CSE 308- Lab #2
Photoresistor-LDR

Due:
Demo: Tuesday February 20th 2020, 11:00 am
Report Monday February 25th 2020, 11:50 pm

Objectives:

After the lab, you should know how to
- Write Python code to interface photoresistor to Raspberry Pi
- Write Python code to process and plot data from lists using the matplotlib package
- Write Python code to customize your plots (e.g. titles, axes labels, colors)

Assignment:
(**Demo, group, 100 points**)
1. You are to design and build a circuit that acts as day and night detector. Use the Raspberry Pi, Photoresistor, and any other elements you find useful. Study the photoresistor, and determine the threshold needed to categorize the light intensity (Day, Dark). If the it is dark, turn on the LED, else turn it off. What did you notice about the values you read ?
2. Using the ADC that were handed to you in the class, redo part one and determine the values of the light intensity vs resistance.

(**Individual- 50 points**)
3. Modify your python code to read and plot the light intensity. You will generate a plot similar to the figure below: X-axis: light intensity, Y-axis Resistance
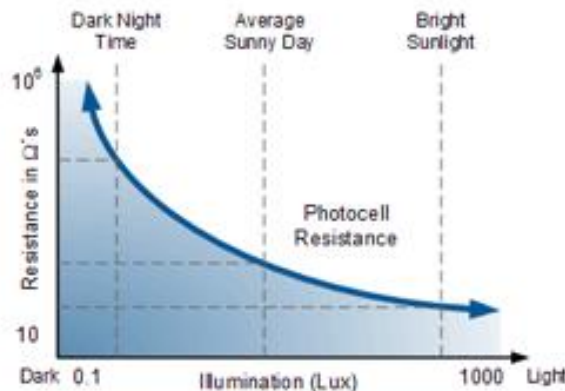

Figure 1: LDR resistance vs Light Intensity

4. Explain the idea behind using the capacitor method, and why it worked. (Briefly). Explain the piece of code that you used.

Deliverables:

You need to run in using Blackboard
1. Python code (include comments: to explain your code)
2. Screen shot of your circuit.

Grading

This lab is worth 150 points.