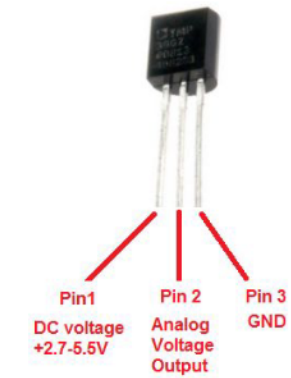
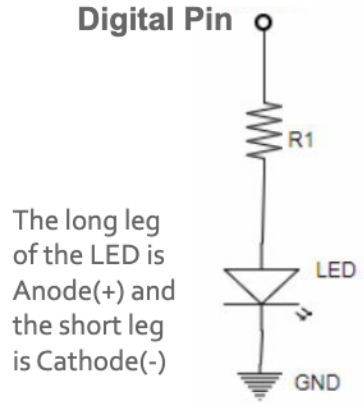
Exercises

- 1. Connect your TMP36 temperature sensor to an **analog** pin on Teensy
  - Read the ambient temperature every second and print it to the terminal.
  - For timing, use the delay() function.
  - Be careful to correct the pins correctly. Look at the datasheet.

Pin 1 to 3.3v
Pin 2 to A14
Pin3 to GND



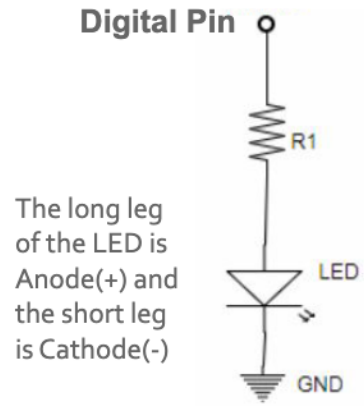
- 2. Connect an LED series with a 120Ω resistor to a digital pin on Teensy
  - Make the LED blinking every second using a **digital** signal
  - For timing, measure time using millis()



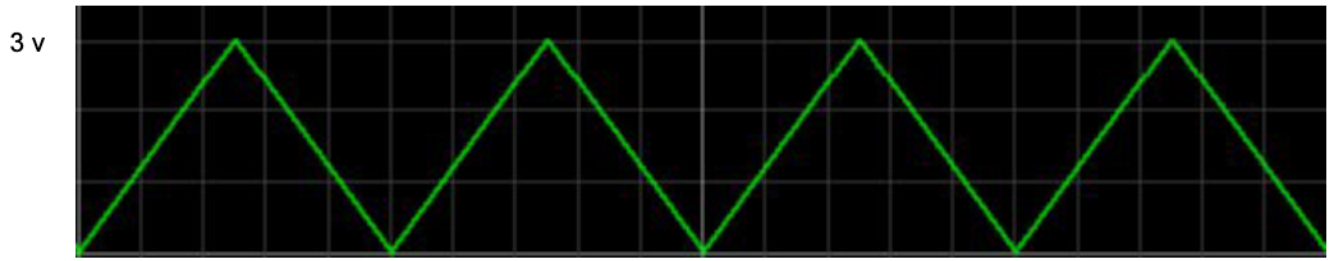
- 3. Connect an LED series with a 120Ω resistor to a pwm pin on Teensy
  - Make the LED fading in/out using **PWM** signals.
  - For timing use the Metro library.

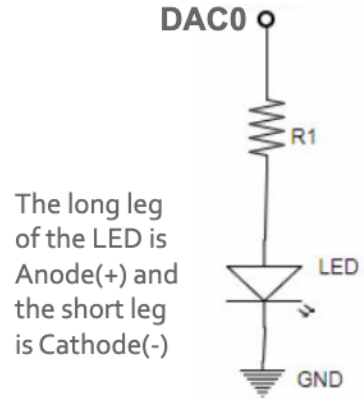
Exercises

- 4. Connect an LED series with a 120Ω resistor to a pwm pin on Teensy
  - Make the LED fading in/out with step 5 using **PWM** signals.
  - For timing use an interval timer with interval 50 ms.



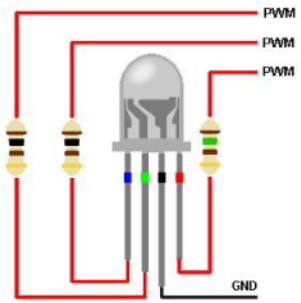
- 5. Connect an LED series with a 120Ω resistor to the **DAC0** on Teensy
  - Make the LED fading in/out using a periodic triangle signal
    - Every 50 ms increase/decrease the voltage with step 0.15v
  - For timing, use the delay() function





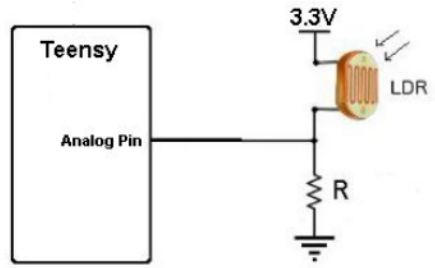
Exercises

- 6. Connect an RGB LED to series with three 120 resistors to 3 analog pins on Teeny
  - Make the LED shining with random colors using **PWM** signals.
  - For timing, use Metro. Every 500ms change the color.
  - For the pinout of the LED look at the datasheet.



- 7. Connect a pushbutton to a digital input pin on Teensy
  - Enable the internal pull-up resistor and read the pin and print it to the terminal.
  - Try the button. Debounce the button using Bounce.h with interval 10ms

- 8. Connect your LDR to an analog pin on Teensy (R = 4.7k)
  - Turn the built-in LED on Teensy on if the ambient light intensity is lesser than 10 lux(1.0 ftc)
  - Look at the datasheet of the LDR in Photoresistor CdS 4 - 7 kohm



- 9. Using an interval timer make an example code which
  - Shows the necessity of using the type qualifier volatile for shared variables