SQL Project Descriptions & Functionality

Movies

Write SQL queries to answer questions about a database of movies.

Understanding

Provided to you is a file called `movies.db`, a SQLite database that stores data from IMDb about movies, the people who directed and starred in them, and their ratings. In a terminal window, run `sqlite3 movies.db` so that you can begin executing queries on the database.

First, when `sqlite3` prompts you to provide a query, type `.schema` and press enter. This will output the `CREATE TABLE` statements that were used to generate each of the tables in the database. By examining those statements, you can identify the columns present in each table.

Notice that the `movies` table has an `id` column that uniquely identifies each movie, as well as columns for the `title` of a movie and the `year` in which the movie was released. The `people` table also has an `id` column, and also has columns for each person's `name` and `birth` year.

Movie ratings, meanwhile, are stored in the `ratings` table. The first column in the table is `movie_id`: a foreign key that references the `id` of the `movies` table. The rest of the row contains data about the `rating` for each movie and the number of `votes` the movie has received on IMDb.

Finally, the `stars` and `directors` tables match people to the movies in which they acted or directed. (Only principal stars and directors are included.) Each table has just two columns: `movie_id` and `person_id`, which reference a specific movie and person, respectively.

The challenge ahead of you is to write SQL queries to answer a variety of different questions by selecting data from one or more of these tables.

Houses

Implement a program to import student data into a database, and then produce class rosters.

```
$ python import.py characters.csv
$ python roster.py Gryffindor

Lavender Brown, born 1979
Colin Creevey, born 1981
Seamus Finnigan, born 1979
Hermione Jean Granger, born 1979
Neville Longbottom, born 1980
Parvati Patil, born 1979
Harry James Potter, born 1980
Dean Thomas, born 1980
Romilda Vane, born 1981
Ginevra Molly Weasley, born 1981
Ronald Bilius Weasley, born 1980
```

Background

Hogwarts is in need of a student database. For years, the professors have been maintaining a CSV file containing all of the students' names and houses and years. But that file didn't make it particularly easy to get access to certain data, such as a roster of all the Ravenclaw students, or an alphabetical listing of the students enrolled at the school.

The challenge ahead of you is to import all of the school's data into a SQLite database, and write a Python program to query that database to get house rosters for each of the houses of Hogwarts.