ITSE 1302 - Assignment 08

General Points

- Use the course material located at:
 - Python Data Science Handbook
- Assignment 08 can be completed using previously covered material and content from the following chapters:
 - 00.00-Preface through 01.08-More IPython Resources
- After completing the requirements, test to ensure all cells run correctly in the .ipynb file.
- Include appropriate markdown cells to identify the requirements below by number. See this example.
- Produce an .html file that shows the .ipynb after a successful test run.
 - o by File | Download as | HTML (.html).
- Test the .html file by opening it in a browser and ensure the content is produced correctly from the run in Jupyter Notebook.
- Submit BOTH the .ipynb and .html files to the appropriate link in Blackboard | Assignments. Submit the .html file as a .zip file to pass security settings. Submit other files individually.
- Submit any additional files required to complete the assignment.

Requirements

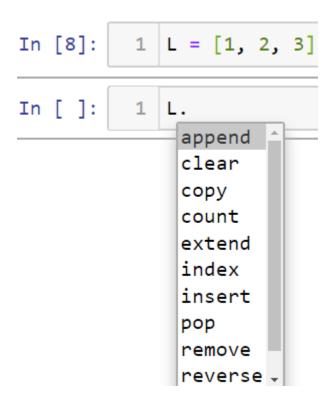
(Ensure that all Requirements are complete)

- 1. Using Jupyter Notebook (or similar tool), create a file named:
 - assignment-08.ipynb
- 2. Add an H1 markup: "This is Assignment 08 <yournamehere>"
- 3. Include appropriate markdown cells to identify the requirements below by number.



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- 4. Access three sources for definitions of Data Science. Include those definitions in a markdown cell. Include appropriate citations for the sources.
- 5. Demonstrate accessing the help system for five different topics.
- 6. Write a function *cube()* that raises an argument to the third power and returns that argument. Include a *docstring* in the function. Include a call to cube().
- 7. Display the docstring and source code of cube() using the shortcuts shown in the online textbook.
- Define a list L. Include L. in a code cell below L and press <TAB> to observe code completion. This display the methods are available to Python list objects.



- 9. Demonstrate the use of tab completion with the import statement.
- 10. Demonstrate the use of wildcard matching.
- 11. Create a file myscript.py that includes the definition of cube() you wrote earlier and a for loop to call cube() multiple times. Use a magic command to



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run myscript.py from a code cell. Include myscript.py in your Bb submission so your code works when run.

- 12. Use a magic command to time an operation.
- 13. Demonstrate silently displaying output.
- 14. Demonstrate five different command console shell commands.
- 15. With automagic set to off, demonstrate five different shell-related magic commands.
- 16. With automagic set to on, demonstrate five different shell-related magic commands. Different from those in the previous requirement.
- 17. Demonstrate the use %xmode magic function.
- 18. Use *Error? to show the list of Python system exceptions. Demonstrate *throwing* three of these exception types (in separate code segments).
- 19. Demonstrate the use of the debugger with the exceptions thrown in the previous requirement.
- 20. Use at least 4 magic commands to time a function(s) that you have written.
- 21. Use markdown to include a statement at the end of assignment-08.ipynb explaining your experiences with Assignment 08. Make this authentic (minimum of 2-3 sentences).

TEST – TEST your .ipynb file to ensure all requirements are met.

Produce an .html file from a *successful test run* of the .ipynb file. Ensure that the .html is produced correctly by opening it in a browser.

- Use the list above as a confirmation checklist.
- Not meeting all requirements = 0 points for the assignment.