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| **AP CSP Python with Robots**  **Mission 6 Obj 7-8 Assignment** | | **Name:** |
| **Mission 6 Introduction** | | |
| Read the introduction and project goals. During this assignment, you will complete the last two goals. | | |
| **Mission 6 Objectives 7-8** | | |
| Start Objective 7. Collect your data by running the experiment as explained in “Try Your Skills.”  Remember to comment out # motors.enable(True) | *If you are using the ¾ inch black electrical tape, your data should be the same as the chart in the objective panel. However, if you have a thicker line, you need to create your own data chart.*  *When you are finished, restore motors.enable(True)* | |
| Complete Objective 7. Follow CodeTrek to make changes to your code.  You do not need to include SPEED\_LIMIT if you don’t want to. Your drive() function works fine as is. Or you can try it. | *Do a lot of testing to make sure your program works before continuing to the next Objective. The speeds in CodeTrek are just suggestions. Try each course and adjust the values for each branch as needed. When finished, the ‘bot should steer each course at a decent speed.* | |
| Paste a code snippet of your **if branching statement** with its final values: | | |
| Start Objective 8. Click on Locals and Globals to add it to your toolbox. Read about local and global variables.  What is a global variable? Discuss its scope and lifetime.  What is a local variable? Discuss its scope and lifetime.  What code must you include if you want to update a global variable inside a function?  Click on Math to add it to your toolbox.  What are two data types for numbers?  What are some math functions available in the math library? |  | |
| Complete Objective 8. Follow CodeTrek to define the function **calibrate()** and add the function call to the first  while True: loop. | Reminder! You need to add an import statement for sleep  **from time import sleep** | |
| Run the code by driving CodeBot on a wind-y course. | | |
| Take the quiz.  How did you do? Is there anything you need to practice or review? |  | |
| After Objective 8 and the Quiz, submit your completed ***LineFollow1*** program to the teacher. | | |