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| **AP CSP Python with Robots**  **Mission 6 Obj 1-3 Assignment** | | **Name:** |
| **Mission 6 Introduction** | | |
| Read the introduction and project goals. During this assignment, you learn about lists and get ready to accomplish the goals. | | |
| **Mission 6 Objectives 1-3** | | |
| Objective 1. Click on lists and add it to your toolbox. Spend time reading about lists; they are fundamental in AP CSP.  What is a list?  How do you create a list?  How do you access items in a list?  What is the first index of a list? |  | |
| Objective 1: Debugger  When you use the debugger, open the “***Debug***” tab in the console panel and check the “Locals”. | The list will show up in “Locals” once you have passed the line of code that creates the list. Watch the values in the list change (or stay the same) as you step through the code and detect the line. Step through the entire code until it ends. | |
| Complete Objective 2. Open the console panel.  In the Console panel, click on “**Console**”. Type the commands in “Console”. | >>> from botcore import \*  >>> from main import check\_lines  >>> check\_lines(2500)  Then try some other commands.  Use these, and then come up with your own.  >>> ls.read(3)  >>> leds.user\_num(6, True)  >>> leds.ls(0b01100) | |
| Take the Quiz.  How did you do? Are there any concepts or specific topics you need to review? |  | |
| Now make the change suggested in the last question of the Quiz. That is, change the comparison to: if val > thresh on line 9. Add print(vals) to the end of your main program. Open the console panel and run the code again. What type of line will this detect (black or white)?  Change the code back to the original condition: if val < thresh | | |
| Complete Objective 3.  What are two ways to control the line sensor LEDs? Can you list a third way? |  | |
| After Objective 3, submit your completed ***CheckLines*** program to the teacher. | | |