Reno Technology Academy
Multnomah University Reno/Tahoe
CIS104: Coding in Python

Lesson 5

Readings:

Learning Python

Chapter 4: Introducing Python Object Types

Lists pp. 111-116

Dictionaries pp.116-124

Tuples pp.124-125

Files pp. 125-129

Chapter 8: Lists and Dictionaries pp. 247-282

Chapter 9: Tuples, Files, and Everything Else

Tuples pp. 284-291

Files pp. 291-305

Lab/Homework (10 points)

All homework files can be added to GitHub repository in a folder. After you commit and sync the changes, submit the URL to the folder. I would suggest committing each file when you finish each part. You can sync the commits at the end. Feel free to commit and sync as many times as necessary. A commit/sync doesn't mean the project is finished. I will grade the closest submission that doesn't pass the due date. If you change your submission after the due date and before I grade it, you will receive 50% credit of the difference. For example, the submission before the due date is graded at 70%, but the latest submission grades as a 100%, the final grade will be an 85%.

Music Database:

1. In this project, we will be building a basic music database to store and retrieve a list of our favorite songs.
2. Layout your project with the following files:
    a. H5.py – The main program loop
    b. MusicDB.py – A music database module (requirements listed below)

3. The main loop of the program should present a menu and accept the following commands from the user:
    a. add – Add a new song to the database
    b. list – List the songs in the database
    c. save – Save the songs to the database
    d. help – Display a menu explaining the commands to the users
    e. exit – Exit the program
4. The MusicDB module must:
    a. Be capable of storing at most 8 songs in the file
    b. Use exceptions to indicate errors for the following conditions:
        i. Failed to load/save the music database file
        ii. Ran out of room in the file (up to 8 songs)
    c. Provide functions for:
        i. Loading the music database from file
        ii. Saving the music database to file
        iii. Adding a new song to the database
        iv. Get the total number of songs in the music database file
        v. Get the song information by song number (index)
5. The Song structure (use a dictionary in MusicDB.py) must include the following information:
    a. The song title (maximum of 64 characters)
    b. The name of the artist (maximum of 32 characters)
    c. The name of the album that the song appears on (maximum of 64 characters)
    d. The track number of the song on the album
    e. The year that the song was released
    f. The genre of the song—user inputted.