

# COSC 251- Programing Languages

## Lab 3 – Pi, PWM, and Colors

Spring 2014

**Objective:** Power a RGB LED and create a GUI with Python which allows the user to change its colors.

**Your Group's Task:** Within your project groups your task is to design a circuit which will power an RGB LED utilizing the Raspberry Pi Cobbler. The program should come complete with a Tkinter GUI interface. This interface should consist of three sliders with values ranging from 0-100. Each slider should be linked to one of the LED's three colors: red, green, and blue. The user should be able to slide each slider to change the values sent to each color.

### Python Libraries Needed:

- Tkinter
- GPIO

### Hints:

- Here's the data sheet for the RGB LED:  
<https://www.sparkfun.com/datasheets/Components/YSL-R596CR3G4B5C-C10.pdf>
- Use this site to determine what resistors to use: [ledcalc.com](http://ledcalc.com)
- Use GPIO's PWM function. To change the color change the duty cycle!

**DUE:** Demonstrations due during class Monday. Code due by 11:59pm, Monday. No exceptions. To be turned in via Blackboard.