sql_z

Sakila Database SQL Analysis

FINISHED

In this notebook, I perform a data analysis using the Mariadb SQL language on the Sakila database. The Sakila database is a sample database that represents a DVD rental store. The analysis aims to answer various questions related to the Sakila database and gain insights from the data.

Analysis Questions

1. Find out those Active customer name from India and United States Whose name start by 'A'.
2. Find out top five category film according to number of flim.
3. Find out the language which ussed in all 'Sports' category movies
4. Find out the total amount (round off 2 decimal place) in between '2006-02-15' to '2005-02-15'
5. Find out all the film name in lowercase which movie have 'Trailers' by extracting and print in a single line.
6. Find out average time in between rental date and return date
7. Find out total number of rental order which yet not returned
8. Findout the the payment_id of the rental_id =100
   9.Find out the film name which earn most with the amount value
9. The name of film and amount which earned most
10. Find out actor's who participate in the most earned movie 'telegraph voyage' ?
11. Find out how many copies of film 'telegraph voyage' exist in the inventory system
12. Find out what is the total amount paid by each customer for all their rental ?
13. Find out how many films from each category each store has ?
14. Calculate the total revenue of each store |
15. Find out top 5 customers who have rented the most number of films, and rank them based on the total number of films rented?

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Took 0 sec. Last updated by anonymous at February 06 2024, 5:31:04 AM.

READY

READY

```
%mariadb
SELECT VERSION()
```

FINISHED

settings ▾

VERSION()
10.6.12-MariaDB-0ubuntu0.22.04.1

Took 7 sec. Last updated by anonymous at January 28 2024, 7:52:24 PM.

```
%mariadb
SELECT CURRENT_DATE(),CURRENT_TIME()
```

FINISHED

settings ▾

CURRENT_DATE()	CURRENT_TIME()
2024-01-28	19:52:24

Took 0 sec. Last updated by anonymous at January 28 2024, 7:52:24 PM.

```
%mariadb
SHOW DATABASES
```

FINISHED

settings ▾

Database
codeone

information_schema
mysql
performance_schema
sakila

Took 1 sec. Last updated by anonymous at January 28 2024, 7:52:25 PM.

```
%mariadb
USE sakila
```

FINISHED

```
Query executed successfully. Affected rows : 0
```

Took 6 sec. Last updated by anonymous at February 04 2024, 1:52:40 PM.

```
%mariadb
-- lets see all the base table in the database

SHOW FULL TABLES FROM sakila
WHERE TABLE_TYPE='BASE TABLE' ;
```

FINISHED

settings ▾

Tables_in_sakila	Table_type
actor	BASE TABLE
address	BASE TABLE
category	BASE TABLE
city	BASE TABLE
country	BASE TABLE
customer	BASE TABLE
film	BASE TABLE
film_actor	BASE TABLE
film_category	BASE TABLE
film_text	BASE TABLE
inventory	BASE TABLE
language	BASE TABLE
payment	BASE TABLE
rental	BASE TABLE
staff	BASE TABLE

Took 0 sec. Last updated by anonymous at January 28 2024, 7:52:25 PM.

```
%mariadb
-- let see all the VIEWS

SHOW FULL TABLES FROM sakila
WHERE TABLE_TYPE='VIEW' ;
```

FINISHED

settings ▾

Tables_in_sakila	Table_type
actor_info	VIEW
customer_list	VIEW
film_list	VIEW
nicer_but_slower_film_list	VIEW
sales_by_film_category	VIEW
sales_by_store	VIEW

Took 0 sec. Last updated by anonymous at January 28 2024, 7:52:25 PM.

```
%mariadb
-- 1. Find out those Active customer name from India and United States Whose name start by 'A'



SELECT CUS.customer_id,CONCAT(CUS.first_name," ",CUS.last_name) , email,COU.country
FROM customer AS CUS INNER JOIN address AS ADDRE
ON CUS.address_id=ADDRE.address_id
```

FINISHED

```
INNER JOIN city
ON ADDRE.city_id=city.city_id
INNER JOIN country AS COU
ON city.country_id=COU.country_id
WHERE CUS.active = 1 AND COU.country IN ('India','United states') AND CUS.first_name LIKE 'A %'
```

sql_z

settings

customer_id	first_name," ",CUS.last_name)	email	country
367	ADAM GOOCH	ADAM.GOOCH@sakilacustomer.org	India
175	ANNETTE OLSON	ANNETTE.OLSON@sakilacustomer.org	India
225	ARLENE HARVEY	ARLENE.HARVEY@sakilacustomer.org	India
412	ALLEN BUTTERFIELD	ALLEN.BUTTERFIELD@sakilacustomer.org	India
136	ANITA MORALES	ANITA.MORALES@sakilacustomer.org	India
32	AMY LOPEZ	AMY.LOPEZ@sakilacustomer.org	India
152	ALICIA MILLS	ALICIA.MILLS@sakilacustomer.org	India
217	AGNES BISHOP	AGNES.BISHOP@sakilacustomer.org	India

Took 0 sec. Last updated by anonymous at January 28 2024, 7:52:25 PM. (outdated)

```
%mariadb
-- 2. Find out top five category film according to number of flim

-- concept applied:: join/group by / having / order by

select cat.name AS category,COUNT(film.film_id ) AS frequency
FROM film INNER JOIN film_category AS fl_cat
ON film.film_id=fl_cat.film_id
INNER JOIN category AS cat
ON fl_cat.category_id=cat.category_id
GROUP BY category
HAVING frequency > 60
ORDER BY frequency DESC
LIMIT 5
```

FINISHED

settings

category	frequency
Sports	74
Foreign	73
Family	69
Documentary	68
Animation	66

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```
Now It is understand that the 'Sports' Type of category flim are most popular.
```

FINISHED

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```
%mariadb
--3. Find out the language which ussed in all 'Sports' category movies

-- concept applied:: Nested Loop / filtering

SELECT language_id,name FROM language WHERE language_id IN
(SELECT language_id FROM film WHERE film_id IN
(SELECT film_id FROM film_category WHERE category_id=
(SELECT category_id from category where name ='Sports')))
```

FINISHED

settings

language_id	name
1	English

Took 0 sec. Last updated by anonymous at January 28 2024, 7:52:26 PM. (outdated)

```
%mariadb
SHOW COLUMNS FROM payment
```

FINISHED

settings

Field	Type	Null	Key	Default
payment_id	smallint(5) unsigned	NO	PRI	null
customer_id	smallint(5) unsigned	NO	MUL	null

staff_id	tinyint(3) unsigned	NO	MUL	null
rental_id	int(11)	YES	MUL	null
amount	decimal(5,2)	NO		null
payment_date	datetime	NO		null
last_update	timestamp	NO		current_timestamp()

Took 0 sec. Last updated by anonymous at January 28 2024, 7:52:26 PM.

FINISHED

```
%mariadb
-- 4. Find out the total amount (round off 2 decimal place) in between '2006-02-15' to '2005-02-15'

-- concept applied:: Numeric function/ string function / logical operator

SELECT CONCAT(ROUND(SUM(amount),2)," ","$") FROM payment
WHERE payment_date BETWEEN '2005-02-15' AND '2006-02-16'
```

settings ▾

CONCAT(ROUND(SUM(amount),2)," ","$")
67406.56 $

Took 0 sec. Last updated by anonymous at January 28 2024, 7:52:26 PM. (outdated)

FINISHED

```
%mariadb
-- 5. Find out all the film name in lowercase which movie have 'Trailers' by extracting and print in a single line.

-- concept applied:: string function/ wildcard / LIKE

SELECT CONCAT(LCASE(title),"  (",SUBSTR(special_features,1,8), ")")
FROM film
WHERE special_features LIKE 'T%s'
```

settings ▾

CONCAT(LCASE(title)," (",SUBSTR(special_features,1,8), ")")
ace goldfinger (Trailers)
adaptation holes (Trailers)
airplane sierra (Trailers)
airport pollock (Trailers)
alabama devil (Trailers)

Took 0 sec. Last updated by anonymous at January 28 2024, 7:52:26 PM. (outdated)

FINISHED

```
%mariadb
-- 6. Find out average time in between rental date and return date

-- concept applied:: date function / numeric function / string function

SELECT CONCAT(ROUND(AVG(DATEDIFF(return_date,rental_date)),0)," days"," Average Rental time <- OUTPUT") FROM rental
```

settings ▾

CONCAT(ROUND(AVG(DATEDIFF(return_date,rental_date)),0)," days"," Average Rental time <- OUTPUT")
5 days Average Rental time <- OUTPUT

Took 0 sec. Last updated by anonymous at January 28 2024, 7:52:26 PM. (outdated)

FINISHED

```
%mariadb
-- 7. Find out total number of rental order which yet not returned
-- let assume if the renatl is not returned then the return_date is NULL

SELECT COUNT(rental_id) from rental
where return_date IS NULL
```

settings ▾

COUNT(rental_id)
183

Took 0 sec. Last updated by anonymous at January 28 2024, 8:01:05 PM. (outdated)

FINISHED

```
%mariadb
-- 8. Findout the the payment_id of the rental_id =100
-- concept:: variable
```

```
SET @x=100; -- that '@x' variable's value stroed in database
SELECT payment_id,amount FROM payment
WHERE rental_id=@x;
```

```
Query executed successfully. Affected rows : 0
```

settings

payment_id	amount
5630	4.99

Took 0 sec. Last updated by anonymous at January 28 2024, 10:27:14 PM. (outdated)

FINISHED

```
%mariadb
-- let see what the value of that variable '@x'
Select @x
```

settings

@x
100

Took 0 sec. Last updated by anonymous at January 28 2024, 10:28:46 PM. (outdated)

FINISHED

```
%mariadb
CREATE PROCEDURE pay(x int)
SELECT * FROM payment LIMIT 10
```

```
Query executed successfully. Affected rows : 0
```

Took 1 sec. Last updated by anonymous at January 28 2024, 10:43:28 PM. (outdated)

FINISHED

```
%mariadb

SHOW COLUMNS FROM payment
```

settings

Field	Type	Null	Key	Default
payment_id	smallint(5) unsigned	NO	PRI	null
customer_id	smallint(5) unsigned	NO	MUL	null
staff_id	tinyint(3) unsigned	NO	MUL	null
rental_id	int(11)	YES	MUL	null
amount	decimal(5,2)	NO		null
payment_date	datetime	NO		null
last_update	timestamp	NO		current_timestamp()

Took 0 sec. Last updated by anonymous at January 29 2024, 5:25:30 PM. (outdated)

ERROR

```
%mariadb
-- 9.Find out the film name which earn most with the amount value


SET @film_title='';
SET @total=0;
Query executed successfully. Affected rows : 0
```

FINISHED

```
%mariadb
SELECT f.title,SUM(p.amount) AS total_amount INTO @film_title, @total
FROM rental r INNER JOIN payment p
ON r.rental_id=p.rental_id INNER JOIN inventory i
ON r.inventory_id=i.inventory_id INNER JOIN film f
ON i.film_id=f.film_id
GROUP BY f.title
ORDER BY total_amount DESC
LIMIT 1
```

```
Query executed successfully. Affected rows : 1
```

Took 0 sec. Last updated by anonymous at January 30 2024, 4:56:04 PM.

FINISHED

```
%mariadb
-- 10. The name of film and amount which earned most

SELECT  LCASE( @film_title ),@total
```

settings

LCASE(@film_title)	@total
telegraph voyage	231.73

Took 0 sec. Last updated by anonymous at January 30 2024, 4:56:07 PM. (outdated)

```
%mariadb
-- 11. Find out actor's who participate in the most earned movie 'telegraph voyage' ?

SELECT CONCAT(first_name,"  ",last_name) FROM actor
WHERE actor_id IN (SELECT actor_id FROM film_actor
WHERE film_id = (SELECT film_id FROM film WHERE title=@film_title))
```

FINISHED

settings ▾

CONCAT(first_name," ",last_name)
WOODY HOFFMAN
CARMEN HUNT
GINA DEGENERES
LUCILLE DEE
VIVIEN BASINGER
MICHAEL BENING
THORA TEMPLE

Took 0 sec. Last updated by anonymous at January 30 2024, 5:02:40 PM. (outdated)

```
%mariadb
-- 12. Find out how many copies of film 'telegraph voyage' exist in the inventory system
SELECT COUNT( DISTINCT inventory_id) FROM inventory
WHERE film_id=(SELECT film_id FROM film WHERE title=@film_title)
```

FINISHED

settings ▾

COUNT(DISTINCT inventory_id)
7

Took 0 sec. Last updated by anonymous at January 30 2024, 5:12:56 PM. (outdated)

```
%mariadb
-- 13. Find out what is the total amount paid by each customer for all their rental ?

SELECT c.customer_id,CONCAT(c.first_name,"  ",c.last_name),SUM(p.amount)
FROM customer c INNER JOIN rental r on c.customer_id=r.customer_id
INNER JOIN payment p on r.rental_id=p.rental_id
GROUP BY c.customer_id
ORDER BY SUM(p.amount) DESC
```

FINISHED

settings ▾

customer_id	first_name," ",c.last_name)	amount)
526	KARL SEAL	221.55
148	ELEANOR HUNT	216.54
144	CLARA SHAW	195.58
137	RHONDA KENNEDY	194.61
178	MARION SNYDER	194.61
459	TOMMY COLLAZO	186.62
469	WESLEY BULL	177.60
468	TIM CARY	175.61

Took 0 sec. Last updated by anonymous at January 30 2024, 5:31:50 PM. (outdated)

```
%mariadb
-- 14. Find out how many films from each category each store has ?

select s.store_id,c.name,COUNT(c.name) from store s INNER JOIN inventory i ON s.store_id=i.store_id
INNER JOIN film f ON f.film_id=i.film_id
INNER JOIN film_category fc ON f.film_id=fc.film_id
INNER JOIN category c ON fc.category_id=c.category_id
GROUP BY s.store_id,c.name
FINISHED
Took 0 sec. Last updated by anonymous at January 30 2024, 5:02:40 PM. (outdated)
settings
```

FINISHED

settings ▾

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store_id	name	name)
1	Action	169
1	Animation	161
1	Children	129
1	Classics	131
1	Comedy	142
1	Documentary	130
1	Drama	162
1	Family	157

Took 0 sec. Last updated by anonymous at January 30 2024, 5:55:48 PM. (outdated)

```
%mariadb
use sakila
```

FINISHED

```
Query executed successfully. Affected rows : 0
```

Took 0 sec. Last updated by anonymous at February 06 2024, 5:09:06 AM.

```
%mariadb
-- 15. Calculate the total revenue of each store |

select s.store_id,SUM(p.amount) Total_revenue from store s inner join customer c on s.store_id=c.store_id
inner join payment p on p.customer_id=c.customer_id
GROUP BY s.store_id
```

FINISHED

settings ▾

store_id	Total_revenue
1	36997.53
2	30409.03

Took 0 sec. Last updated by anonymous at February 06 2024, 5:09:10 AM.

```
%mariadb

START TRANSACTION;
```

FINISHED

```
Query executed successfully. Affected rows : 0
```

Took 0 sec. Last updated by anonymous at January 30 2024, 8:41:52 PM.

```
%mariadb
CREATE TABLE store_revenue (store_id INT,total_revenue DECIMAL (10,2))
```

FINISHED

```
Query executed successfully. Affected rows : 0
```

Took 1 sec. Last updated by anonymous at January 30 2024, 8:42:00 PM.

```
%mariadb
SHOW COLUMNS FROM store_revenue
```

FINISHED

settings ▾

Field	Type	Null	Key	Default
store_id	int(11)	YES		null
total_revenue	decimal(10,2)	YES		null

Took 0 sec. Last updated by anonymous at January 30 2024, 8:42:08 PM. (outdated)

```
%mariadb

COMMIT;
```

FINISHED

```
Query executed successfully. Affected rows : 0
```

Took 0 sec. Last updated by anonymous at January 30 2024, 8:42:19 PM.

```
%mariadb

START TRANSACTION;
```

FINISHED

```
Query executed successfully. Affected rows : 0
```

Took 0 sec. Last updated by anonymous at January 30 2024, 8:42:28 PM.

sql_z

FINISHED

```
%mariadb
INSERT INTO store_revenue (store_id,total_revenue)
VALUES (1,36997.53),(2,100)
```

```
Query executed successfully. Affected rows : 2
```

Took 0 sec. Last updated by anonymous at January 30 2024, 8:42:32 PM.

FINISHED

```
%mariadb
SELECT * FROM store_revenue
```

settings ▾

store_id	total_revenue
1	36997.53

Took 0 sec. Last updated by anonymous at January 30 2024, 8:42:37 PM. (outdated)

FINISHED

```
%mariadb
-- there is a mistake to insert the values, GET BACK TO THE NODE BY ROLLBACK

ROLLBACK ;
```

```
Query executed successfully. Affected rows : 0
```

Took 0 sec. Last updated by anonymous at January 30 2024, 8:43:32 PM. (outdated)

FINISHED

```
%mariadb

INSERT INTO store_revenue (store_id,total_revenue)
VALUES (2,100)
```

```
Query executed successfully. Affected rows : 1
```

Took 0 sec. Last updated by anonymous at January 30 2024, 8:44:46 PM.

FINISHED

```
%mariadb

ROLLBACK;
```

```
Query executed successfully. Affected rows : 0
```

Took 0 sec. Last updated by anonymous at January 30 2024, 8:45:06 PM.

FINISHED

```
%mariadb

INSERT INTO store_revenue (store_id,total_revenue)
VALUES (1,36997.53),(2,30409.03)
```

```
Query executed successfully. Affected rows : 2
```

Took 0 sec. Last updated by anonymous at January 30 2024, 8:45:56 PM.

FINISHED

```
%mariadb

SELECT * FROM store_revenue
```

settings ▾

store_id	total_revenue
2	100.00
1	36997.53
2	30409.03

Took 0 sec. Last updated by anonymous at January 30 2024, 8:46:11 PM. (outdated)

FINISHED

```
%mariadb
DELETE FROM store_revenue where total_revenue=100.00
```

```
Query executed successfully. Affected rows : 1
```

Took 0 sec. Last updated by anonymous at January 30 2024, 8:51:41 PM.

FINISHED

```
%mariadb
select * from store_revenue
```

settings ▾

store_id	total_revenue
1	36997.53

sql_z

Took 0 sec. Last updated by anonymous at January 30 2024, 8:51:54 PM. (outdated)

```
%mariadb

COMMIT;
```

FINISHED

```
Query executed successfully. Affected rows : 0
```

Took 0 sec. Last updated by anonymous at January 30 2024, 8:52:27 PM.

```
%mariadb
-- 16. Find out top 5 customers who have rented the most number of films, and rank them based on the total number of films rented?

SELECT c.customer_id, CONCAT(c.first_name, ' ', c.last_name),
    RANK() OVER (ORDER BY COUNT(r.rental_id) DESC) AS rental_rank,COUNT(r.rental_id) AS total_rentals
FROM customer c
JOIN  rental r ON c.customer_id = r.customer_id
GROUP BY c.customer_id
ORDER BY  rental_rank
LIMIT 5;
```

FINISHED

settings

customer_id	first_name, ' ', c.last_name)	rental_rank	total_ren
148	ELEANOR HUNT	1	46
526	KARL SEAL	2	45
144	CLARA SHAW	3	42
236	MARCIA DEAN	3	42
75	TAMMY SANDERS	5	41

Took 0 sec. Last updated by anonymous at February 04 2024, 1:59:06 PM. (outdated)

```
%mariadb
-- 17. Find out the total revenue generated by each category of films, along with the rank of each film and each film revenue ,within its category based on revenue?

SELECT
    f.film_id,
    f.title,
    c.name AS category,
    f.rental_rate,
    SUM(f.rental_rate) OVER (partition by f.title order by f.title) AS total_revenue,
    SUM(f.rental_rate) OVER (PARTITION BY c.name ORDER BY f.rental_rate DESC) AS total_category_revenue,
    RANK() OVER (PARTITION BY c.name ORDER BY f.rental_rate DESC) AS rank_within_category
FROM
    film f
JOIN
    film_category fc ON f.film_id = fc.film_id
JOIN
    category c ON fc.category_id = c.category_id
ORDER BY
    c.name, rank_within_category;
```

FINISHED

settings

film_id	title	category	rental_rate	total_revenue	total_category_revenue
271	EASY GLADIATOR	Action	4.99	4.99	84.83
212	DARN FORRESTER	Action	4.99	4.99	84.83
501	KISSING DOLLS	Action	4.99	4.99	84.83
21	AMERICAN CIRCUS	Action	4.99	4.99	84.83
964	WATERFRONT DELIVERANCE	Action	4.99	4.99	84.83
911	TRIP NEWTON	Action	4.99	4.99	84.83
253	DRIFTER COMMANDMENTS	Action	4.99	4.99	84.83

Took 0 sec. Last updated by anonymous at February 04 2024, 2:14:07 PM. (outdated)

```
%mariadb
-- 18. Find out the number of rentals, total revenue, and average rental duration for each month with each year !

SELECT
    YEAR(r.rental_date) AS rental_year,
    MONTH(r.rental_date) AS rental_month,
```

FINISHED

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```
    COUNT(r.rental_id) OVER (PARTITION BY YEAR(r.rental_date), MONTH(r.rental_date)) AS total_rentals,
    SUM(p.amount) OVER (PARTITION BY YEAR(r.rental_date), MONTH(r.rental_date)) AS total_revenue,
    AVG(r.return_date - r.rental_date) OVER (PARTITION BY YEAR(r.rental_date), MONTH(r.rental_date)) AS average_rental_duration
FROM
    rental r
JOIN
    payment p ON r.rental_id = p.rental_id
ORDER BY
    rental_year, rental_month;
```

settings

rental_year	rental_month	total_rentals	total_revenue
2005	5	1156	4823.44
2005	5	1156	4823.44
2005	5	1156	4823.44
2005	5	1156	4823.44
2005	5	1156	4823.44
2005	5	1156	4823.44
2005	5	1156	4823.44
2005	5	1156	4823.44

Took 0 sec. Last updated by anonymous at February 04 2024, 2:27:32 PM. (outdated)

```
%mariadb
```

READY