Mission 5 Assignment	**Name:**
Pre-Mission Preparation	
Algorithms are a part of everyday life. They are step-by-step instructions to complete a task. Think about daily activities that you do. Select one task and write the algorithm for the task:	Answers will vary. Possible answers: • Doing a household chore • Getting ready for school • Getting to work • Brushing your teeth • Driving a car
Mission 5 Checks	
Objective #1 What is the purpose of a loop?	Loops let you repeat a block of code. This cuts down on code repetition, like copy and paste.
What is the purpose of a variable?	It lets you keep track of information, like a count, by using memory to store data.
Objective #2 Give at least two strategies for debugging code?	Answers can vary. Answers may include: • Printing messages in code that explain what it is doing. • Using the debugger. • Hand-tracing through code • Reading over your code one step at a time • Using the Code Tracing Chart • Rubber-ducky method
Objective #3 How is a for loop different from a while loop?	A for loop iterates over a range or numbers or a sequence, like a list. It uses the built-in range function, so you don't need to initialize and update a loop variable; this happens automatically.
Objective #4 What is the code for turning on an LED using the for loop counter?	for count in range(8): leds.user_num(count, True)
Objective #5 Write the first line of a for loop that counts backwards:	for count in range(6, -1, -1): leds.user_num(count, True)
Objective #6 Write the first line of a function definition:	def sweep_left():
Write a call to the function:	sweep_left()

Objective #7
Write the code for a loop that waits for a button press before calling functions:
	while not buttons.was_pressed(0):
	  sweep_left()
	  sweep_right()

Objective #8 What additional function is needed to move the CodeBot around the dance floor?	def go(left, right):
What parameters does the function need?	Two parameters: (left, right). one for the left wheel power and one for the right wheel power
Post-Mission Reflection	
What is a challenge you had with this mission? How did you overcome the challenge?	Answers will vary.
Abstraction is used in daily life and in many applications. Abstraction is a key concept of computer science. Functions are a form of abstraction because they can hide the details of how a task is accomplished, which enables a problem to be simplified and to focus on the parts that need attention. Give an example of abstraction in your daily life:	Answers will vary. A common answer is driving a car. You don't need to know how it works to drive it. Another example is ordering a pizza. You use an app to order the pizza, and then you pick it up. You don't need to know the details of how it is made. Students can be creative and come up with their own examples. This is a good time for class discussion.