EGR – 550 ASSIGNMENT 1

SETTING UP TEMPERATURE CONTROL LAB

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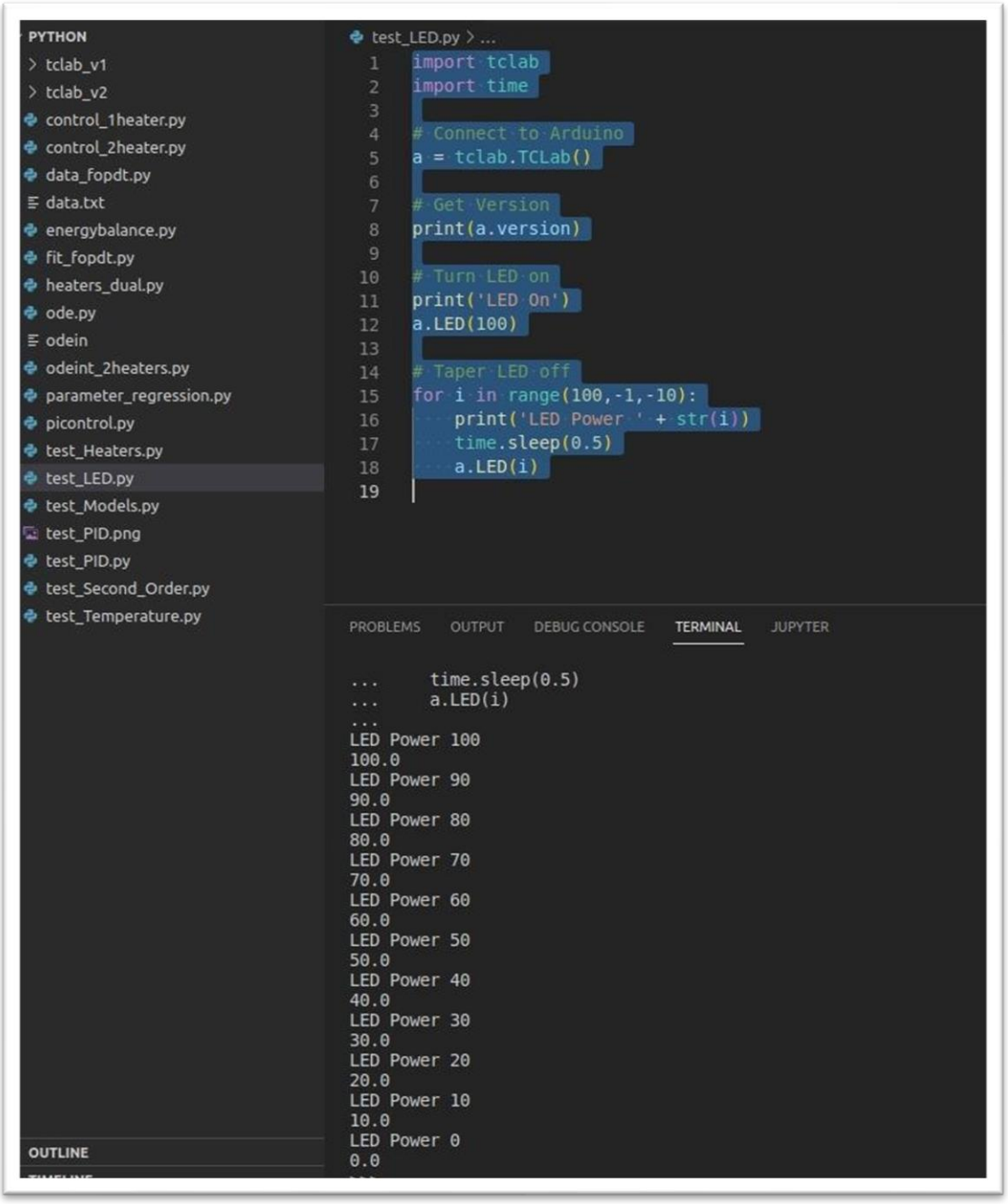
Code:



MATLAB:

```
close all; clear all; clc

% include tclab.m for initialization
tclab;

% Write data to the digital pin
disp('LED on and off repeatedly for 5 seconds')
for i = 0:5
    led(1)
    pause(0.5);
    led(0)
    pause(0.5);
end

% Change the brightness from maximum to minimum using the
%  digital pin's PWM duty cycle.
disp('LED dimming from bright to off over 10 seconds')
for brightness = 1:-0.1:0
    led(brightness);
    pause(1.0);
end

disp('LED Test Complete')
```

```
  arduino with properties:

                Port: 'COM7'
               Board: 'Leonardo'
      AvailablePins: {'D0-D13', 'A0-A5'}
  AvailableDigitalPins: {'D0-D13', 'A0-A5'}
     AvailablePWMPins: {'D3', 'D5-D6', 'D9-D11', 'D13'}
   AvailableAnalogPins: {'A0-A5', 'D4', 'D6', 'D8-D10', 'D12'}
    AvailableI2CBusIDs: [0]
AvailableSerialPortIDs: [1]
           Libraries: {'I2C', 'SPI', 'Servo'}
Show <a href="matlab:if exist('a','var'), showAllProperties(a),end" style="font-weight:bold">all properties</a>

LED on and off repeatedly for 5 seconds
LED dimming from bright to off over 10 seconds
LED Test Complete
```

SIMULINK: