ECE 103 Lab-A0 Worksheet

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Exercise P3 *STOP! Read the Lab-A0 Guide FIRST!*

a) Modify the **esp32_RGB_LED.ino** sketch to meet these requirements:

- Remove the code that turns off all the LEDs from *loop* and place it to the end of *setup* instead.
- In *loop*, delete the code that turns on the red, green, and blue colors individually AND the code that cycles through the 256 colors.
- Add new code in *loop* to do this:
  - Read an integer value (legal range: 0-255) entered by the user from the serial monitor.

```
while (Serial.available() > 0)
{
  int red = Serial.parseInt();
  if (Serial.read() == '\n')
    ledcWrite(1, red);
}
```

  - Modify the new code so that the LED color changes *only if* the red value is legal.

- Explain in the box below how the new code works (i.e., what are .available() and .parseInt() ?).

What the new code do is that it take in the input from the user which is the Serial.available() which read the data from the port that the user input. Then it check if that number is bigger than 0 if it bigger than 0 then it will run the content of the loops otherwise it will not. Once the user enter the acceptable, it will then read the user input into the red variable with Serial.parseInt() which read the stream into the variable red. After that it will check if the user enter in newline with Serial.read(), once the user finish and enter the newline it will call the function ledcwrite to set the color brightness.

b) Compile and upload your modified code. Test and debug as needed.
Note: There is an input box at the top of the monitor window for typing data into. Once you press the Enter key or click [Send], it transmits the data to the HUZZAH32.

c) Ask your Scrum Master (helper) or instructor to review your final results.
