

Information System - Lab work 8

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Database

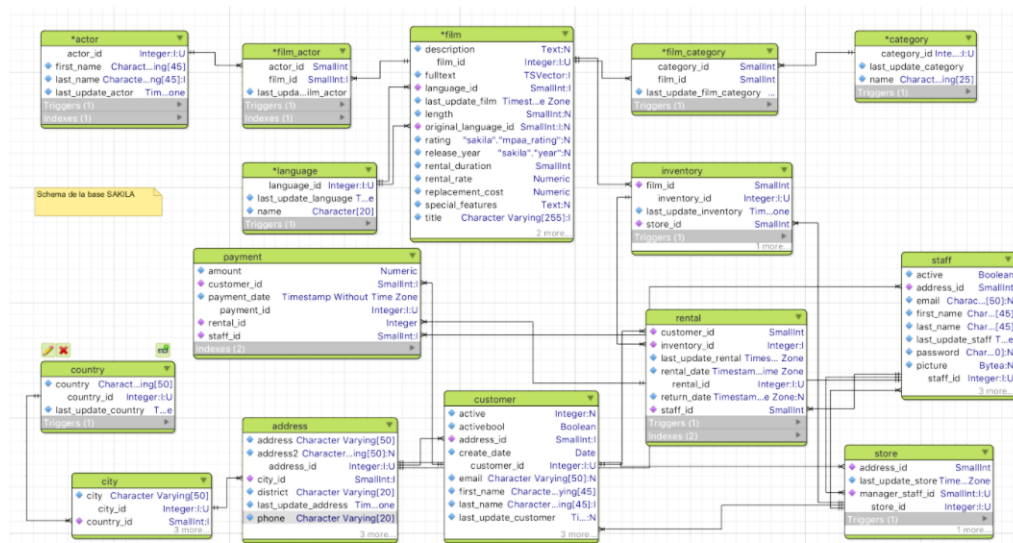


Figure 1: Visual example of Sakila database schema

SQL queries

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

```
SELECT * FROM language
ORDER BY name ASC;
```

2. List full names of actors with "GER" in their last name, ordered by their first name.

```

SELECT CONCAT(first_name," ",last_name) AS full_name
FROM actor
WHERE last_name LIKE "%GER%"
ORDER BY first_name ASC;

```

- Find all the addresses where postal code starts with "57", and return addresses sorted.

```

SELECT *
FROM address
WHERE postal_code LIKE "57%"
ORDER BY address;

```

- How many films involve a "DWARF" in their titles?

```

SELECT COUNT(*)
FROM film
WHERE title LIKE "%DWARF%";

```

- Find full names of actors who played in a film involving 'WAR' in title and longer than 2.5 hours, along with the title, run length and release year of the movie, sorted by the actors' last names.

```

SELECT CONCAT(first_name , " ", last_name ) AS full_name ,
title , release_year , length
FROM actor
JOIN film_actor ON actor.actor_id=film_actor.actor_id
JOIN film ON film.film_id = film_actor.film_id
WHERE title LIKE '%WAR%' AND length > 150
ORDER BY last_name;

```

- 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 descending.

```

CREATE VIEW R6 AS
SELECT film_category.category_id , category.name,
COUNT(film_category.category_id) as countfilm
FROM film_category
JOIN category
ON film_category.category_id = category.category_id
GROUP BY category_id;

SELECT name, countfilm
FROM R6
WHERE countfilm > 55 AND countfilm < 65
ORDER BY countfilm DESC;

```

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

```
SELECT COUNT(*)
FROM (SELECT category_id
FROM film
JOIN film_category
ON film.film_id = film_category.film_id
GROUP BY film_category.category_id
HAVING ABS(AVG(replacement_cost)) - AVG(rental_rate) > 17 ) AS R7;
```

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.

```
SELECT R7.district , MAX(postcode)
FROM (SELECT district , MIN(postal_code) AS postcode
FROM address
WHERE postal_code IS NOT NULL AND district IS NOT NULL
GROUP BY district
ORDER BY MIN(postal_code) DESC) AS R7;
```

9. Find the names (first and last) of all the actors and customers whose first name is the same as the first name of the actor with ID 101 (exclude the actor with ID 101).

```
SELECT first_name , last_name
FROM customer
WHERE customer.first_name = (SELECT first_name
FROM actor WHERE actor_id = 101)
UNION
SELECT first_name , last_name FROM actor
WHERE first_name = (SELECT first_name
FROM actor WHERE actor_id = 101)
AND actor_id <> 101 ;
```

Results

The figure below presents the results after implement queries (limit from 0 to 10 for some long results):

language_id	name	last_update	full_name	COUNT(*)
1	English	2006-02-15 05:02:19	CAMERON ZELLWEGER	2
5	French	2006-02-15 05:02:19	JULIA ZELLWEGER	
6	German	2006-02-15 05:02:19	MICHAEL BOLGER	
2	Italian	2006-02-15 05:02:19	MINNIE ZELLWEGER	
3	Japanese	2006-02-15 05:02:19	VAL BOLGER	
4	Mandarin	2006-02-15 05:02:19	VIVIEN BASINGER	

6 rows in set (0.00 sec)

Query 1

fullname	title	release_year	length
ANGELINA ASTAIRE	WARDROBE PHANTOM	2006	178
KARL BERRY	LEATHERNECKS DWARFS	2006	153
SUSAN DAVIS	LEATHERNECKS DWARFS	2006	153
RIVER DEAN	WARDROBE PHANTOM	2006	178
SPENCER DEPP	LEATHERNECKS DWARFS	2006	153
BOB FAWCETT	LEATHERNECKS DWARFS	2006	153
GREGORY GOODING	WARDROBE PHANTOM	2006	178
ADAM GRANT	GLADIATOR WESTWARD	2006	173
KIRK JOVOVICH	GLADIATOR WESTWARD	2006	173

6 rows in set (0.00 sec)

Query 2

name	countfilm
Action	64
New	63
Drama	62
Games	61
Sci-Fi	61
Children	60
Comedy	58
Classics	57
Travel	57
Horror	56

10 rows in set (0.00 sec)

Query 3

Query 4

COUNT(*)	district	MAX(postcode)
8	Crdoaba	99865

1 row in set (0.03 sec)

Query 5

first_name	last_name
SUSAN	WILSON
SUSAN	DAVIS

2 rows in set (0.08 sec)

Query 6

Query 7

Query 8

Query 9

Figure 2: Result of all queries except query 3

address_id	address	address2	district	city_id	postal_code	phone	location	last_update
143	1029 Dzerzinsk Manor		Ynlin	542	57519	33173584456	00	2014-09-25 22:33:16
376	1061 Ede Avenue		Southern Tagalog	98	57810	333390595558	00	2014-09-25 22:32:35
167	1287 Xiangfan Boulevard		Gifu	253	57844	819416131190	00	2014-09-25 22:31:48
252	1309 Weifang Street		Florida	520	57338	435785045362	00	2014-09-25 22:34:02
502	1515 Korla Way		England	589	57197	959467768895	00	2014-09-25 22:33:42
59	1697 Kowloon and New Kowloon Loop		Moskova	49	57807	499352017190	00	2014-09-25 22:32:47
444	231 Kaliningrad Place		Lombardia	70	57833	575081026569	00	2014-09-25 22:31:42
552	390 Wroclaw Way		Hainan	462	5753	357593328658	00	2014-09-25 22:30:41
338	431 Szekesfehry Avenue		Baki	48	57828	219591465123	00	2014-09-25 22:30:11
308	687 Alessandria Parkway		Sanaa	455	57587	407218522204	00	2014-09-25 22:34:10

Figure 3: Results of query 3