

Arduino

資訊學院 - 110年度智慧創新跨域人才培育聯盟計畫

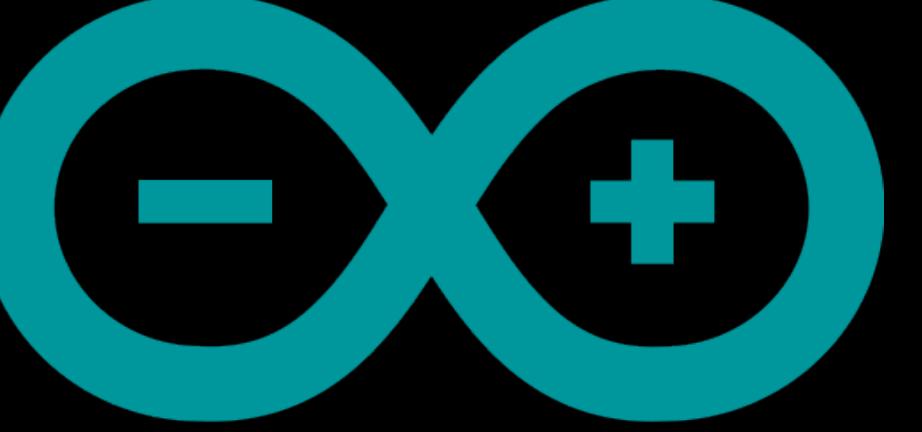
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whoami

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- > SITCON'21 開發組
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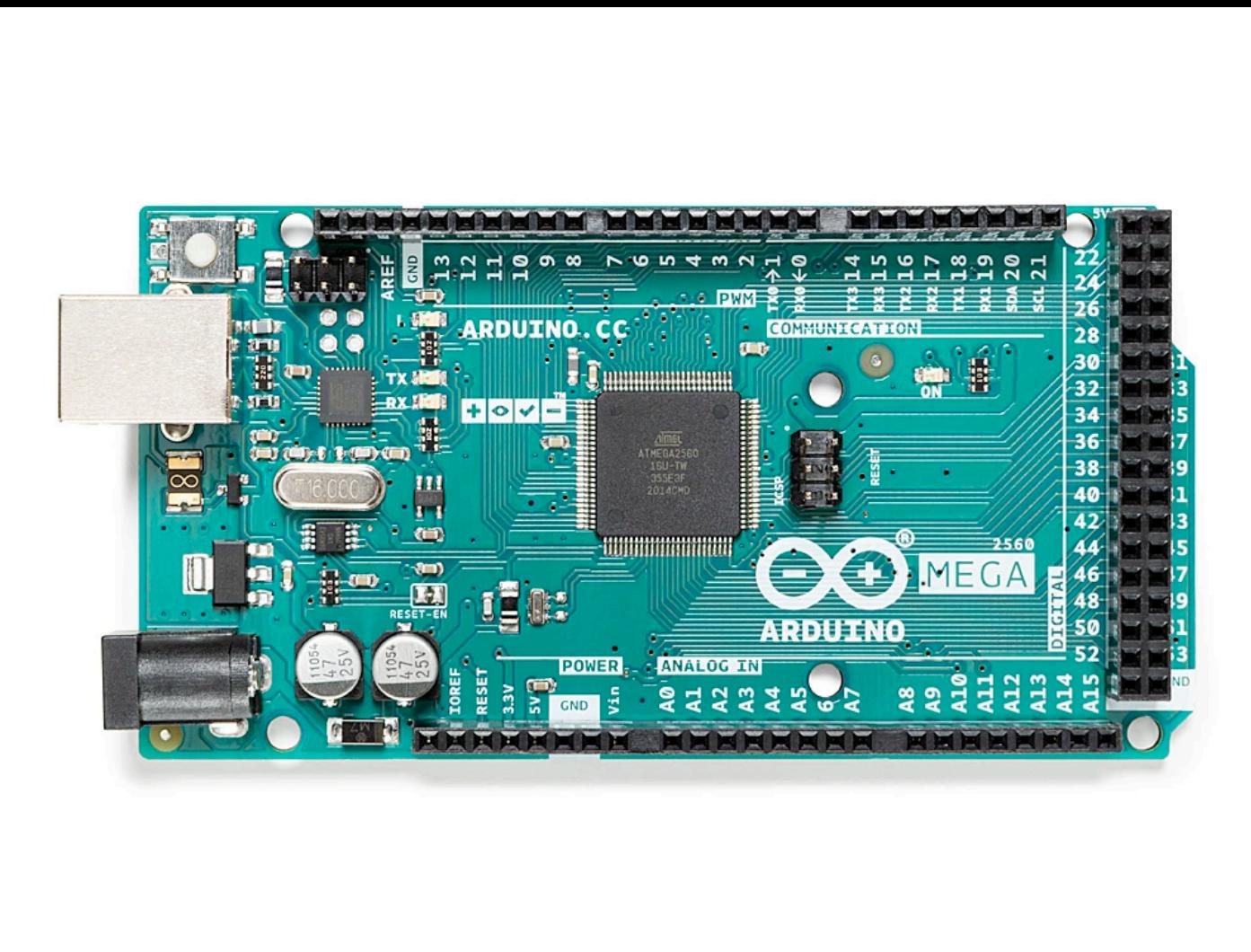
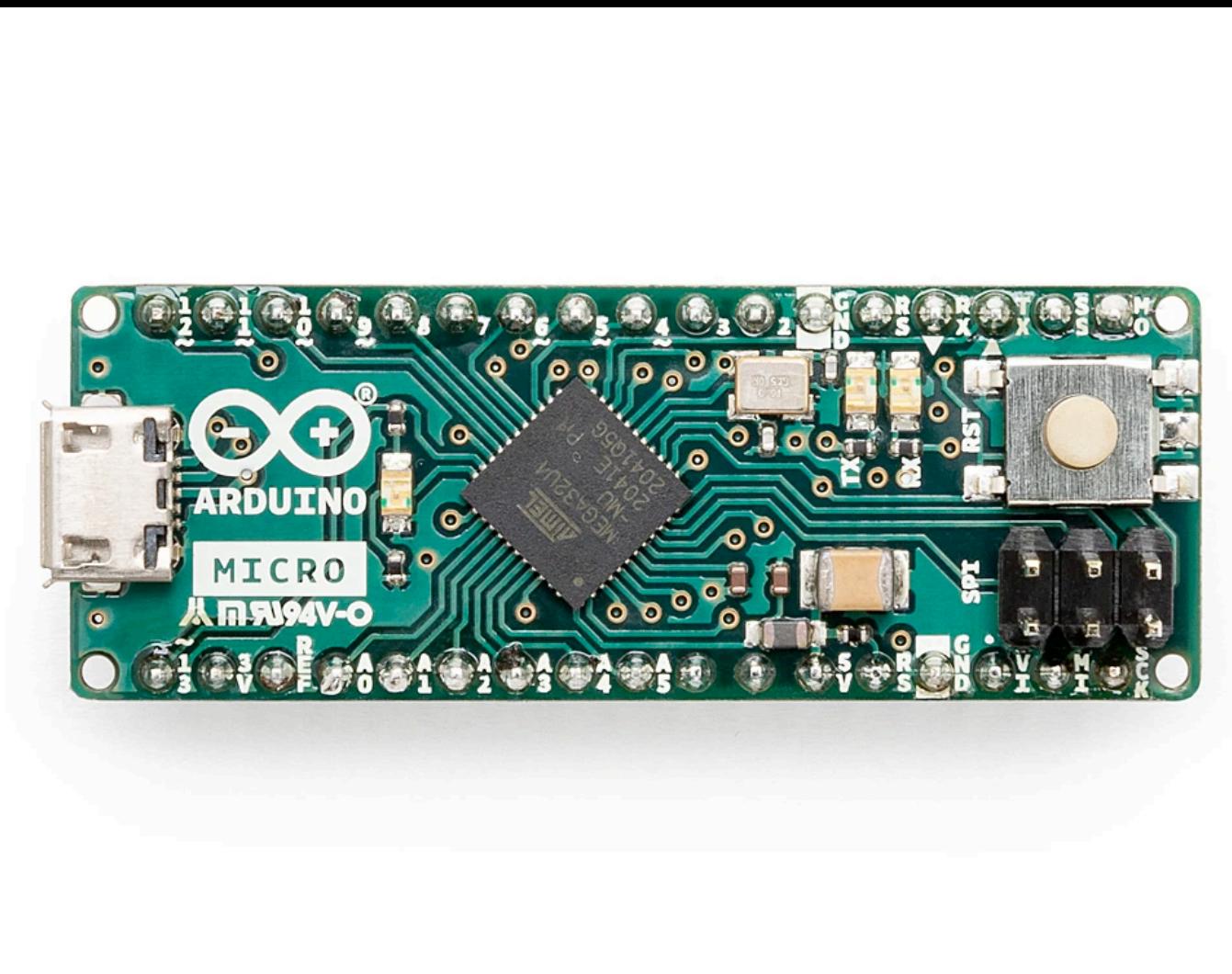
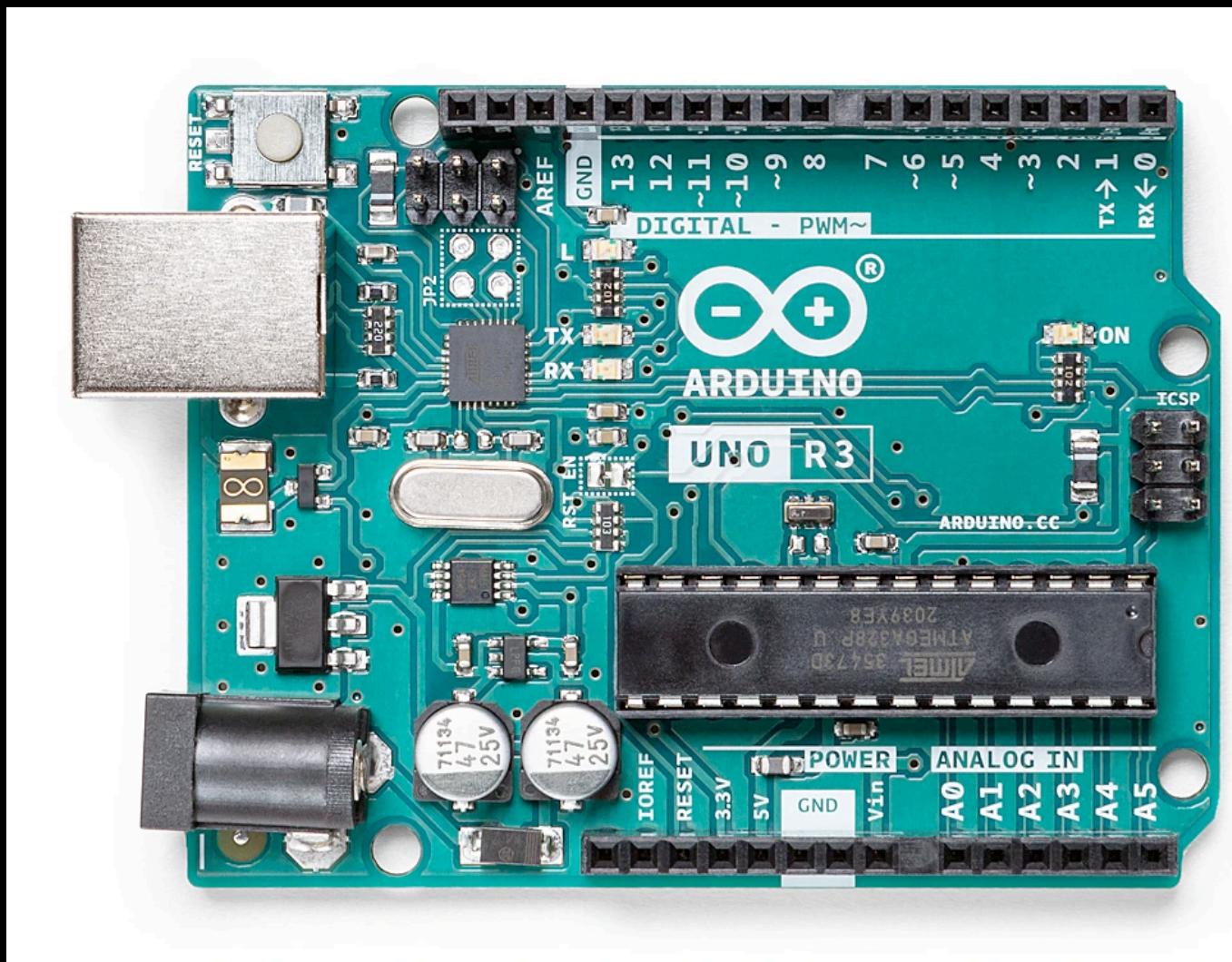
What is Arduino ? 

What Is Arduino?

Arduino 是一個開源的微電腦控制器

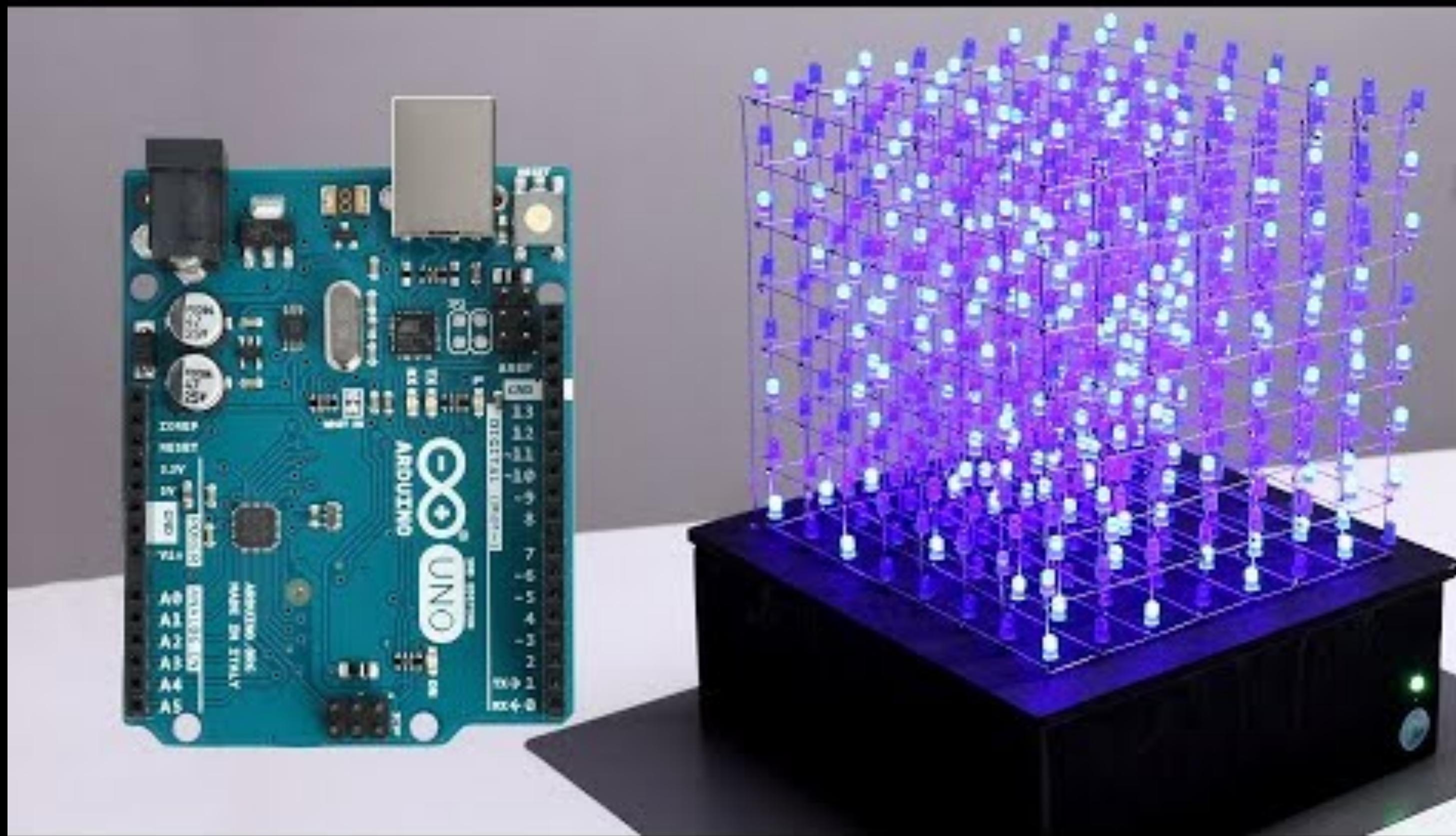
用來供使用者製作可互動式的嵌入式專案

[Arduino Office Website](#)



What Can I Do with Arduino ?

What Can I Do with Arduino ?

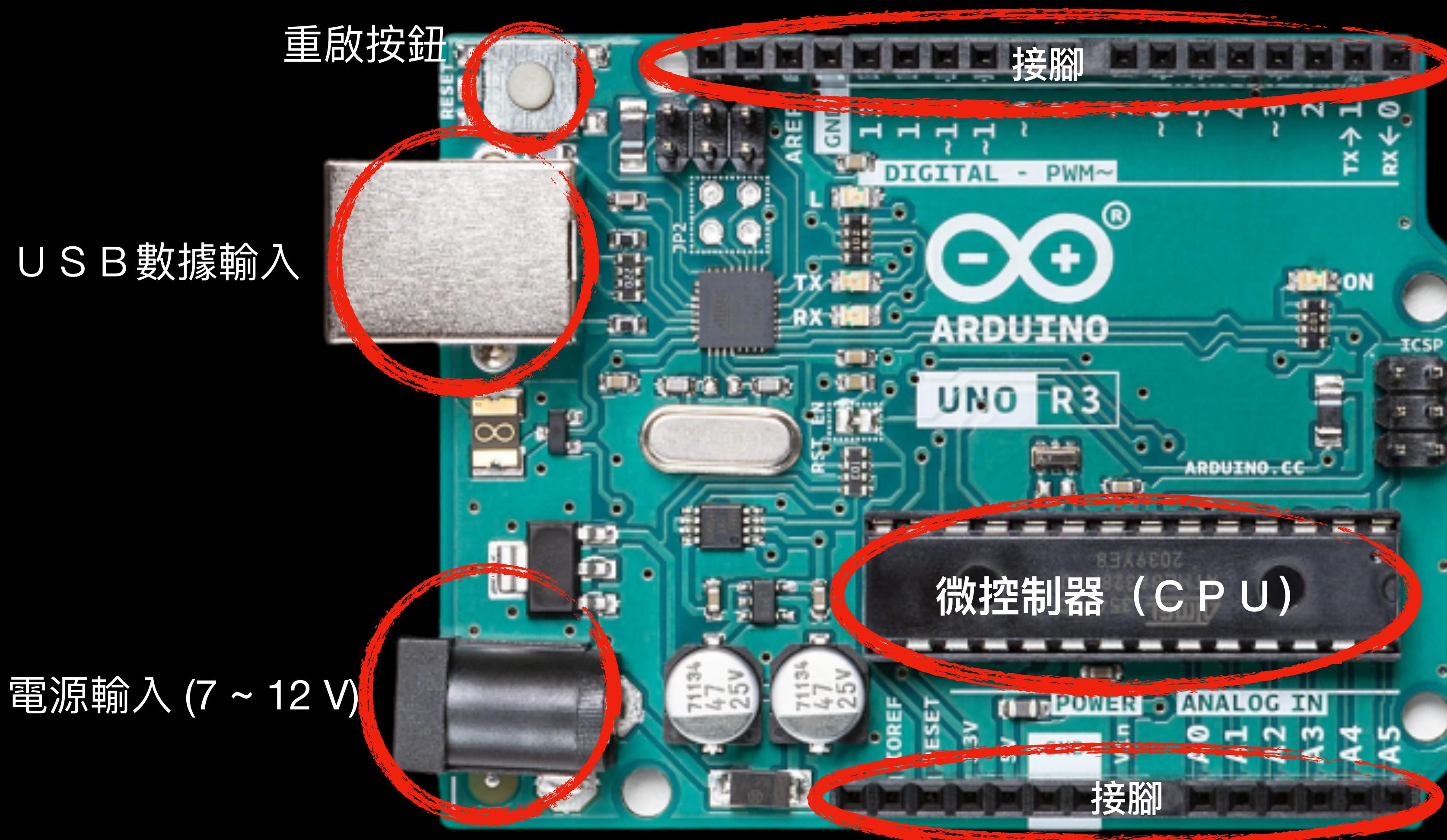


What Can I Do With Arduino ?



Introduction Arduino Uno

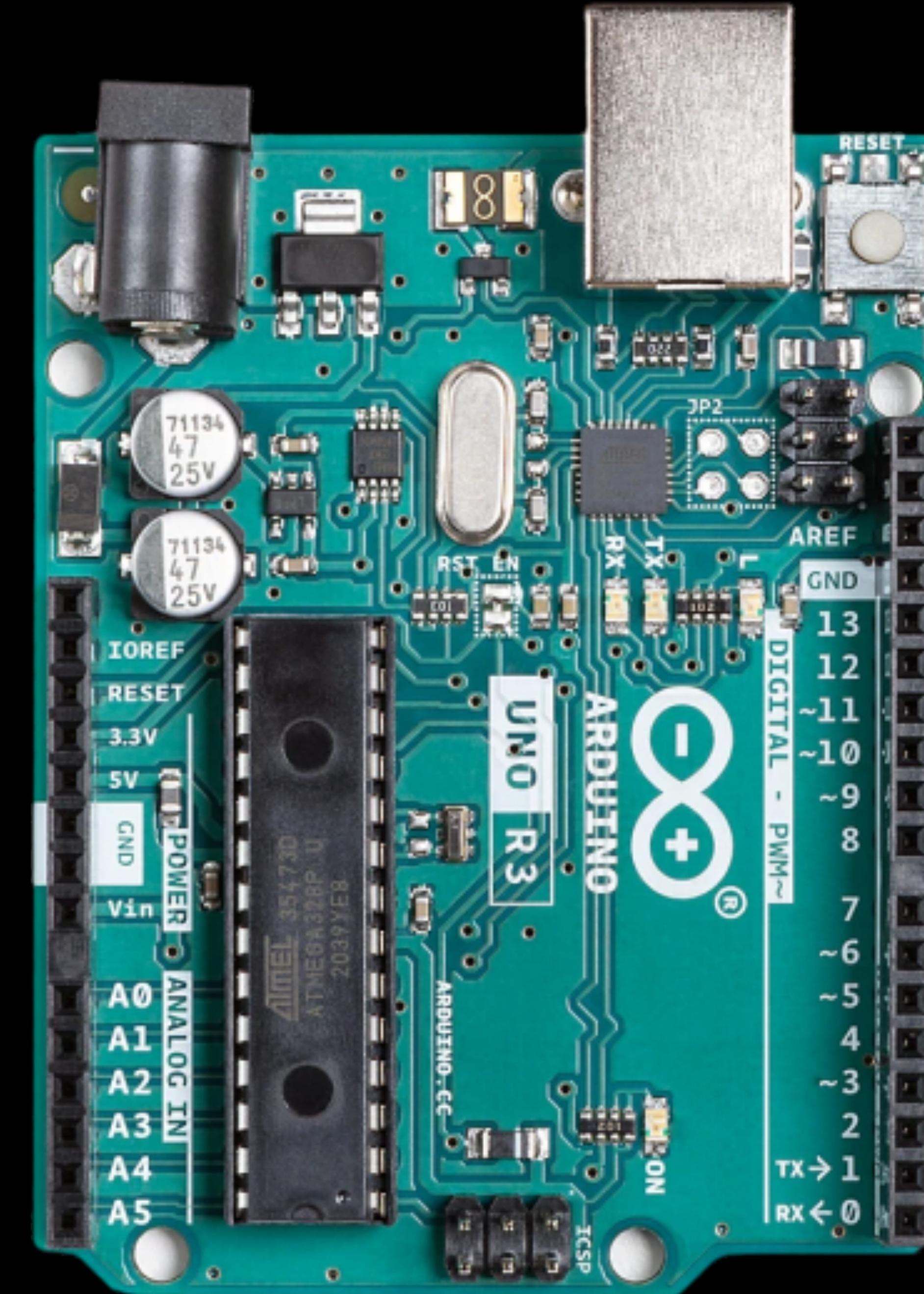
Arduino Uno Layout



Arduino Uno

Pin

3.3V / 5V	電源輸出
Vin	電源輸入 (7~12V)
GND	接地
DIGITAL (0~13)	數位接腳
ANALOG IN (A0~A5)	類比接腳
TX / RX	數據發送 / 數據接收
RESET	重設接腳 (低地位觸發)
AREF	類比基準



Other Items with Arduino Uno

LED

A.K.A. 發光二極體



電流由長腳進入
由短腳離開

長腳 – 高電位
短腳 – 低電為

電阻

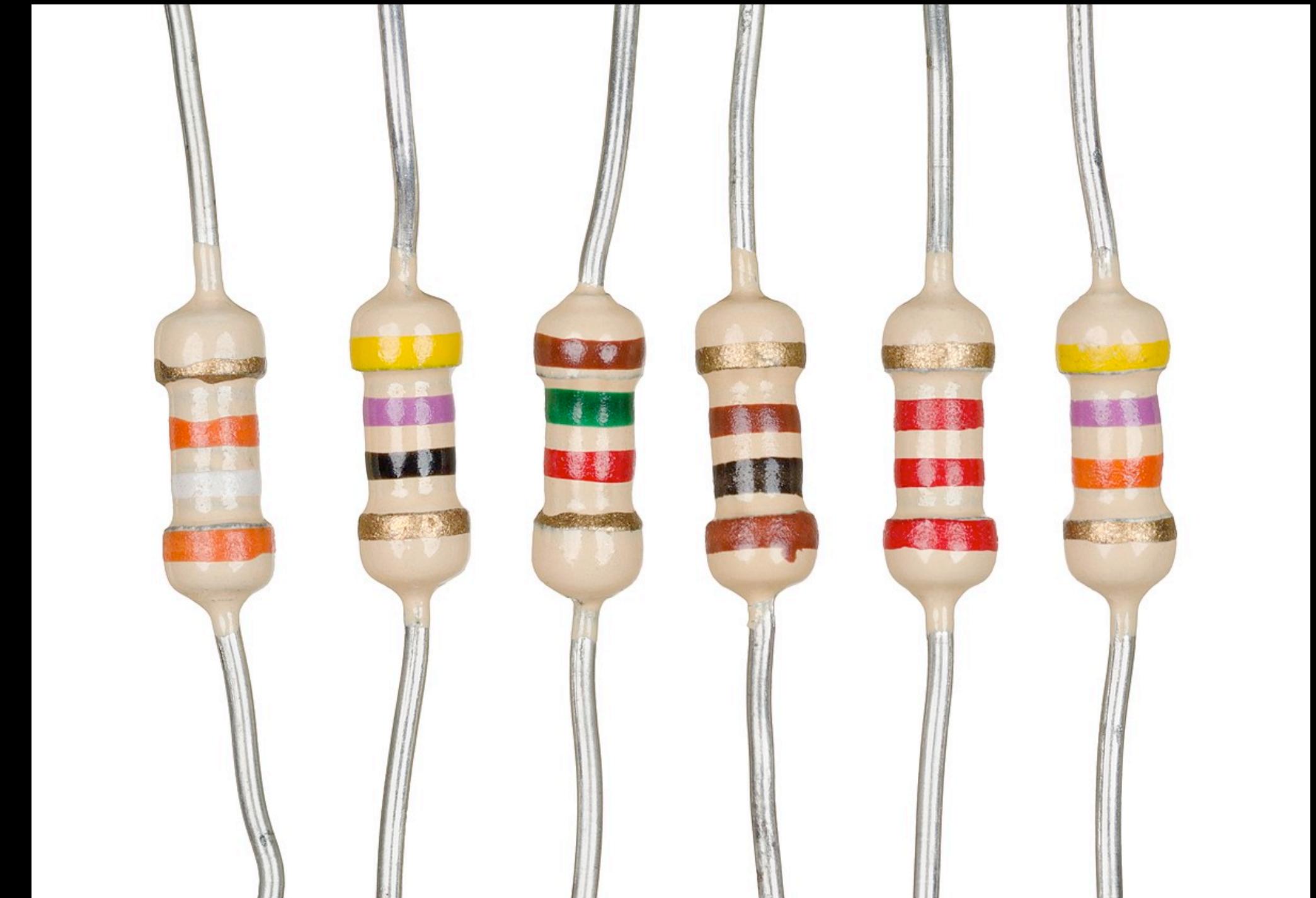
插版式電阻

如果不加限流電阻直接接發光二極體，
流過管子的電流會大大超出它的工作電流，
導致過熱損壞。

$$R = (U - UF) / IF$$

$$R = (5V - 3.2V) / 10 \text{ mA}$$

$$R = 180 \Omega$$



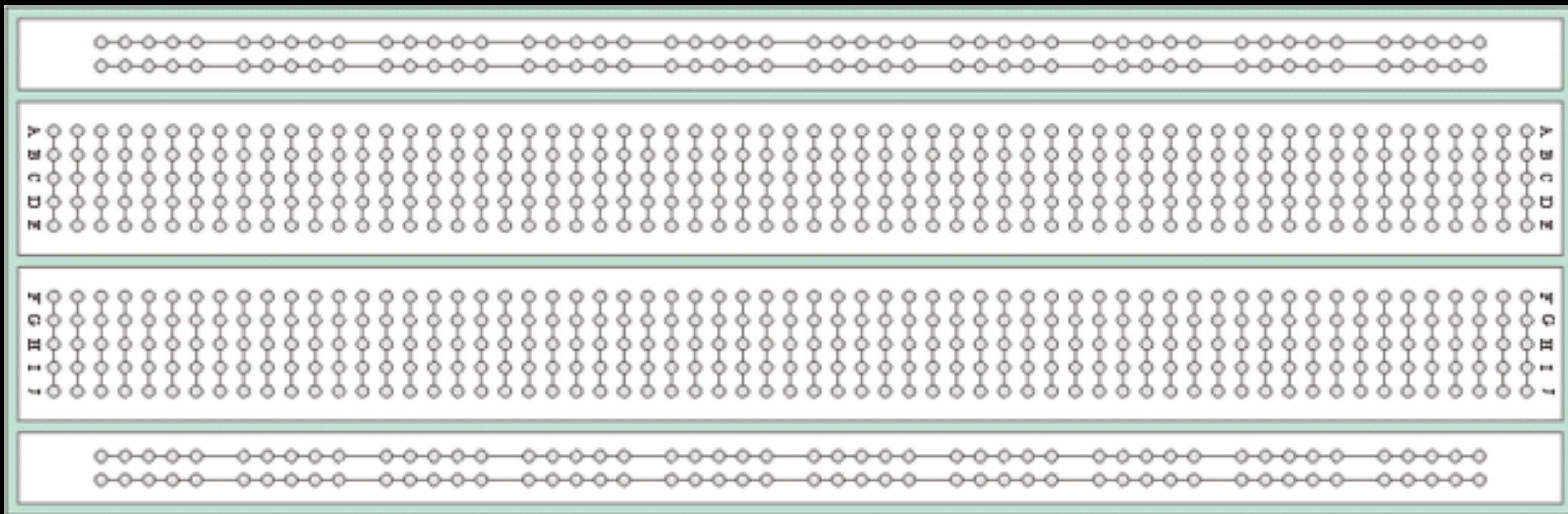
光敏電阻

Photoresistance (CDS)



麵包板

Solderless breadboard



Let's Coding

mBlock / mLink

Install mLink & Open mBlock

Remove the default device & Add arduino

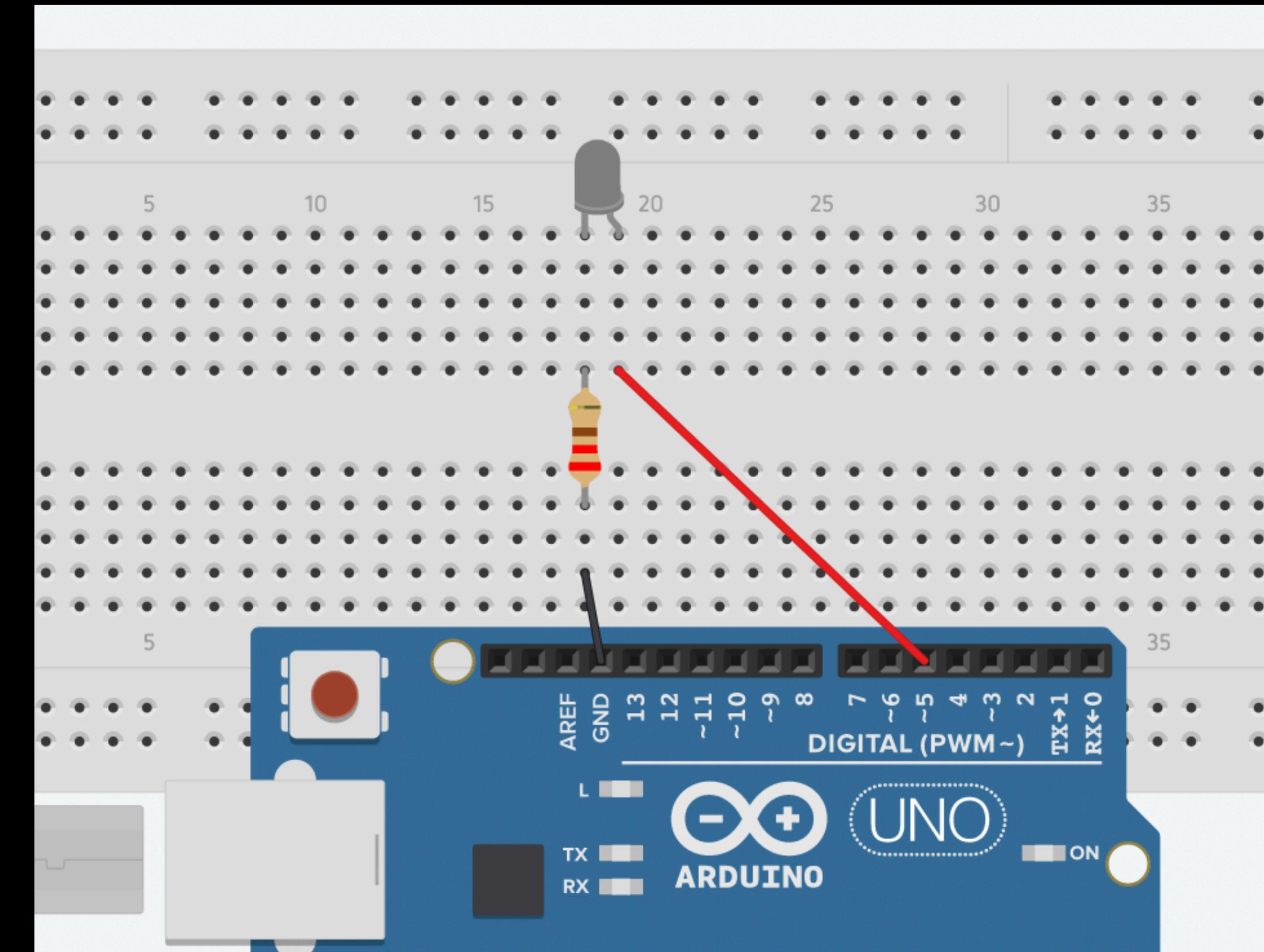
Control the LED on PIN 13



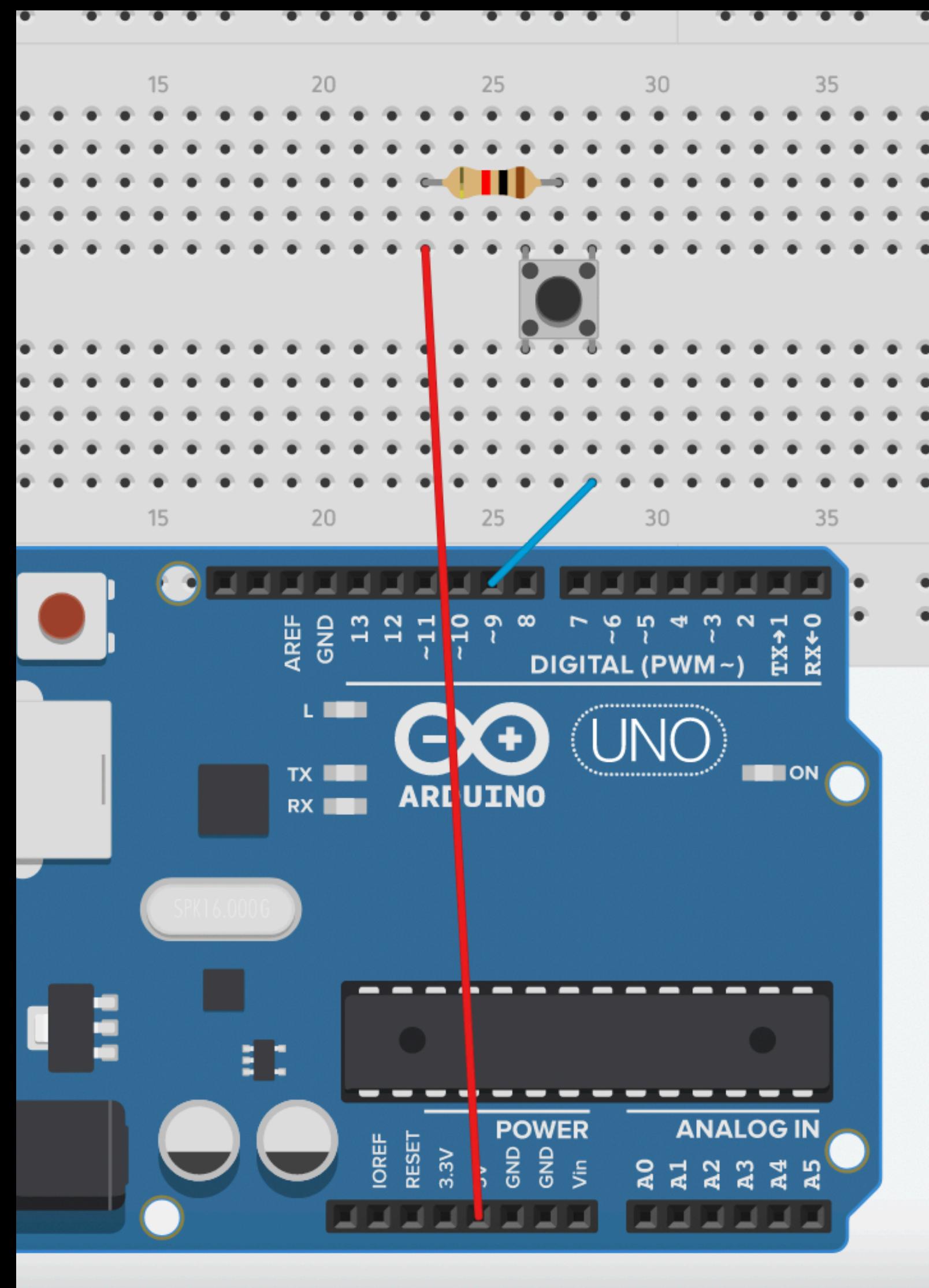
Control the LED on PIN 13



Control the Other LED

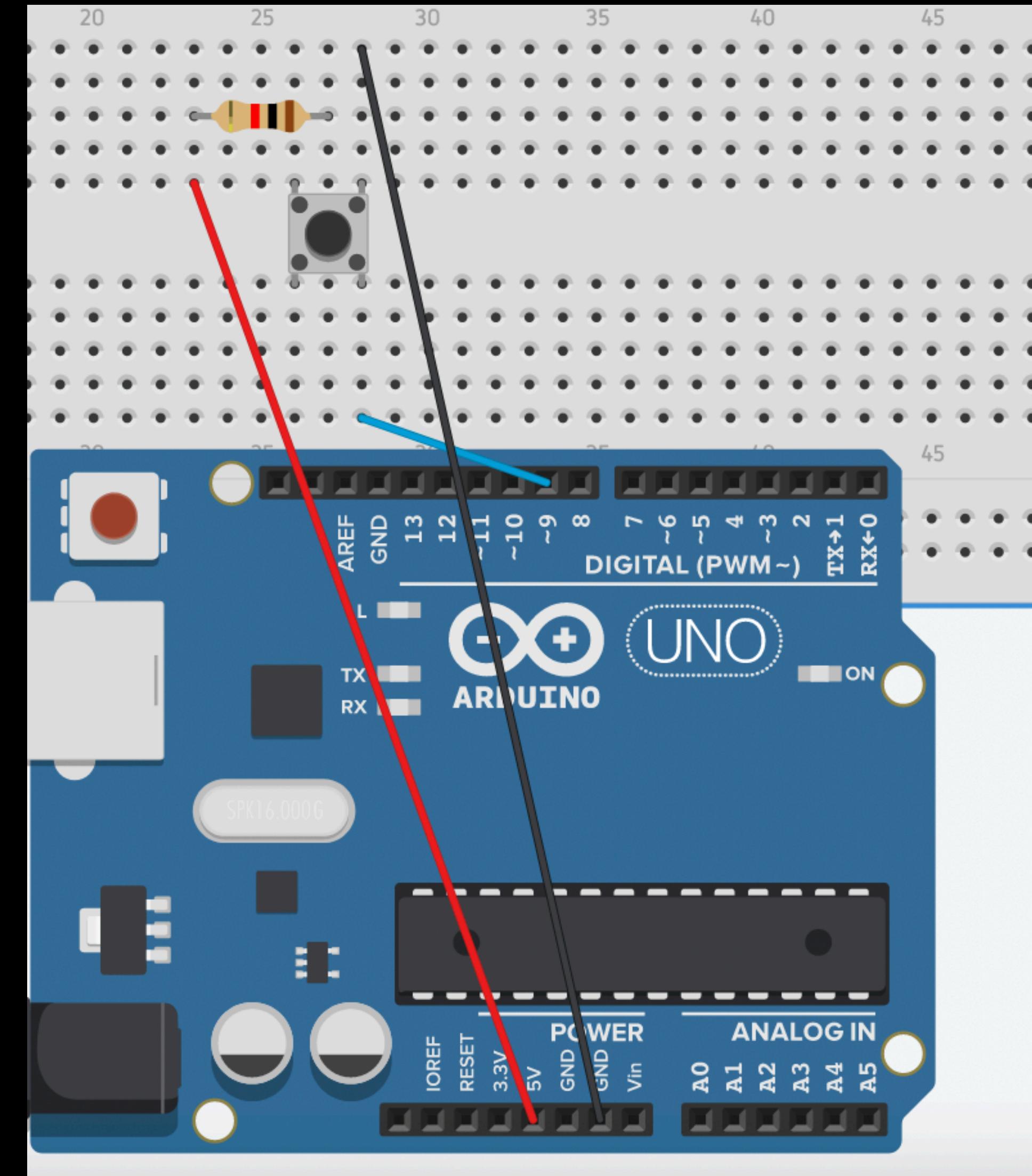


Control LED with Button

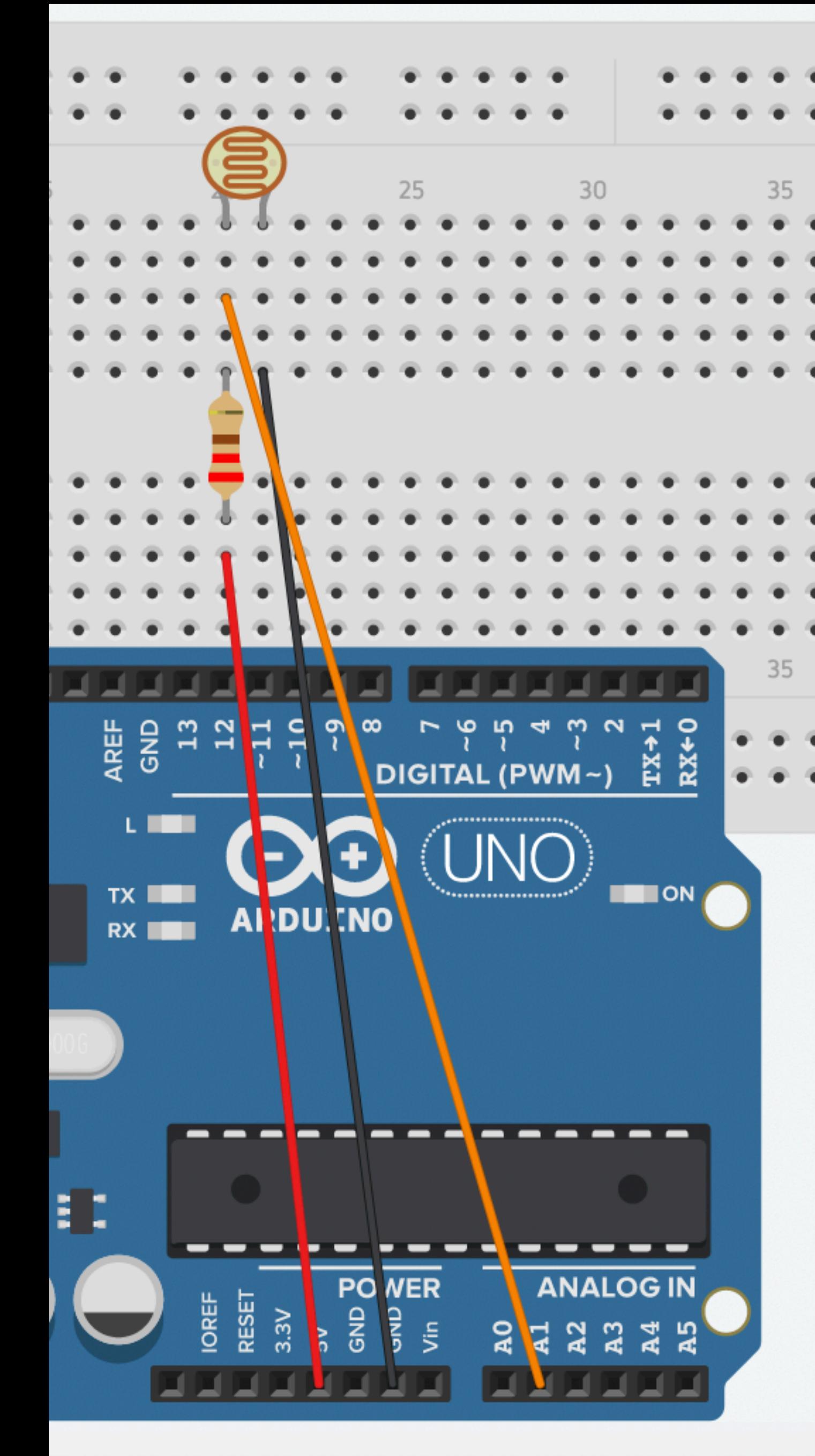


Something Wrong ?

上拉電阻



類比輸入 加上光敏電阻



會呼吸的燈

PWD 介紹



問卷調查



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