Homework Assignment #1
Database Systems course (Fall 2012-2013)

Objectives

Understanding and manipulating SQL queries.

Data

We'll use the **Sakila** schema, which can be found on TAU's server 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/sakila.html (for full documentation)

Requirements

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

- The SQL query you used
- The answers
- Any assumptions you made

Important notes

- Your query must return the answer of the question **exactly**; if the answer asks for a count of something, return that count, etc.
- **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).
- Questions are (roughly) in order from least to most difficult.

Submission

Your solution should be submitted **"HARD-COPY"** (i.e., printed and not by email) to Yael's mailbox (372 on Schreiber's floor 2)

For each question, your solution should include:

- The query (write it in a clear way, with line breaks and the SQL keywords in bold)
- The results. You must make sure that the tables are left-aligned
- Any assumptions you made

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

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   lower(country) LIKE '%in'

ORDER BY   country

country
Bahrain
Liechtenstein
Spain

1. What are the names of all the languages in the database (sorted alphabetically)?

2. Return the full names (first and last) of actors with "SON" in their last name, ordered by their first name.

3. Find all the addresses where the **second** address is not empty (i.e., contains some text), and return these second addresses sorted.

4. Return the first and last names of actors who played in a film involving a "Crocodile" and a "Shark", along with the release year of the movie, sorted by the actors' last names.

5. How many films involve a "Crocodile" and a "Shark"?

6. Find all the film categories in which there are between 55 and 65 films. Return the names of these categories and the number of films per category, sorted by the number of films.

7. In how many film categories is the average difference between the film replacement cost and the rental rate larger than 17?

8. Find the address district(s) name(s) such that the **minimal** postal code in the district(s) is **maximal** over all the districts. Make sure your query **ignores empty postal codes and district names**.

9. Find the names (first and last) of all the actors and costumers whose first name is the same as the first name of the actor with ID 8. Do not return the actor with ID 8 himself. Note that you cannot use the name of the actor with ID 8 as a constant (only the ID). There is more than one way to solve this question, but you need to provide only one solution.

10. Give an interesting query of your own that is not already in the assignment. The query should involve an aggregation operation, and a nested SELECT. Give, along with the query, the English explanation and the answer.