첫번째 얼굴 학습하기
5. 허스키렌즈로 두번째 얼굴 학습하기
6. 허스키렌즈로 여러 명의 얼굴 인식하기

허스키렌즈 라이브러리 다운로드

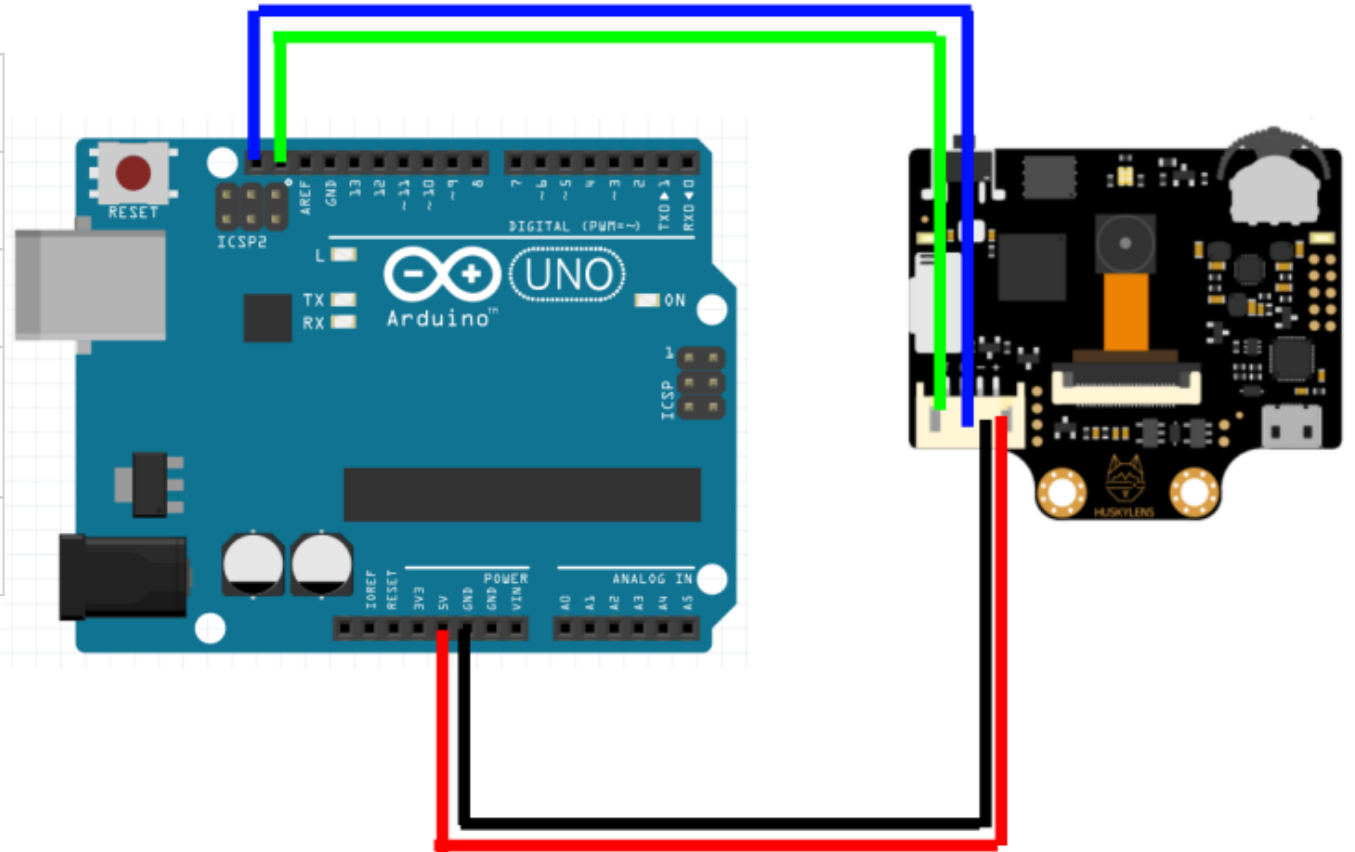
- https://wiki.dfrobot.com/HUSKYLENS_V1.0_SKU_SEN0305_SEN0336#target_28

- 다운 받은 파일 압축 푼 후 폴더 복사하여 붙여넣기



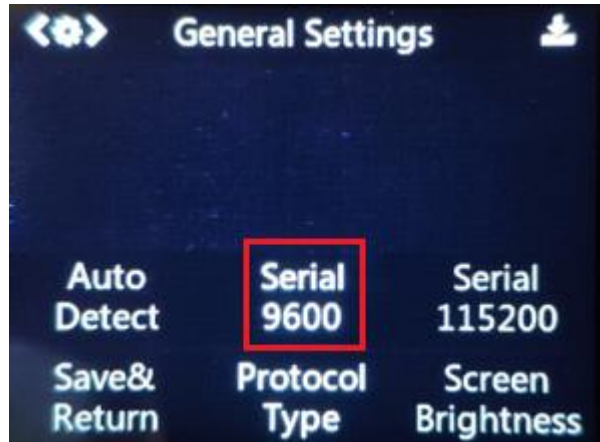
Connection Diagram

핀	허스키 렌즈	아두이노 UNO
	빨강	5V
	검정	GND
	파랑	SCL
	초록	SDA

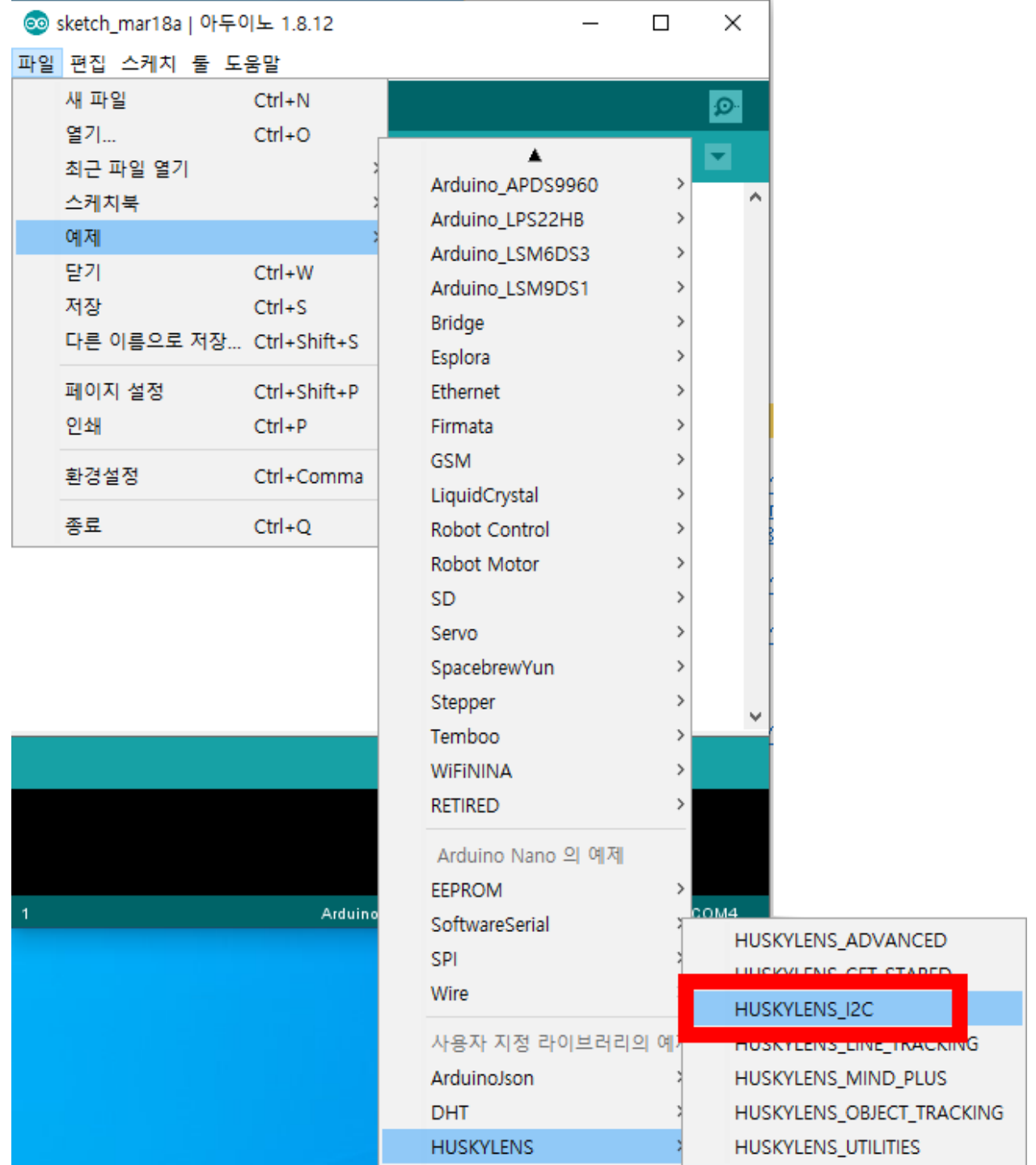


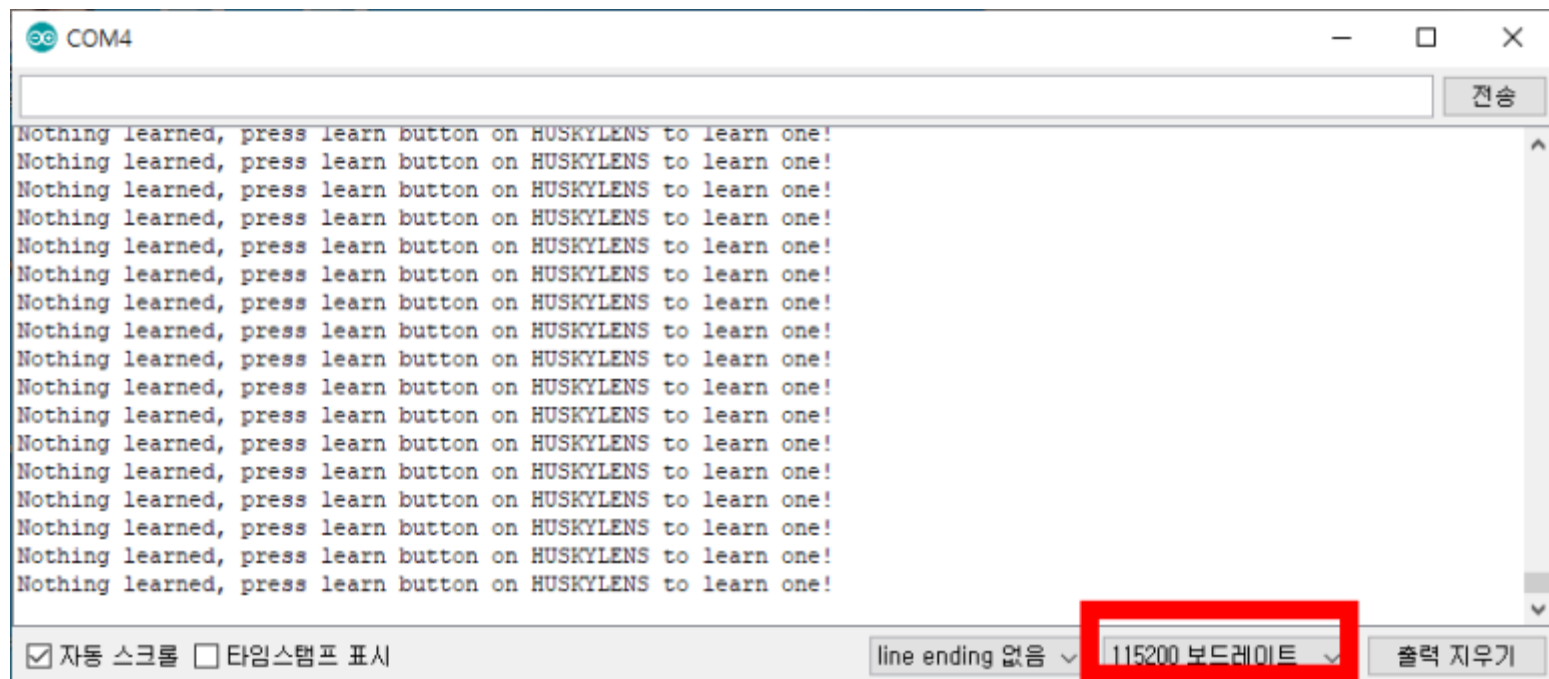
HuskyLens Protocol Setting

- General Settings

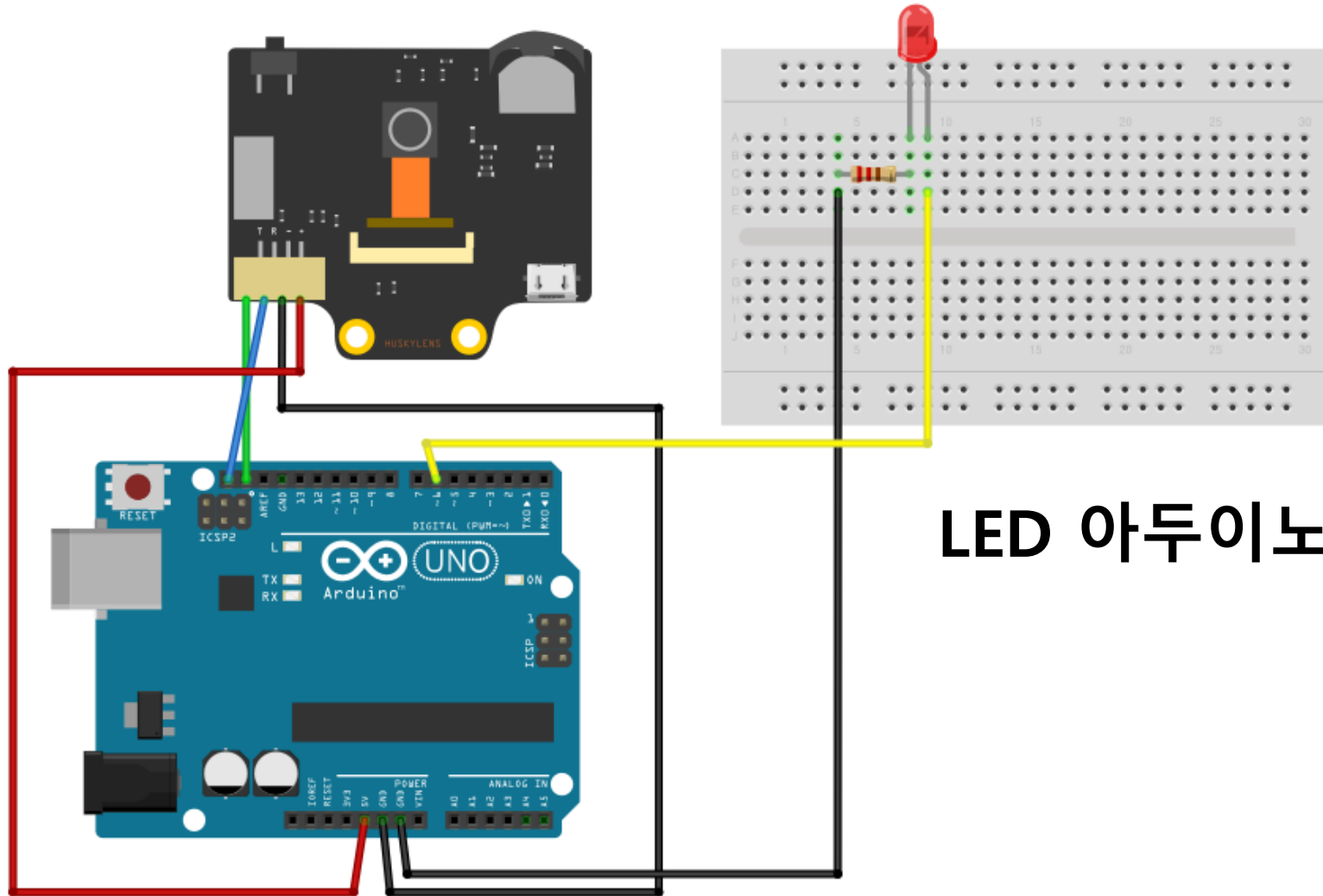


- 예제 : HUSKYLENS_I2C 선택





color 학습하여 LED On/Off



코드 수정

```
#include "HUSKYLENS.h"
```

```
HUSKYLENS huskylens;
```

```
//HUSKYLENS green line >> SDA; blue line >> SCL
```

```
void printResult(HUSKYLENSResult result);
```

```
int led=6;
```

```
void setup() {
```

```
    pinMode(led, OUTPUT);
```

```
    Serial.begin(115200);
```

```
    Wire.begin();
```

```
    while (!huskylens.begin(Wire))
```

```
,
```

```
void printResult(HUSKYLENSResult result){  
    if (result.command == COMMAND_RETURN_BLOCK){  
        Serial.println(String()+F("Block:xCenter=")+  
    }  
}
```

```
if(result.ID==1){  
    digitalWrite(led, HIGH);  
    delay(1000);  
}  
if(result.ID==0){  
    digitalWrite(led, LOW);  
}  
else{  
    digitalWrite(led, LOW);  
}
```

```
}
```


응용(서보모터 연동)

```
void printResult(HUSKYLENSResult result);
```

```
#include <Servo.h>
```

```
Servo servo;
```

```
void setup() {
```

```
    Serial.begin(115200);
```

```
    Wire.begin();
```

```
    while (!huskylens.begin(Wire))
```

```
{
```

```
        Serial.println(F("Begin failed!"));
```

```
        Serial.println(F("1.Please recheck the \"/>
```

```
        Serial.println(F("2.Please recheck the connec
```

```
        delay(100);
```

```
    }
```

```
    servo.attach(9);
```

```
    servo.write(0);
```

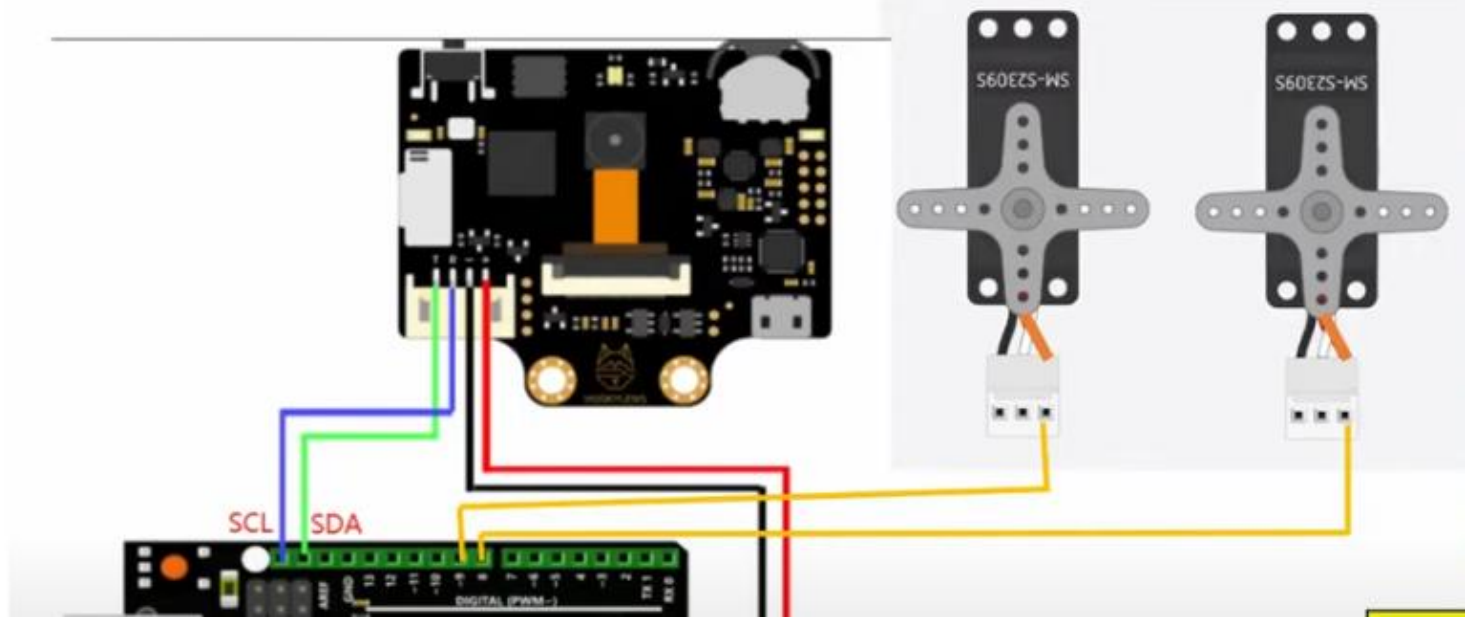
```
void printResult(HUSKYLENSResult result){  
    if (result.command == COMMAND_RETURN_BLOCK) {  
        Serial.println(String() + F("Block:xCenter=") + result.xCenter);  
    }  
    while (result.ID == 1) {  
        servo.write(90);  
        delay(1000);  
    }  
    if (result.ID == 0) {  
        servo.write(0);  
        delay(1000);  
    }  
    else {  
        servo.write(0);  
    }  
}
```

응용(객체 추적)

```
#include <Servo.h>
```

```
Servo servo1;  
Servo servo2;
```

```
void setup() {  
    Serial.begin(115200);  
    Wire.begin();  
    while (!huskylens.begin(Wire))  
    {  
        Serial.println(F("Begin failed!"));  
        Serial.println(F("1.Please recheck the  
Serial.println(F("2.Please recheck the  
delay(100);  
    }  
    servo1.attach(9);  
    servo2.attach(8);  
    servo1.write(0);  
    servo2.write(0);  
}
```



```
void printResult(HUSKYLENSResult result){  
    if (result.command == COMMAND_RETURN_BLOCK){  
        Serial.println(String()+F("Block:xCenter=")+r  
  
        int num1 = map(result.xCenter,0,320,0,180);  
        int num2 = map(result.yCenter,0,240,0,180);  
  
        if(result.ID == 1){  
            servo1.write(num1);  
            servo2.write(num2);  
            Serial.println(num1);  
            Serial.println(num2);  
        }  
    }  
}
```