Project 3: SQLite Databases

Due Monday February 10
Upload via Blackboard by 9:00 P.M.

Goals
This project will give you some experience writing database queries in SQL.

Reading
Introduction to Computing Using Python, Sec 12.1 -- 12.2, plus resources available on the class web site.

Queries
Write a query that will answer each of the following questions based on the data in a SQLite database named sakila.db. Test your queries using the sqlite3 command line client. Then copy and paste the queries and the output they produce into a document called queries.txt and submit the document via Blackboard.

NOTE: some queries (like the first one) will produce hundreds of lines of output. In these cases add “limit 5” to the end of your query.

1. What are the first and last names of all the customers?

2. What are the e-mail addresses of customers whose first name is “Willard”?

3. How many customers are there?

4. How many customers shop at store number 1?

5. How much does it cost to rent the film named “Virtual Spoilers”?

6. Do any films have the word “Princess” in the title?

7. What are the titles of the films that are longer than 180 minutes?

8. How many films have a “G” rating and are less than 60 minutes long?

9. What is the maximum replacement cost for any film?

10. Print a table that lists the different types of ratings and the number of films that have that rating.

Note: Names, titles, and other strings in this database are in all caps, and sqlite3 string comparisons are case sensitive.
The following queries all require a join of two or more tables. As a hint for how to create the query the table names are shown to the left of a question.

**film, film_actor** 11. How many actors starred in the film named “Scalawag Duck”?

**actor, film_actor** 12. What are the film IDs of movies starring Jude Cruise?

**film, language** 13. What language was “Ace Goldfinger” filmed in?

**customer, rental** 14. Produce a table that shows how many films each customer has rented.

**customer, rental** 15. How many films did the customer named Smith rent?

**customer, rental** 16. Which customers have not returned films (i.e. the return_date field in the rental table is null)?

**customer, rental** 17. Which customers have two or more unreturned films? (note: this query requires a “having” clause)

**film, actor, film_actor** 18. Which actors starred in “Splash Gump”?

**film, actor, film_actor** 19. Which films has Penelope Guiness starred in?

**customer, rental, inventory, film** 20. What are the names of the films rented by the customer named Knight?