Title:DB_Assignment4
Name:Husam Alanazi
Date:OCT 31

```sql
-- Query 1: Average length of films in each category

SELECT c.name AS category_name, AVG(f.length) AS average_length
FROM movie_rentals.film f
JOIN movie_rentals.film_category fc ON f.film_id = fc.film_id
JOIN movie_rentals.category c ON fc.category_id = c.category_id
GROUP BY c.name
ORDER BY c.name;
```

Result Grid | Filter Rows: Search | Export:

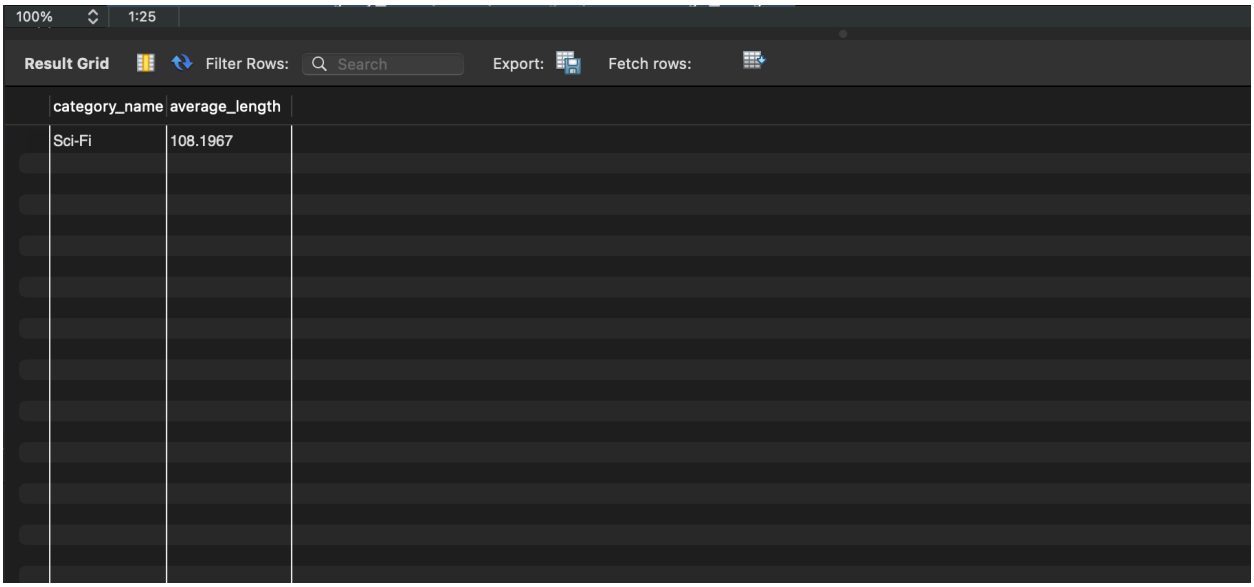
category_name	average_length
Action	111.6094
Animation	111.0152
Children	109.8000
Classics	111.6667
Comedy	115.8276
Documentary	108.7500
Drama	120.8387
Family	114.7826
Foreign	121.6986
Games	127.8361
Horror	112.4821
Music	113.6471
New	111.1270
Sci-Fi	108.1967
Sports	128.2027
Travel	113.3158

Query 1: Average length of films in each category
Explanation: This query calculates the average length of movies in each category. It helps us see which categories tend to have longer or shorter movies by averaging the length of all films within each category. The results are listed in alphabetical order by category name for easy reading.

```sql
-- Query 2: Categories with the longest and shortest average film lengths

SELECT c.name AS category_name, AVG(f.length) AS average_length
FROM film f
JOIN film_category fc ON f.film_id = fc.film_id
JOIN category c ON fc.category_id = c.category_id
GROUP BY c.name
ORDER BY average_length DESC
LIMIT 1;

SELECT c.name AS category_name, AVG(f.length) AS average_length
FROM film f
JOIN film_category fc ON f.film_id = fc.film_id
JOIN category c ON fc.category_id = c.category_id
GROUP BY c.name
ORDER BY average_length ASC
LIMIT 1;
```



Query 2: Categories with the longest and shortest average film lengths
Explanation: This query identifies the movie categories that have the longest and shortest average film lengths. By sorting the average film length in descending and ascending order, it

quickly shows us the extremes in film length for different categories, helping us understand which category typically has the longest movies and which has the shortest.

```sql
-- Query 3: Customers who rented action but not comedy or classic movies

SELECT DISTINCT cu.customer_id, cu.first_name, cu.last_name
FROM customer cu
JOIN rental r ON cu.customer_id = r.customer_id
JOIN inventory i ON r.inventory_id = i.inventory_id
JOIN film_category fc ON i.film_id = fc.film_id
JOIN category c ON fc.category_id = c.category_id
WHERE c.name = 'Action'
AND cu.customer_id NOT IN (
    SELECT cu2.customer_id
    FROM customer cu2
    JOIN rental r2 ON cu2.customer_id = r2.customer_id
    JOIN inventory i2 ON r2.inventory_id = i2.inventory_id
    JOIN film_category fc2 ON i2.film_id = fc2.film_id
    JOIN category c2 ON fc2.category_id = c2.category_id
    WHERE c2.name IN ('Comedy', 'Classics')
);
```

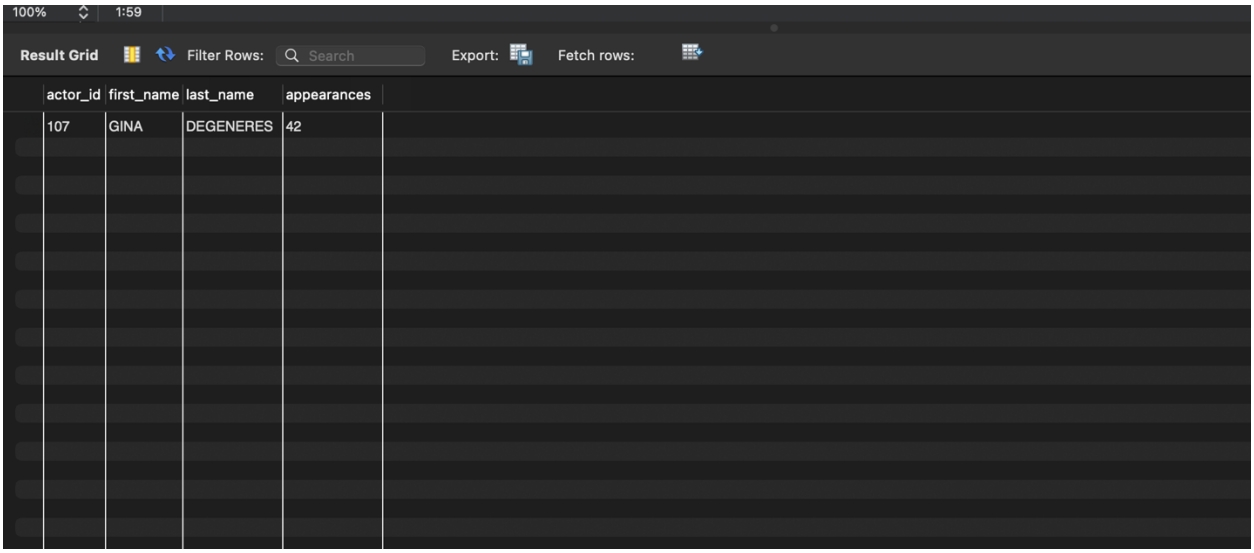
customer_id	first_name	last_name
139	AMBER	DIXON
17	DONNA	THOMPSON
90	RUBY	WASHINGTON
223	MELINDA	FERNANDEZ
164	JOANN	GARDNER
213	GINA	WILLIAMSON
232	CONSTANCE	REID
171	DOLORES	WAGNER
250	JO	FOWLER
432	EDWIN	BURK
330	SCOTT	SHELLEY
323	MATTHEW	MAHAN
350	JUAN	FRALEY
361	LAWRENCE	LAWTON
433	DON	BONE
445	MICHEAL	FORMAN
452	TOM	MILNER

Query 3: Customers who rented action but not comedy or classic movies

Explanation: This query finds customers who have rented action movies but have never rented any comedy or classic movies. It filters out customers who only rented action movies, allowing us to see specific viewing preferences for this group of customers.

```sql
-- Query 4: Actor with the most appearances in English-language movies

SELECT a.actor_id, a.first_name, a.last_name, COUNT(*) AS appearances
FROM movie_rentals.actor a
JOIN movie_rentals.film_actor fa ON a.actor_id = fa.actor_id
JOIN movie_rentals.film f ON fa.film_id = f.film_id
JOIN movie_rentals.language l ON f.language_id = l.language_id
WHERE l.name = 'English'
GROUP BY a.actor_id, a.first_name, a.last_name
ORDER BY appearances DESC
LIMIT 1;
```



Query 4: Actor with the most appearances in English-language movies
Explanation: This query calculates which actor has appeared in the most English-language movies. It counts each actor's appearances in English films and then sorts the results to show the actor with the highest count at the top, helping us identify the most featured actor in English films.

```sql
-- Query 5: Number of distinct movies rented for exactly 10 days from the store where Mike works

SELECT COUNT(DISTINCT i.film_id) AS distinct_movies
FROM rental r
JOIN inventory i ON r.inventory_id = i.inventory_id
JOIN store s ON i.store_id = s.store_id
JOIN staff st ON s.store_id = st.store_id
WHERE st.first_name = 'Mike'
AND DATEDIFF(r.return_date, r.rental_date) = 10;
```

Query 5: Number of distinct movies rented for exactly 10 days from the store where Mike works

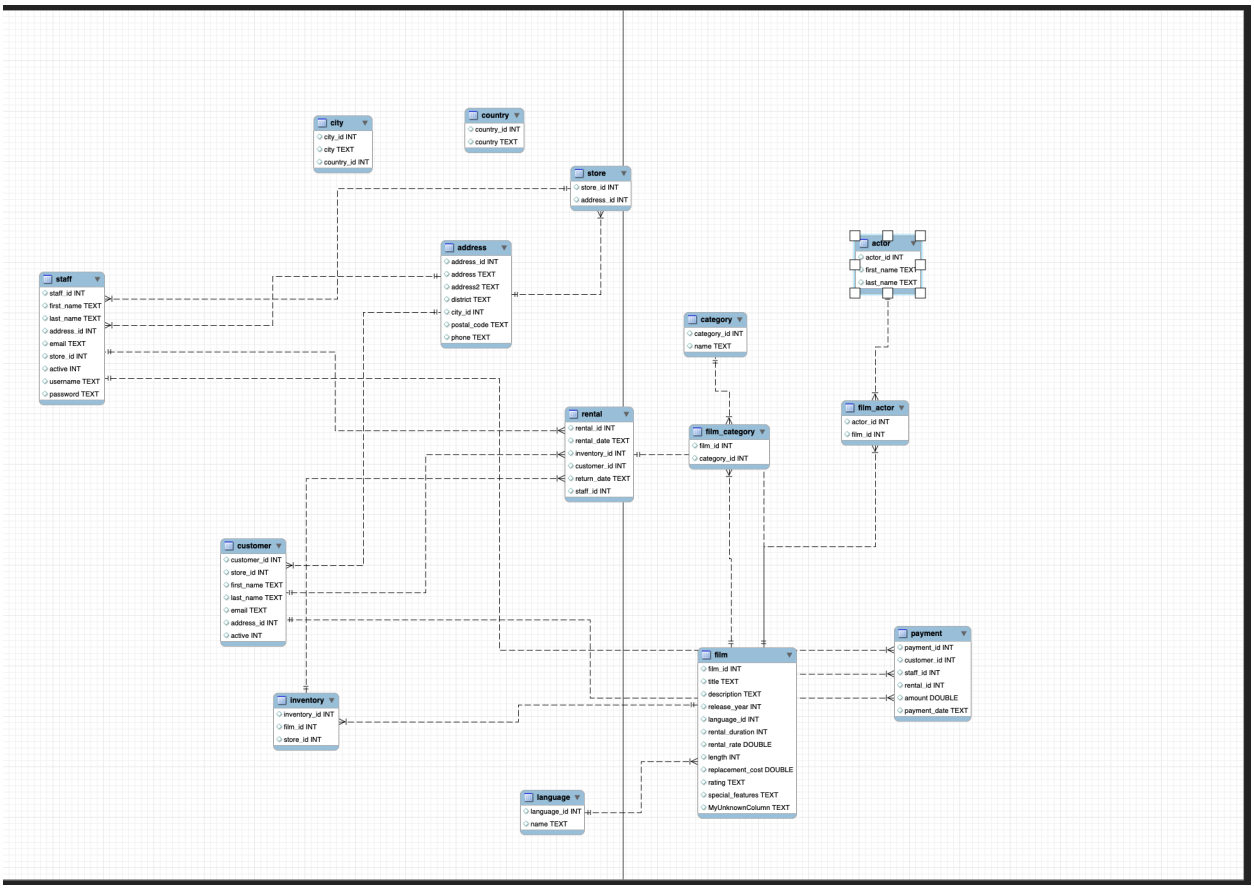
Explanation: This query counts the number of unique movies rented for exactly 10 days from the store where an employee named Mike works. It filters rentals based on both the rental duration and the store location, providing insight into how many unique movies were rented under these conditions.

```sql
-- Query 6: Alphabetically list actors who appeared in the movie with the largest cast of actors

SELECT a.first_name, a.last_name
FROM actor a
JOIN film_actor fa ON a.actor_id = fa.actor_id
WHERE fa.film_id = (
    SELECT fa2.film_id
    FROM film_actor fa2
    GROUP BY fa2.film_id
    ORDER BY COUNT(fa2.actor_id) DESC
    LIMIT 1
)
ORDER BY a.last_name, a.first_name;
```

first_name	last_name
JULIA	BARRYMORE
VAL	BOLGER
SCARLETT	DAMON
LUCILLE	DEE
WOODY	HOFFMAN
MENA	HOPPER
REESE	KILMER
CHRISTIAN	NEESON
JAYNE	NOLTE
BURT	POSEY
MENA	TEMPLE
WALTER	TORN
FAY	WINSLET
CAMERON	ZELLWEGER
JULIA	ZELLWEGER

Query 6: Alphabetically list actors who appeared in the movie with the largest cast of actors
Explanation: This query finds the movie with the largest cast (most actors) and then lists all actors from that movie in alphabetical order. This gives a clear, organized view of all actors involved in the most crowded movie, showing the biggest collaboration on a single film.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country_id INT
country
country_id INT
country TEXT
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address_id INT
address
address_id INT
address TEXT
address2 TEXT
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city_id INT
postal_code TEXT
phone TEXT
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last_name TEXT
staff
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last_name TEXT
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replacement_cost DOUBLE
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store_id INT
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