

CS 2316

Individual homework 7 –Web Reader

Due: Wednesday, March 9th, 2016 before 11:55 PM.

Files to submit:

1. **HW7.py**
2. **HW7Output.csv**
3. **HW7GUI.py**

This is an INDIVIDUAL assignment!

Collaboration at a reasonable level will not result in substantially similar code. Students may only collaborate with fellow students currently taking CS 2316, the TA's and the lecturer. Collaboration means talking through problems, assisting with debugging, explaining a concept, etc. You should not exchange code or write code for others.

For Help:

- TA Helpdesk – Schedule posted on class website.
- Email TA's or use T-Square Forums

Notes:

- **Don't forget to include the required comments and collaboration statement (as outlined on the course syllabus).**
 - **Do not wait until the last minute to do this assignment in case you run into problems.**
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Part 1 –Scraper

Pick 5 different publicly traded stocks and note their names and symbols in a dictionary. Write a function or method that will retrieve at least two different pieces of dynamic data for each symbol from the website <http://www.nasdaq.com/symbol/>. Keep in mind the stock market is open between 9:30am to 4pm ET. In order to retrieve the data from a particular symbol add the symbol to the end of the URL. For example, for Apple Inc. with the symbol AAPL has a url that looks like <http://www.nasdaq.com/symbol/aapl>. The data you choose to download must be “dynamic” in that it must change at least once every hour. (Otherwise, why bother writing a program to download it?) The script you create should webscrape data from your five chosen stocks for at least 2 days and should be run in the Azure Virtual Machine created in Lab1.

Using the time module and the sleep function you can regulate how frequently to scrape information (you must gather data at least once per hour, and no more frequently than once per minute). All of the information should be written out to a csv

file titled HW7Output.csv with a title for each column that clearly states what the information is. Each row should have a timestamp (time and date) of when it was retrieved. Be sure to flush the data to the file after each “collection” so that you can watch the file grow. You can do this by using the filehandle.flush() method, or by opening the file in append mode each time you webscrape.

Bonus points are available (at your grading TA's discretion) for retrieving more than two “data items”. The data type of the items will depend upon the specific type of data you are retrieving, with String, Int, and Float being the most common data types.

Part 2–Info GUI

In another file called HW7GUI.py write a simple GUI that has a button (“Get Info”). When the user clicks the button, the GUI will call a method (such as a "clicked" method) to handle the user event. Your clicked method should read in the HW7Output.csv and display the information visually to the user. You may use simple Entry Widgets or labels to display the info, but if your information can be represented visually with icons or graphics you may also choose to use a Canvas. Be sure to utilize most of the data you scraped and feel free to use math operations such as average, min, max, range, etc. Bonus points are available (at your grading TA's discretion) for especially fancy informational displays. When the TA runs your python file, HW7GUI.py, your GUI should appear automatically.

Grading

You will earn points as follows for each function that works correctly according to the specifications. There will be no credit for code that does not run.

General:	
HW7.py - Successfully retrieves Data for 2 days	20
The data is stored in a CSV with headers	10
GUI:	
“Get Info” button triggers the display	10
Info is displayed	10
Possible Extra Credit Points:	
-Multiple data points or especially tricky data retrieved:	+2 max
-Especially interesting or visual display of information:	+2 max