Homework Assignment #1

Database Systems course (Spring 2014-2015)

Objectives

Understanding and manipulating SQL queries.

Data

We'll use the **Sakila** schema, which can be found on TAU's server (see the connection guide next to lecture 3) or the following link (if you want to install it at home).
http://dev.mysql.com/doc/index-other.html ("sakila database")
http://dev.mysql.com/doc/sakila/en/ (for full documentation)

Requirements

For each question, you are required to provide the following:

- The SQL query you used
- The query output
- Any assumptions you made. If you think that the question can be understood in more than one way, explain according to which interpretation you solved it.

Important notes

- Your query must return the answer of the question **exactly**; no more and no less attributes or rows.
- **Do NOT return duplicated rows** in the answers, unless you are specifically asked to do so.
- **Do NOT use views**, they are not in the scope of this exercise
- **Do NOT use the "LIMIT" keyword** in your queries (there may be tens of rows in the result, and you should return them all).

Submission

- Your solution should be submitted in a single zip file named **<username>-hw1.zip**, through moodle.
- The zip will include the answers document in pdf format, named **<username>-hw1.pdf**
- For every question, include a .sql file with the SQL query. Name the files **q01.sql**, **q02.sql**, and so on according to the question numbers.
- Please make sure that the queries are well formatted (use tabs and newlines, parenthesis etc.) to make them readable (See the example format).
- **Submission is in pairs**. The solution must include the name and ID of both partners. Only one of the two should submit the exercise, and this student will get the feedback through moodle.

Tip for handling the results: if you are using Word, you can export the results from MySQL Workbench (to HTML) and then copy-paste them from your browser.

Example Format

Q1

// any assumptions you made regarding q1 should be written here...

```
SELECT    *
FROM      category
```

category_id	name	last_update
1	Action	2006-02-15 04:46:27
2	Animation	2006-02-15 04:46:27
3	Children	2006-02-15 04:46:27
4	Classics	2006-02-15 04:46:27
5	Comedy	2006-02-15 04:46:27
6	Documentary	2006-02-15 04:46:27
7	Drama	2006-02-15 04:46:27
8	Family	2006-02-15 04:46:27
9	Foreign	2006-02-15 04:46:27
10	Games	2006-02-15 04:46:27
11	Horror	2006-02-15 04:46:27
12	Music	2006-02-15 04:46:27
13	New	2006-02-15 04:46:27
14	Sci-Fi	2006-02-15 04:46:27
15	Sports	2006-02-15 04:46:27
16	Travel	2006-02-15 04:46:27

Q2

```
SELECT    country
FROM      country
WHERE     country LIKE '%in'
ORDER BY  country
```

country
Bahrain
Liechtenstein
Spain

Questions

1. Find all the inventory records of film 11, in store 2. Return all the available details (inventory_id, film_id, store_id and last_update)

2. Write a query that verifies that the title of a film is identical to its title in the film text table. Return the pairs of non-identical film title and film text title, ordered alphabetically by the film title.

3. Which members of the Berry family rented movies where members of the Berry family act? Return pairs of the first name of the movie renter and the first name of the actor.

4. How many customers have rented one or more movies with actors that have the same family name (i.e., the last name of the customer and actor are the same)?

5. How many Japanese addresses are in boulevards?

6. Compute the average duration of film rental for every costumer, and return the first and last names of customers for whom this duration is 6 days or more. Hint: use the TIMESTAMPDIFF command on the rental and return dates of every customer.

7. Find all the actors who have played in at least 10 movies more than the average. I.e., if the average number of films per actor is 6, return actors who have played in 16 or more films. Return the first and last names of these actors, ordered by their first names and then by their last names.

8. Return the first and last names of actors who have played in every film category, ordered by their first names and then by their last names. For example, if there are exactly two film categories, drama and comedy, return every actor that played in (at least) one drama film and also played in (at least) one comedy film.

9. Return the first and last names of actors who have played in every film category **at least twice**, ordered by their first names and then by their last names. For example, if there are exactly two film categories, drama and comedy, return every actor that played in (at least) two drama films and also played in (at least) two comedy films.

10. Give an interesting query of your own on the sakila schema, which is not already in the assignment. The query should use the UNION operation. You should provide the query and its results, and explain in your own words (but in a precise manner) what this query means.