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| **AP CSP Python with Robots**  **Mission 4 Obj 8-12 Assignment** | | **Name:** |
| **Mission 4 Introduction** | | |
| Read the introduction and project goals. During this assignment, you will complete the last three goals. | | |
| **Mission 4 Objectives 8-12** | | |
| Take the quiz.  How did you do? Is there anything you need to practice or review? |  | |
| Complete Objective 8. Use functions for this objective by making these changes: |  | |
| This objective has the ‘bot moving forward and then spinning. You already coded this with functions in NavSquare\_functions. Define a function for go\_straight() and a function for spin(), which is just like the turn\_90() function. Then call the functions in the main program (but not the while loop). Remember to enable the motors!  Test your code until you meet the requirements of moving forward 3 feet and spinning 360 degrees. Your goals will not be validated even though the code works great. You will need to add a few lines of code to the end of your program to meet the goals. Then you can delete the lines of code and move forward. Add this to the end of your program AFTER you get the moving forward and spinning correct: | | |
| Complete Objective 9. Use the suggestion to start a new file for testing the code: **test\_code**  What is the purpose of the outer loop? |  | |
| Complete Objective 10. Finish trying the code in **test\_code**. After adjusting the condition to make the cute beeps last long enough for the spin, you will add the code into **SweepLEDs**.  Use another function for this objective by making these changes: |  | |
| 1. Add **from random import randrange** (near top of the code)  2. In SweepLEDs, define another function for **cute\_beeps()**. Copy and paste your code for the cute beeps into the function.  3. Add **global count** to the **cute\_beeps()** function, indented just below the definition.  4. Modify **spin()** by deleting the sleep() command and calling cute\_beeps() instead. Test and debug your code until it is working correctly.  5. You will need to make one change to validate the last goal. Add count = 0 just below motors.enable(True). All goals should be validated and you have a nice robot animation. | | |
| Complete Objective 11. Use **test\_code** for this objective. Delete the code already there, and type the code for the function and note. |  | |
| Complete Objective 12. Follow the instructions below. |  | |
| Copy and paste the **note()** function into **SweepLEDs** in the section with all the functions.  Define the variables **F4** and **C5** near the top with the other variables.  Call the **note()** function at the bottom of the main program, as instructed by CodeTrek.  Your main program may look similar to this: | | |
| After Objective 12, submit your completed ***SweepLEDs*** program to the teacher. | | |