ENGINEERING

OCTAVIO ORTIZ

ENGINEERING & COMPUTER SCIENCE

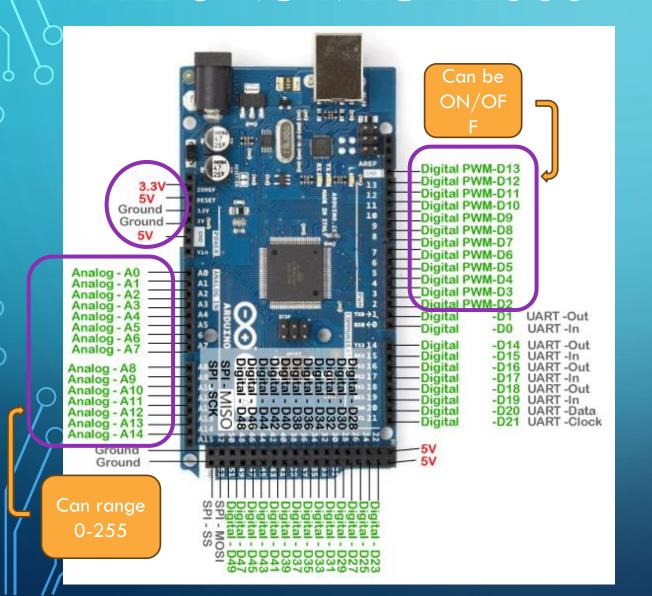
FEBRUARY 2ND, 2025

PRE-ENGINEERING A.S. - IVC

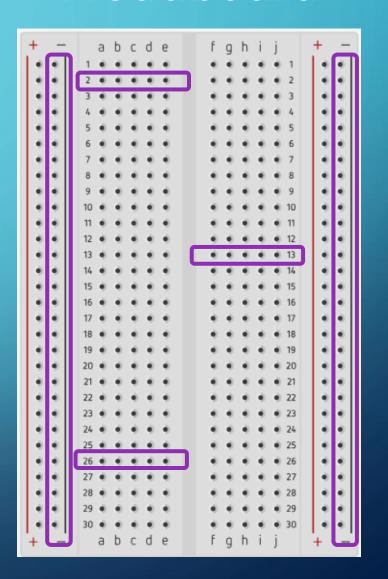
- •For students seeking degree in:
 - Aerospace Engineering
 - Civil Engineering
 - Computer Engineering
 - Electrical Engineering
 - Mechanical Engineering
 - Structural Engineering

ELECTRICAL CIRCUITS & PROGRAMMING

ARDUINO MEGA 2560



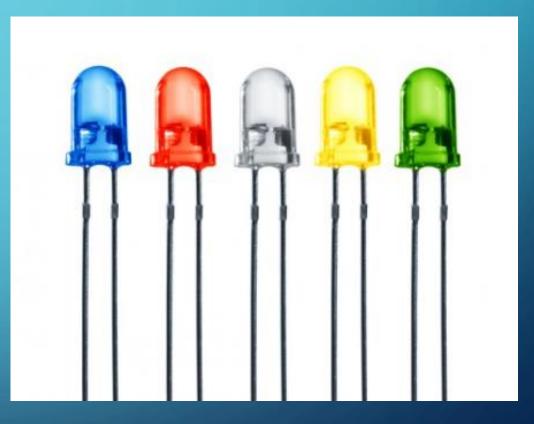
Breadboard



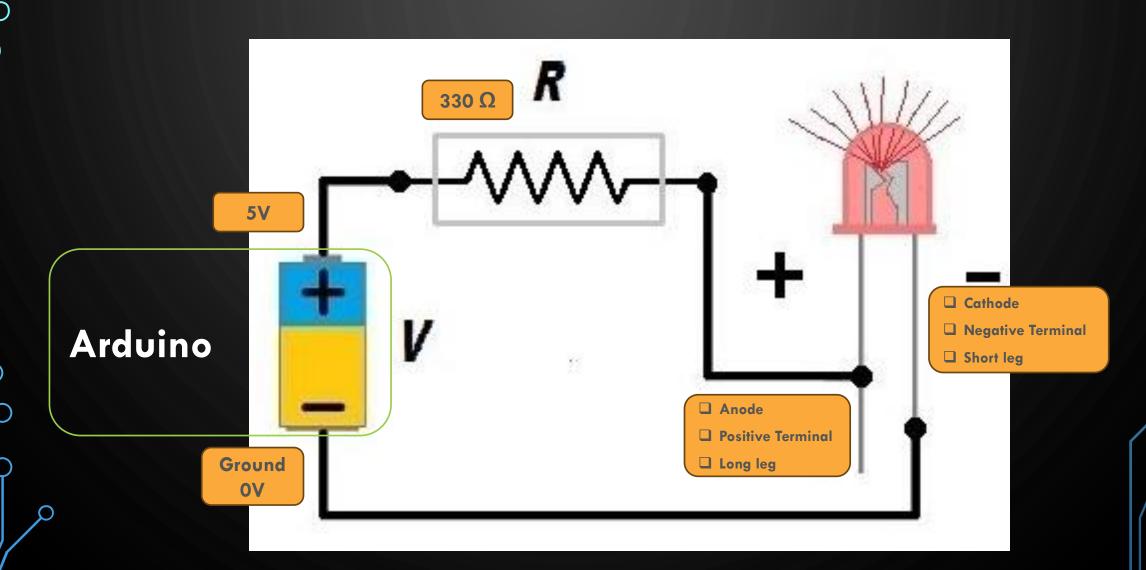
RESISTORS

Breadboard

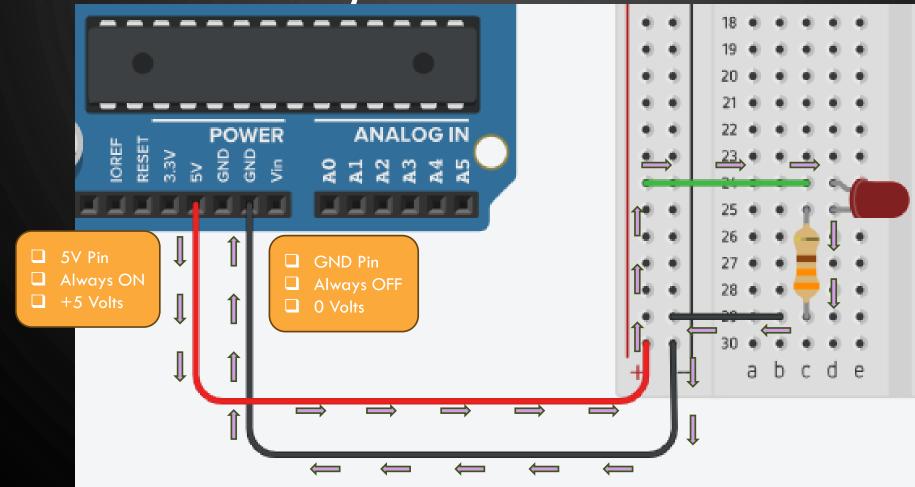




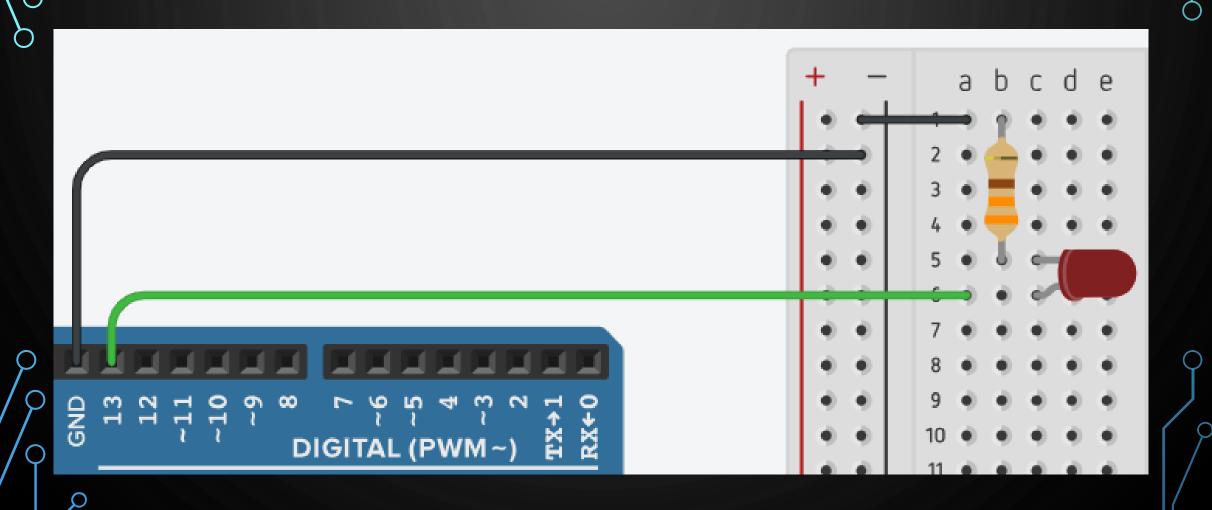
ELECTRIC CIRCUIT



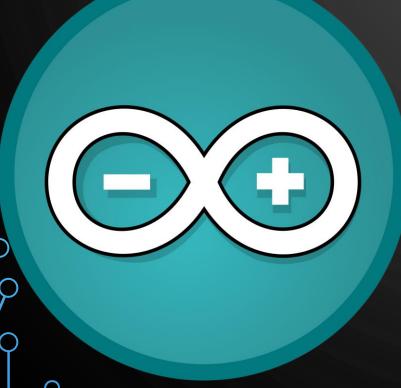
LED ON – CONSTANT POWER (NO CODING)



LED ON/OFF - CIRCUIT



ARDUINO IDE



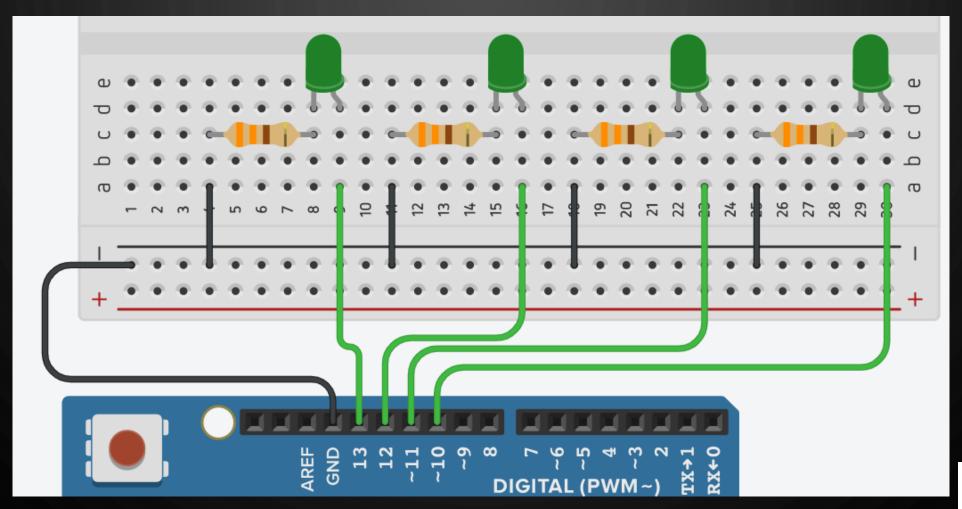
```
sketch_feb01b | Arduino 1.8.11
File Edit Sketch Tools Help
                   Auto Format
                                                     Ctrl+T
                   Archive Sketch
                  Fix Encoding & Reload
   sketch feb01t
                   Manage Libraries...
                                                     Ctrl+Shift+I
                                                     Ctrl+Shift+M
                   Serial Monitor
                   Serial Plotter
                                                     Ctrl+Shift+L
                  WiFi101 / WiFiNINA Firmware Updater
   3 voi
                  Board: "Arduino Mega or Mega 2560"
                                                                      Boards Manager...
                   Processor: "ATmega2560 (Mega 2560)"
                                                                      Arduino AVR Boards
                                                                      Arduino Yún
                   Get Board Info
                                                                      Arduino Uno
                                                                      Arduino Duemilanove or Diecimila
                   Programmer: "AVRISP mkll"
                                                                      Arduino Nano
                   Burn Bootloader
                                                                      Arduino Mega or Mega 2560
                                                                      Arduino Mega ADK
                                                                      Arduino Leonardo
   8 void loop() {
                                                                      Arduino Leonardo ETH
           // put your main code
                                                                      Arduino Micro
                                                                      Arduino Esplora
10
                                                                      Arduino Mini
                                                                      Arduino Ethernet
                                                                      Arduino Fio
                                                                      Arduino BT
                                                                      LilyPad Arduino USB
                                                                      LilyPad Arduino
                                                                      Arduino Pro or Pro Mini
                                                                      Arduino NG or older
                                                                      Arduino Robot Control
                                                                      Arduino Robot Motor
                                                                      Arduino Gemma
                                                                      Adafruit Circuit Playground
                                                                      Arduino Yún Mini
                                                                      Arduino Industrial 101
                                                                      Linino One
                                                                      Arduino Uno WiFi
```

LED ON/OFF — CODE

```
sketch_feb01b §
3 void setup() {
   // put your setup code here, to run once:
6 }
8 void loop() {
   // put your main code here, to run repeatedly:
          File Edit Sketch Tools Help
                                                         delay(1000);
       Verify & Upload
```

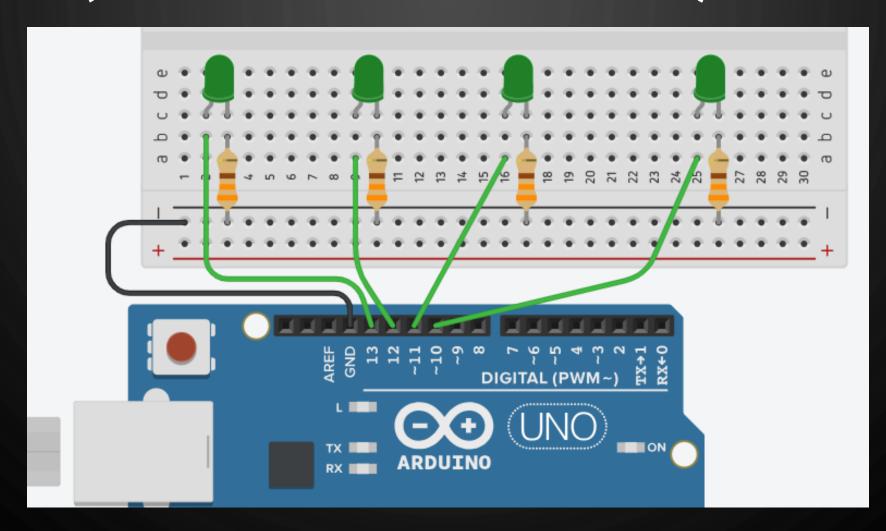
```
int pin = 13;
pinMode(pin, OUTPUT);
digitalWrite(pin, HIGH);
delay(1000);
digitalWrite(pin, LOW);
```

LEDS



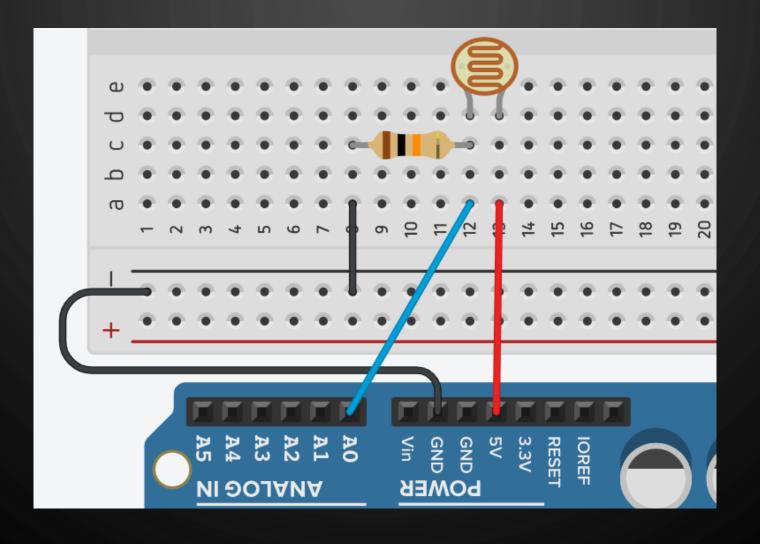


LEDS (ALTERNATIVE HOOKUP)



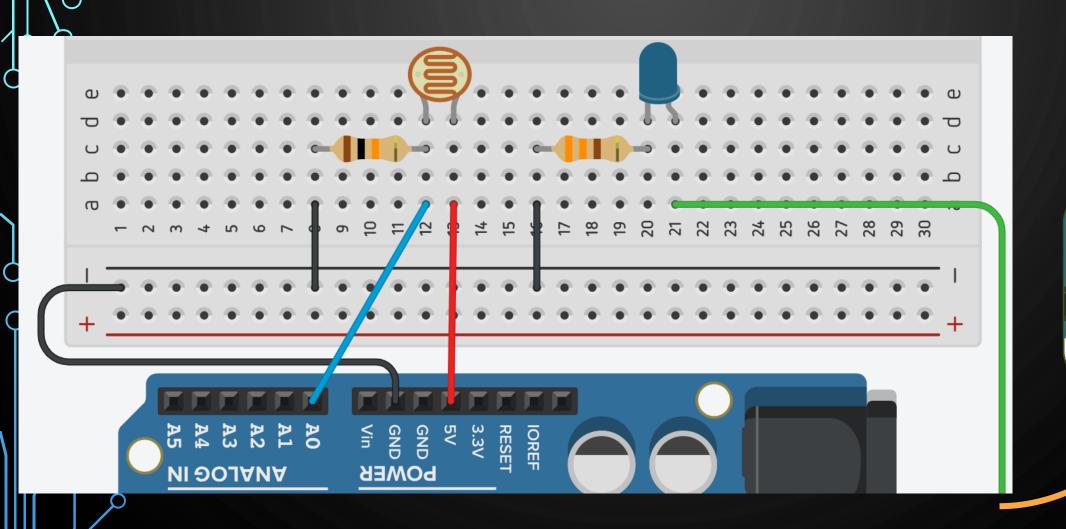


PHOTORESISTOR





SENSOR





PhotoLED.ino