

CS 1803

Individual Homework 12 – Your Program

Due: Friday, April 28th, before 6 PM

NO LATE TURN-IN!

Out of 100 points

Files to submit: 1. HW12.py

This is an INDIVIDUAL assignment!

Students may only collaborate with fellow students currently taking CS 1803, 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 individual assignments, each student must turn in a unique program. Your submission must not be substantially similar to another student's submission. Collaboration at a reasonable level will not result in substantially similar code.

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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Instructions:

For this assignment, a data "source" or "destination" is defined as the following:

- A CSV file.
- A SQL Database (You may use the class database, or an sqlite3 database that you create. Talk with the instructor about having a custom table created in the class database for your needs.....)
- An XML file.
- HTML Source: A publicly available website that does not restrict the automated collection of their data. HTML Destination: A local file saved in HTML format.
- Some other data source/destination that works better for you. (Obtain approval from your grading TA prior to using!)

In this assignment, you are free to specify what your data source and destination are, as well as the particular way you manipulate the data as it travels through your program. You must load data from a data source of your choice (from the list above), perform

some form of manipulation on it, and then save the resulting data to a *different type of* destination also chosen from the list above.

GUI

Your program must have a GUI that allows a user to control it (select the particular source/destination location/parameters, etc) as well as give some feedback to the user about the data processed (at a minimum, the number of items processed, although you could include summary statistics information, etc depending upon the content of your data.)

Data Manipulation

Your program must perform some operation on the data (selecting only portions of the data, performing calculations on the data, filtering the data, etc...) before exporting the modified data or the results to your data destination. The exact operation will be determined by the particular data you are working with. You may NOT simply copy the data from one source to another, you must modify/filter/calculate using the data. This operation does not have to be complicated, but you must prove that you can manipulate the data in addition to moving it from the source to the destination.

Examples of acceptable operations:

- Calculate the average of one of your data items.
- Convert data (Centigrade to Fahrenheit).
- Filter data items (include/remove) based upon an attribute.

Grading

You will earn points as follows for each piece of functionality in your code:

GUI

| | |
|--|----|
| -Allows specification of Source/Destination Parameters | 12 |
| -Provides feedback/report to the user | 13 |

25

Data Source

| | |
|-----------------------|----|
| -Reads data correctly | 20 |
|-----------------------|----|

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| | | |
|---|----|------------|
| -Proper Error Handling | 5 | |
| Data Destination | | 25 |
| -Different (from Source) | 10 | |
| -Saves Data correctly | 15 | |
| Manipulation Operation | | 25 |
| -Data is changed/filtered as it is moved | 15 | |
| -Manipulation is correct for all data | 10 | |
| Total Possible: | | 100 |
| +5 EC possible for really cool programs! | | |