

Homework Assignment #1

Database Systems course (2010-2011)

Objectives

To understand and be able to manipulate 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

Please note that your query must return the answer of the question exactly; if the answer asks for a count of something, return that count, etc. Unless it's specifically asked, we do NOT want duplicates in the answers. If you know what views are, then keep it to yourself (i.e. don't use views). The questions are (roughly) in order from least to most difficult.

IMPORTANT NOTE: you may NOT use the "LIMIT" keyword of MySQL in your queries.

Submission

Your solution should be assigned hardcopy (that is, print it..) to Rubi's mailbox (371 on Schreiber's second floor)

For each question, your solution should include:

- The query (shift "SQL keywords" as much as possible for easy understanding)
- The results. You must make sure that table is aligned
- Any assumption 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.

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       lower(country) LIKE '%in'
ORDER BY    country
```

country
Bahrain
Liechtenstein
Spain

Questions

1. What are the names of all the categories in the database (sorted)?
2. Return the last names (sorted) of all the actors name "nick".
3. Find all the films whose length is more than 184 (inclusive). Order the results by the length (and for films with the same length order them by their name). Return their title and the length.
4. Return the customer id, first name, last name, city and country of all customers whose customer id is between 100 and 110 (both inclusive). Order the results first by the last then by the first name.
5. How many customers are from Israel??
6. For each category, what is the average length of it's correspond titles? Return the category's name and the average, ordered by the average. ALSO, show only the categories whose average is above 110.
7. Return the categories (names) of the shortest film. NOTE that there may be several "shortest" films (i.e. with the same length), so you might need to return more than one category..
8. Who are the customers whose total payment is above the average payment (of all customers)? Return their first and last name, and their total payment (ordered by their total payment).
IMPORTANT NOTE: this query should return many customers. Please write in your submission only the first TOP-10 results..
9. What is the film with the largest number of actors? Return the film's id and title.
10. Give an interesting query of your own that is not already in the assignment. The query should involve at least two joins, HAVING clause and aggregation operation. Give the English explanation and the answer.