Debugging Activity

Name: _____

1. This activity requires you to make a free account on TinkerCAD and log in. Once you have done so, go to this link and create a copy of the TinkerCAD circuit: https://tinyurl.com/ASUDebug

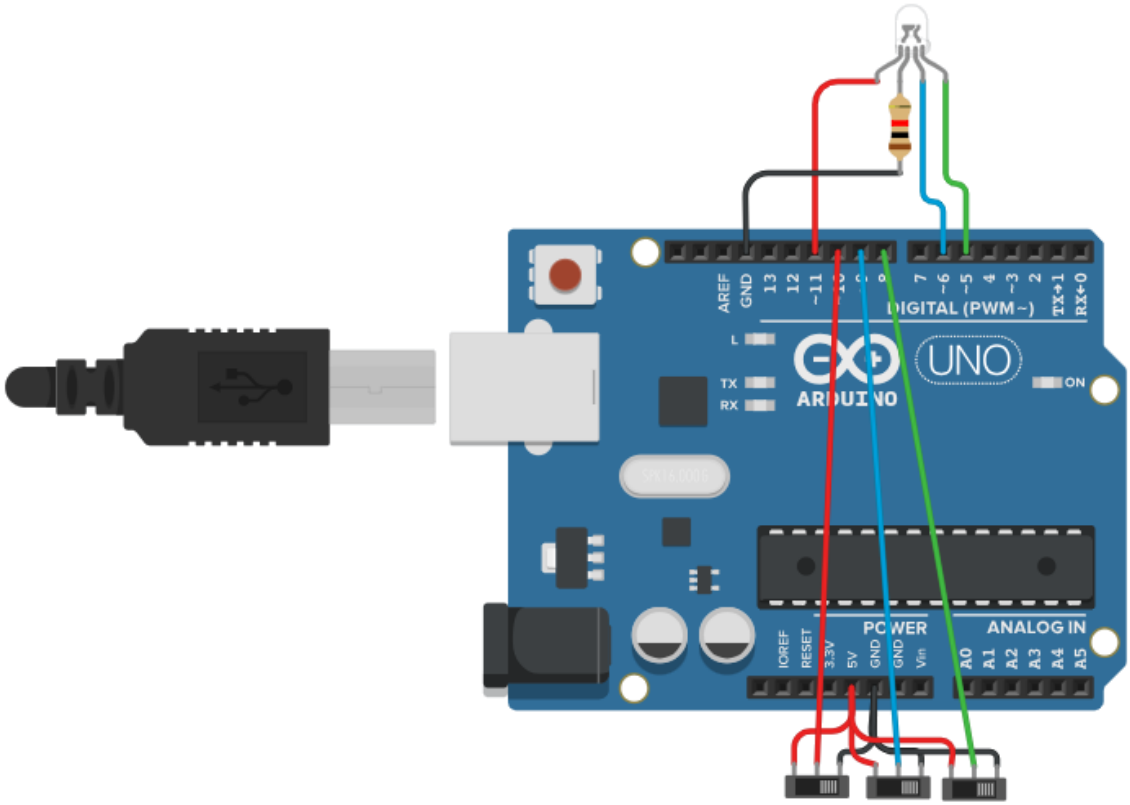

Figure 1. RGB LED circuit used for this activity.

2. The above circuit uses three switches to control an RGB LED. An RGB LED is similar to a standard LED except that it has three LEDs inside of one enclosure: a red one, a green one, and a blue one. By adjusting which of the three LEDS are on and how bright they are, a programmer can effectively produce any color of light they would like with a single LED. For example, if the red and blue LEDs are turned on all the way, but the green one is turned off, it should produce a purple light. Using a combination of debugging tools and skills and assuming that the wiring is correct, modify the code so that it 1) builds and 2) the code runs with the following behavior:

    - Each color (red, green, and blue) can be turned on and off independently using the corresponding switch
    - When the red and blue LEDs are turned on and the green one is turned off, it should produce a purple color
    - When all three LEDs are on, it should produce white light
    - No light should be produced when all of the switches are turned off

    Document all of your changes in the table below:

Line of Code	Description of what was modified

3. When all of these behaviors have been verified, ask your instructor to look at a demonstration of your code. If it looks good, your instructor will initial your worksheet.

   Instructor's Initials: _____