

# Database Systems 10127

## Homework Problem 3

### SQL Practice

Work has to be in pairs.

Please write both names and IDs as the name of the file. **Only one person turns it in.**

**Please save all your queries in one file and turn in the file to the Moodle.**

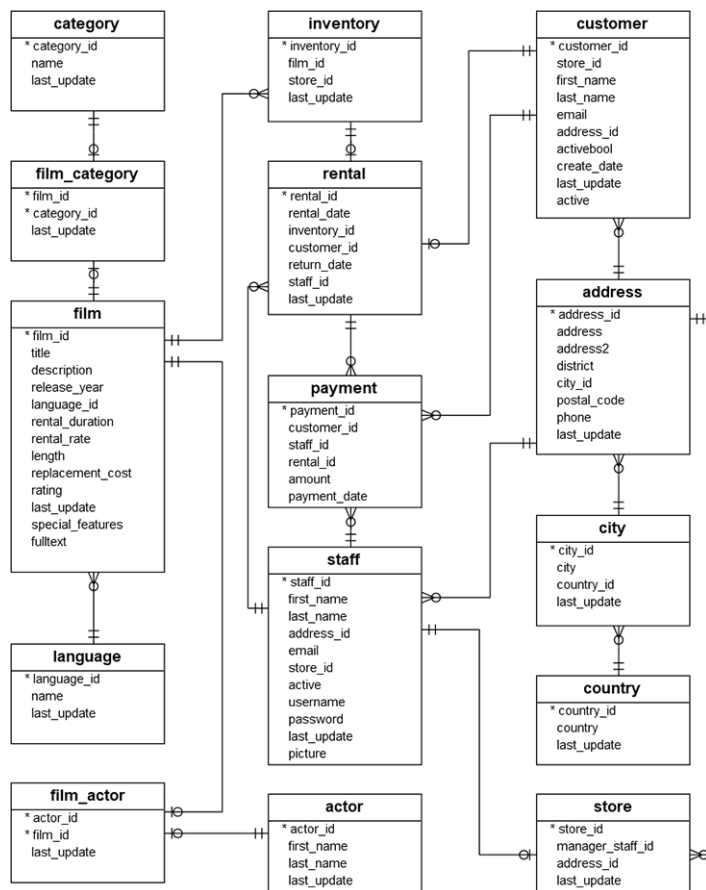
For this assignment, you will use the **dvdrental** database.

<https://www.postgresqltutorial.com/postgresql-getting-started/load-postgresql-sample-database/> has a download link and instructions on adding the file to a database.

If, and only if, this does **not** work on your computer, open a cmd window and type the following commands:

```
>cd Program Files/PostgreSQL/16/bin
>pg_restore -U postgres -d dvdrental C:[path]\dvdrental.tar
```

where [path] is the directory where you placed the downloaded file (something like \users\yourname\Downloads)



The dvdrental database includes information about a video rental store in the days before live streaming.

The figure shows the tables and relations. On the left side you can see tables of data about the movies and actors, and on the right, there are tables about employees, customers and rentals.

The table uses crow's foot notation to show the cardinality of the relations (one-to-many or many-to-many)

Write SQL queries to do the following:

### **Queries about movies and actors**

1. Show the different last names of all the actors
2. Show all the actresses with first name Anne, Fay, Julia or Susan.
3. List the different first names and a count of how many actors have this name
4. Show all the movies that are not in English
5. Show all the movies in the category “Comedy”
6. Show the average running time of all the movies that are longer than two hours
7. Show the average running time of each category of movies
8. Show the categories that have more than 100 movies
9. Show the names of all the actors in the movie Citizen Shrek
10. List the names of all the movies and the number of actors in each one
11. Show the name of the actor(s) who appeared in the most movies
12. Show the number of actors that did not appear in any of the movies
13. List the actors that did not appear in any movie

### **Queries about stores and rentals**

14. Show all the countries that have a city named “London”
15. For each store, show the city where it is located and the name of the store manager
16. List all the customers in alphabetical order of last name, and the total payments for each customer
17. Show the movie that was rented the most times
18. Show all the movies that are out for rental (at a customer’s house)

### **Updating the database**

19. Write a query that adds a new row to the rental table when customer 222 rents the movie ‘African Egg’ from employee 1. For rental time, use NOW(). Rental\_id is automatically incremented
20. Write a query that updates the rental price of the new row to 7.50
21. Write a query that updates the return date when the movie is returned to the store