Challenge #0: Programming a simple I/O and timing function on the Arduino

Note: *Students unable to complete this task are not recommended to continue in the course.*

Your Task: Using an Arduino and the electrical components provided to you in class, assemble a circuit to perform the following functions:

Function 1:

a. Illuminate the R, G, B LEDs, individually
b. Detect button push
c. On button push, transition between colors on each push, in a repeating cycle R→B→G→R→…

Function 2:

a. Add a second button that will change the mode to cycle through the colors continuously, pausing for 1 second on each color
b. Pressing the second button again should return the device to the mode of Function 1.

Notes:

- This is an individual assignment
- You are required to use your own computer for the IDE, development, posting, flashing, and demonstration.
- The LEDS should be attached to GPIO pins on the Arduino with resistors to limit current (provided).

Deliverables:

- Working demonstration, from your computer.
- Video recording, from your phone, submitted to piazza, not to exceed 15s
- Correct tagging of the posting on piazza
- Demonstrate to TA or instructor

Please disassemble the components and return to instructor when you are done