

Mission 13 Assignment	Name:
Pre-Mission Preparation	
During this mission you will learn a new way to navigate the CodeBot. What techniques have you used so far to move around the CodeBot?	
Mission 13 Checks	
Objective #1 How many slots does each wheel encoder have?	
What data is returned when a wheel encoder is read?	
Objective #2 How do you filter out duplicate values?	
Run the code and look at the printed values. What are the ranges of values printed?	
Objective #3 Write a line of code that creates a string of 10 percent symbols.	
Objective #4 What error is caused by: <code>val / 100</code>	
Objective #5 What caused the error?	
How do you prevent the error?	
Objective #6 What is the data type of: <code>is_slot</code> <code>is_slot = val > SLOT_THRESHOLD</code>	
What is the algorithm for counting the slots in one complete turn?	
Objective #7 How did you change the infinite loop to ensure you went exactly 40 counts?	

<p>Objective #8 How do you convert centimeters to counts?</p>										
<p>Objective #9 When the 'bot needs to turn, what type of power (+ or -) will the wheels need?</p>	<table border="1"> <tr> <td data-bbox="716 237 1011 300">direction</td> <td data-bbox="1011 237 1248 300">LEFT</td> <td data-bbox="1248 237 1466 300">RIGHT</td> </tr> <tr> <td data-bbox="716 300 1011 363">clockwise</td> <td data-bbox="1011 300 1248 363"></td> <td data-bbox="1248 300 1466 363"></td> </tr> <tr> <td data-bbox="716 363 1011 426">counterclockwise</td> <td data-bbox="1011 363 1248 426"></td> <td data-bbox="1248 363 1466 426"></td> </tr> </table>	direction	LEFT	RIGHT	clockwise			counterclockwise		
direction	LEFT	RIGHT								
clockwise										
counterclockwise										
<p>Objective #10 What are the values of the variables & constant?</p>	<table border="1"> <tr> <td data-bbox="716 489 953 552">POLL_MS</td> <td data-bbox="953 489 1466 552"></td> </tr> <tr> <td data-bbox="716 552 953 615">t_poll</td> <td data-bbox="953 552 1466 615"></td> </tr> <tr> <td data-bbox="716 615 953 678">t_now</td> <td data-bbox="953 615 1466 678"></td> </tr> </table>	POLL_MS		t_poll		t_now				
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t_poll										
t_now										
<p>Objective #11 What two lines of code do you add before <code>motors.run()</code> to create a feedback loop?</p>										
<p>Objective #12 List at least two changes you made to your code to drive around the free throw circle:</p>										
<p>Post-Mission Reflection</p>										
<p>On a scale of 1 (not fun) to 5 (the best!), rank this mission. Explain why.</p>										
<p>On a scale of 1 (too easy) to 5 (very hard), rank this mission. Explain why.</p>										
<p>What is one tip you would give a new programmer about finding and fixing errors in code?</p>										