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| **Mission 9 Assignment** | **Name:** |
| **Pre-Mission Preparation** | |
| In previous missions, you used a list to hold multiple related values. What do you remember about lists: |  |
| **Mission 9 Checks** | |
| Objective #1  What data type is used to turn on the line sensor LEDs? |  |
| Objective #2  List at least three things you can do in REPL: |  |
| Quiz: List comprehensions and Tuples  The command ls.check() returns a tuple. Open the toolbox and learn more about tuples. How do you define a tuple? How do you index an item in a tuple? |  |
| Objective #3  What is the algorithm for the bang-bang controller: |  |
| Objective #4  What code do you need to check if the CodeBot is on a line? |  |
| Objective #5  prev\_vals = **None |** What does **None** mean?  (Click on the word to open the toolbox.)  What is the code to print only if **vals** has changed? |  |
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| Objective #6  What is the structure of a dictionary?  What code will lookup a value in a dictionary?  What happens if a key is not in the dictionary? |  |
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| Objective #7  What method is used to get a value while avoiding a KeyError? |  |
| Objective #8  What does “PID” stand for?  When does an UnboundLocalError occur?  How do you eliminate the error? |  |
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| Objective #9  What constants did you need to modify to run the course? |  |
| **Post-Mission Reflection** | |
| Discuss a problem you had with the program. How did you overcome the problem? |  |
| You learned a lot about line sensors during missions 7, 8 and 9. Think of a non-electronic device that would be really cool if it had some kind of line sensing. Describe how it would work: |  |