Practice Problem Set-1

Business Case Scenario for Sakila DVD Rental Store

Sakila DVD Rental Store is a bustling business that offers its customers a wide array of movies for rental. To enhance its operational efficiency and cater to customer preferences effectively, the store management is keen on gaining insights from its existing database, which contains detailed information about the movies it offers.

Objective

To leverage data analysis and insights to optimize movie selection, understand customer preferences, and enhance revenue generation at Sakila DVD Rental Store.

Approach

Utilizing the Sakila database, the business aims to perform a comprehensive analysis of the available movie data to better understand various aspects related to movie ratings, duration, revenue generation, customer preferences, and more.

Questions from the Film table

. (Use sqlite-sakila.db)

1. **Retrieve the titles and lengths of all films from the film table.**

```
SELECT title, COUNT(title) FROM film;
```

2. **Get the film IDs, titles, and release years of films released in 2006.**

3. Find films with a rating of 'PG-13'.
4. Retrieve films with a length greater than 120 minutes.
5. Get films with a rental duration of 5 days.

6. Count the total number of films available in the film table.
7. Count the number of distinct languages available for films.
8. Calculate the total number of films in each language.

9. Display 5 films starting from the 10th position.
10. Fetch films from the 21st to the 30th position.

11. Sort films by a rental rate in ascending order.
12. Order films by replacement cost in descending order.
13. Retrieve distinct film categories available.
14. List unique special features among films.
15. Find the average replacement cost of films per category.
16. Calculate the total length of films for each language.
17. Show categories with an average rental rate greater than $4.
18. Display languages with at least 20 films.

HOTS

1. Retrieve the top 10 film titles with rental rates greater than the average rental rate, sorted alphabetically by title.
2. Fetch the titles of films that have unique special features and more than two rental rates, limiting the output to 5 rows.
3. **Calculate the average replacement cost of films released before 2005, having a length greater than 120 minutes.**
4. **List the film categories along with the number of films in each category, excluding categories with less than five films, ordered by the number of films in descending order.**

5. **Retrieve the titles of films with a rental rate between $3 and $5, having the same replacement cost as the film titled 'ACADEMY DINOSAUR'. Sort the output by the rental rate in descending order.**

Solutions Hots

1,..

```
 SELECT title

FROM film

WHERE rental_rate > (SELECT AVG(rental_rate) FROM film)

ORDER BY title

LIMIT 10;
```

2. ...

```
SELECT DISTINCT title
FROM film
WHERE special_features IS NOT NULL AND rental_rate > 2
LIMIT 5;
```

3, ...

```
SELECT AVG(replacement_cost)
FROM film
WHERE release_year < 2005 AND length > 120;
```

4. ...

```
SELECT category.name AS category_name, COUNT(film.film_id) AS film_count
FROM category
JOIN film_category ON category.category_id = film_category.category_id
JOIN film ON film_category.film_id = film.film_id
GROUP BY category_name
HAVING COUNT(film.film_id) >= 5
ORDER BY film_count DESC;
```

5. ...

```
SELECT f1.title
FROM film f1
JOIN film f2 ON f1.replacement_cost = f2.replacement_cost
WHERE f1.rental_rate BETWEEN 3 AND 5
AND f2.title = 'ACADEMY DINOSAUR'
ORDER BY f1.rental_rate DESC;
```