ECEN 489: Laboratory 2

Prerequisites: Laboratory 1 and Task 3.

Arduino Microcontroller

This laboratory seeks to integrate concepts from Laboratory 1 and Task 3 (Microcontroller Software).

Pre-Laboratory Items

1. Read the **Blink** and **AnalogReadSerial** tutorials on the Arduino site.
   `http://arduino.cc/en/Tutorial/HomePage`
2. Describe the operation of a photoresistor.
3. Sketch a diagram of a light detector based on a photoresistor. The sketch should contain labels for a voltage source, a ground, a probe, a resistor and a photoresistor.
4. When building a circuit that interface with a microcontroller, what is the purpose of a common ground?

Laboratory Items

1. Program a sketch and implement a circuit that that makes an LED blink. Use a transistor to build a buffer stage for your signal, thereby isolating your microcontroller output from its load.
2. Repeat the previous item using an electrical relay instead of a transistor.
3. Program a sketch and implement a circuit that can read the value of a photoresistor. The current value of the voltage across the photoresistor should be displayed on the Arduino console, and it should change based on the amount of light capture by the device.

Report Items

1. There are no report items for this laboratory.