CS150A & CS150B Introduction to Computer Science (Zaring)
Fall 2018
Assignment 7
Due by noon on Friday, Dec. 7
NO LATE SUBMISSIONS ACCEPTED FOR THIS ASSIGNMENT

Description:
Programming in Wing 101 and using your class notes, class lecture materials, the material in Chapters 1-11 of *M&R*, and the Simple File IO module used in lecture/lab, extend the sample solution to Assignment 6 in the file `solution06.py` to handle two additional commands:

- `load`
  Prompts the user to enter the name of an *album file* (see below) and then loads all the image-file-name and image-title information contained in the album file into the current library, replacing the old contents of the library.
- `save`
  Prompts the user to enter the name of an album file (see below) and then saves all the image-file-name and image-title information contained in the current library to the album file, replacing the old contents (if any) of the album file

As before, if the user ever enters an invalid command, an error message is printed out.

You won't have to (and shouldn't) alter any of the code already in `solution06.py`: all you'll have to do is to add your own code.

Save your completed program in the file `assign07.py`.

A Sample Solution to Run on Your Own Machine:
Download the files `solution07.pyc` and `runSolution07.py` to the same place (i.e., both to the same folder or both to the desktop). The file `solution07.pyc` contains a sample solution to this assignment. (The file isn't human-readable, so don't bother trying to open it with an editor, a word processor, Wing 101, etc.)

To run the sample solution (so that you can see how a complete solution should behave), use Wing 101 to open and execute the file `runSolution07.py`.

A Sample Solution to Run on the Olin 202 Machines:
Download the files `solution07Olin202.pyc` and `runSolution07Olin202.py` to the same place (i.e., both to the same folder or both to the desktop). The file `solution07Olin202.pyc` contains a sample solution to this assignment. (The file isn't human-readable, so don't bother trying to open it with an editor, a word processor, Wing 101, etc.)

To run the sample solution (so that you can see how a complete solution should behave), use Wing 101 to open and execute the file `runSolution07Olin202.py`.

Album Files:

An album file is simply a text file containing image-file names and image titles on alternating lines:

imageFileName$_0$
imageTitle$_0$
imageFileName$_1$
imageTitle$_1$
...
imageFileName$_{n-1}$
imageTitle$_{n-1}$

Album files are used to hold the contents of image libraries so that they can be loaded and saved.

The files provided for this assignment include two sample album files:

- `EmptyAlbum.txt`, a completely empty album file
- `LutherAlbum.txt`, an album file containing information for the three Luther College-related images found in the folder `LutherImages` (Note that this album shows that the image files don't necessarily have to be in the same folder as the album file or the program itself. Your don't have to do any special programming to account for what folder the image files live in: the `fileopen` function will handle all that for you.)

Strategy:

Use the sorts of programming strategies you've seen in Chapters 1-11 of *M&R*, the lectures, and the labs. You'll need functions, loops, if-statements, images, strings, lists, and files. Use the file operations provided by the Simple File IO module discussed in lecture; don't use the raw file operations discussed in the textbook.

You'll want to follow the general style of the sample solution to Assignment 6 in `solution06.py`. Specifically, most of the code you add to the program should be in the form of functions. And, as mentioned earlier, you won't have to (and shouldn't) alter any of the code already in `solution06.py`: all you'll have to do is to add your own code.

The preceptors and I are happy to give you help. When/if you come to us for help, please bring with you whatever work you've done (pictures, notes, current code listings, files, your laptop, and whatever). The earlier you start on the assignment, the earlier you'll discover where your issues might be, and the earlier you'll be able to seek appropriate help.

Make your code not just correct, but also beautiful and comprehensible to other people. Be sure to supply a comment containing your name (at the very top of your program) along with other comments dispersed throughout the program as you see fit.

NOTE: Programs that clearly indicate no serious effort at breaking the program into functions will be rejected out-of-hand and will receive a score of zero.

NOTE: Programs that clearly indicate no serious effort at producing an adequate amount of meaningful comments will be rejected out-of-hand and will receive a score of zero.

Be sure your code is neatly formatted and uses well-chosen variable names (some rather poor choices for variable names clearly include – but aren't limited to – cryptic abbreviations of words, random words that have little to do with the program, and content-free words like "variable1", "temp", "b", "h", "fn", "pic", "img", "win", etc.). If you borrow code from an example presented in lecture/lab or in the relevant chapters of *M&R*, be sure to acknowledge the source of the code (in a comment). (Please recall that searching the web looking for solutions is never acceptable for this course.) Your score will depend on the style, form, and correctness of your program.

What to Hand in:

- Your file `assign07.py`, submitted using the `Assignment 7` item on the `Assignments` page of the CS150 Katie course
- A readable printed listing of your file `assign07.py`, a listing that avoids awkward line-wrapping and so on – If necessary, consider printing from a word processor so that you can choose smaller font sizes, two-up printing, and so on. (Windows users: Listings printed using the Notepad application aren't acceptable.)