Lab 1

Objectives:

- Become familiar with the MicroPython development environment.
- Learn how to use MicroPython to read sensor data and control the output of onboard LEDs.

Note**: Please be gentle with the hardware. Do NOT save your lab scripts on the board.**

Give: You must submit your code via *give* by the assessment date (which is the day of your lab in the following week) or you will receive a mark of 0. You may submit as many times as you wish. Your latest submission will override previous files.

Please finish the provided tutorials (1 and 2) before attempting to solve this exercise. Following a systematic approach will save you a lot of time and heartache.

Marking Criteria

Demonstration (7 marks) – Due next week.

Task1 (2 marks)

Write a program to toggle the orange LED (Pin 13) with a frequency of 1Hz (0.7 sec On and 0.3 sec off).

Task 2 (3 Marks)

Based on task 1, toggle the RGB LEDs by following procedure: turn on the red, green and blue LED (Pin 24 16 06) **sequentially (one by one)** with a frequency of 0.9 Hz. Then turn off the blue, green and red LED **sequentially** (one by one) with a frequency of 1.1 Hz. (1 mark if it is not based on task1)

Task 3 (2 Marks)

On top of Task 2, the program also needs to print out the temperature and humidity data continuously at an interval of 1.7 seconds. (1 mark if it is not based on Task 2)