

Arduino Basics

Day – 01 (Session 2)

The Arduino Board

Microcontroller

3.3V Power Output Pin

5V Power Output Pin

GND PINS

Power Input

Analog Input
Pins

Barre Jack
(Power Input)

USB

Reset Switch

RX TX LED

Pin 13 LED

GND PIN

PWM PIN

PWM PIN

PWM PIN

Digital Pins

PWM PIN

PWM PIN

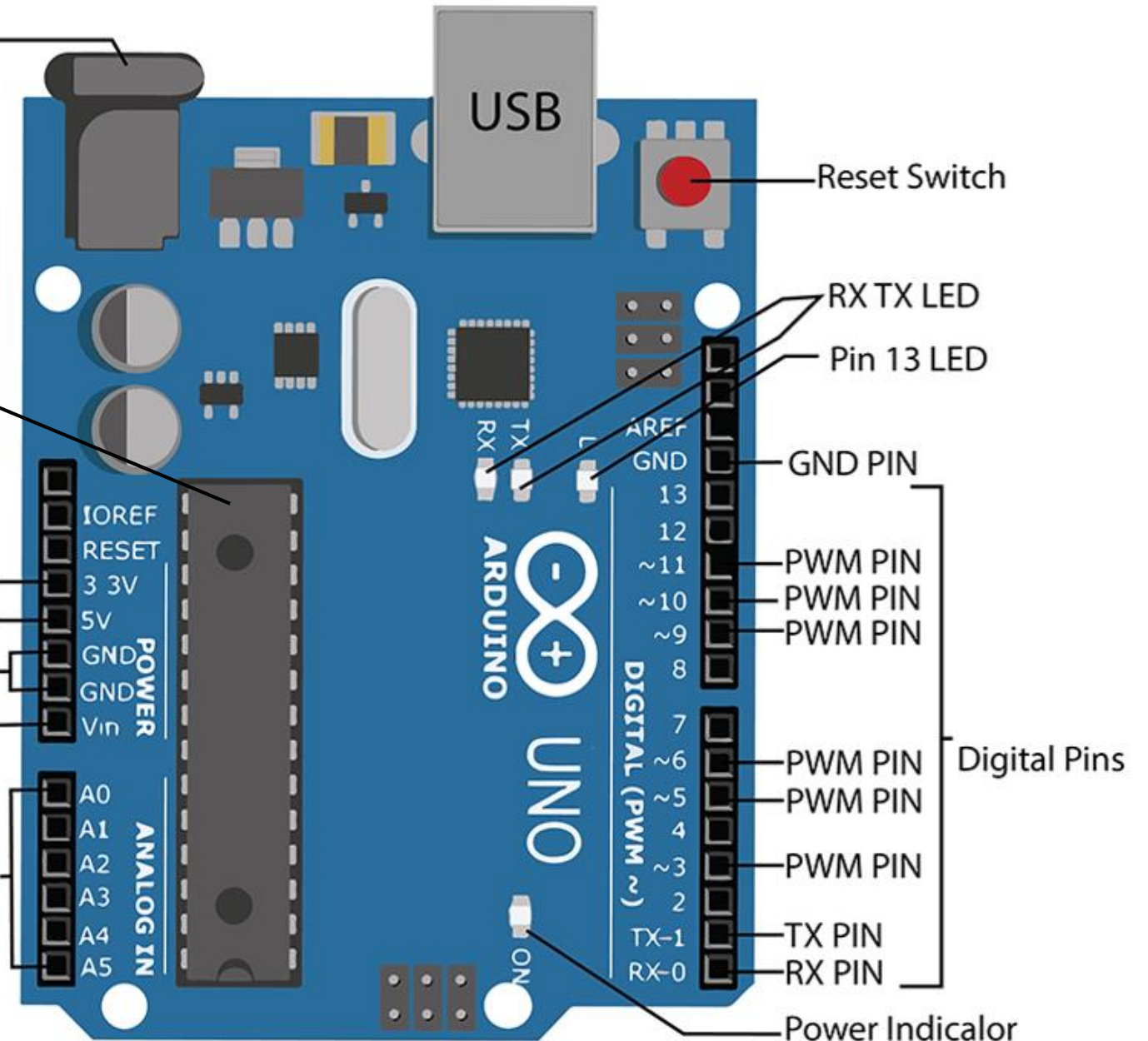
PWM PIN

PWM PIN

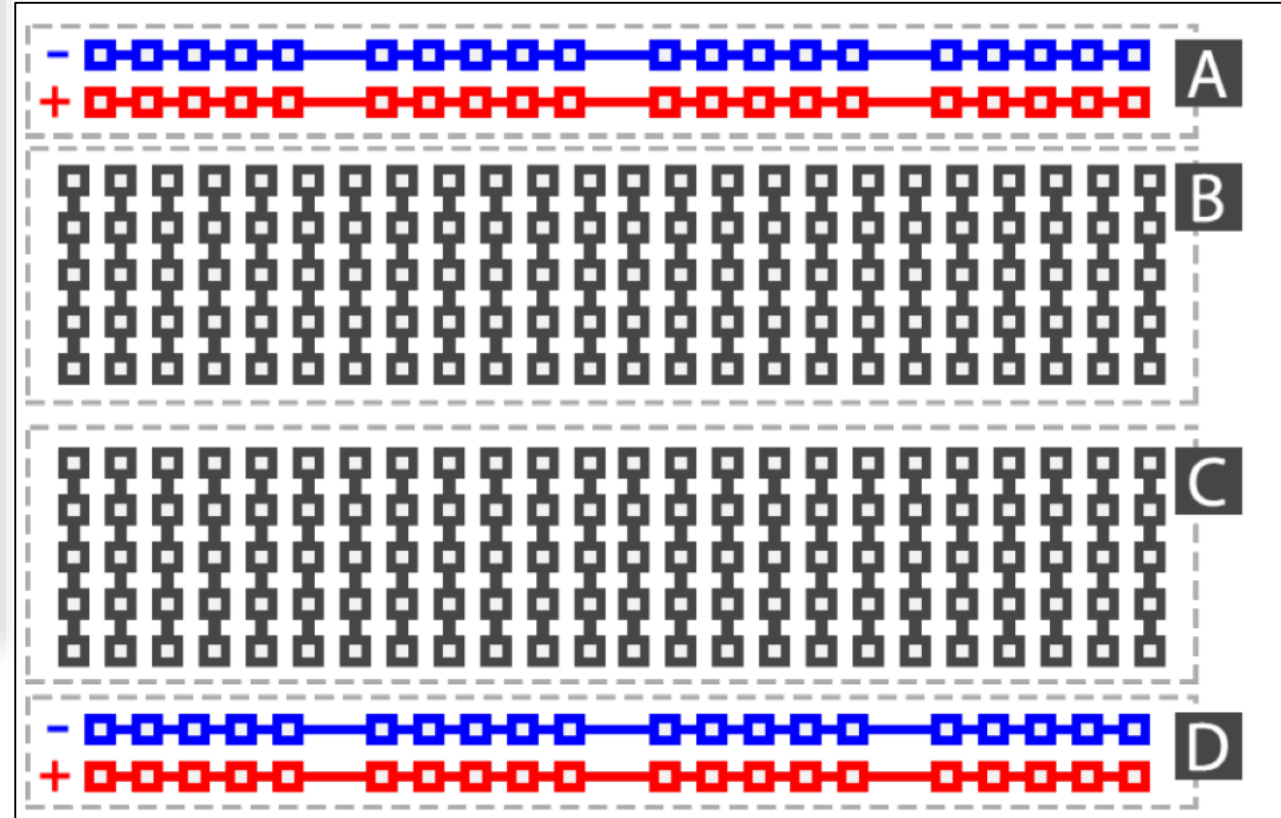
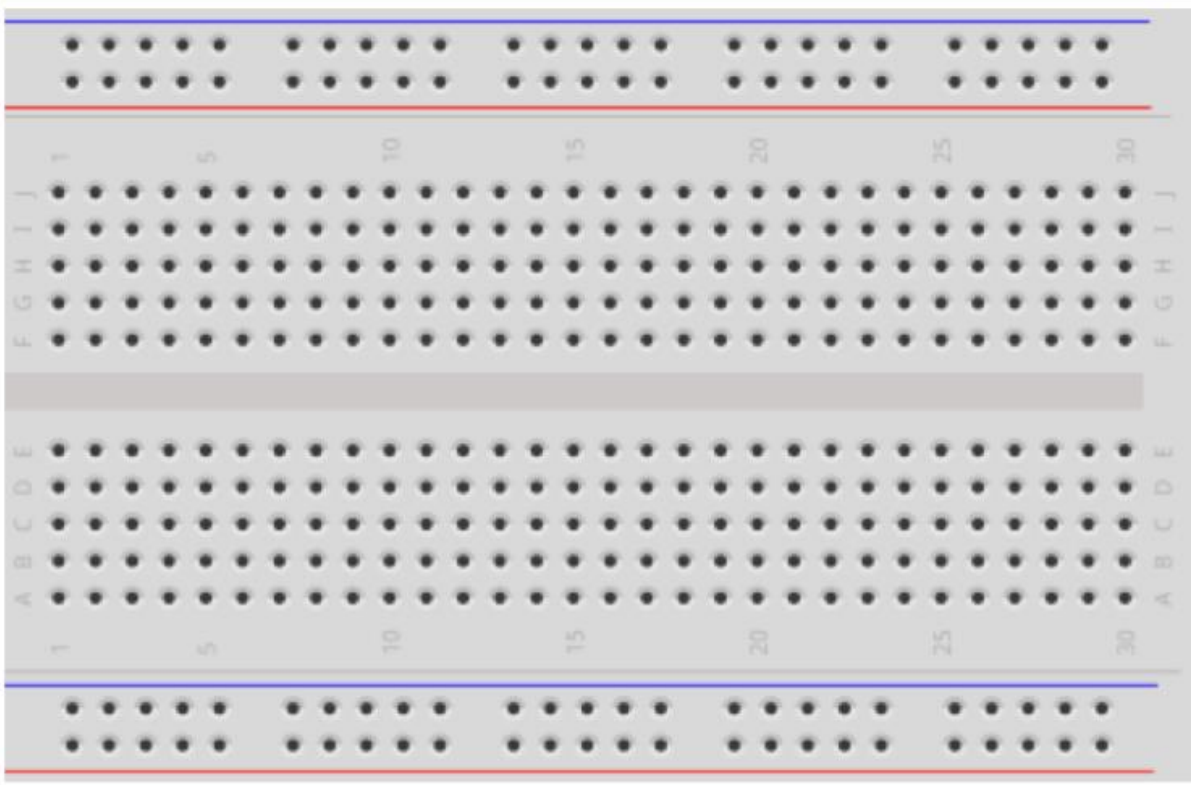
TX PIN

RX PIN

Power Indicator



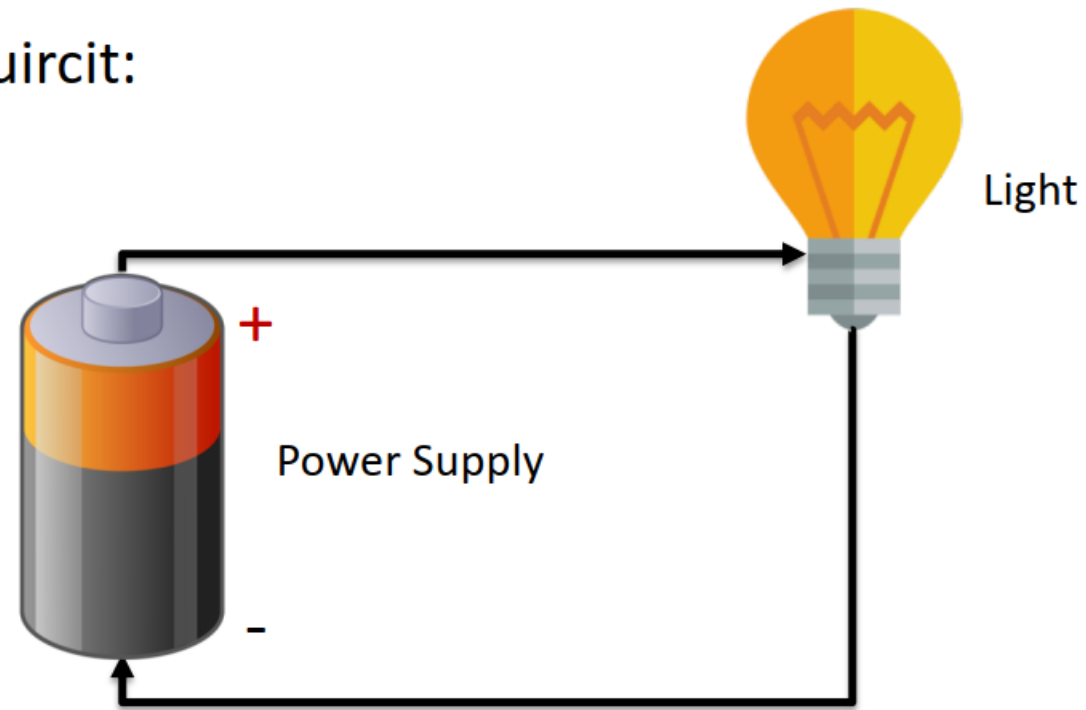
Breadboard



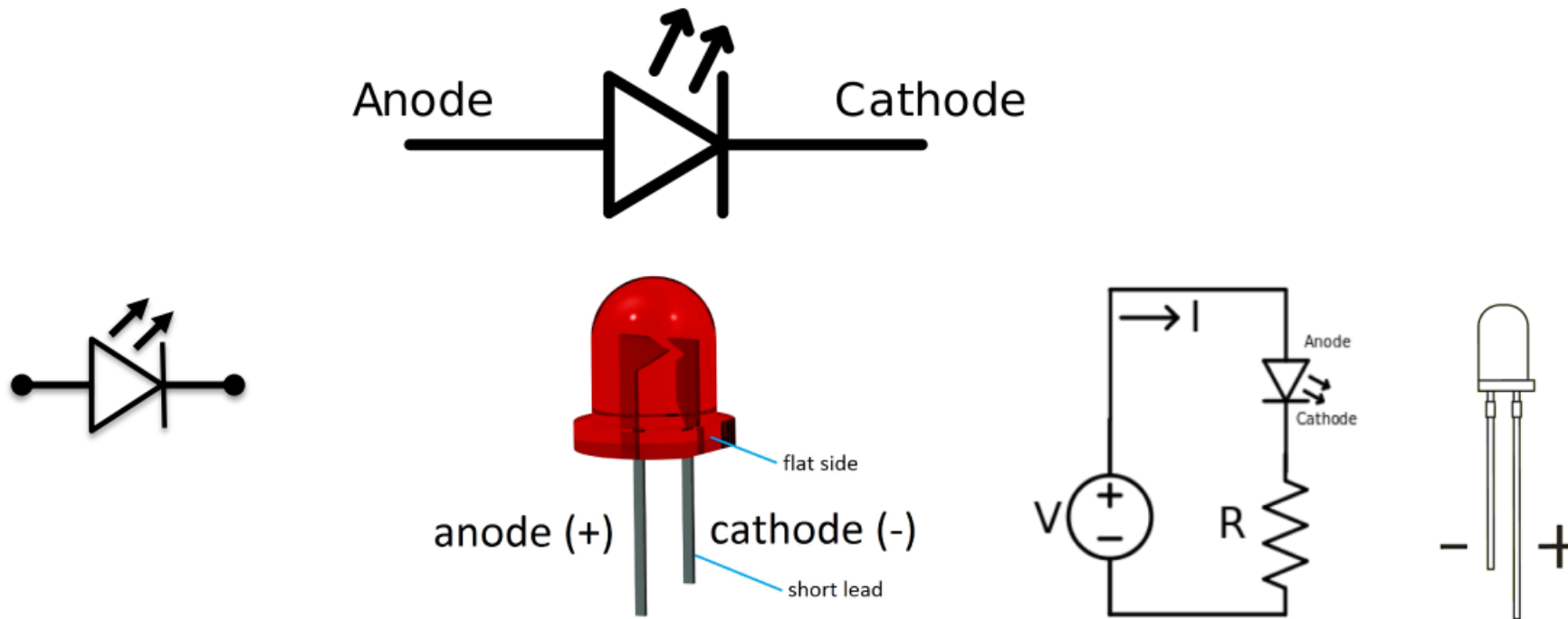
Electrical Cuicits

Lets create the following cuircit:

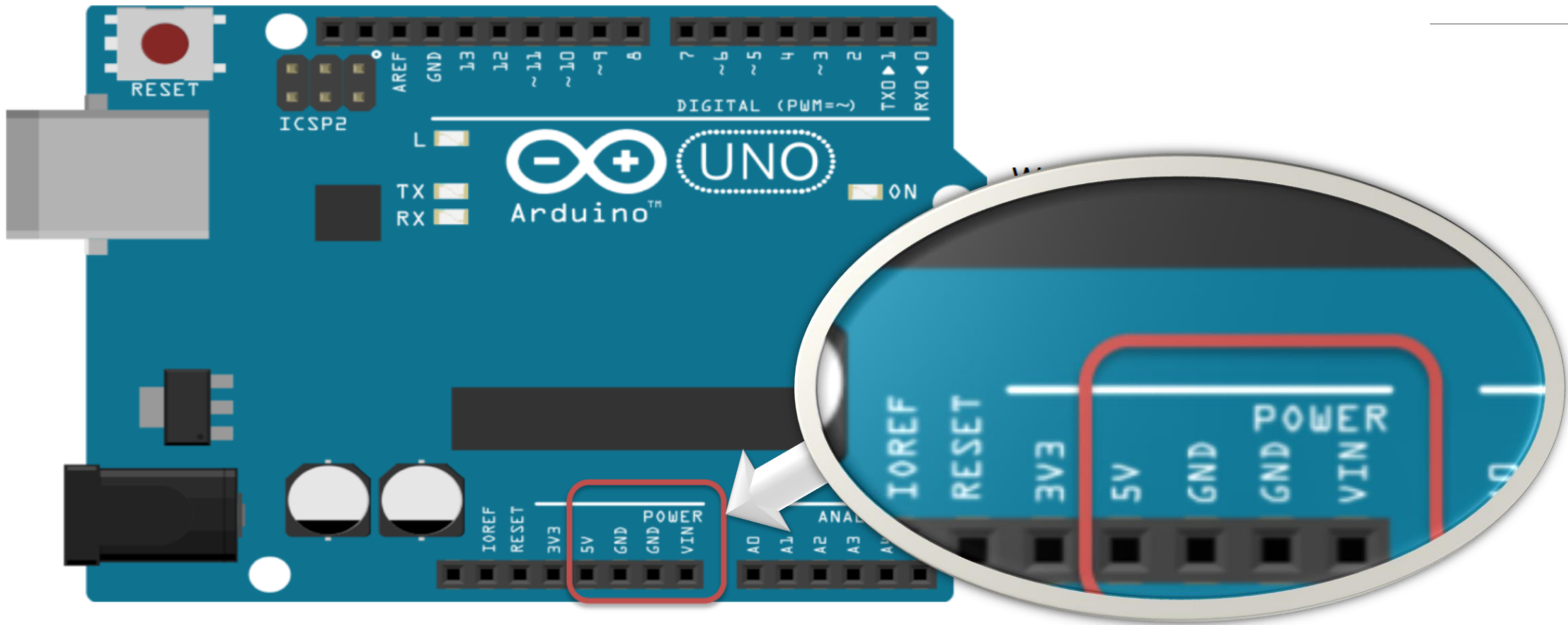
Instead of using a Battery we
will use the Arduino board as a
Power Supply (5V)



Light-Emitting Diode - LED



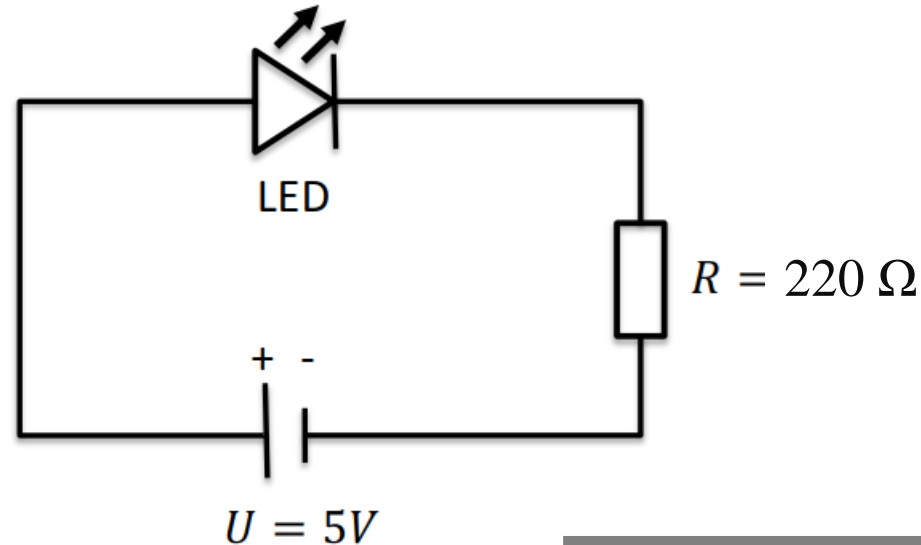
Introduction



Electrical Cuircuit

TRY IT OUT!

— Make the following circuit using the Arduino board and a Breadboard:

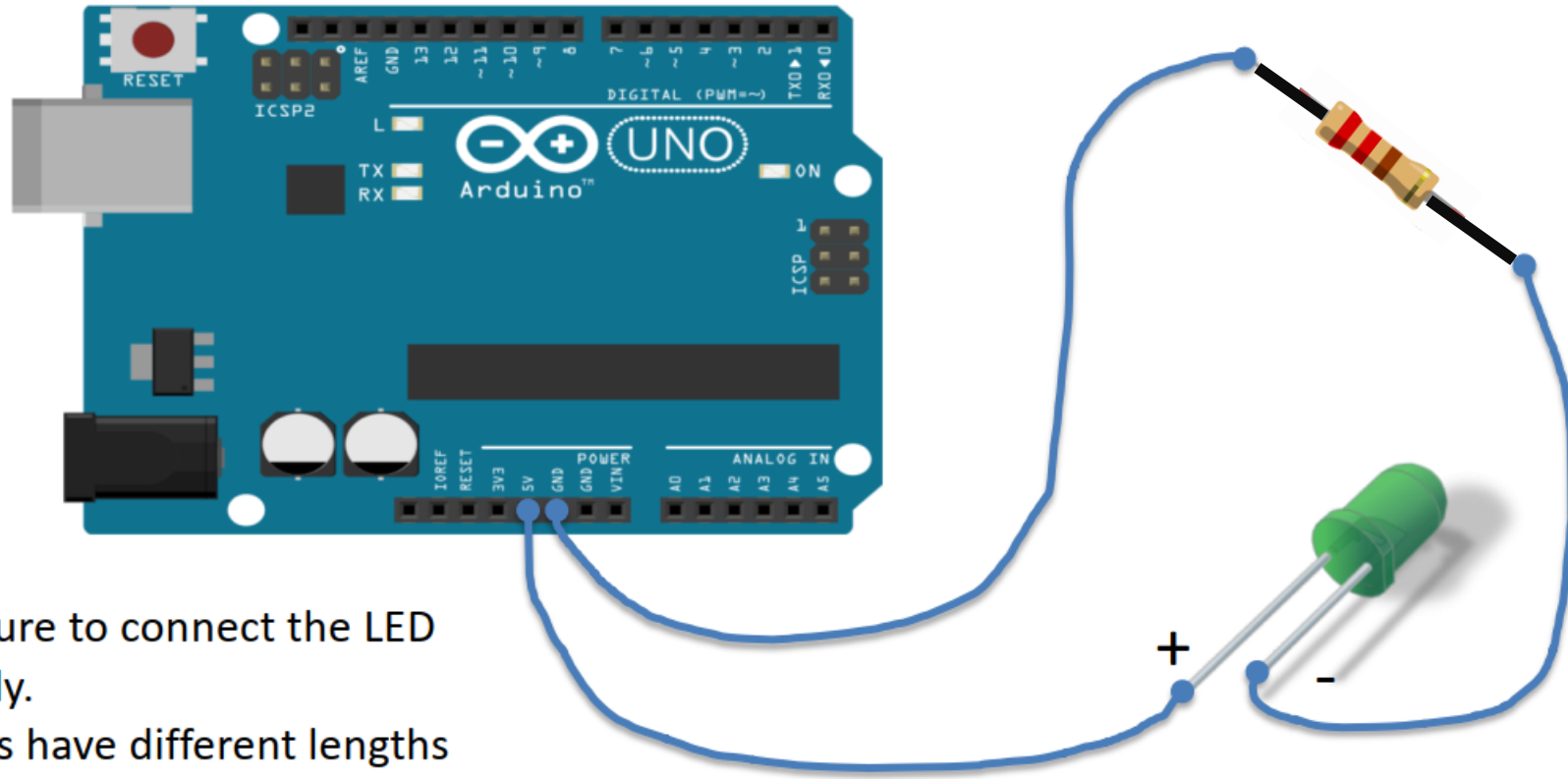


Equipment:

- Breadboard
- LED
- Resistor
- Wires
- Multi-meter

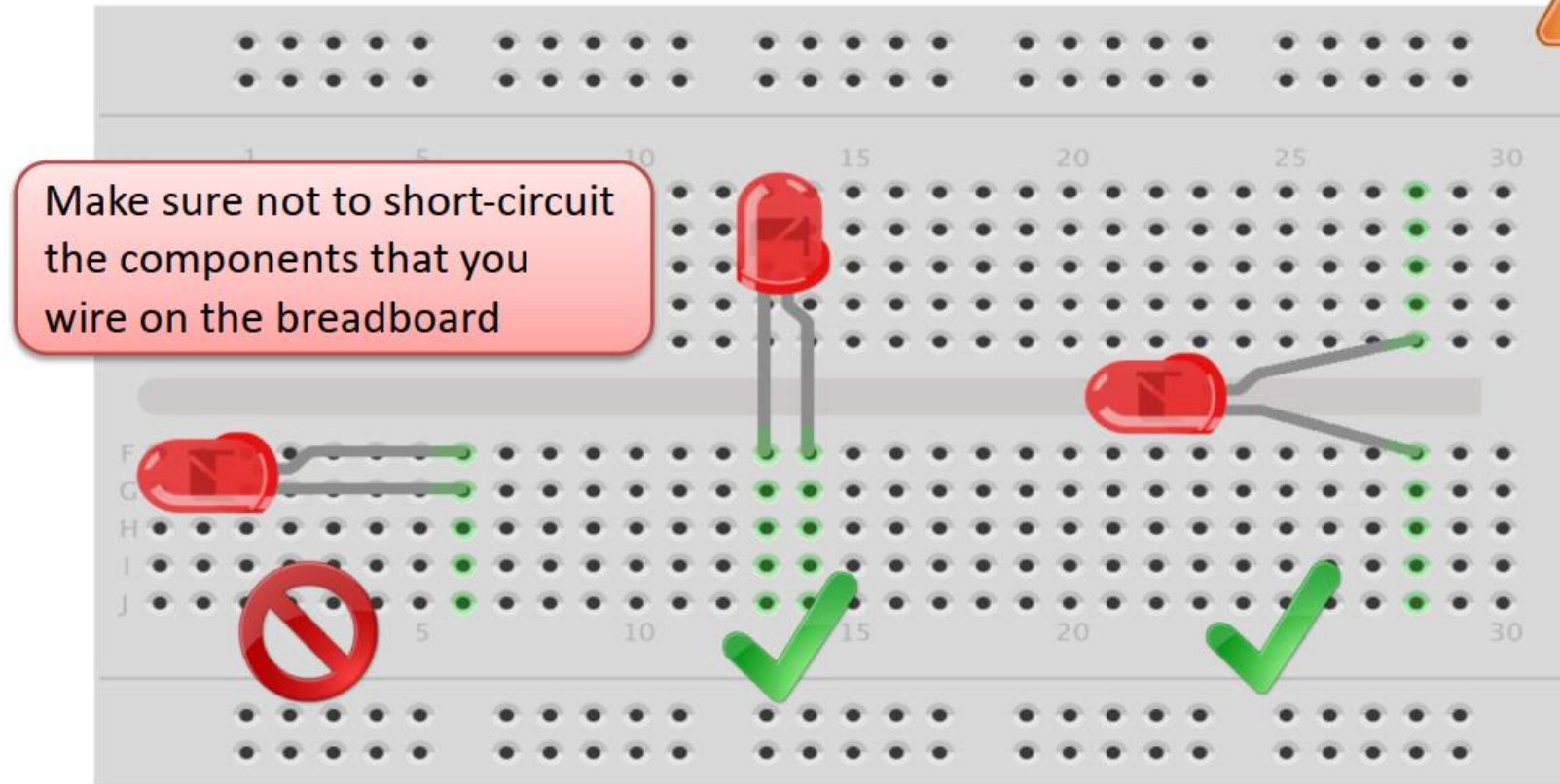
Using a 220Ω resistor in series with an LED in Arduino circuits is essential for protecting the LED from excessive current, and ensuring proper voltage distribution.

Wiring



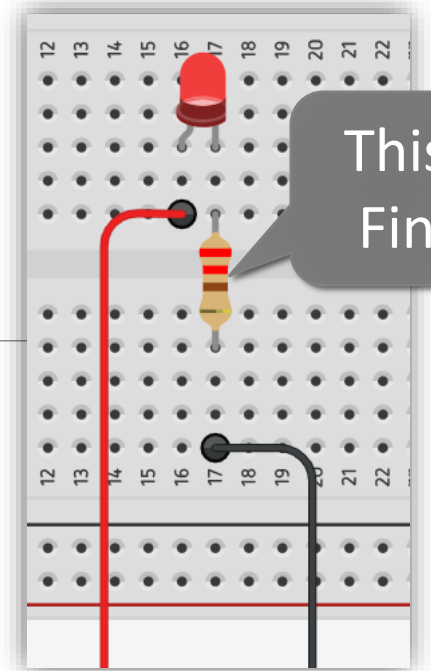
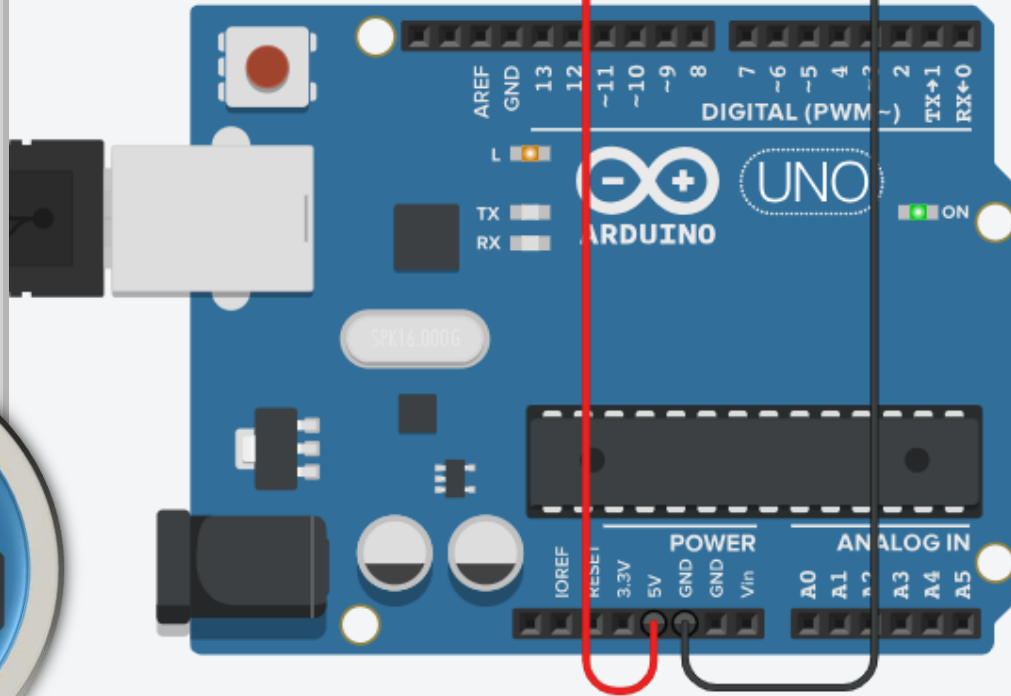
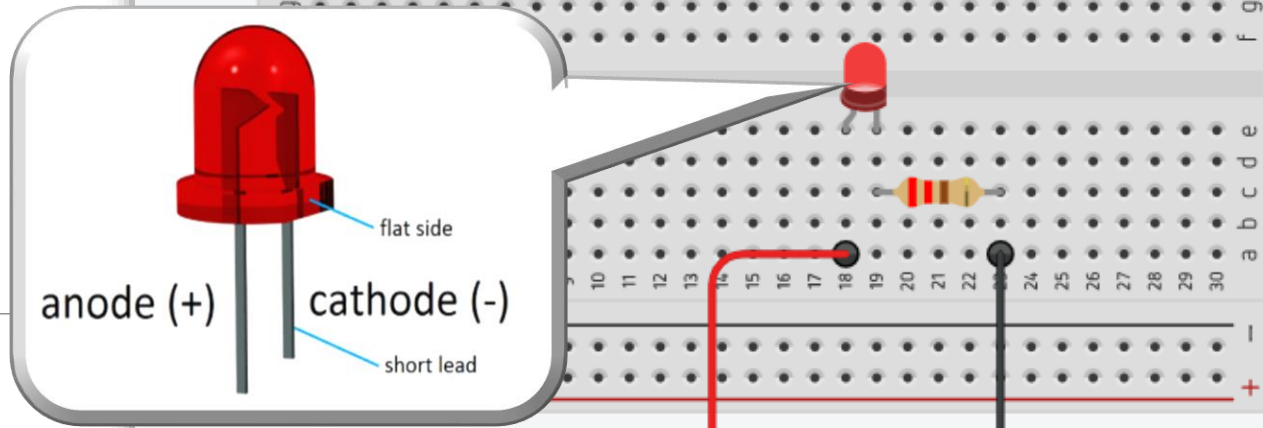
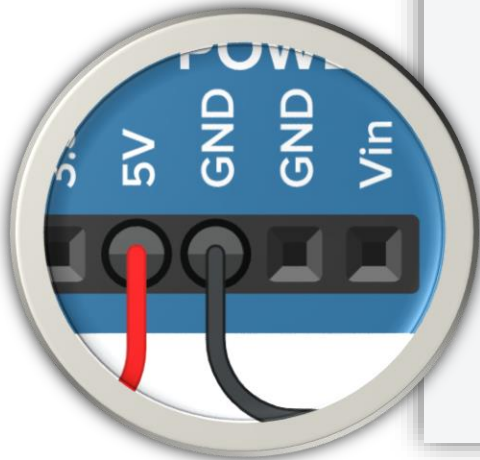
Be careful!

Breadboard Wiring

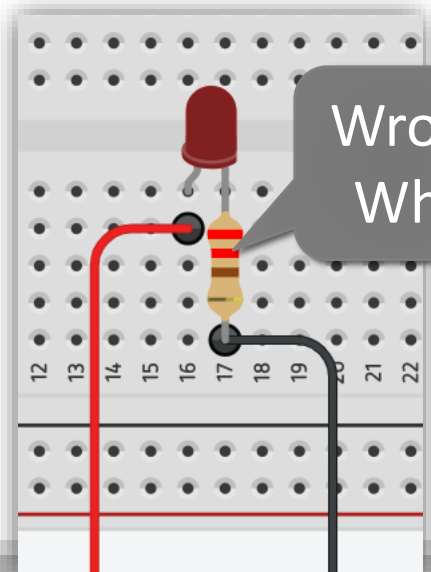


Try this

Note: No Arduino program is needed in this example

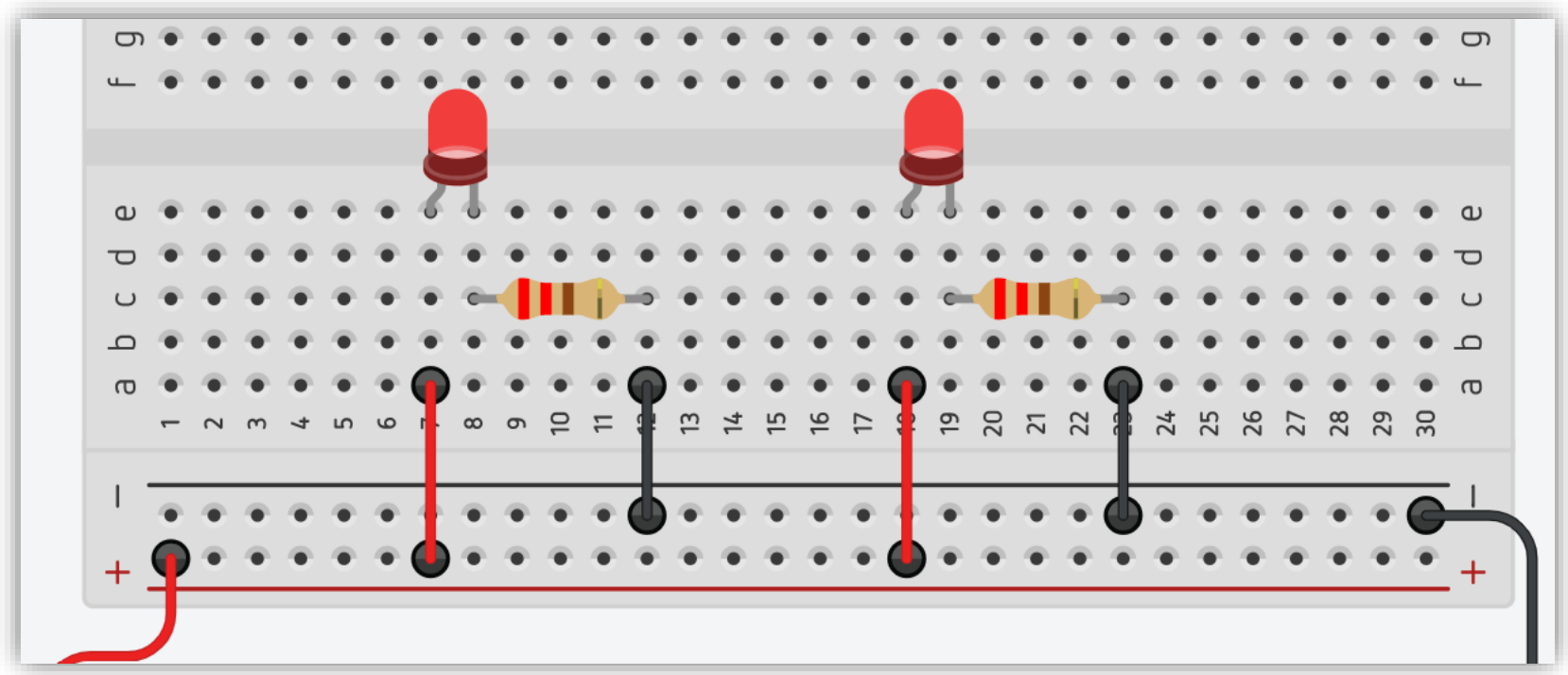
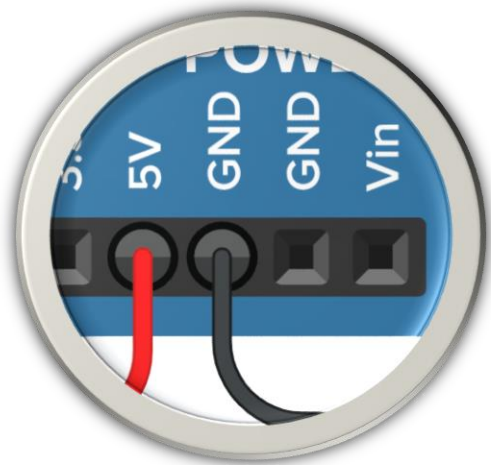


This is Fine!



Wrong!
Why?

Two Glowing LEDs



End of Day 1