Answer the questions below and turn in a hard-copy of your answers in class by the due date.

Part 1: Reading Assignment. Read the following sections in the textbook.

- Ch 3: 3.8

Part 2: Advanced SQL. Use the database that has been installed for the course to answer the following questions. Within the `cpsc321_DB` database are a number of tables that have been created and populated to represent simple movie rental data. For this assignment, you’ll use the following tables in the database:

  - **Actor**: `actor_id, first_name, last_name, last_update`
  - **Category**: `category_id, name, last_update`
  - **Customer**: `customer_id, store_id, first_name, last_name, email, address_id, active, create_date, last_update`
  - **Film**: `film_id, title, description, release_year, language_id, original_language_id, rental_duration, rental_rate, length, replacement_cost, rating, special_features, last_update`
  - **Film_Actor**: `actor_id, film_id, last_update`
  - **Film_Category**: `film_id, category_id, last_update`
  - **Inventory**: `inventory_id, film_id, store_id, last_update`
  - **Payment**: `payment_id, customer_id, staff_id, rental_id, amount, payment_date, last_update`
  - **Rental**: `rental_id, rental_date, inventory_id, customer_id, return_date, staff_id, last_update`
  - **Staff**: `staff_id, first_name, last_name, address_id, picture, email, store_id, active, username, password, last_update`
  - **Store**: `store_id, manager_staff_id, address_id, last_update`

For each question below, write a single SQL query to answer the question and show the result of the query answer against the above database. If the answer has more than 5 rows, you only need to show the first 5 rows.

1. Find the total number of films by category ordered from most to least. Give the name of each category.

2. Find the number of films acted in by each actor ordered from highest number of films to lowest. For each actor, give their first and last name.

3. For each ‘G’ rated film find the number of times it has been rented. The result should be sorted from most rented to least rented.
4. Find all first and last names of customers that have rented at least ten ‘G’ rated films.

5. Find the total sales (of payments) for each film category. Give the name of each category.

6. Find the film (or films if there is a tie) that have been rented the most number of times. You cannot use limit and your query must return only the film(s) rented the most number of times (not the second, third, etc). Return the film id and title.

7. Find the store (or stores) that have the most rentals. You cannot use limit and your query must return only the store(s) that have the most rentals (not the second most, third most, etc). Return the store id.

8. Find the title of the most rented ‘G’ rated film(s).

9. Find the total sales (of payments) for each store ordered from highest to lowest total sales.

10. For each staff member, find the movies and the total number of times that they were rented to customers by the staff member. Return the first and last name of each staff member, the title of the movie, and the number of times the movie was rented by the staff member. The results should be ordered by staff member last name followed by first name. For each staff member, the movies that they have rented should be ordered from most rented to least rented.

**Turn in** a hard-copy print out of the cover sheet, your design document, a script containing the queries answering the above questions, and the result of running your script (queries) against the cpsc321_DB database. In addition, submit your script to the online class submission page by the due date.