Chaichology Tea shop

UNCOVERING BUSINESS INSIGHTS USING SQL

AKANKSHA PANDEY
| WWW.LINKEDIN.COM/IN/AKANKSHA-PANDEY-DATAANALYST | DATE-06/05/2025

Project Overview

- Goal: Analyze sales, customer behavior, and menu performance of tea shops using SQL quires to support data-driven decision-making.
- Dataset: 4 tables – Tea_Shops, Menu_Items, Sales, Ratings
- Tools: MYSQL Theme: Indian snacks & tea

Skills & SQL Concepts Used

- - JOINS (INNER, LEFT, SELF)
- - GROUP BY, ORDER BY, HAVING
- - Aggregate functions: SUM, AVG, COUNT
- - Subqueries (WHERE, SELECT, FROM)
- - Window Functions (RANK)
- - CTE (WITH)

Schema Diagram

- Tables involved:
- - Tea_Shops (shop_id)
- - Menu_Items (item_id)
- - Sales (sale_id, shop_id, item_id)
- - Ratings (rating_id, shop_id, customer_name, rating, review)

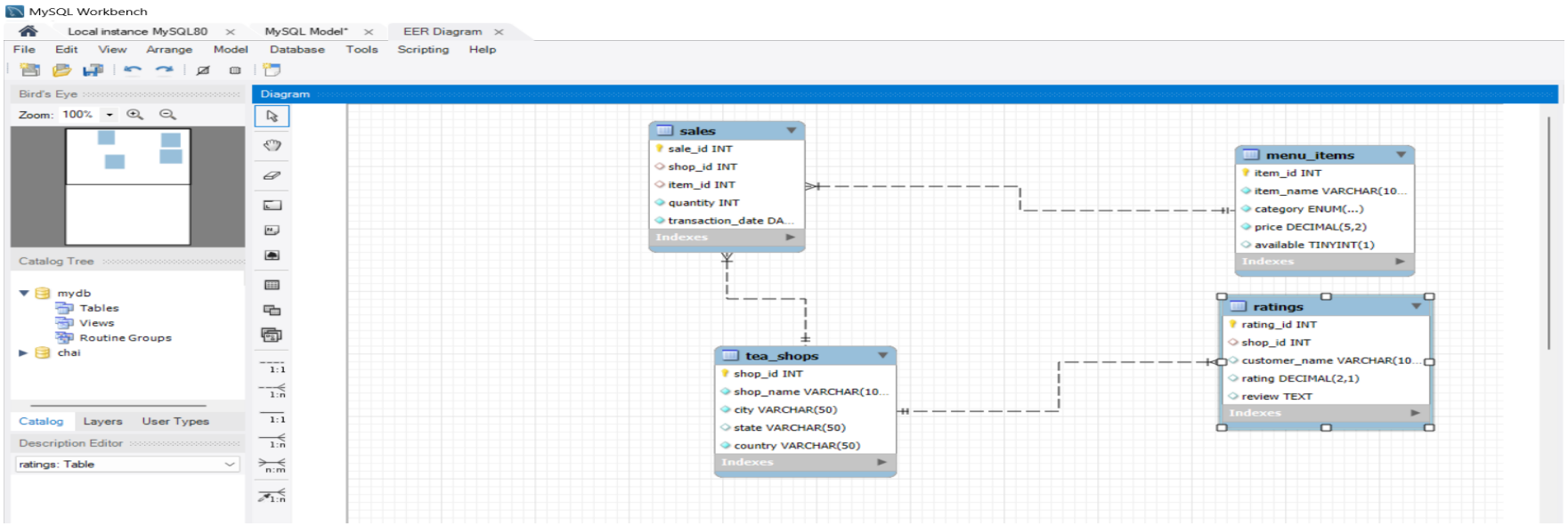


Table Used

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

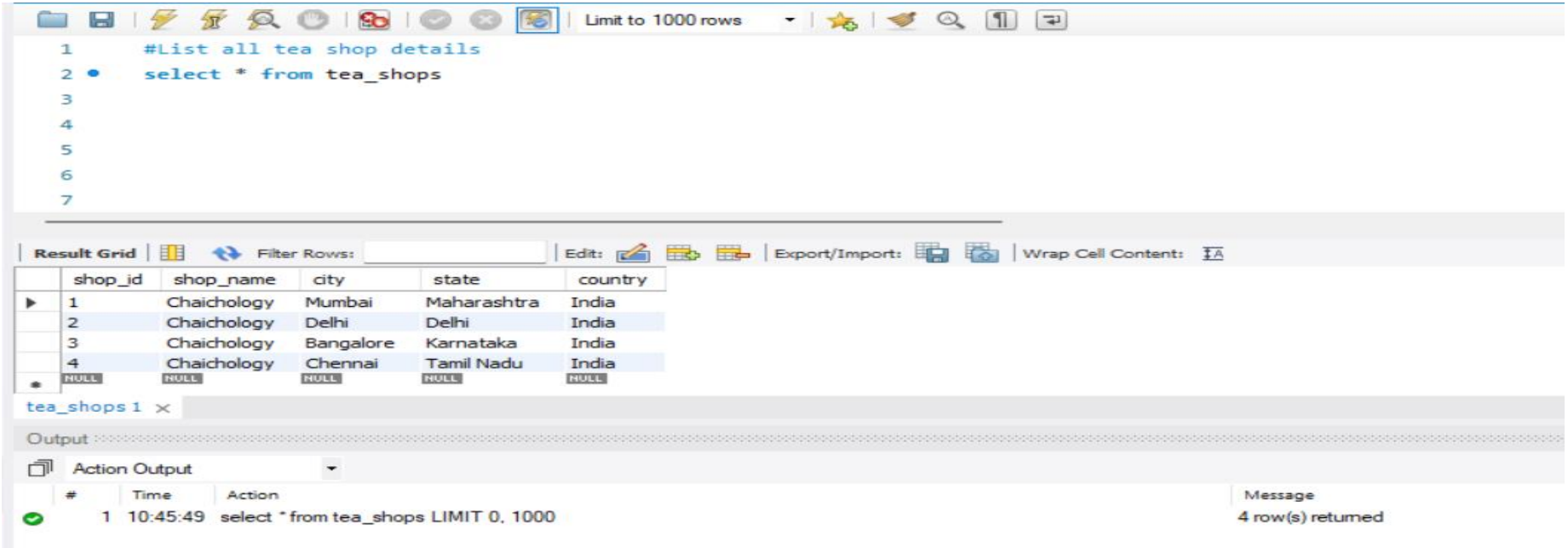
shop_id	shop_name	city	state	country
1	Chaichology	Mumbai	Maharashtra	India
2	Chaichology	Delhi	Delhi	India
3	Chaichology	Bangalore	Karnataka	India
4	Chaichology	Chennai	Tamil Nadu	India

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

Q1. List all tea shop details

- Difficulty: Basic



```
#List all tea shop details
select * from tea_shops
```

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

#	Time	Action	Message
1	10:45:49	select * from tea_shops LIMIT 0, 1000	4 row(s) returned

Q2. List available menu items

- Difficulty: Basic

```
3      #Find Menu Items Available in the Shop
4      SELECT * FROM chai.menu_items
5      where available is not null;
6
7
```

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

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

menu_items 2

Output

Action Output

#	Time	Action	Message
1	10:45:49	select * from tea_shops LIMIT 0, 1000	4 row(s) returned
2	10:58:28	SELECT * FROM chai.menu_items where available is not null LIMIT 0, 1000	6 row(s) returned

Q3. Find the Total Number of Orders for Each Menu Item

- Difficulty: Basic

```
6   #Find the Total Number of Orders for Each Menu Item
7 • SELECT mi.item_name,count(*) as Total_count, (select sum(quantity) ) as Total_quantity
8   FROM chai.menu_items mi
9   join sales s
10  on mi.item_id= s.item_id
11  group by mi.item_name;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

item_name	Total_count	Total_quantity
Masala Chai	1	10
Ginger Tea	2	12
Samosa	2	21
Bun Maska	2	16
Gulab Jamun	2	14

Result 4

Output

Action Output

#	Time	Action	Message
1	10:45:49	select * from tea_shops LIMIT 0, 1000	4 row(s) returned
2	10:58:28	SELECT * FROM chai.menu_items where available is not null LIMIT 0, 1000	6 row(s) returned
3	11:01:02	SELECT mi.item_name,count(*) , (select sum(quantity)) FROM chai.menu_items mi join sales s on mi.item_id= s.i...	6 row(s) returned
4	11:01:55	SELECT mi.item_name,count(*) as Total_count, (select sum(quantity)) as Total_quantity FROM chai.menu_item...	6 row(s) returned

Q4. Revenue by shop

- Difficulty: Intermediate

```
12      #Find the Total Revenue Generated by Each Shop in Different Locations
13      SELECT ts.shop_id ,ts.city,sum(s.quantity*mi.price) as Total_Revenue
14      FROM tea_shops ts
15      join sales s
16      on s.shop_id=ts.shop_id
17      join menu_items mi
18      on s.item_id=mi.item_id
19      group by ts.shop_id,ts.city;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

shop_id	city	Total_Revenue
1	Mumbai	1465.00
2	Delhi	490.00
3	Bangalore	395.00
4	Chennai	500.00

Result 5

Output

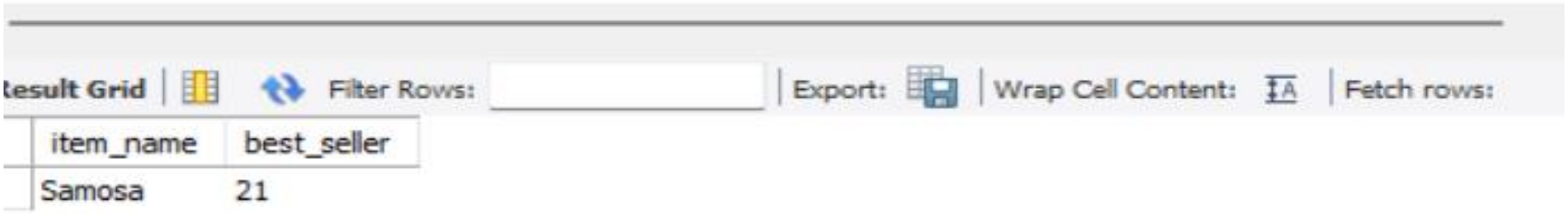
Action Output

#	Time	Action	Message
1	10:45:49	select * from tea_shops LIMIT 0, 1000	4 row(s) returned
2	10:58:28	SELECT * FROM chai.menu_items where available is not null LIMIT 0, 1000	6 row(s) returned
3	11:01:02	SELECT mi.item_name,count(*) , (select sum(quantity)) FROM chai.menu_items mi join sales s on mi.item_id= s.i...	6 row(s) returned
4	11:01:55	SELECT mi.item_name,count(*) as Total_count, (select sum(quantity)) as Total_quantity FROM chai.menu_item...	6 row(s) returned
5	11:06:30	SELECT ts.shop_id ,ts.city,sum(s.quantity*mi.price) as Total_Revenue FROM tea_shops ts join sales s on s.shop...	4 row(s) returned

Q5. Best-selling item

- Difficulty: Intermediate

```
1   select m.item_name, sum(s.quantity) as best_seller
2   from menu_items m
3   join sales s
4   on m.item_id=s.item_id
5   group by m.item_name
6   order by  best_seller desc limit 1;
```



Q6. Shop-wise rating summary

- Difficulty: Intermediate

```
27      #Count the Total Number of Ratings and average rating for Each Shop
28      select shop_id, count(rating) as total_rating, avg(rating) as avg from ratings r
29      join tea_shops t using(shop_id)
30      group by shop_id
31      order by total_rating;
32      select shop_id,  round(avg(rating),2) as avg from ratings r
33      join tea_shops t using(shop_id)
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

shop_id	total_rating	avg
2	4	4.35000
3	5	4.62000
4	5	4.52000
1	6	4.53333

Result 9

Output

Action Output

#	Time	Action	Message
9	11:10:31	SELECT * FROM chai.ratings LIMIT 0, 1000	20 row(s) returned
10	11:10:55	select m.item_name, sum(s.quantity) as best_seller from menu_items m join sales s on m.item_id=s.item_id grou...	1 row(s) returned
11	11:11:05	select m.item_name, sum(s.quantity) as best_seller from menu_items m join sales s on m.item_id=s.item_id grou...	1 row(s) returned
12	11:11:10	select m.item_name, sum(s.quantity) as best_seller from menu_items m join sales s on m.item_id=s.item_id grou...	1 row(s) returned
13	11:14:21	select shop_id, count(rating) as total_rating, avg(rating) as avg from ratings r join tea_shops t using(shop_id) gro...	4 row(s) returned
14	11:14:30	select shop_id, count(rating) as total_rating, avg(rating) as avg from ratings r join tea_shops t using(shop_id) gro...	4 row(s) returned

Q7. Shops with average rating > 4.5

- Difficulty: Intermediate

```
32    #List All Shops with an Average Rating Above 4.5
33 •  select shop_id,  round(avg(rating),2) as avg from ratings r
34    join tea_shops t using(shop_id)
35    group by shop_id
36    having avg>4.5
37
38
39
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

shop_id	avg
1	4.53
3	4.62
4	4.52

Q8. Reviews mentioning “amazing”

- Difficulty: Intermediate

```
37    #Find reviews where customers used the word "amazing" for a shop in Bangalore
38    select r.shop_id, t.city,r.review from  tea_shops t
39    join ratings r using(shop_id)
40    where review like '%amazing%';
41
42
43
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

shop_id	city	review
3	Bangalore	Kulhad Chai was amazing!

Result 11

Output

Action Output

#	Time	Action	Message
11	11:11:05	select m.item_name, sum(s.quantity) as best_seller from menu_items m join sales s on m.item_id=s.item_id grou...	1 row(s) returned
12	11:11:10	select m.item_name, sum(s.quantity) as best_seller from menu_items m join sales s on m.item_id=s.item_id grou...	1 row(s) returned
13	11:14:21	select shop_id, count(rating) as total_rating, avg(rating) as avg from ratings r join tea_shops t using(shop_id) gro...	4 row(s) returned
14	11:14:30	select shop_id, count(rating) as total_rating, avg(rating) as avg from ratings r join tea_shops t using(shop_id) gro...	4 row(s) returned
15	11:17:43	select shop_id, round(avg(rating),2) as avg from ratings r join tea_shops t using(shop_id) group by shop_id ha...	3 row(s) returned
16	11:21:19	select r.shop_id, t.city,r.review from tea_shops t join ratings r using(shop_id) where review like '%amazing%' LI...	1 row(s) returned

Q9. Customers with >4.5 rating + purchases

- Difficulty: Advanced

```
#Find the names of customers who rated above 4.5 and also made at least one purchase from the same shop.
select shop_id, customer_name, round(avg(rating),2) as avg from ratings r
join tea_shops t using(shop_id)
group by shop_id, customer_name
having avg>4.5
# or by cte
WITH high_ratings AS (
    SELECT customer_name, shop_id, rating
    FROM ratings
    WHERE rating > 4.5
)
SELECT hr.customer_name, hr.shop_id, hr.rating
FROM high_ratings hr
JOIN sales s ON hr.shop_id = s.shop_id
GROUP BY hr.customer_name, hr.shop_id, hr.rating
order by shop_id;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_name	shop_id	rating
Sneha Patel	1	4.8
Divya Sharma	1	4.9
Simran Kaur	1	4.7
Manoj Kumar	2	4.7
Priya Singh	3	4.6
Rohan Joshi	3	4.7
Neha Thakur	3	4.6
Meera Kapoor	3	4.8
Kunal Das	4	4.9
Tarun Saxena	4	4.6

Result 12

Output

Action Output

#	Time	Action	Message
13	11:14:21	select shop_id, count(rating) as total_rating, avg(rating) as avg from ratings r join tea_shops t using(shop_id) gro...	4 row(s) returned
14	11:14:30	select shop_id, count(rating) as total_rating, avg(rating) as avg from ratings r join tea_shops t using(shop_id) gro...	4 row(s) returned
15	11:17:43	select shop_id, round(avg(rating),2) as avg from ratings r join tea_shops t using(shop_id) group by shop_id ha...	3 row(s) returned
16	11:21:19	select r.shop_id, t.city,r.review from tea_shops t join ratings r using(shop_id) where review like '%amazing%' LI...	1 row(s) returned
17	11:23:56	select * from tea_shops #Find Menu Items Available in the Shop SELECT * FROM chai.menu_items where av...	Error Code: 1064. You have
18	11:24:14	WITH high_ratings AS (SELECT customer_name, shop_id, rating FROM ratings WHERE rating > 4.5) ...	10 row(s) returned

Q10. Top 3 sold items using RANK

- Difficulty: Advanced

```sql
# Find the top 3 items sold based on total quantity across all shops. Show item name and total quantity.
WITH item_totals AS (
    SELECT
        mi.item_name,
        SUM(s.quantity) AS total_quantity
    FROM sales s
    JOIN menu_items mi ON s.item_id = mi.item_id
    GROUP BY mi.item_name
),
ranked_items AS (
    SELECT
        item_name,
        total_quantity,
        RANK() OVER (ORDER BY total_quantity DESC) AS rnk
    FROM item_totals)
SELECT item_name, total_quantity
FROM ranked_items
WHERE rnk <= 3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

item_name	total_quantity
Samosa	21
Bun Maska	16
Kulhad Chai	15

Q11. Day with highest sales

- Difficulty: Advanced

```
81      #Find the day with the most sales
82      SELECT
83          transaction_date,
84          SUM(quantity) AS total_quantity
85      FROM sales
86      GROUP BY transaction_date
87      ORDER BY total_quantity DESC
88      LIMIT 1;
89
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

transaction_date	total_quantity
2025-03-05	22

Result 15

Output

Action Output

#	Time	Action	Message
18	11:24:14	WITH high_ratings AS (SELECT customer_name, shop_id, rating FROM ratings WHERE rating > 4.5) ...	10 row(s) returned
19	11:30:09	SELECT transaction_date, SUM(quantity) AS total_quantity FROM sales GROUP BY transaction_date O...	1 row(s) returned
20	11:31:19	WITH item_totals AS (SELECT mi.item_name, SUM(s.quantity) AS total_quantity FROM sales ...	3 row(s) returned
21	11:35:13	SELECT transaction_date, SUM(quantity) AS total_quantity FROM sales GROUP BY transaction_date O...	1 row(s) returned

Key Insights

- - Top 3 best-selling items identified
- - Day with highest volume of sales
- - Most profitable tea shop by revenue
- - Shops with highest customer satisfaction
- - Menu performance linked with reviews

What I Learned

- - Combining joins + aggregates for insights
- - Optimizing queries using CTEs and subqueries
- - Real-world problem-solving with SQL
- - Data storytelling for business strategy

Thank You / Connect With Me

- Let's connect over data & chai!
- Akanksha Pandey
- pandeyakanksha0002@gmail.com | www.linkedin.com/in/akanksha-pandey-dataanalyst