# Homework Assignment #1

## Database Systems course (Fall 2017)

**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).

See 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.**

- Documentation if necessary

**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).

<u>**Submission**</u>

- Your solution should be submitted in a single zip file named **\<username\>-hw1.zip**, through moodle containing :

    1. For every question, include a .sql file (that can be executed without errors in mysql) with the SQL query. Name the files **q01.sql**, **q02.sql**, and so on according to the question numbers.

    2. The answers document in pdf format, named **\<username\>-hw1.pdf**

- 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.

<u>**Tip for handling the results:**</u> **if you are using Word, you can export the results from MySQL Workbench (to HTML) and then copy-paste them 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      country LIKE '%in'

ORDER BY   country

| country |
|---------|
| Bahrain |
| Liechtenstein |
| Spain |

1. "Like a G6": What is the name of the "biggest" costumer? i.e the customer who paid , in total, the most.

2. The "good" , the "bad": Return the two stores who had the largest, and the smallest number of rentals in July 2005

3. "Actor of the month": what is the name of the actor who appeared in the largest number of filmed rented on June, 2005

4. "ABC": What is the alphabet letter that appears in the beginning of most film titles? HINT: You can use the mysql LEFT(x,y) where x is an attribute name and y is the number of characters you would like to retrieve

5. The "golden" hour: what is the hour in the day where the largest number of rentals take place?

6. "Rising Store": return the store name, and the total "earning difference" of the store who had the largest difference in earning , between two succeeding months. e.g. if store A earned 24$ on July, 2005 and 38,000$ on August, 2005 than than the difference equals to 37976$ which may be the highest.

7. "Nap Time" Rank the movie categories according to their averaged movie durations. I.e the category which its films are the longest (on average) will be returned first.

8. "R you serious?": Return the actor's name who acted in the largest number of R-rated films.

9. "Better together": Return all pairs of actors, ordered (descending) by their number of co-appearances in films. (e.g. Leonardo DiCaprio and Kate Winslet appeared in 2 movies)

10. "Your Turn":  Give an interesting query of your own on the Sakila schema, which is not already in the assignment. The query should use both ALL and ANY.  You should provide the query and its results, and explain in your own words (be concise and precise! ) what this query means.