

Mission 4 Assignment Log	Name:								
Pre-Mission Preparation									
What do you already know about RGB colors?	Answers will vary. Facts that can be included: RGB stands for red, green, blue. They are the little lights that make up a pixel. Each pixel has its own brightness. The three colors combine to form many colors.								
Many devices use RGB colors for their displays. List some devices:	Answers will vary.								
Mission 4 Checks									
Objective #1 What is the code to set the first NeoPixel in the ring to red?	<code>np[0] = (20, 0, 0)</code>								
What is the code to set the last NeoPixel in the ring to blue?	<code>np[7] = (0, 0, 20)</code>								
Objective #2 How is a tuple like a list? How are they different?	They both can hold multiple values. They both use an index. A list uses parenthesis instead of square brackets. A list has values that cannot be updated.								
Objective #3 Write two lines of code that: <ul style="list-style-type: none"> Define a constant for a color Assign the color to the fifth pixel 	Answers can vary for the color defined. <code>RGB_YELLOW = (20, 20, 0)</code> <code>np[4] = RGB_YELLOW</code>								
Objective #4 Given this code, identify the parts: <pre>def set_all_pixels(rgb_color): for pixel in range(4): np[pixel] = rgb_color</pre>	<table border="1"> <tr> <td>parameter</td> <td><code>rgb_color</code></td> </tr> <tr> <td># of loops</td> <td><code>4</code></td> </tr> <tr> <td>Loop variable</td> <td><code>pixel</code></td> </tr> <tr> <td>Index variable</td> <td><code>pixel</code></td> </tr> </table>	parameter	<code>rgb_color</code>	# of loops	<code>4</code>	Loop variable	<code>pixel</code>	Index variable	<code>pixel</code>
parameter	<code>rgb_color</code>								
# of loops	<code>4</code>								
Loop variable	<code>pixel</code>								
Index variable	<code>pixel</code>								
Objective #5 Write a line of code that generates a random number between 1 and 15:	<code>number = randint(1, 15)</code>								

<p>Objective #6 What is the value of a microswitch when it is not pressed?</p> <p>Explain what this code does:</p> <pre>if microswitch.value == HATCH_CLOSED: set_all_pixels(RGB_GREEN) else: set_all_pixels(RGB_RED)</pre>	<p>True</p> <p>If the microswitch is pressed (False), turn all pixels GREEN. Otherwise turn all pixels RED.</p>
<p>Objective #7 Explain what this code does:</p> <pre>def is_lock_failed(): return randint(0, 99) < 40</pre>	<p>It returns True or False. If the random number is less than 40, it returns True (lock failed). If the random number is 40 or more, it returns False (lock succeeded).</p>
<p>Objective #8 What is the variable “was_pressed” used for?</p>	<p>It is a variable that tracks whether the microswitch was pressed.</p>
<p>Post-Mission Reflection</p>	
<p>What is a challenge you had with this mission? How did you overcome the challenge?</p>	<p>Answers will vary.</p>
<p>What is something you learned about yourself during this mission?</p>	<p>Answers will vary.</p>