

Homework 9

This assignment is due on November 4th at 9AM.

- (1) Read this short description of using Python with SQLite: <http://www.stolaf.edu/people/olaf/cs125/ch14.pdf>
- (2) Please also read this documentation: <http://www.sqlite.org/about.html> -- the documentation here may be useful as well: <http://www.sqlite.org/docs.html>
- (3) Install SQLite on your system. It is supported on Windows, Mac, and Linux, as well as several other systems: <http://www.sqlite.org/download.html>
- (4) Write a warm-up program that uses Python to create a small SQLite database that contains the names, phone numbers, and address of four made-up people.
- (5) Add some more Python code to execute an SQL query on your database that grabs the address of everyone whose name begins with a letter between M and Z inclusive. Save your script as `hw9a.<lastname>.py`.
- (6) The rest of this exercise concerns the "Million Song Database." Please read the homepage to see what this site is all about: <http://labrosa.ee.columbia.edu/millionsong/> . Read what is available on a single track here: <http://labrosa.ee.columbia.edu/millionsong/pages/example-track-description> . Read the "SQLite" section of this tutorial page to discover how to use Python to access this information: <http://labrosa.ee.columbia.edu/millionsong/pages/find-song-specific-name-or-feature>
- (7) A copy of the SQLite database called `track_metadata.db` is available here: http://www.ee.columbia.edu/~thierry/track_metadata.db . A backup copy is here: http://www.ischool.berkeley.edu/~tygar/for.i206/track_metadata.db .The columns in the song table are as follows:
`track_id`
`title`
`song_id`
`release`
`artist_id`
`artist_mbid`
`artist_name`
`duration`
`artist_familiarity`
`artist_hottnesss`

```
year
track_7digitalid
shs_perf
shs_work
```

(8) Write a Python script that prints all of the titles of Beatles tracks in this database (the artist_name is 'The Beatles'.) Save your Python script in hw9b.<lastname>.py.

Extra credit: Review the documentation on ggplot here: <http://ggplot.yhathq.com> . Create a visualization of when various Rick Astley tracks were released, using Python to extract the necessary data from track_metadata.db, and using ggplot to create an appropriate bar graph. Save your Python script in hw9c.<lastname>.py

Upload your files (hw9a, hw9b, and perhaps hw9c) in the usual fashion

hw9