🤖 CODEBOT MISSION 7 LOG - Lesson 3

Pre-Mission Warm-Up	
What code must be included before the motors of CodeBot will run?	motors.enable(True)
What code will turn the 'bot to the left?	Answers will vary. Possible answers include: motors.run(LEFT, -20) motors.run(LEFT, 0) motors.run(RIGHT, 20) motors.run(RIGHT, 20)

Mission 7 Lesson 3 – Hot Pursuit

Mission 7 Introduction

What are the goals of this lesson?	- Bring in the motors for a FaceOff challenge. - Code a "Curious Puppy Bot" that will chase a ball around.

Mission 7 Objective 8

What type of answer is returned by prox.detect()	It returns a tuple of two Boolean values
Given this code, how will you access the value of the left proximity sensor? `p = prox.detect(power, thresh)`	p[LEFT]

Mission 7 Objective 9

Look at each code segment. What is the final value of go_motors after each code is executed?		
	```go_motors = False``` ```go_motors = not go_motors``` ```go_motors = not go_motors```	```go_motors = True``` ```go_motors = not go_motors``` ```go_motors = not go_motors``` ```go_motors = not go_motors```
	go_motors = False	go_motors = False
	```flipped = True``` ```flipped = not flipped``` ```flipped = not flipped``` ```flipped = not flipped``` ```flipped = not flipped```	```flipped = False``` ```flipped = not flipped``` ```flipped = not flipped``` ```flipped = not flipped``` ```flipped = not flipped``` ```flipped = not flipped```
	flipped = True	flipped = True

Mission 7 Objective 10

After modifying your program to chase an object, try different objects (size, shape, color). Rate how well the 'bot is able to track (detect) and chase the object, using a scale of 1 (not very well) to 5 (excellent).

Answers will vary. The chart is filled with my observations, so you can see an example.

Object description, size, color	Observations	Forward speed	Turn speed	Tracking (1-5)	Chasing (1-5)
Small yellow stuffed toy	Movement was a little jerky, had to be close to track and follow	40	20	3	2
Manilla folder	Tracked and chased really well, not distracted	40	20	4	4
Purple Lego box	The best results so far!	40	20	5	5
Green pen	Pretty jerky movements, too thin to follow very well	40	20	1	1
Gray solo cup on its side	Worked really well but the cup rolled faster than the 'bot, so it escaped.	60	30	5	4

Mission 7 Objective 11

Give your own example of abstraction.	Encourage students to be creative. You might want to brainstorm as a class before students answer the question. They might say something like "make a pizza" or "walk to school" or "play a video game" or "make a free throw."

Post-Mission Reflection

List three new things you learned during this lesson.	Answers will vary. If students complete any of the extensions, their list can be more extensive. New things introduced during the lesson include: ● Using the left and right sensors to control the motors. ● Turning the 'bot if only one sensor detects an object. ● Toggling a Boolean variable. ● The "not" logical operator. ● Abstraction
Do you think using functions and abstraction improves your code? Why or why not?	Students should give their own reasons for why or why not. Any supported answer should be acceptable.