

Mission 8 Assignment	Name:
Pre-Mission Preparation	
In the last mission the CodeBot used line sensors to detect reflected light. What do you remember about line sensors?	<p>Answers will vary. Answers can include:</p> <ul style="list-style-type: none"> • CodeBot has 5 line sensors, numbered 0 to 4 • They have an emitter, detector and read reflected light • Line sensors return a value between 0 and 4095 • Higher values = less reflective surface, like a black line • Line sensors are read with <code>ls.read(num)</code>
Mission 8 Checks	
<p>Objective #1</p> <p>A less reflective surface, like a black line, results in _____ values, while a more reflective surface, like a white floor, results in _____ values.</p> <p>How can you clear the console window? Check the hints!</p>	<p>Higher values</p> <p>Lower values</p> <p>Right-click in the Console Panel and select "Terminal Clear"</p>
<p>Objective #2</p> <p>What is your average value for the surface?</p> <p>What is your average value for the black line?</p> <p>What value did you select for the threshold?</p>	<p>Answers will vary (could be 4095)</p> <p>Answers will vary (could be 286)</p> <p>Answers will vary (could be 2000)</p>
<p>Objective #3</p> <p>After adding the brake function, try different speeds. What is your top speed for staying on the board?</p> <p>What is the editor shortcut for commenting out a line of code? (Check the hints)</p>	<p>Answers will vary</p> <p>CTRL-/</p>
<p>Objective #4</p> <p>This objective uses a default parameter. Arguments can be passed as keyword or positional. Look in the toolbox for the difference between the two.</p>	<p>Keyword argument: When you call a function and specify the name of the argument and its value (<code>delay=0.5</code>)</p> <p>Positional argument: When you call a function and put the arguments in the same order as the parameters</p>
<p>Objective #5</p> <p>What does this code do: <code>sensors = []</code></p> <p>What does this code do: <code>sensors.append(is_line)</code></p> <p>What is returned at the end of the new function?</p>	<p>Defines an empty list</p> <p>Adds an item (or value) to the end of a list</p> <p>A list of 5 Boolean values</p>

<p>Objective #6 What is used to turn on the line sensor LEDs?</p> <p>What does the built-in function any() do?</p>	<p>The list of 5 Boolean values</p> <hr/> <p>It is a function that returns True if any item in the list is True.</p>
<p>Post-Mission Reflection</p>	
<p>What is something you learned about yourself during this mission?</p>	<p>Answers will vary</p>
<p>This mission will use sensors to keep the CodeBot inside the lines. We participate in many activities that require us to stay in a well-defined area. Sports, for example. List some activities that or real-world applications that have boundaries:</p>	<p>Answers will vary</p> <ul style="list-style-type: none"> • Airplanes have to stay on the airstrip • In sports, players and/or the ball need to stay in bounds • In stores, you have to stay in the aisles • At school you have boundaries