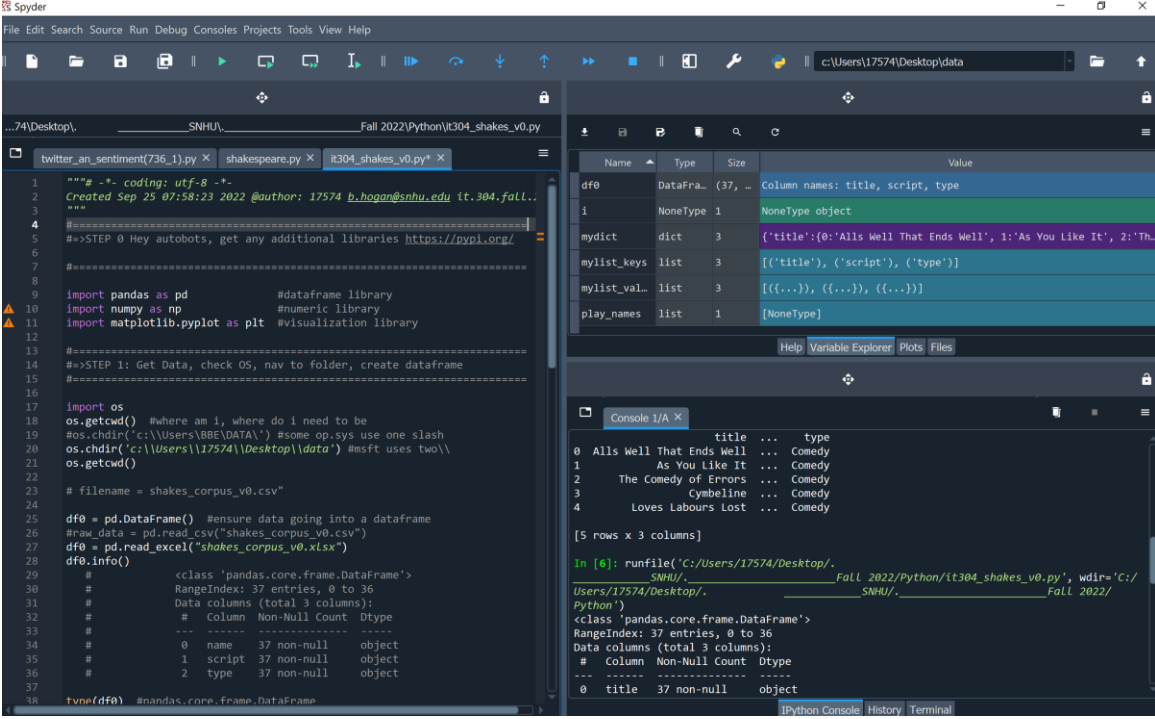
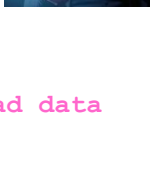
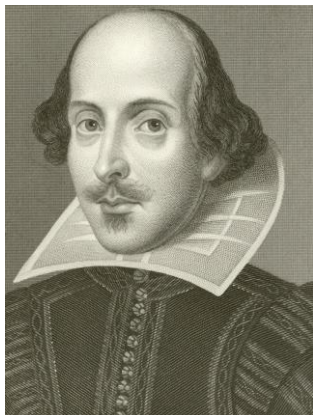


Wk	Focus & Medium	Weekly Topic & Assignment
<p>5</p> <p>9-26-10-1</p>	<p>(1 of 3)</p> <p>9/28 Class – Jupyter lite not working.</p> <p>Spyder IDE going forward</p> <p>polyglot = knowing or using several languages:</p> <p>Everyone set their window up this way</p> <p>Spyder Basics</p>	<p>Objective = entire class get on Synder IDE for consistent training</p> <p>A: Install Synder: https://docs.spyder-ide.org/current/installation.html</p> <ul style="list-style-type: none"> PyCharm is an IDE for polyglot programming, ie > 14 languages. Spyder IDE is Python for science, analysts + great for students <p>B: setup Spyder windows like this</p> <p>Left => code; top right => variable explorer; lower right => console</p> <p>C: install packages:</p> <p>always run library imports first. If one doesn't run then go to terminid on this screen and pip install from https://pypi.org/,</p>  <p>The screenshot shows the Spyder IDE interface with three main panels: the code editor on the left, the variable explorer on the top right, and the console on the bottom right. The code editor contains a Python script that imports pandas, numpy, and matplotlib, and reads a CSV file into a DataFrame. The variable explorer shows the DataFrame 'df0' and its columns. The console shows the output of the script, including the DataFrame's structure and the first few rows of data.</p> <p>D: Spyder interface basics</p> <ol style="list-style-type: none"> code window opens any .py file with code assist editor highlight code you want to run and hit function F9 in the console you see the output! that simple Variable explorer NEAT bc tracks all the objects and current status of a variable d.1) you can click on a variable and it opens a window so you can see the contents. I appreciate we discussed need to code without applications but this application serves to reduce the basic visual output burden of the code you write. You still need to write the code to create an manipulate the data objects which is the core skill.

Wk	Focus & Medium	Weekly Topic & Assignment
5	(2 of 3) Shakespeare Corpus Class Team Coding 09-28-022	<p>Objective = begin working with 5 pillars of python; create data folder on c:\drive. Code -> Interpret -></p>  <p>Step 1: change directory, get corpus file path</p> <pre>import os #operating system library os.getcwd() #command to get working directory</pre> <p>q1> What do bad characters in your paths do? A: cant read data</p> <pre>In [2]: runfile('C:/Users/17574/Desktop/. SNHU/. Fall 2022/Python/ it304_shakes_v0.py', wdir='C:/Users/17574/Desktop/. SNHU/. Fall 2022/Python') File "<unknown>", line 23 SyntaxError: (unicode error) 'unicodeescape' codec can't decode bytes in position 2-3: truncated \UXXXXXXXX escape</pre> <pre>os.chdir('c:\\Users\\17574\\Desktop\\data') #msft uses two\\ os.getcwd() df0 = pd.DataFrame() #ensure data going into a dataframe #raw_data = pd.read_csv("shakes_corpus_v0.csv") #oops doesn't work df0 = pd.read_excel("shakes_corpus_v0.xlsx") #this works! df0.info()</pre> <pre><class 'pandas.core.frame.DataFrame'> RangeIndex: 37 entries, 0 to 36 Data columns (total 3 columns): # Column Non-Null Count Dtype --- - 0 name 37 non-null object 1 script 37 non-null object 2 type 37 non-null object memory usage: 1016.0+ bytes</pre> <pre>type(df0) #pandas.core.frame.DataFrame df0.head(2) 0 Alls Well That Ends Well ... Comedy 1 As You Like It ... Comedy</pre> <p>q2> What happens when you dont have a cheatsheet and need to convert a dictionary to a list? Python Convert Dictionary To List - Python Guides</p> <p>A: === ACTION = email brian this answer <=====ACTION</p> <pre>mydict = df0.to_dict() print(mydict.keys()) out[10]: dict_keys(['title', 'script', 'type'])</pre> <pre>mylist_keys = list(zip(mydict.keys())) #hmm my data columns looks good outlist_keys OUT[10]: [('name',), ('script',), ('type',)] #DANGER Will Robinson this is a megasaurus mylist_values = list(zip(mydict.values())) #holy cow this is huge! mylist_values=====> this is huge, make sure you understand</pre> <p>OUT[10]: tip! going forward will use python [out] to signify output</p> <p>#now as a class we will experiment with cheatsheet</p> <pre>#finally break data into more manageable things to do mydict.get('title') #learn a new function play_names = [mydict.get('title')] play_names OUT[10]: [{0: 'Alls Well That Ends Well', 1: 'As You Like It', 2: 'The Comedy of Errors', for i in play_names: print(i) Out[27]: [{0: 'Alls Well That Ends Well', 1: 'As You Like It',</pre>

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5 9/26 - 10/1	<p>Focus Overview</p> <p>Python 101 coding</p>  <p><u>shakespeare corpus</u> (git)</p> <p>Assignment</p>	<p>Goal: build competence with Python <u>built-in objects</u> to manipulate data like working in a spreadsheet application.</p> <p>Why? Spreadsheets are 3rd tier objects versus primary information formats like databases and data objects such as Python’s list, string, tuple, dictionary, and sets. And <u>pandas series</u> and <u>dataframe</u> objects. Why Python?</p> <ul style="list-style-type: none">o Its versatile, used across industries, and provides easy to learn data ETL (extract-translate-load), analysis, and reporting.o Manipulating data in objects make you more agile and confident grab.get data from anywhere.o Developing transposition skills with Python’s data objects gives you the basic means to always work with any data in the futureo These tools will help you perform system design and analysis with agility and deftness.o This is your <u>new</u> HAMMER. Now let’s go frame it. <p>The remainder of the course will use the following toolkit to perform system analysis & design exercises.</p> <p style="text-align: center;">~~ Course System Design & Analysis Tooling ~~</p> <table><tr><th>System Planning & Design</th><th>Class Python Codebook</th></tr><tr><td>a) customer requirements outline with level 1 system diagramming methods (IDEF0, swimlanes, SWOT, etc)</td><td>1) data objects (list,string..)</td></tr><tr><td>b) architect a system data flow diagram (DFD)</td><td>2) user defined objects</td></tr><tr><td>b.1) key transactions</td><td>3) iterators</td></tr><tr><td>b.2) key storage tables</td><td>4) conditionals</td></tr><tr><td></td><td>5) functions / methods</td></tr><tr><td></td><td>6) transposition</td></tr><tr><td></td><td>7) pandas dataframes\series</td></tr><tr><td></td><td>8) ETL</td></tr></table> <p>Preparation for our Shakespeare Assessment (given 9/30) As discussed in class, you will be applying your learnings to the Shakespeare corpus by importing the data, performing transformations, and using iterations and conditionals to report on # characters, words, and # plays.</p> <p>Tasks:</p> <ul style="list-style-type: none">• The <u>zipper codebook</u> has been updated <09.24.22>• Please work through the code examples again for 9/21 class• <u>New:</u> repeat 1 page of ETL, object, report code tasks<ul style="list-style-type: none">o (due 9/30,posting shortly)	System Planning & Design	Class Python Codebook	a) customer requirements outline with level 1 system diagramming methods (IDEF0, swimlanes, SWOT, etc)	1) data objects (list,string..)	b) architect a system data flow diagram (DFD)	2) user defined objects	b.1) key transactions	3) iterators	b.2) key storage tables	4) conditionals		5) functions / methods		6) transposition		7) pandas dataframes\series		8) ETL
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