Data-Driven Insights from the Sakila DVD Rental Database Using SQL

- This project showcases SQL-based analysis using the Sakila movie rental database. It includes querying customer activity, rental history, and film revenue using joins, aggregates, subqueries, and views. The goal was to extract actionable insights and optimize performance with indexing. It's a great example of real-world data analysis using SQL.

Sakila SQL Analysis

- This project explores the **Sakila DVD rental database** using SQL to extract insights, summarize customer behavior, and analyze film revenue.

Main Objective

- Use SQL to extract and analyze business data from a relational database.

Dataset

- **Sakila Database** (MySQL Sample)
- Includes: Customers, Rentals, Payments, Films, Staff

Tools

- MySQL Workbench
- SQL (DDL & DML)

Tasks Completed

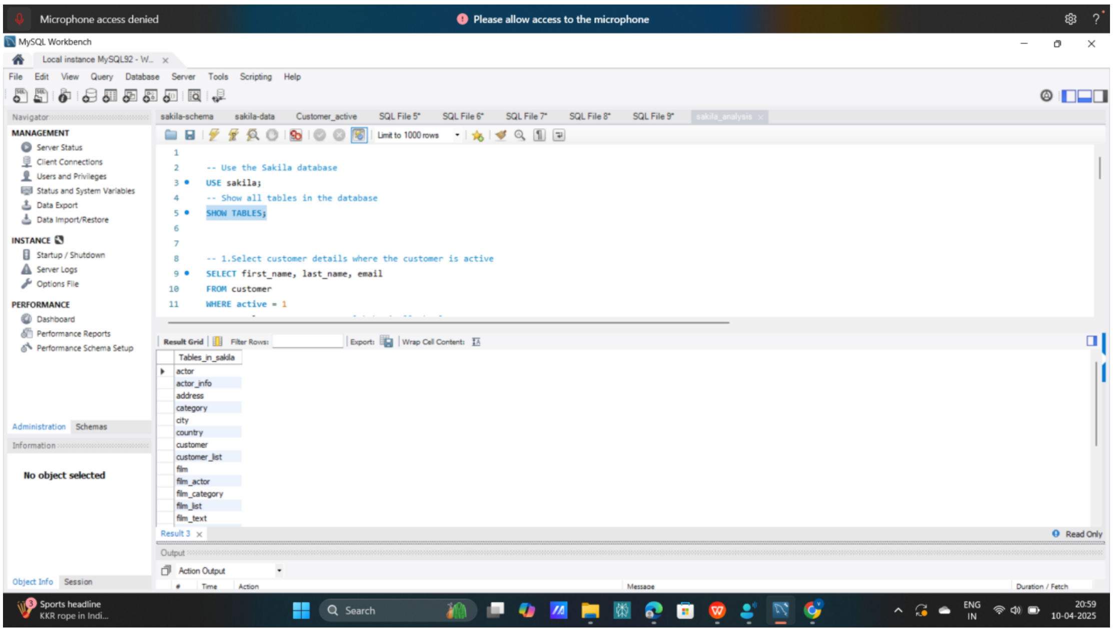
1. Filter Active Customers
2. join Tables for Rental History
3. Top Revenue-Generating Films
4. Customers Spending Above Average (Subquery)
5. Create View: `top_customers`
6. Optimize with Index on `payment.customer_id`

Files

- sakila_analysis.sql – All SQL queries
- README.md – Project overview

Key SQL Concepts

- `SELECT`, `WHERE`, `GROUP BY`, `ORDER BY`
- `JOIN` (INNER)
- `SUM`, `AVG`
- Subqueries
- Views
- Indexes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MySQL Workbench
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File Edit View Query Database Server Tools Scripting Help
sakila-schema sakila-data Customer_active SQL File 5* SQL File 6* SQL File 7* SQL File 8* SQL File 9* sakila_analysis
Limit to 1000 rows
Result Grid Filter Rows: Export: Wrap Cell Content:
Result 3
Read Only
Output
Action Output
# Time Action Message Duration / Fetch
Sports headline
KKR rope in Indi...
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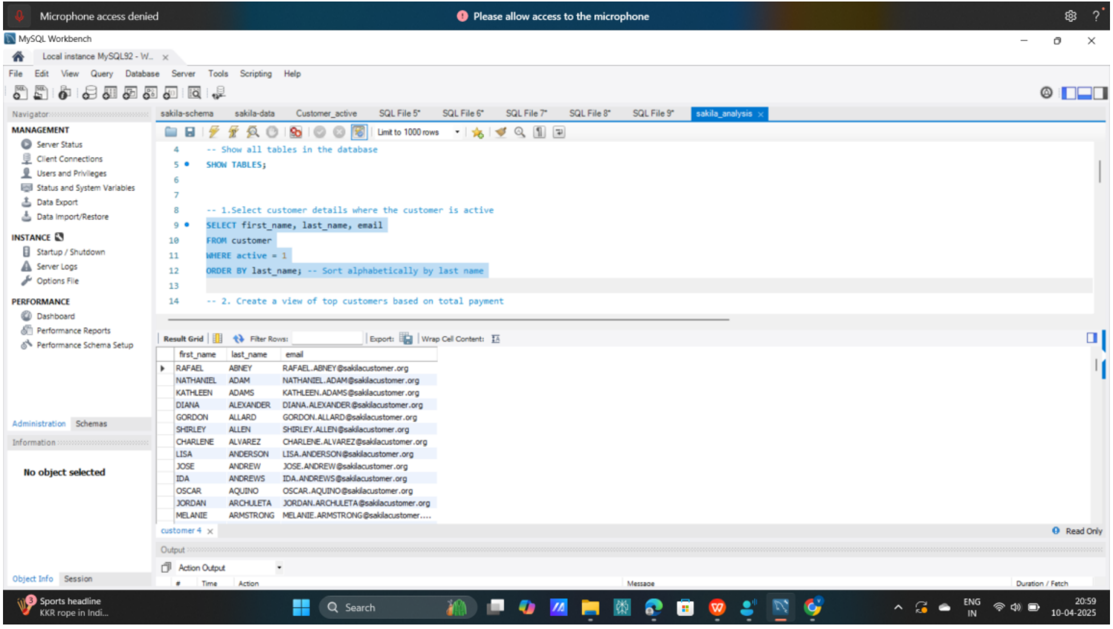
```
-- Use the Sakila database
USE sakila;
-- Show all tables in the database
SHOW TABLES;


-- 1.Select customer details where the customer is active
SELECT first_name, last_name, email
FROM customer
WHERE active = 1
```

Tables_in_sakila
actor
actor_info
address
category
city
country
customer
customer_list
film
film_actor
film_category
film_list
film_text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# Time Action Message Duration / Fetch
Sports headline
KKR rope in Indi...
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ENG IN
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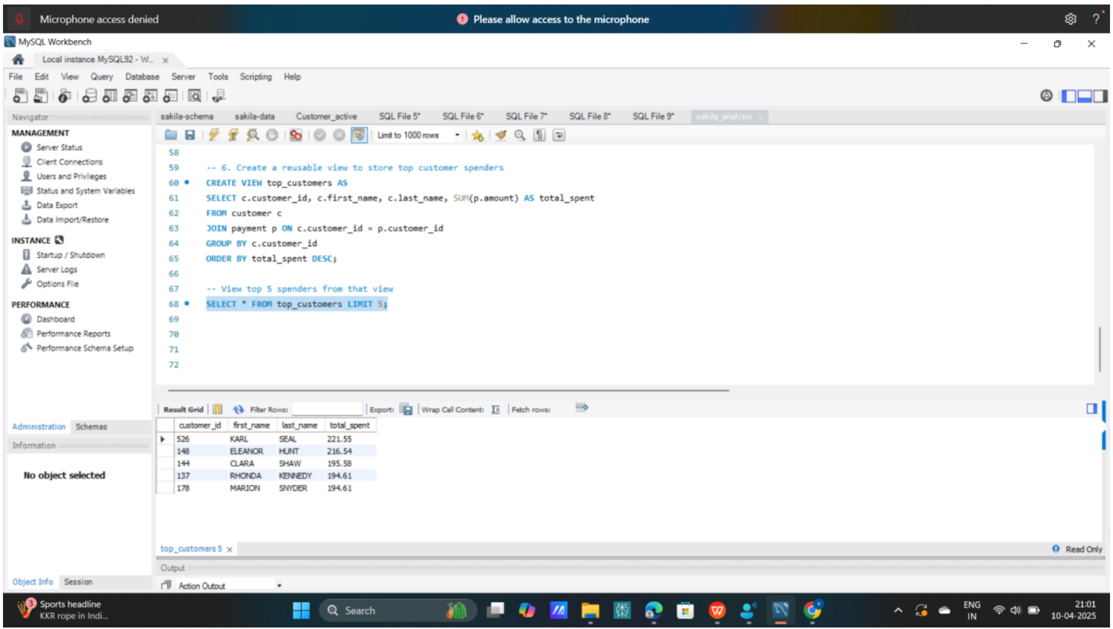
```
-- Show all tables in the database
SHOW TABLES;


-- 1.Select customer details where the customer is active
SELECT first_name, last_name, email
FROM customer
WHERE active = 1
ORDER BY last_name; -- Sort alphabetically by last name

-- 2. Create a view of top customers based on total payment
```

first_name	last_name	email
RAFAEL	ABNEY	RAFAEL.ABNEY@sakilacustomer.org
NATHANIEL	ADAM	NATHANIEL.ADAM@sakilacustomer.org
KATHLEEN	ADAMS	KATHLEEN.ADAMS@sakilacustomer.org
DIANA	ALEXANDER	DIANA.ALEXANDER@sakilacustomer.org
GORDON	ALLARD	GORDON.ALLARD@sakilacustomer.org
SHIRLEY	ALLEN	SHIRLEY.ALLEN@sakilacustomer.org
CHARLENE	ALVAREZ	CHARLENE.ALVAREZ@sakilacustomer.org
LISA	ANDERSON	LISA.ANDERSON@sakilacustomer.org
JOSE	ANDREW	JOSE.ANDREW@sakilacustomer.org
IDA	ANDREWS	IDA.ANDREWS@sakilacustomer.org
OSCAR	AQUINO	OSCAR.AQUINO@sakilacustomer.org
JORDAN	ARCHULETA	JORDAN.ARCHULETA@sakilacustomer.org
MELANIE	ARMSTRONG	MELANIE.ARMSTRONG@sakilacustomer....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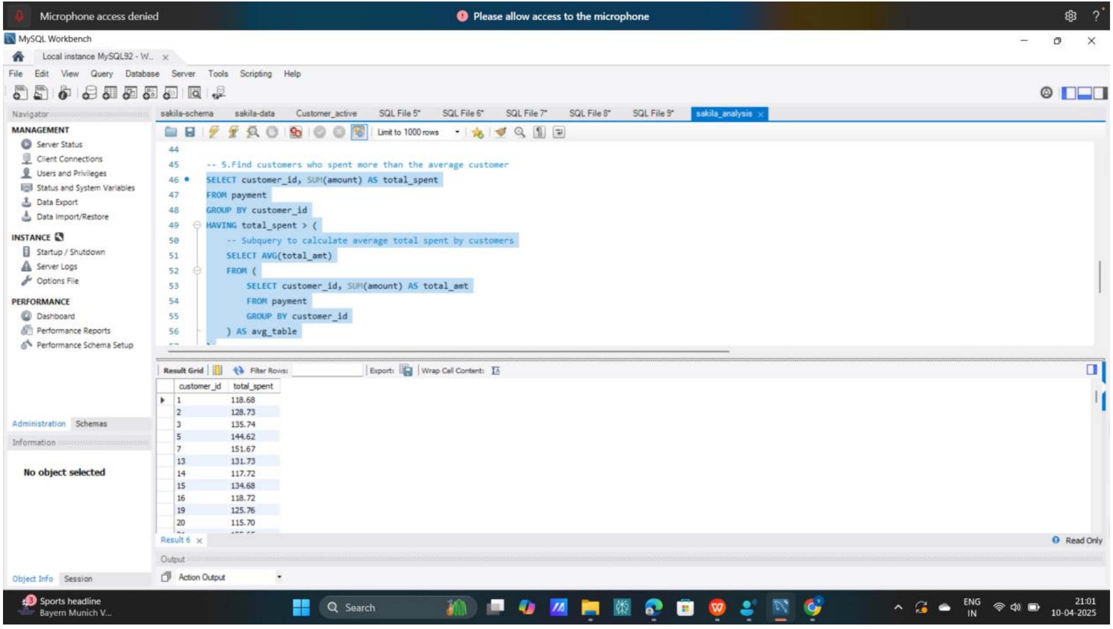
sakila-schema sakila-data Customer_active SQL File 5* SQL File 6* SQL File 7* SQL File 8* SQL File 9* sakila_analysis
Limit to 1000 rows
Result Grid Filter Rows: Export: Wrap Cell Content: Fetch rows:
top_customers 5
Read Only
Output
Action Output
No object selected
21:01
10-04-2025

```sql
-- 6. Create a reusable view to store top customer spenders
CREATE VIEW top_customers AS
SELECT c.customer_id, c.first_name, c.last_name, SUM(p.amount) AS total_spent
FROM customer c
JOIN payment p ON c.customer_id = p.customer_id
GROUP BY c.customer_id
ORDER BY total_spent DESC;

-- View top 5 spenders from that view
SELECT * FROM top_customers LIMIT 5;
```

customer_id	first_name	last_name	total_spent
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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Limit to 1000 rows
Result Grid Filter Rows: Export: Wrap Cell Content:
Result 6
Read Only
Output
Action Output
No object selected
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10-04-2025

```sql
-- 5.Find customers who spent more than the average customer
SELECT customer_id, SUM(amount) AS total_spent
FROM payment
GROUP BY customer_id
HAVING total_spent > (
    -- Subquery to calculate average total spent by customers
    SELECT AVG(total_amt)
    FROM (
        SELECT customer_id, SUM(amount) AS total_amt
        FROM payment
        GROUP BY customer_id
    ) AS avg_table
```

customer_id	total_spent
1	118.68
2	128.73
3	135.74
5	144.62
7	151.67
13	131.73
14	117.72
15	134.68
16	118.72
19	125.76
20	115.70

END