# CHAICHOLOGY SHOP SQL ANALYSIS

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A Challenge by **Digits n Data**

# INTRODUCTION

Chaichology is a popular tea brand with multiple outlets across India. The aim of this project was to analyze their sales, menu, and customer feedback data to extract actionable insights using SQL.

This case study involves four tables:

•Tea_Shops

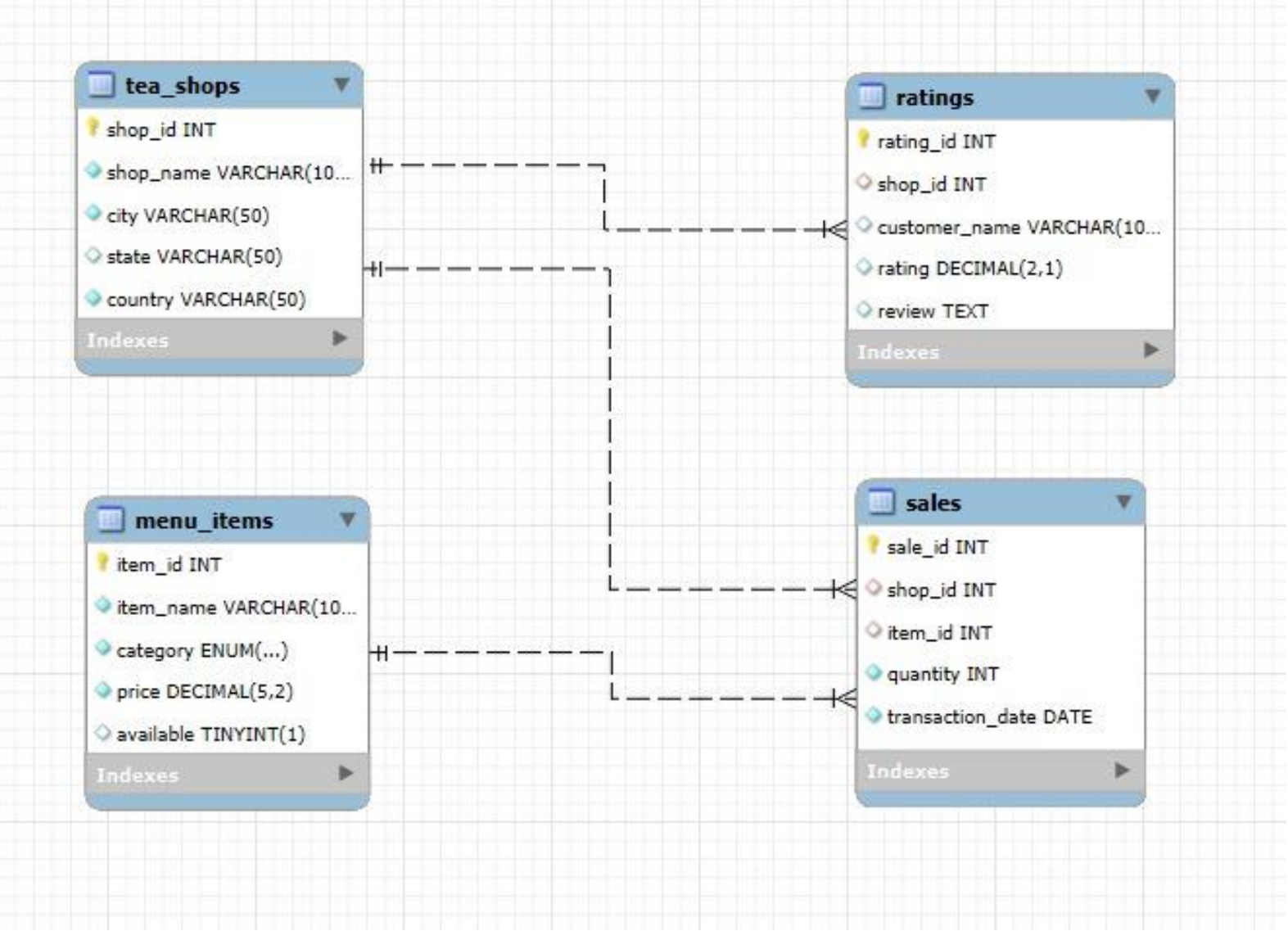
•Menu_Items

•Sales

•Ratings

# PROJECT OBJECTIVE

- Practice real-world SQL queries.
- Analyze tea shop sales and customer ratings.
- Identify best-selling items and top-performing outlets.
- Generate insights to support business decisions.




# ENTITY RELATIONSHIP DIAGRAM (ERD)

# TABLES

## Ratings Table

| rating_id | shop_id | customer_name | rating | review |
|---|---|---|---|---|
| 1 | 1 | Amit Sharma | 4.5 | Great chai, loved the flavors! |
| 2 | 1 | Sneha Patel | 4.8 | Excellent service and cozy ambiance. |
| 3 | 2 | Rahul Verma | 4.2 | Nice variety of tea and snacks. |
| 4 | 3 | Priya Singh | 4.6 | Loved the Bun Maska with chai. |
| 5 | 4 | Kunal Das | 4.9 | Best Masala Chai in town! |
| 6 | 4 | Anjali Mehta | 4.3 | Samosas were crispy and delicious. |
| 7 | 3 | Rohan Joshi | 4.7 | Kulhad Chai was amazing! |
| 8 | 2 | Pooja Nair | 4.5 | Great place to relax with friends. |
| 9 | 1 | Aditya Kapoor | 4.1 | Nice selection, but a bit pricey. |
| 10 | 3 | Vikram Reddy | 4.4 | Friendly staff and great ambiance. |
| 11 | 4 | Sanya Malhotra | 4.5 | Best tea experience so far. |
| 12 | 2 | Manoj Kumar | 4.7 | Authentic and refreshing tea options. |
| 13 | 1 | Rajesh Iyer | 4.2 | Quick service and good snacks. |
| 14 | 3 | Neha Thakur | 4.6 | Kulhad Chai had a unique taste. |
| 15 | 4 | Arjun Mishra | 4.3 | Samosas were a bit oily, but tasty. |
| 16 | 1 | Divya Sharma | 4.9 | Loved the Ginger Tea! |
| 17 | 2 | Vishal Gupta | 4.0 | Decent selection, could improve seating. |
| 18 | 3 | Meera Kapoor | 4.8 | Gulab Jamun was heavenly! |
| 19 | 4 | Tarun Saxena | 4.6 | Nice tea shop, good vibes. |
| 20 | 1 | Simran Kaur | 4.7 | Perfect for evening tea breaks. |

## Sales Table

| sale_id | shop_id | item_id | quantity | transaction_date |
|---|---|---|---|---|
| 1 | 1 | 1 | 10 | 2025-03-01 |
| 2 | 1 | 2 | 5 | 2025-03-02 |
| 3 | 2 | 3 | 12 | 2025-03-02 |
| 4 | 3 | 4 | 6 | 2025-03-03 |
| 5 | 4 | 5 | 8 | 2025-03-04 |
| 6 | 1 | 6 | 15 | 2025-03-05 |
| 7 | 3 | 2 | 7 | 2025-03-05 |
| 8 | 2 | 4 | 10 | 2025-03-06 |
| 9 | 4 | 3 | 9 | 2025-03-07 |
| 10 | 1 | 5 | 6 | 2025-03-08 |

## Tea Shops Table

| shop_id | shop_name | city | state | country |
|---|---|---|---|---|
| 1 | Chaichology | Mumbai | Maharashtra | India |
| 2 | Chaichology | Delhi | Delhi | India |
| 3 | Chaichology | Bangalore | Karnataka | India |
| 4 | Chaichology | Chennai | Tamil Nadu | India |

## Menu Items Table

| item_id | item_name | category | price | available |
|---|---|---|---|---|
| 1 | Masala Chai | Tea | 30.00 | TRUE |
| 2 | Ginger Tea | Tea | 35.00 | TRUE |
| 3 | Samosa | Snack | 20.00 | TRUE |
| 4 | Bun Maska | Snack | 25.00 | TRUE |
| 5 | Gulab Jamun | Dessert | 40.00 | TRUE |
| 6 | Kulhad Chai | Tea | 50.00 | TRUE |

# CREATING DATABASE

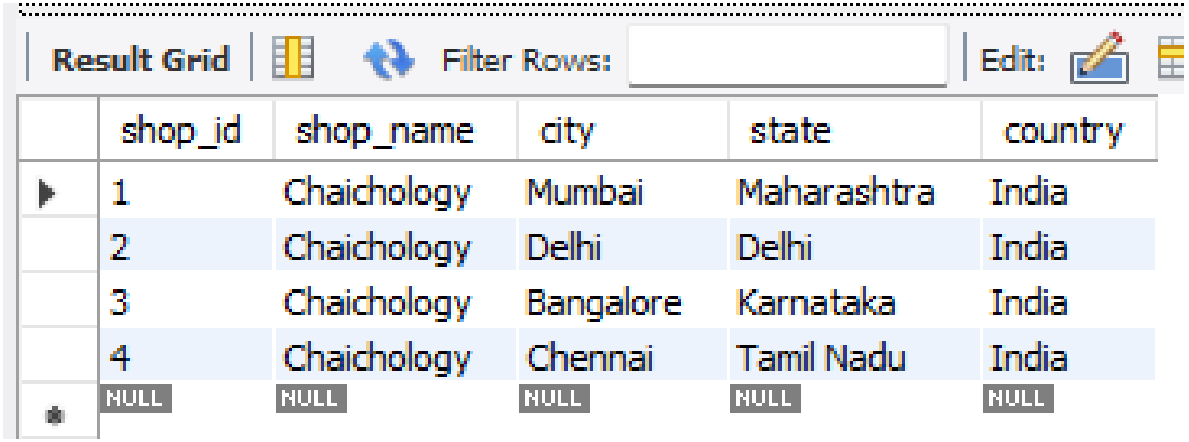
```
1 • create database chaichology_shop_analysis
2
```

# CREATING TABLE TEA-SHOP

```sql
-- Tea Shops Table
CREATE TABLE Tea_Shops (
    shop_id INT AUTO_INCREMENT PRIMARY KEY,
    shop_name VARCHAR(100) NOT NULL,
    city VARCHAR(50) NOT NULL,
    state VARCHAR(50),
    country VARCHAR(50) NOT NULL
);
```

# Insert values in the tea-shop table

```
12 •  INSERT INTO Tea_Shops (shop_id, shop_name, city, state, country) VALUES
13    (1, 'Chaichology', 'Mumbai', 'Maharashtra', 'India'),
14    (2, 'Chaichology', 'Delhi', 'Delhi', 'India'),
15    (3, 'Chaichology', 'Bangalore', 'Karnataka', 'India'),
16    (4, 'Chaichology', 'Chennai', 'Tamil Nadu', 'India');
```




| shop_id | shop_name | city | state | country |
|---|---|---|---|---|
| 1 | Chaichology | Mumbai | Maharashtra | India |
| 2 | Chaichology | Delhi | Delhi | India |
| 3 | Chaichology | Bangalore | Karnataka | India |
| 4 | Chaichology | Chennai | Tamil Nadu | India |
| NULL | NULL | NULL | NULL | NULL |

# CREATING TABLE MENU-ITEMS

```sql
-- Menu Items Table
CREATE TABLE Menu_Items (
    item_id INT AUTO_INCREMENT PRIMARY KEY,
    item_name VARCHAR(100) NOT NULL,
    category ENUM('Tea', 'Snack', 'Dessert') NOT NULL,
    price DECIMAL(5,2) NOT NULL,
    available BOOLEAN DEFAULT TRUE
);
```

# Insert values in the Menu-Item table

```
27 •  INSERT INTO Menu_Items (item_id, item_name, category, price, available) VALUES
28    (1, 'Masala Chai', 'Tea', 30.00, TRUE),
29    (2, 'Ginger Tea', 'Tea', 35.00, TRUE),
30    (3, 'Samosa', 'Snack', 20.00, TRUE),
31    (4, 'Bun Maska', 'Snack', 25.00, TRUE),
32    (5, 'Gulab Jamun', 'Dessert', 40.00, TRUE),
33    (6, 'Kulhad Chai', 'Tea', 50.00, TRUE);
```

Result Grid | Filter Rows: | Edit:

| item_id | item_name | category | price | available |
|---|---|---|---|---|
| 1 | Masala Chai | Tea | 30.00 | 1 |
| 2 | Ginger Tea | Tea | 35.00 | 1 |
| 3 | Samosa | Snack | 20.00 | 1 |
| 4 | Bun Maska | Snack | 25.00 | 1 |
| 5 | Gulab Jamun | Dessert | 40.00 | 1 |
| 6 | Kulhad Chai | Tea | 50.00 | 1 |
| NULL | NULL | NULL | NULL | NULL |

# CREATING TABLE SALES

```
36    -- Sales Table
37    CREATE TABLE Sales (
38        sale_id INT AUTO_INCREMENT PRIMARY KEY,
39        shop_id INT,
40        item_id INT,
41        quantity INT NOT NULL,
42        transaction_date DATE NOT NULL,
43        FOREIGN KEY (shop_id) REFERENCES Tea_Shops(shop_id),
44        FOREIGN KEY (item_id) REFERENCES Menu_Items(item_id)
45    );
```

# Insert values in the Sales table

```
47 •  INSERT INTO Sales (shop_id, item_id, quantity, transaction_date) VALUES
48    (1, 1, 10, '2025-03-01'),
49    (1, 2, 5, '2025-03-02'),
50    (2, 3, 12, '2025-03-02'),
51    (3, 4, 6, '2025-03-03'),
52    (4, 5, 8, '2025-03-04'),
53    (1, 6, 15, '2025-03-05'),
54    (3, 2, 7, '2025-03-05'),
55    (2, 4, 10, '2025-03-06'),
56    (4, 3, 9, '2025-03-07'),
57    (1, 5, 6, '2025-03-08');
```

Result Grid | Filter Rows: | Edit:

| sale_id | shop_id | item_id | quantity | transaction_date |
|---|---|---|---|---|
| 1 | 1 | 1 | 10 | 2025-03-01 |
| 2 | 1 | 2 | 5 | 2025-03-02 |
| 3 | 2 | 3 | 12 | 2025-03-02 |
| 4 | 3 | 4 | 6 | 2025-03-03 |
| 5 | 4 | 5 | 8 | 2025-03-04 |
| 6 | 1 | 6 | 15 | 2025-03-05 |
| 7 | 3 | 2 | 7 | 2025-03-05 |
| 8 | 2 | 4 | 10 | 2025-03-06 |
| 9 | 4 | 3 | 9 | 2025-03-07 |
| 10 | 1 | 5 | 6 | 2025-03-08 |
| NULL | NULL | NULL | NULL | NULL |

# CREATING TABLE RATING

```sql
-- Ratings Table
CREATE TABLE Ratings (
    rating_id INT AUTO_INCREMENT PRIMARY KEY,
    shop_id INT,
    customer_name VARCHAR(100),
    rating DECIMAL(2,1) CHECK (rating BETWEEN 1 AND 5),
    review TEXT,
    FOREIGN KEY (shop_id) REFERENCES Tea_Shops(shop_id)
);
```

# Insert values in the rating table

```sql
INSERT INTO Ratings (shop_id, customer_name, rating, review) VALUES
(1, 'Amit Sharma', 4.5, 'Great chai, loved the flavors!'),
(1, 'Sneha Patel', 4.8, 'Excellent service and cozy ambiance.'),
(2, 'Rahul Verma', 4.2, 'Nice variety of tea and snacks.'),
(3, 'Priya Singh', 4.6, 'Loved the Bun Maska with chai.'),
(4, 'Kunal Das', 4.9, 'Best Masala Chai in town!'),
(4, 'Anjali Mehta', 4.3, 'Samosas were crispy and delicious.'),
(3, 'Rohan Joshi', 4.7, 'Kulhad Chai was amazing!'),
(2, 'Pooja Nair', 4.5, 'Great place to relax with friends.'),
(1, 'Aditya Kapoor', 4.1, 'Nice selection, but a bit pricey.'),
(3, 'Vikram Reddy', 4.4, 'Friendly staff and great ambiance.'),
(4, 'Sanya Malhotra', 4.5, 'Best tea experience so far.'),
(2, 'Manoj Kumar', 4.7, 'Authentic and refreshing tea options.'),
(1, 'Rajesh Iyer', 4.2, 'Quick service and good snacks.'),
(3, 'Neha Thakur', 4.6, 'Kulhad Chai had a unique taste.'),
(4, 'Arjun Mishra', 4.3, 'Samosas were a bit oily, but tasty.'),
(1, 'Divya Sharma', 4.9, 'Loved the Ginger Tea!'),
(2, 'Vishal Gupta', 4.0, 'Decent selection, could improve seating.'),
(3, 'Meera Kapoor', 4.8, 'Gulab Jamun was heavenly!'),
(4, 'Tarun Saxena', 4.6, 'Nice tea shop, good vibes.'),
(1, 'Simran Kaur', 4.7, 'Perfect for evening tea breaks.');
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Con

| rating_id | shop_id | customer_name | rating | review |
|---|---|---|---|---|
| 1 | 1 | Amit Sharma | 4.5 | Great chai, loved the flavors! |
| 2 | 1 | Sneha Patel | 4.8 | Excellent service and cozy ambiance. |
| 3 | 2 | Rahul Verma | 4.2 | Nice variety of tea and snacks. |
| 4 | 3 | Priya Singh | 4.6 | Loved the Bun Maska with chai. |
| 5 | 4 | Kunal Das | 4.9 | Best Masala Chai in town! |
| 6 | 4 | Anjali Mehta | 4.3 | Samosas were crispy and delicious. |
| 7 | 3 | Rohan Joshi | 4.7 | Kulhad Chai was amazing! |
| 8 | 2 | Pooja Nair | 4.5 | Great place to relax with friends. |
| 9 | 1 | Aditya Kapoor | 4.1 | Nice selection, but a bit pricey. |
| 10 | 3 | Vikram Reddy | 4.4 | Friendly staff and great ambiance. |
| 11 | 4 | Sanya Malhotra | 4.5 | Best tea experience so far. |
| 12 | 2 | Manoj Kumar | 4.7 | Authentic and refreshing tea options. |
| 13 | 1 | Rajesh Iyer | 4.2 | Quick service and good snacks. |
| 14 | 3 | Neha Thakur | 4.6 | Kulhad Chai had a unique taste. |
| 15 | 4 | Arjun Mishra | 4.3 | Samosas were a bit oily, but tasty. |
| 16 | 1 | Divya Sharma | 4.9 | Loved the Ginger Tea! |
| 17 | 2 | Vishal Gupta | 4.0 | Decent selection, could improve seating. |
| 18 | 3 | Meera Kapoor | 4.8 | Gulab Jamun was heavenly! |
| 19 | 4 | Tarun Saxena | 4.6 | Nice tea shop, good vibes. |

# 1. Lists all tea shop details

```sql
-- 1) Lists all tea shop details ?
SELECT
    *
FROM
    Tea_Shops
```

Result Grid | Filter Rows: | Edit:

| shop_id | shop_name | city | state | country |
|---|---|---|---|---|
| 1 | Chaichology | Mumbai | Maharashtra | India |
| 2 | Chaichology | Delhi | Delhi | India |
| 3 | Chaichology | Bangalore | Karnataka | India |
| 4 | Chaichology | Chennai | Tamil Nadu | India |
| NULL | NULL | NULL | NULL | NULL |

# 2. Find Menu Items Available in the Shop

```sql
-- 2) Find Menu Items Available in the Shop ?
SELECT
    *
FROM
    Menu_Items
WHERE
    available = 1
```

Result Grid | Filter Rows: | Edit:

| item_id | item_name | category | price | available |
|---|---|---|---|---|
| 1 | Masala Chai | Tea | 30.00 | 1 |
| 2 | Ginger Tea | Tea | 35.00 | 1 |
| 3 | Samosa | Snack | 20.00 | 1 |
| 4 | Bun Maska | Snack | 25.00 | 1 |
| 5 | Gulab Jamun | Dessert | 40.00 | 1 |
| 6 | Kulhad Chai | Tea | 50.00 | 1 |
| NULL | NULL | NULL | NULL | NULL |

# 3. Find the Total Number of Orders for Each Menu Item

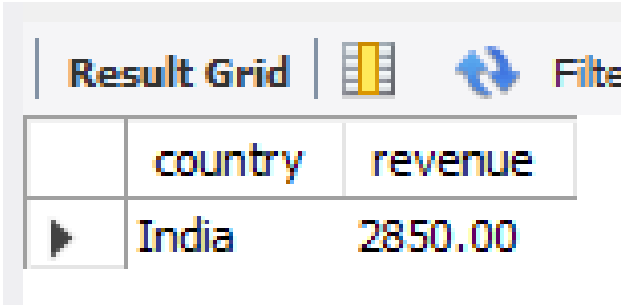
```sql
-- 3) Find the Total Number of Orders for Each Menu Item ?
SELECT
    m.item_name, COUNT(s.sale_id) AS total_orders
FROM
    Sales s
        JOIN
    Menu_Items m ON s.item_id = m.item_id
GROUP BY m.item_name
```

Result Grid | Filter Rows:

| item_name | total_orders |
|---|---|
| Masala Chai | 1 |
| Ginger Tea | 2 |
| Samosa | 2 |
| Bun Maska | 2 |
| Gulab Jamun | 2 |
| Kulhad Chai | 1 |

# 4. Find the Total Revenue Generated by Each Shop in different Locations

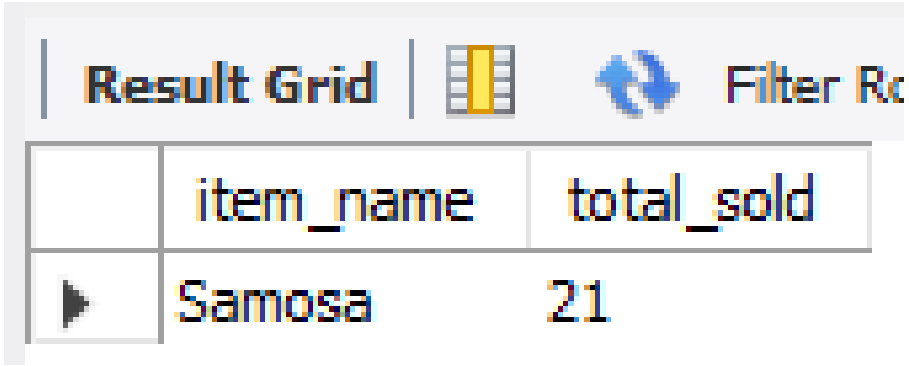
```sql
SELECT
    t.country, SUM(s.quantity * m.price) AS revenue
FROM
    Menu_Items m
        JOIN
    Sales s ON m.item_id = s.item_id
        JOIN
    Tea_Shops t ON t.shop_id = s.shop_id
GROUP BY t.country
```




| | country | revenue |
|---|---|---|
| ▶ | India | 2850.00 |

# 5. Find the Best-Selling Item

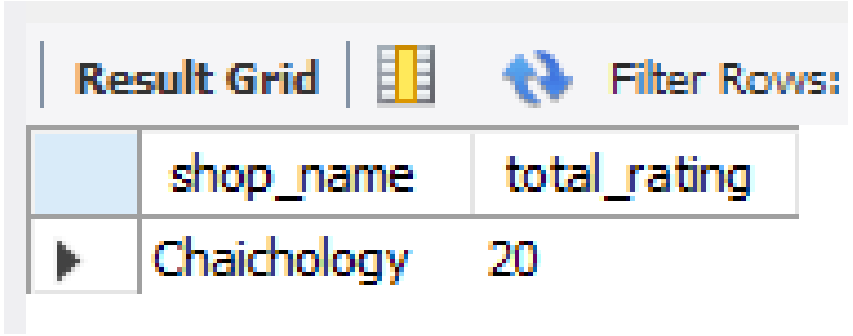
```sql
SELECT
    m.item_name,
    SUM(s.quantity) AS total_sold
FROM
    Sales s
JOIN
    Menu_Items m ON s.item_id = m.item_id
GROUP BY
    m.item_name
ORDER BY
    total_sold DESC
LIMIT 1;
```




| | item_name | total_sold |
|---|---|---|
| ▶ | Samosa | 21 |

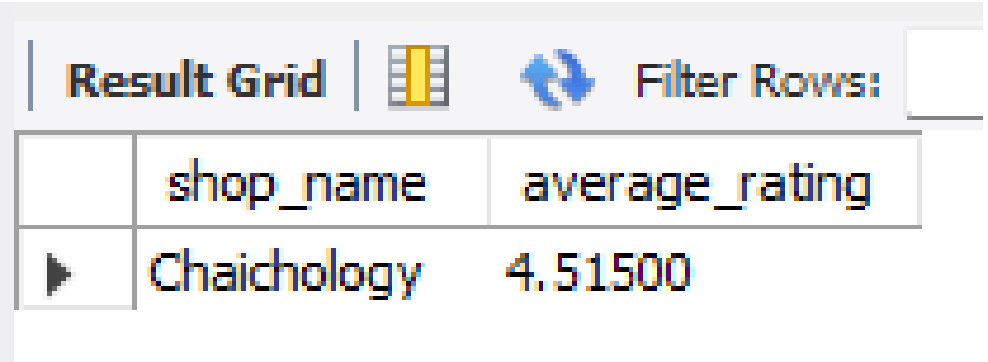
# 6. Count the Total Number of Ratings for Each Shop

```sql
-- 6) Count the Total Number of Ratings for Each Shop ?
SELECT
    s.shop_name, COUNT(r.rating) AS total_rating
FROM
    Tea_Shops s
        JOIN
    Ratings r ON s.shop_id = r.shop_id
GROUP BY s.shop_name
```



# 7. List All Shops with an Average Rating Above 4.5

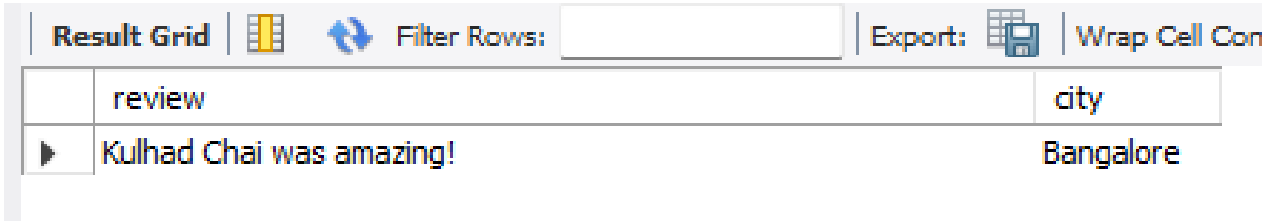
```sql
SELECT
    s.shop_name,
    AVG(r.rating) AS average_rating
FROM
    Tea_Shops s
JOIN
    Ratings r ON s.shop_id = r.shop_id
GROUP BY
    s.shop_name
HAVING
    AVG(r.rating) > 4.5;
```




| shop_name | average_rating |
|---|---|
| Chaichology | 4.51500 |

# 8. Find reviews where customers used the word "amazing" for a shop in Bangalore

```sql
SELECT
    r.review, s.city
FROM
    Tea_Shops s
        JOIN
    Ratings r ON s.shop_id = r.shop_id
WHERE
    r.review LIKE '%amazing%'
        AND s.city = 'Bangalore'
```




| review | city |
| --- | --- |
| Kulhad Chai was amazing! | Bangalore |

# 9. Find the names of customers who had Masala Chai and identify the tea shop where they consumed it

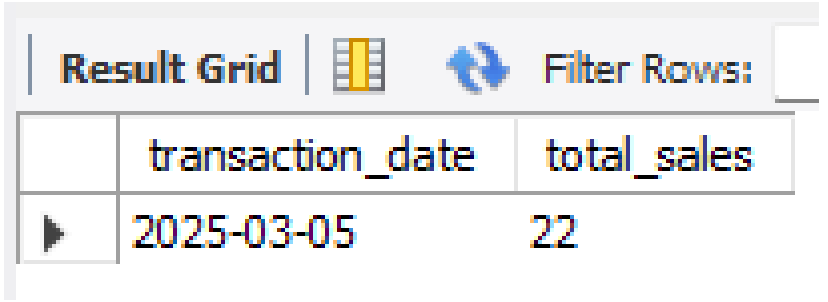
```sql
SELECT
    r.customer_name,
    m.item_name,
    t.shop_name
FROM
    Sales s
JOIN
    Menu_Items m ON s.item_id = m.item_id
JOIN
    Tea_Shops t ON s.shop_id = t.shop_id
JOIN
    Ratings r ON r.shop_id = t.shop_id
WHERE
    m.item_name = 'Masala Chai';
```

Result Grid   Filter Rows:

| customer_name | item_name | shop_name |
|---|---|---|
| Amit Sharma | Masala Chai | Chaichology |
| Sneha Patel | Masala Chai | Chaichology |
| Aditya Kapoor | Masala Chai | Chaichology |
| Rajesh Iyer | Masala Chai | Chaichology |
| Divya Sharma | Masala Chai | Chaichology |
| Simran Kaur | Masala Chai | Chaichology |

# 10. Find the day with the most sales

```sql
SELECT
    transaction_date, SUM(quantity) AS total_sales
FROM
    sales
GROUP BY transaction_date
ORDER BY total_sales DESC
LIMIT 1
```




| | transaction_date | total_sales |
|---|---|---|
| ▶ | 2025-03-05 | 22 |

# Conclusion

This case study strengthened my SQL skills through hands-on analysis of real-life business data. It highlighted the value of structured data and how powerful queries can drive business decisions.

## Final Thoughts

This case study was a part of the **Digits n Data SQL Challenge** by @Digits n Data and @Nitish Kumar. It pushed me to apply SQL practically, solve real business problems, and boost my confidence in data analysis.

I'm grateful for the opportunity and looking forward to more such learning experiences!

**Let’s Connect!**

Let me know your feedback or suggestions in the comments. Always happy to learn and grow together.