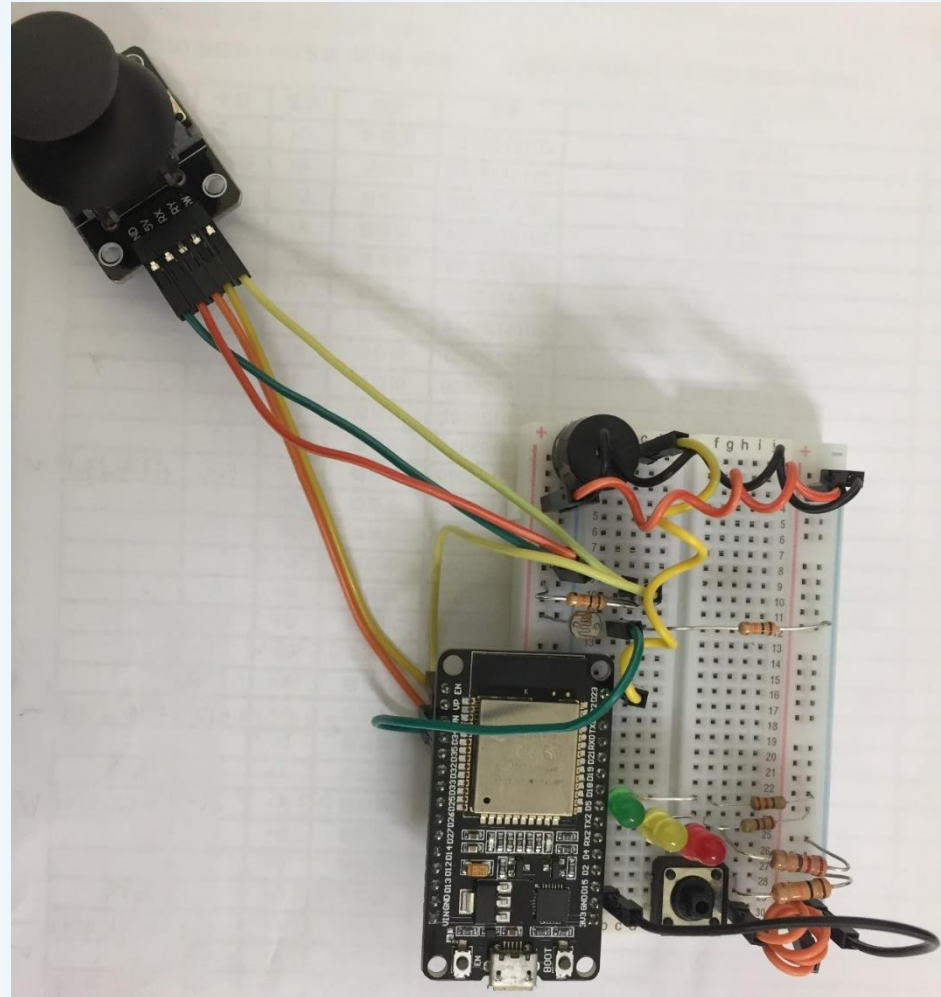
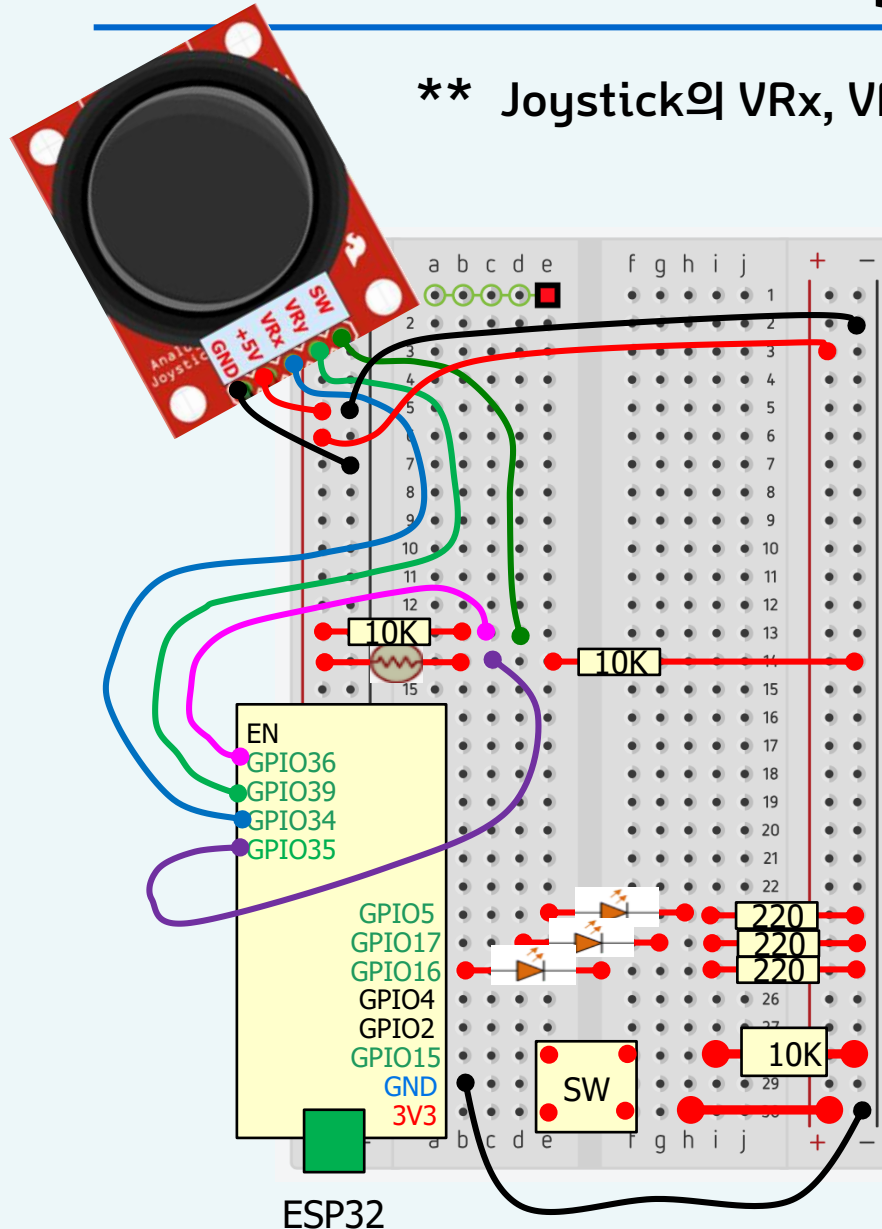


Task04- Step B

- Task04-1, 2, 3, 4, 5를 구현하라

Task04-A Analog Input- Joystick, CdS

**** Joystick의 VRx, VRy, SW와 CdS를 연결하라 ****



Task04- Step A .. Reading Analog Inputs

<Task04-A>

```
// Joystick, CdS test
// Joystick is connected to GPIO 34/39 (Analog ADC1_CH6/3)
// Cds is connected to GPIO15 (Analog ADC1_CH7)
const int joyPinX = 34;
const int joyPinY = 39;
const int joySW = 36;
const int cdsPin = 35;

// variable for storing the Joystick values
int xValue = 0, yValue = 0, sValue = 0, cValue = 0;

void setup() {
  Serial.begin(115200);
  pinMode(joySW, INPUT);
  delay(1000);
}

void loop() {
  // Reading Joystick values
  xValue = analogRead(joyPinX);
  yValue = analogRead(joyPinY);
  cValue = analogRead(cdsPin);
  sValue = digitalRead(joySW);
  String str = "(X,Y) = (" + String(xValue)
    + ',' + String(yValue) + ")\n";
  Serial.print(str);
  Serial.print("Switch = ");
  Serial.println(sValue?"OFF":"ON"); //
  pull-up circuit
  Serial.print("Cds Value = ");
  Serial.println(cValue);
  delay(500);
}
```

Task04- Step A .. Result

- Check CdS value.. Change luminance
- Check Joystick value.. stick left, right, up, down
- Check Joystick switch.. Press button

```
COM3
Switch = OFF
Cds Value = 208
(X,Y) = (1798,1757)
Switch = OFF
Cds Value = 208
(X,Y) = (1803,1754)
Switch = OFF
Cds Value = 192
(X,Y) = (1805,1755)
Switch = OFF
Cds Value = 212
(X,Y) = (1802,1757)
Switch = OFF
Cds Value = 217
```

☒ 자동 스크롤 ☐ 타임스탬프 표시

**** Explain the relationship between CdS value and brightness ?**

**** Why ?**

**** Change the circuit to get the reverse result**

Task04-Step C Play station with PWM

■ <Task04-4>를 수정하여 Music Player를 구현하라

- 입력: 시리얼모니터 사용

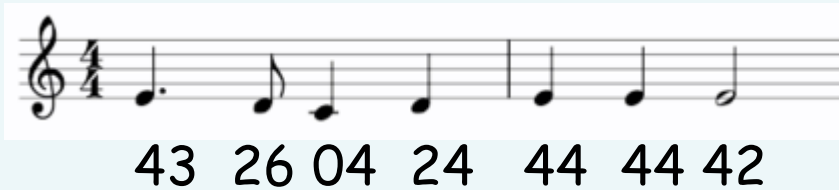
- 한 음을

<Note#> : 음의 높이

<Duration#> : 음의 길이

으로 표현

Ex)



	Note #	Duration#.. Delay
C4 262 - 도	0	0 ... 2000
CS4 277	1	
D4 294 - 레	2	1 ... 1500
DS4 311	3	
E4 330 - 미	4	2 ... 1000
F4 349 - 파	5	
FS4 370	6	3 ... 750
G4 392 - 솔	7	
GS4 415	8	4 ... 500
A4 440 - 라	9	
AS4 466	a	5 ... 375
B4 494 - 시	b	
C5 523	c	6 ... 250

, 쉽표

** 쉽표를 연주하기 위해서는 PWM의 Duty를 0로 한다

Task04-Step C Play station with PWM

- 다음을 연주하라

