Zomato Database Analysis

Abstract:

The database is a structured system that manages key information about users, orders, restaurants, and food items. It includes tables for user credentials, order details, restaurant menus, and food specifications, enabling efficient data retrieval.

Summary:

The database consists of various interrelated tables that collectively manage crucial data for the operations. It includes:

- **Users Table**: Stores user credentials and demographic information, such as ID, name, email, gender.
- **Orders Table**: Contains details about user orders, including order date, sales quantity, sales amount, currency, user ID, and restaurant ID.
- **Food Table**: Lists available food items with attributes like ID, name, and vegetarian status.
- **Menu Table**: Details the restaurant menus, including menu ID, restaurant ID, food ID, cuisine type, and pricing.
- **Restaurant Table**: Provides comprehensive information about restaurants, including ID, name, location, rating, cost.

This structured database framework ensures efficient data management and retrieval for smooth business operations and improving user satisfaction.

SQL Queries

1. Insert a New record in User Table
2. Update User Name
3. Delete a User
4. Get Orders by a Specific User
5. Average Order Value
6. Top 3 Cuisines by Revenue
7. Select Orders placed between specific date and order them by city
8. Top 5 popular restaurants based on number of orders
9. Analysis of revenue generated by Zomato from 2019-01-01 to 2019-12-31 (Quarter wise)
10. Customer details and their orders
11. Orders by month and year
12. Using LIKE to Find Specific Restaurants
13. Subquery to Find Customers with No Orders
14. Retrieve All Orders Along with Customer Details
15. List all food items in a specific menu
16. Get the average rating of restaurants based on orders
17. Identify seasonal trends in order counts
18. Get the daily sales for each restaurant and it's name
19. How do average ratings differ across various cuisines
20. How does the average cost of a meal vary across different cuisines
21. Can we estimate the revenue of restaurants based on order quantities and prices
22. Is there a significant relationship between a restaurant's rating and its sales quantities
23. Who are the frequent diners and what are their preferences
24. How does a particular restaurant perform compared to its direct competitors
25. What is the distribution of restaurant ratings across different cities
26. What are the top 10 highest-rated restaurants in each city
27. How do sales quantities trend on a monthly basis
28. How have restaurant ratings changed over the years
29. What percentage of customers order from the same restaurant multiple times
30. What characteristics do the top-performing restaurants share (e.g., location, cuisine, price)

1. **Question**: Insert a New record in User Table

   Query: INSERT INTO users (user_id,name,email,password,gender) VALUES (100001,'Johnson Mathew','xyz@gmail.com','Stb%bf','Male');

   Output:

user_id	name	email	password	gender
99993	Megan Tate	marcmendoza@example.com	^0DZslGQhk	Male
99994	Jose Castro	mooretara@example.org	&8l1Wfyil$	Female
99995	Christopher Mitchell	ntaylor@example.org	ZVZv5L*gt%	Male
99996	James Ellis	maddentabitha@example.org	SvO6QoCcv!	Female
99997	Justin Christensen	sextonrenee@example.org	+5L+HXxq(Q	Male
99998	Mark Collier	gwelch@example.org	=+kAMm!u5...	Female
99999	Lori Henderson MD	howardwilliam@example.org	C)0lH%d^b)	Male
100000	Kathryn Morgan	michael50@example.org	@6JLLyduWO	Female
100001	Johnson Mahew	xyz@gmail.com	Stb%bf	Male
NULL	NULL	NULL	NULL	NULL

2. **Question**: Update User Name

   Query: UPDATE users SET name = 'Richards' WHERE user_id = 100001;

   Output:

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

user_id	name	email	password	gender
99993	Megan Tate	marcmendoza@example.com	^0DZslGQhk	Male
99994	Jose Castro	mooretara@example.org	&8l1Wfyil$	Female
99995	Christopher Mitchell	ntaylor@example.org	ZVZv5L*gt%	Male
99996	James Ellis	maddentabitha@example.org	SvO6QoCcv!	Female
99997	Justin Christensen	sextonrenee@example.org	+5L+HXxq(Q	Male
99998	Mark Collier	gwelch@example.org	=+kAMm!u5...	Female
99999	Lori Henderson MD	howardwilliam@example.org	C)0lH%d^b)	Male
100000	Kathryn Morgan	michael50@example.org	@6JLLyduWO	Female
100001	Richards	xyz@gmail.com	Stb%bf	Male
NULL	NULL	NULL	NULL	NULL

3. **Question:** Delete a User

   Query: Delete from users WHERE user_id = 100001;

   Output:

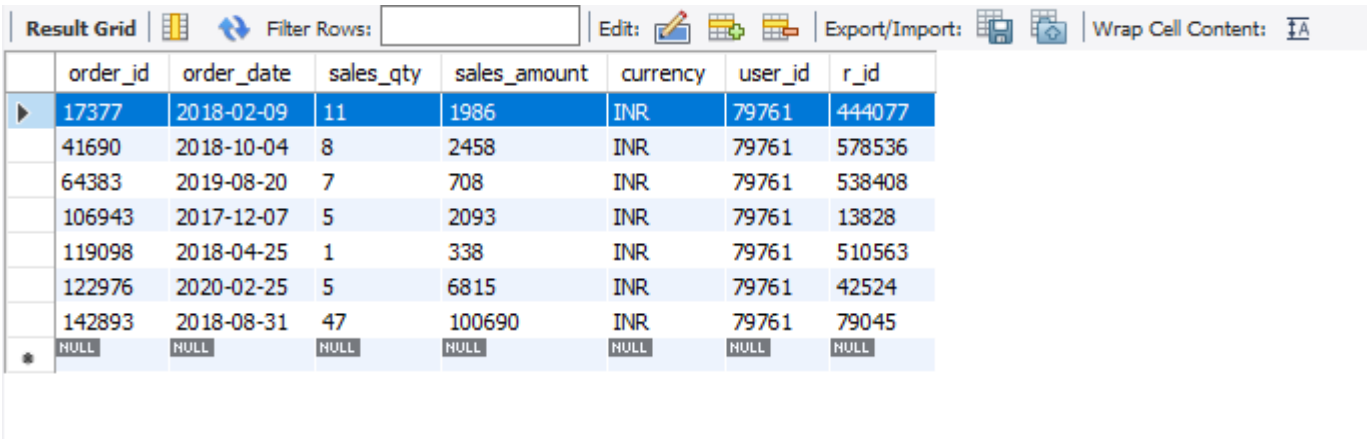
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

user_id	name	email	password	gender
99992	Dustin James	nancy00@example.org	u*4$Lrcck9	Female
99993	Megan Tate	marcmendoza@example.com	^0DZslGQhk	Male
99994	Jose Castro	mooretara@example.org	&8l1Wfyil$	Female
99995	Christopher Mitchell	ntaylor@example.org	ZVZv5L*gt%	Male
99996	James Ellis	maddentabitha@example.org	SvO6QoCcv!	Female
99997	Justin Christensen	sextonrenee@example.org	+5L+HXxq(Q	Male
99998	Mark Collier	gwelch@example.org	=+kAMm!u5...	Female
99999	Lori Henderson MD	howardwilliam@example.org	C)0lH%d^b)	Male
100000	Kathryn Morgan	michael50@example.org	@6JLLyduWO	Female
NULL	NULL	NULL	NULL	NULL

4. **Question:** Get Orders by a Specific User

   Query: select * from orders where user_id= 79761;

   Output:

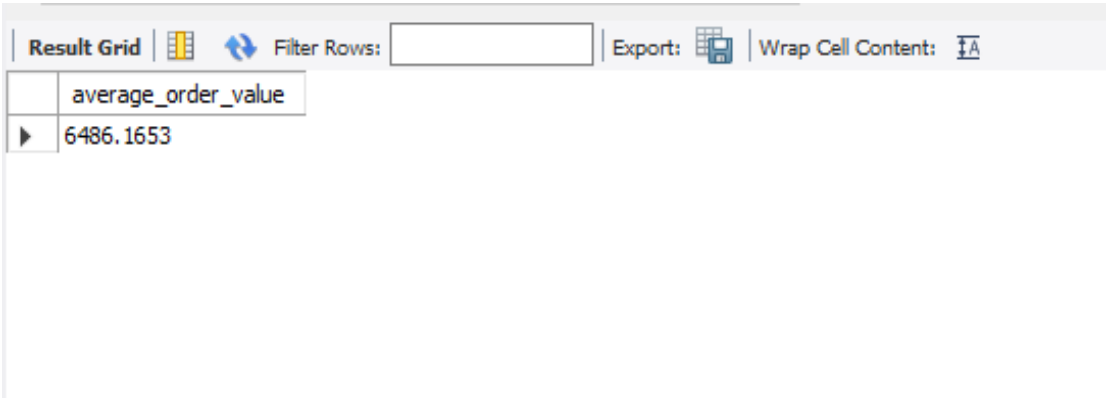


order_id	order_date	sales_qty	sales_amount	currency	user_id	r_id
17377	2018-02-09	11	1986	INR	79761	444077
41690	2018-10-04	8	2458	INR	79761	578536
64383	2019-08-20	7	708	INR	79761	538408
106943	2017-12-07	5	2093	INR	79761	13828
119098	2018-04-25	1	338	INR	79761	510563
122976	2020-02-25	5	6815	INR	79761	42524
142893	2018-08-31	47	100690	INR	79761	79045
NULL	NULL	NULL	NULL	NULL	NULL	NULL

5. **Question:** Average Order Value

   Query: SELECT AVG(sales_amount) AS average_order_value from orders;

   Output:

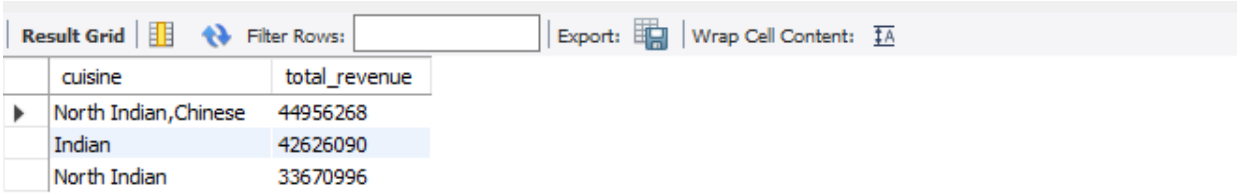


average_order_value
6486.1653

6. **Question:** Top 3 Cuisines by Revenue

   Query: SELECT r.cuisine, SUM(o.sales_amount) AS total_revenue FROM restaurant r JOIN orders o
   ON r.r_id = o.r_id
   GROUP BY r.cuisine
   ORDER BY total_revenue DESC
   LIMIT 3;

   Output:

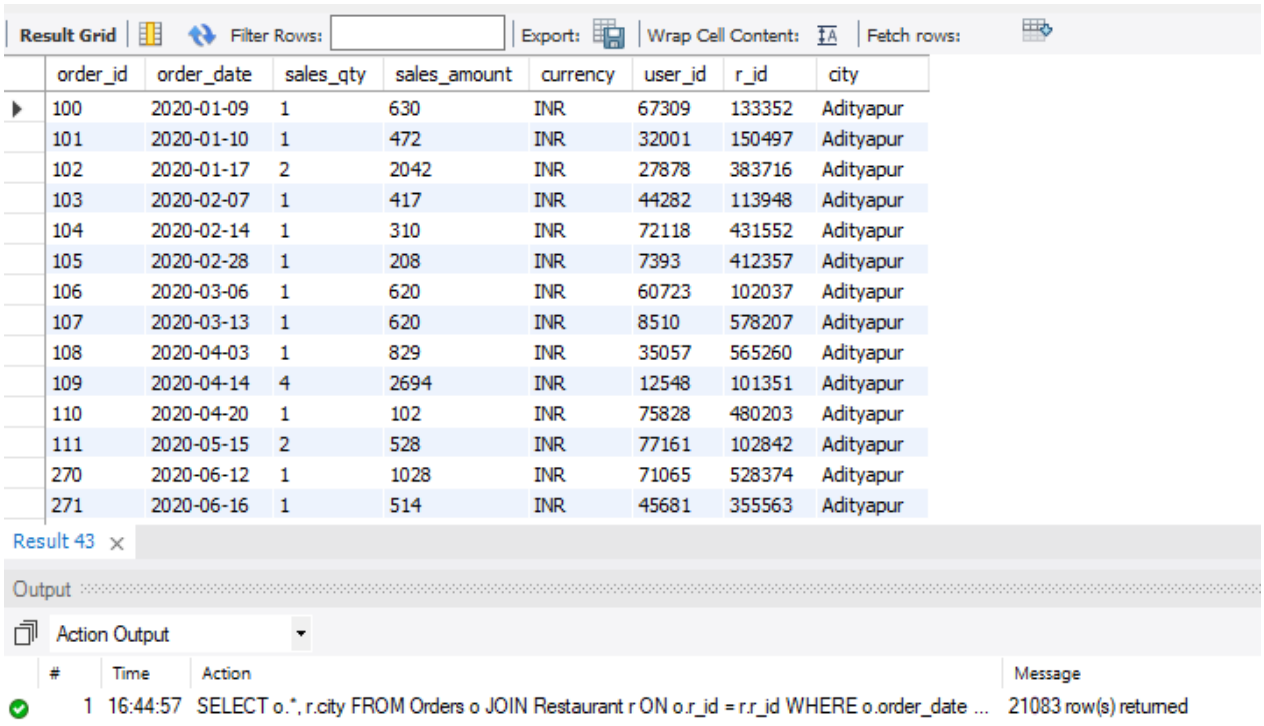


cuisine	total_revenue
North Indian,Chinese	44956268
Indian	42626090
North Indian	33670996

7. **Question:** Select Orders placed between specific date and order them by city

Query: SELECT o.*, r.city
FROM Orders o
JOIN Restaurant r ON o.r_id = r.r_id
WHERE o.order_date BETWEEN '2020-01-01' AND '2020-12-31'
ORDER BY r.city;

Output:



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

order_id	order_date	sales_qty	sales_amount	currency	user_id	r_id	city
100	2020-01-09	1	630	INR	67309	133352	Adityapur
101	2020-01-10	1	472	INR	32001	150497	Adityapur
102	2020-01-17	2	2042	INR	27878	383716	Adityapur
103	2020-02-07	1	417	INR	44282	113948	Adityapur
104	2020-02-14	1	310	INR	72118	431552	Adityapur
105	2020-02-28	1	208	INR	7393	412357	Adityapur
106	2020-03-06	1	620	INR	60723	102037	Adityapur
107	2020-03-13	1	620	INR	8510	578207	Adityapur
108	2020-04-03	1	829	INR	35057	565260	Adityapur
109	2020-04-14	4	2694	INR	12548	101351	Adityapur
110	2020-04-20	1	102	INR	75828	480203	Adityapur
111	2020-05-15	2	528	INR	77161	102842	Adityapur
270	2020-06-12	1	1028	INR	71065	528374	Adityapur
271	2020-06-16	1	514	INR	45681	355563	Adityapur

Result 43

Output

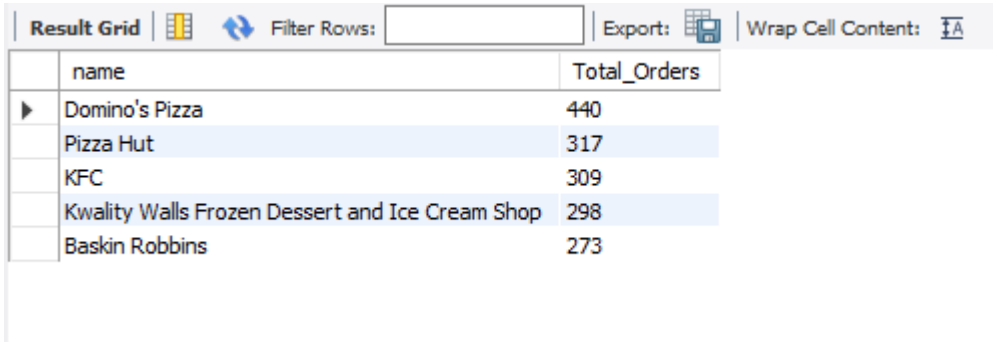
Action Output

#	Time	Action	Message
1	16:44:57	SELECT o.*, r.city FROM Orders o JOIN Restaurant r ON o.r_id = r.r_id WHERE o.order_date ...	21083 row(s) returned

8. **Question:** Top 5 popular restaurants based on number of orders

Query: select r.name, count(o.order_id) as Total_Orders from restaurant r JOIN Orders o on (r.r_id=o.r_id) group by r.name order by Total_Orders desc LIMIT 5;

Output:



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

name	Total_Orders
Domino's Pizza	440
Pizza Hut	317
KFC	309
Kwality Walls Frozen Dessert and Ice Cream Shop	298
Baskin Robbins	273

9. **Question:** Analysis of revenue generated by Zomato from 2019-01-01 to 2019-12-31 (Quarterwise)

Query:
```
SELECT 'Q1 2019' AS quarter, SUM(sales_amount) AS Quarterly_Sales
FROM orders
WHERE order_date BETWEEN '2019-01-01' AND '2019-03-31'
UNION ALL
SELECT 'Q2 2019' AS quarter, SUM(sales_amount) AS Quarterly_Sales
FROM orders
WHERE order_date BETWEEN '2019-04-01' AND '2019-06-30'
UNION ALL
SELECT 'Q3 2019' AS quarter, SUM(sales_amount) AS Quarterly_Sales
FROM orders
WHERE order_date BETWEEN '2019-07-01' AND '2019-09-30'
UNION ALL
SELECT 'Q4 2019' AS quarter, SUM(sales_amount) AS Quarterly_Sales
FROM orders
WHERE order_date BETWEEN '2019-10-01' AND '2019-12-31'
order by Quarterly_Sales desc;
```

Output:

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

quarter	Quarterly_Sales
Q3 2019	90929901
Q1 2019	84095759
Q2 2019	79723592
Q4 2019	74957351

10. **Question:** Customer details and their orders

Query:
```
SELECT users.name, orders.order_id, orders.order_date FROM users
INNER JOIN orders ON users.user_id = orders.order_id;
```

Output:

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

name	order_id	order_date
Claire Ferguson	1	2018-05-08
Jennifer Young	2	2018-04-06
Jermaine Roberson	3	2018-04-11
Rachel Carpenter	4	2018-06-18
Shawn Parker	5	2017-11-20
Timothy Clark	6	2017-11-22
Alexander Lucas	7	2017-11-23
Christopher Curry	8	2017-11-27
Daniel Mercado	9	2017-11-28
Tony Lawrence	10	2017-11-29
Scott Sherman	11	2017-11-30
Michael Gilbert	12	2017-11-29

Result 34

Output

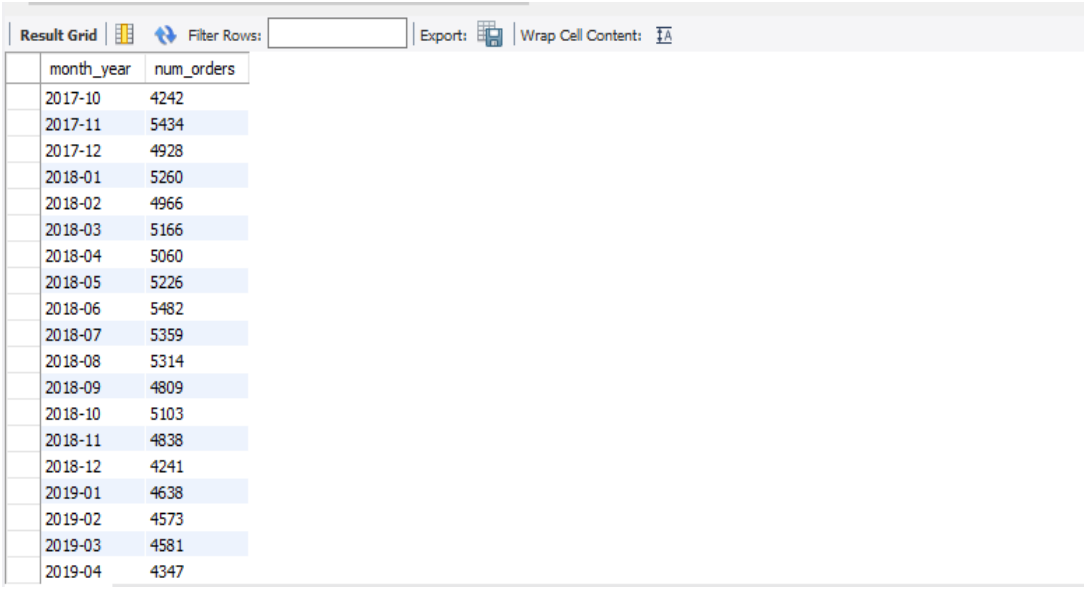
Action Output

#	Time	Action	Message
1	18:48:33	SELECT users.name, orders.order_id, orders.order_date FROM users INNER JOIN orders ON ...	100000 row(s) returned

11. **Question:** Orders by month and year

Query: SELECT DATE_FORMAT(order_date, '%Y-%m') AS month_year, COUNT(*) AS num_orders FROM orders GROUP BY month_year order by month_year;

Output:

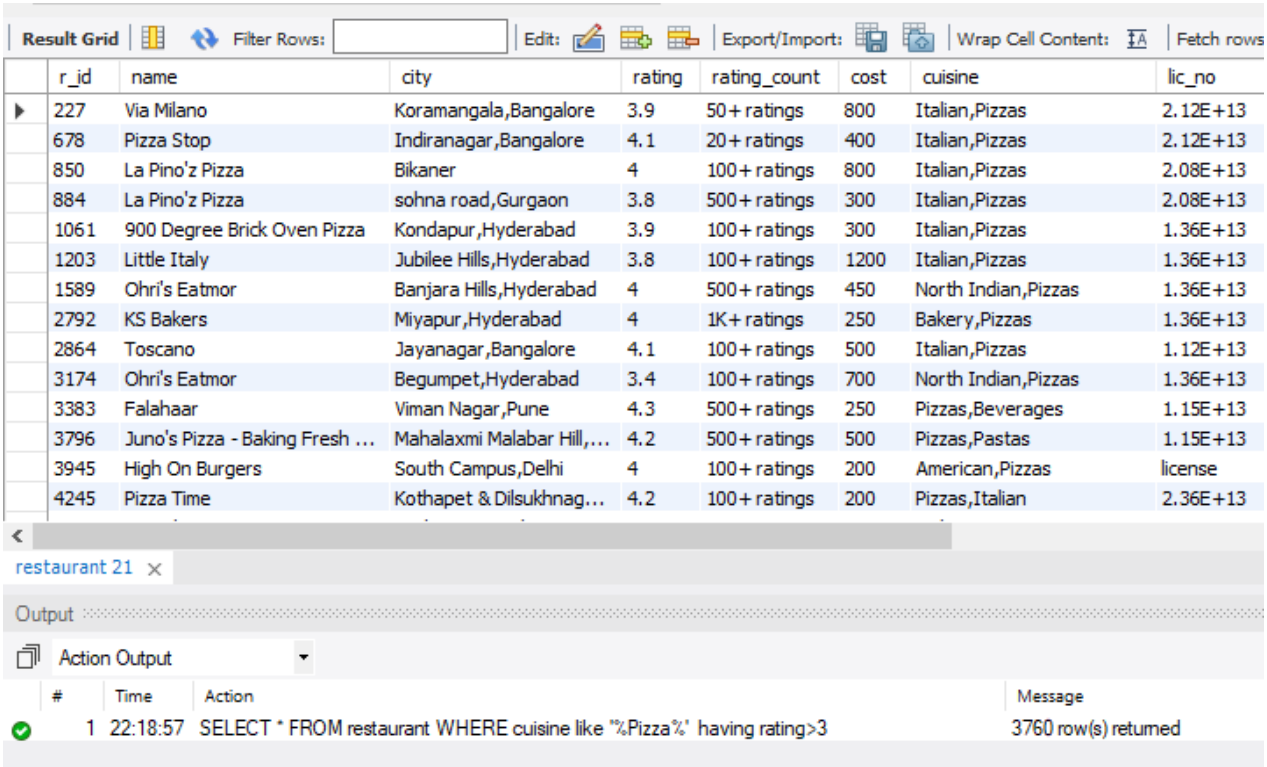


month_year	num_orders
2017-10	4242
2017-11	5434
2017-12	4928
2018-01	5260
2018-02	4966
2018-03	5166
2018-04	5060
2018-05	5226
2018-06	5482
2018-07	5359
2018-08	5314
2018-09	4809
2018-10	5103
2018-11	4838
2018-12	4241
2019-01	4638
2019-02	4573
2019-03	4581
2019-04	4347

12. **Question:** Using LIKE to Find Specific Restaurants

Query: SELECT * FROM restaurant WHERE cuisine like '%Pizza%' having rating>3;

Output:



r_id	name	city	rating	rating_count	cost	cuisine	lic_no
227	Via Milano	Koramangala,Bangalore	3.9	50+ ratings	800	Italian,Pizzas	2.12E+13
678	Pizza Stop	Indiranagar,Bangalore	4.1	20+ ratings	400	Italian,Pizzas	2.12E+13
850	La Pino'z Pizza	Bikaner	4	100+ ratings	800	Italian,Pizzas	2.08E+13
884	La Pino'z Pizza	sohna road,Gurgaon	3.8	500+ ratings	300	Italian,Pizzas	2.08E+13
1061	900 Degree Brick Oven Pizza	Kondapur,Hyderabad	3.9	100+ ratings	300	Italian,Pizzas	1.36E+13
1203	Little Italy	Jubilee Hills,Hyderabad	3.8	100+ ratings	1200	Italian,Pizzas	1.36E+13
1589	Ohri's Eatmor	Banjara Hills,Hyderabad	4	500+ ratings	450	North Indian,Pizzas	1.36E+13
2792	KS Bakers	Miyapur,Hyderabad	4	1K+ ratings	250	Bakery,Pizzas	1.36E+13
2864	Toscano	Jayanagar,Bangalore	4.1	100+ ratings	500	Italian,Pizzas	1.12E+13
3174	Ohri's Eatmor	Begumpet,Hyderabad	3.4	100+ ratings	700	North Indian,Pizzas	1.36E+13
3383	Falahaar	Viman Nagar,Pune	4.3	500+ ratings	250	Pizzas,Beverages	1.15E+13
3796	Juno's Pizza - Baking Fresh ...	Mahalaxmi Malabar Hill,...	4.2	500+ ratings	500	Pizzas,Pastas	1.15E+13
3945	High On Burgers	South Campus,Delhi	4	100+ ratings	200	American,Pizzas	license
4245	Pizza Time	Kothapet & Dilsukhnag...	4.2	100+ ratings	200	Pizzas,Italian	2.36E+13

restaurant 21

Output

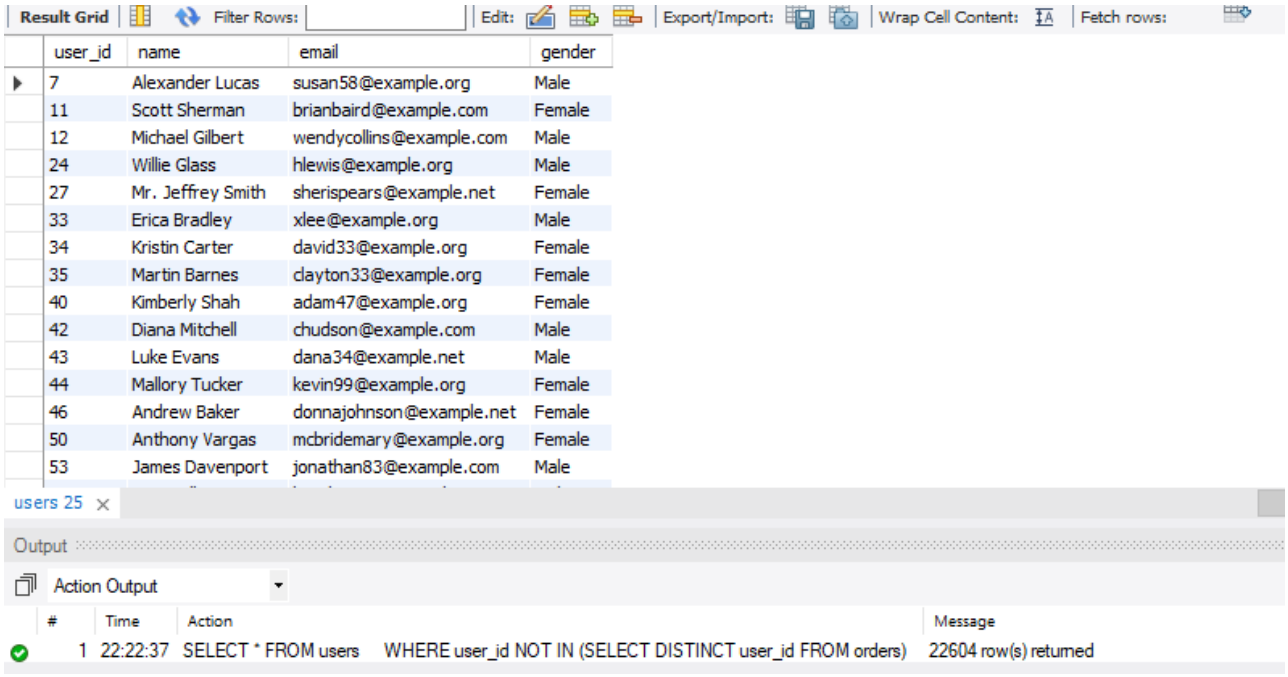
Action Output

#	Time	Action	Message
1	22:18:57	SELECT * FROM restaurant WHERE cuisine like '%Pizza%' having rating>3	3760 row(s) returned

13. Question: Subquery to Find Customers with No Orders

Query: SELECT user_id,name,email,gender FROM users
WHERE user_id NOT IN (SELECT DISTINCT user_id FROM orders);

Output:



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

user_id	name	email	gender
7	Alexander Lucas	susan58@example.org	Male
11	Scott Sherman	brianbaird@example.com	Female
12	Michael Gilbert	wendycollins@example.com	Male
24	Willie Glass	hlewis@example.org	Male
27	Mr. Jeffrey Smith	sherispears@example.net	Female
33	Erica Bradley	xlee@example.org	Male
34	Kristin Carter	david33@example.org	Female
35	Martin Barnes	clayton33@example.org	Female
40	Kimberly Shah	adam47@example.org	Female
42	Diana Mitchell	chudson@example.com	Male
43	Luke Evans	dana34@example.net	Male
44	Mallory Tucker	kevin99@example.org	Female
46	Andrew Baker	donnajohnson@example.net	Female
50	Anthony Vargas	mcbridemary@example.org	Female
53	James Davenport	jonathan83@example.com	Male

users 25

Output

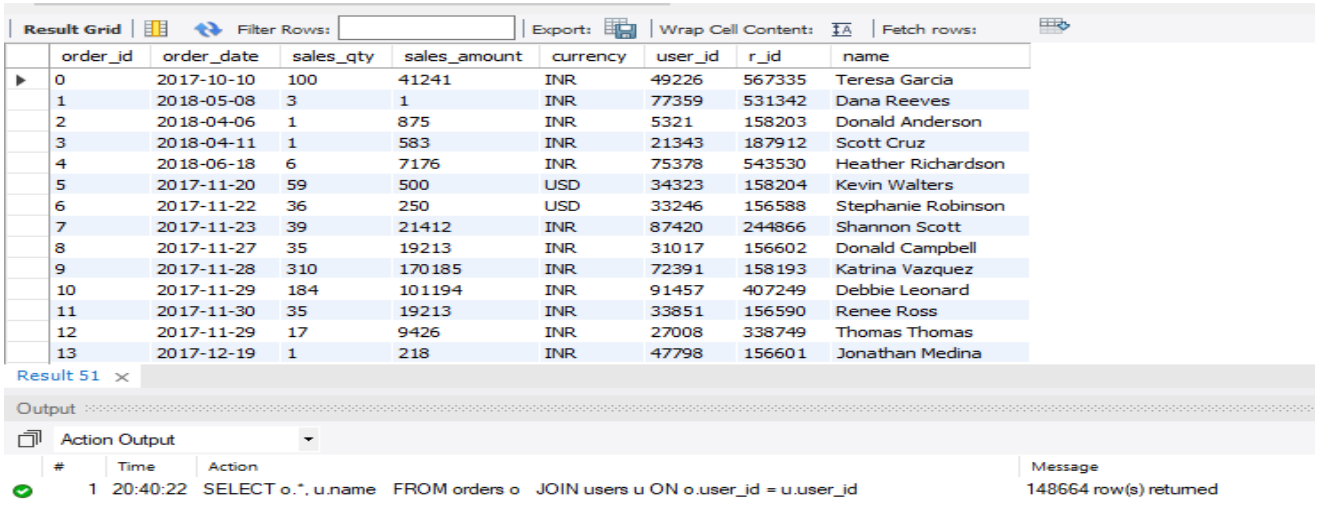
Action Output

#	Time	Action	Message
1	22:22:37	SELECT * FROM users WHERE user_id NOT IN (SELECT DISTINCT user_id FROM orders)	22604 row(s) returned

14. Question: Retrieve All Order Details Along with Customer Name

Query: SELECT o.*, u.name FROM orders o JOIN users u ON o.user_id = u.user_id;

Output:



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

order_id	order_date	sales_qty	sales_amount	currency	user_id	r_id	name
0	2017-10-10	100	41241	INR	49226	567335	Teresa Garcia
1	2018-05-08	3	1	INR	77359	531342	Dana Reeves
2	2018-04-06	1	875	INR	5321	158203	Donald Anderson
3	2018-04-11	1	583	INR	21343	187912	Scott Cruz
4	2018-06-18	6	7176	INR	75378	543530	Heather Richardson
5	2017-11-20	59	500	USD	34323	158204	Kevin Walters
6	2017-11-22	36	250	USD	33246	156588	Stephanie Robinson
7	2017-11-23	39	21412	INR	87420	244866	Shannon Scott
8	2017-11-27	35	19213	INR	31017	156602	Donald Campbell
9	2017-11-28	310	170185	INR	72391	158193	Katrina Vazquez
10	2017-11-29	184	101194	INR	91457	407249	Debbie Leonard
11	2017-11-30	35	19213	INR	33851	156590	Renee Ross
12	2017-11-29	17	9426	INR	27008	338749	Thomas Thomas
13	2017-12-19	1	218	INR	47798	156601	Jonathan Medina

Result 51

Output

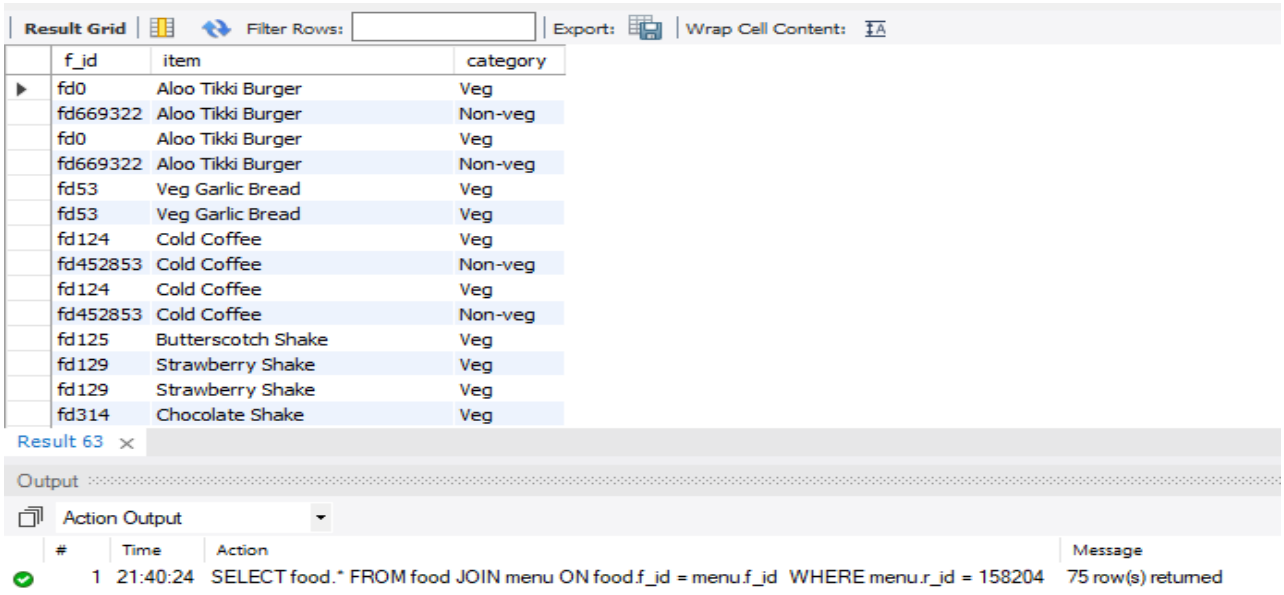
Action Output

#	Time	Action	Message
1	20:40:22	SELECT o.*, u.name FROM orders o JOIN users u ON o.user_id = u.user_id	148664 row(s) returned

15. **Question:** List all food items for a specific restaurant id

Query: SELECT food.* FROM food JOIN menu ON food.f_id = menu.f_id WHERE menu.r_id = 158204;

Output:



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

f_id	item	category
fd0	Aloo Tikki Burger	Veg
fd669322	Aloo Tikki Burger	Non-veg
fd0	Aloo Tikki Burger	Veg
fd669322	Aloo Tikki Burger	Non-veg
fd53	Veg Garlic Bread	Veg
fd53	Veg Garlic Bread	Veg
fd124	Cold Coffee	Veg
fd452853	Cold Coffee	Non-veg
fd124	Cold Coffee	Veg
fd452853	Cold Coffee	Non-veg
fd125	Butterscotch Shake	Veg
fd129	Strawberry Shake	Veg
fd129	Strawberry Shake	Veg
fd314	Chocolate Shake	Veg

Result 63

Output

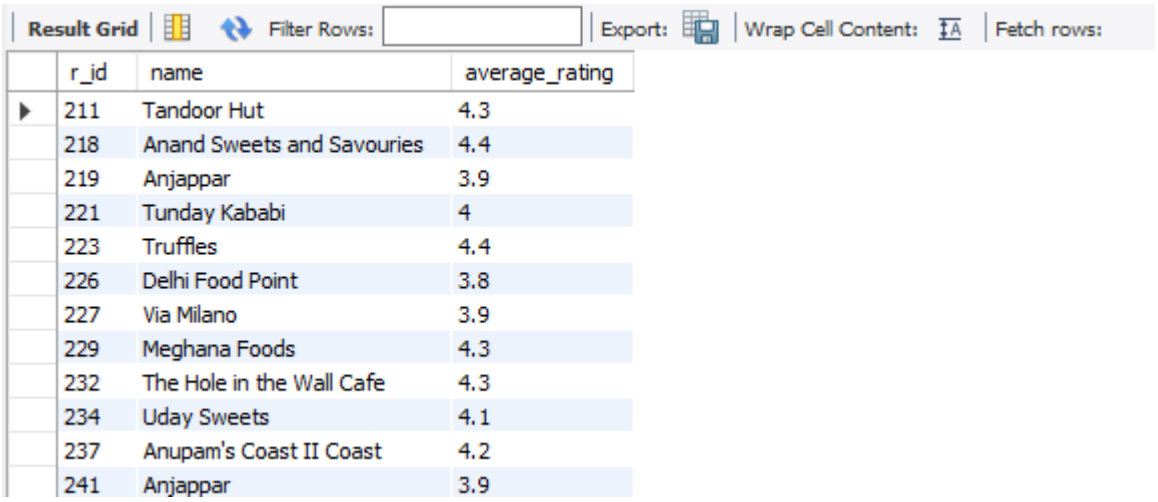
Action Output

#	Time	Action	Message
1	21:40:24	SELECT food.* FROM food JOIN menu ON food.f_id = menu.f_id WHERE menu.r_id = 158204	75 row(s) returned

16. **Question:** Get the average rating of restaurants based on orders

Query: SELECT r.r_id, r.name, AVG(r.rating) AS average_rating
FROM restaurants r JOIN orders o ON r.r_id = o.r_id GROUP BY r.r_id, r.name;

Output:



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

r_id	name	average_rating
211	Tandoor Hut	4.3
218	Anand Sweets and Savouries	4.4
219	Anjappar	3.9
221	Tunday Kababi	4
223	Truffles	4.4
226	Delhi Food Point	3.8
227	Via Milano	3.9
229	Meghana Foods	4.3
232	The Hole in the Wall Cafe	4.3
234	Uday Sweets	4.1
237	Anupam's Coast II Coast	4.2
241	Anjappar	3.9

17. Question: Identify seasonal trends in order counts

Query: SELECT EXTRACT(MONTH FROM order_date) AS order_month, COUNT(*) AS total_orders FROM orders GROUP BY order_month ORDER BY total_orders desc;

Output:

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

order_month	total_orders
11	14133
1	13814
10	13550
2	13485
5	13349
3	13251
4	12954
12	12523
6	12472
7	10213
8	9316
9	8861

18. Question: Get the daily sales for each restaurant and it's name

Query: SELECT r.r_id, r.name,
DATE(o.order_date) AS order_date, SUM(o.sales_amount) AS daily_sales
FROM orders o
JOIN restaurant r ON o.r_id = r.r_id GROUP BY r.r_id, order_date ORDER BY daily_sales desc;

Output:

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

r_id	name	order_date	daily_sales
377150	Janta Snacks	2018-12-06	1510944
80384	Domino's Pizza	2018-12-27	1492435
474086	Happy Brew Cafe	2019-01-18	1477458
387586	Kouzina Kafe - The Food Court	2020-04-16	1477394
123836	Jaysika DDN Fast Food	2018-02-23	1338264
566896	Cafe Yummy	2018-08-07	1316921
213931	Huber & Holly	2018-01-19	1283875
435278	Krishna Food	2018-01-19	1283875
455334	ZAATAR SPICE	2020-03-02	1235347
378311	Blue Tokai Coffee Roasters	2018-01-30	1228148
403433	NBK Food Home	2017-12-12	1224088
194563	McCafe by McDonald's	2018-12-14	1160782
516065	SRI LAKSHMI BAR AND REST...	2017-10-18	1089685
241740	Birvani House	2018-01-29	1072000

Result 17

Output

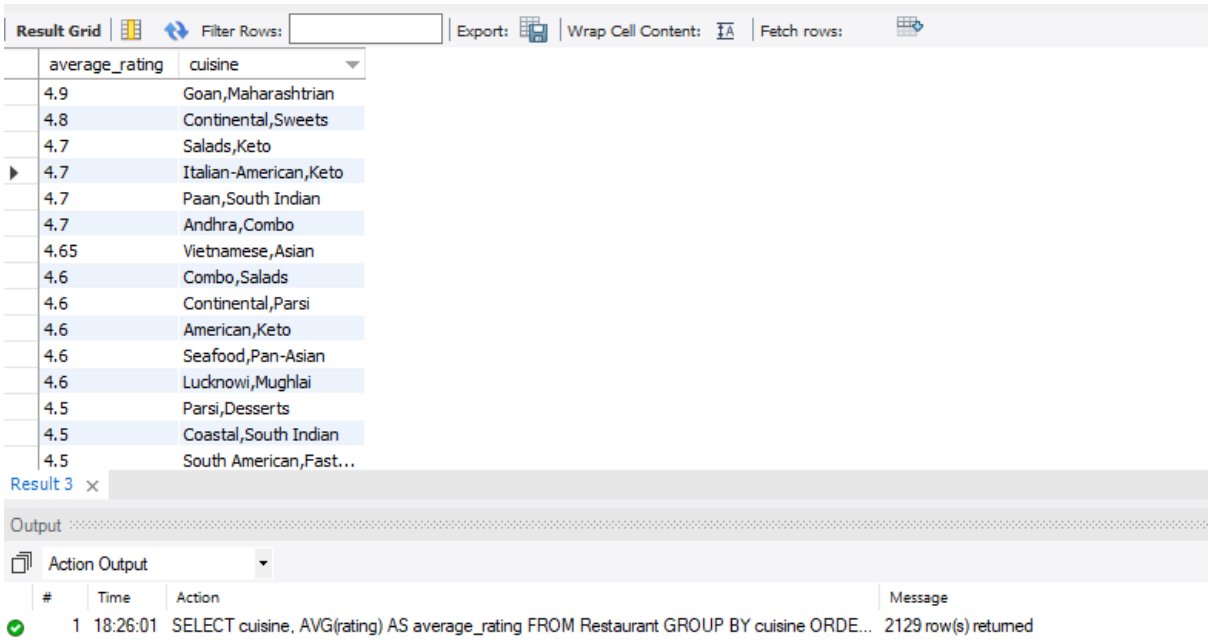
Action Output

#	Time	Action	Message
1	19:24:43	SELECT r.r_id, r.name, DATE(o.order_date) AS order_date, SUM(o.sales_amount) AS daily_s...	147921 row(s) returned

19. Question: How do average ratings differ across various cuisines

Query: SELECT cuisine, AVG(rating) AS average_rating
FROM Restaurant GROUP BY cuisine
ORDER BY average_rating DESC;

Output:



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

average_rating	cuisine
4.9	Goan,Maharashtrian
4.8	Continental,Sweets
4.7	Salads,Keto
4.7	Italian-American,Keto
4.7	Paan,South Indian
4.7	Andhra,Combo
4.65	Vietnamese,Asian
4.6	Combo,Salads
4.6	Continental,Parsi
4.6	American,Keto
4.6	Seafood,Pan-Asian
4.6	Lucknowi,Mughlai
4.5	Parsi,Desserts
4.5	Coastal,South Indian
4.5	South American,Fast...

Result 3

Output

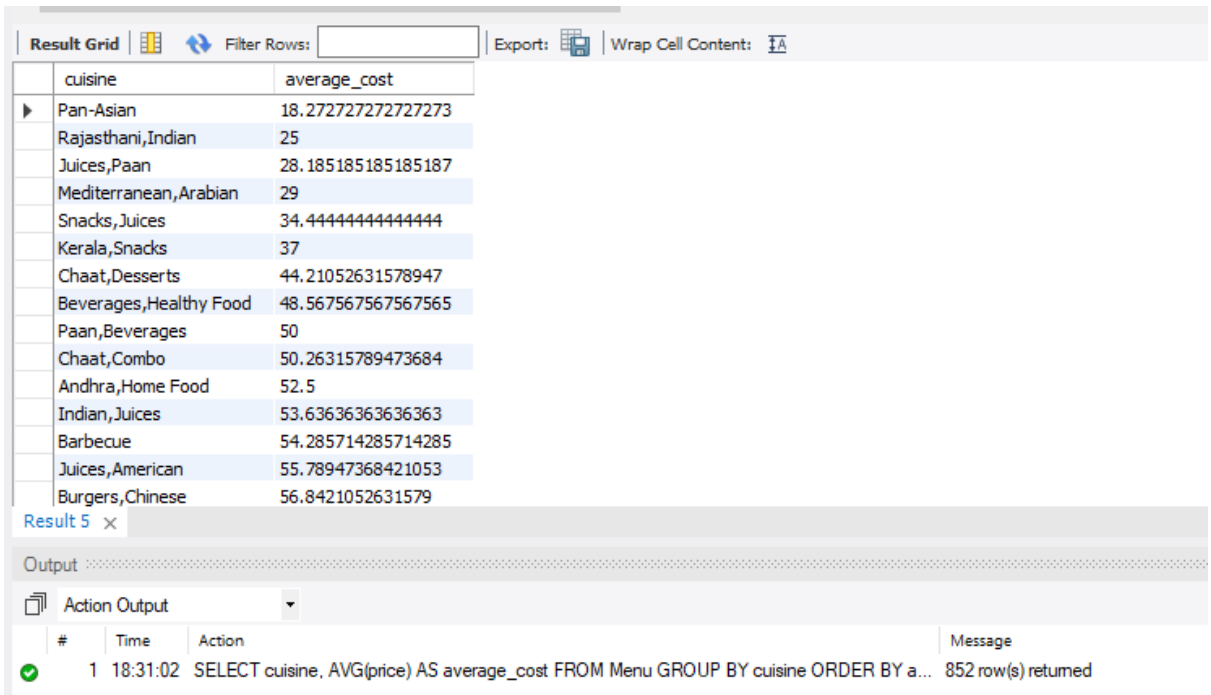
Action Output

#	Time	Action	Message
1	18:26:01	SELECT cuisine, AVG(rating) AS average_rating FROM Restaurant GROUP BY cuisine ORDE...	2129 row(s) returned

20. Question: How does the average cost of a meal vary across different cuisines

Query: SELECT cuisine, AVG(price) AS average_cost
FROM Menu
GROUP BY cuisine
ORDER BY average_cost;

Output:



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

cuisine	average_cost
Pan-Asian	18.272727272727273
Rajasthani,Indian	25
Juices,Paan	28.185185185185187
Mediterranean,Arabian	29
Snacks,Juices	34.44444444444444
Kerala,Snacks	37
Chaat,Desserts	44.21052631578947
Beverages,Healthy Food	48.567567567567565
Paan,Beverages	50
Chaat,Combo	50.26315789473684
Andhra,Home Food	52.5
Indian,Juices	53.63636363636363
Barbecue	54.285714285714285
Juices,American	55.78947368421053
Burgers,Chinese	56.8421052631579

Result 5

Output

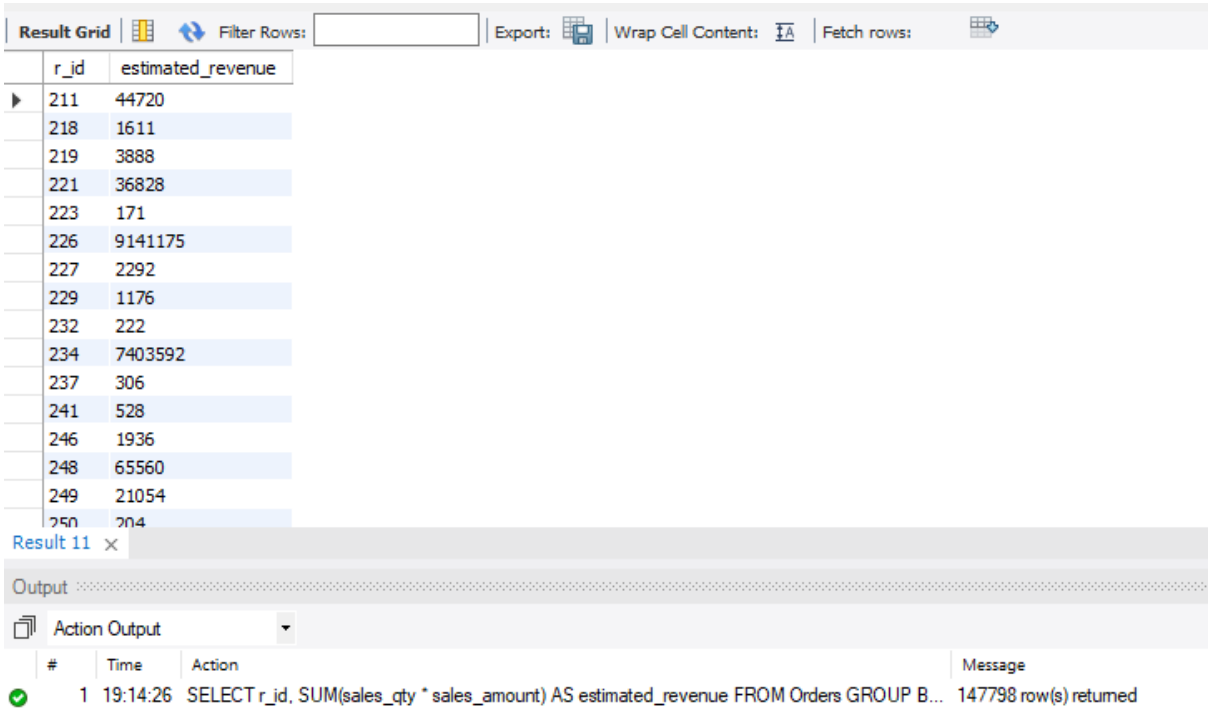
Action Output

#	Time	Action	Message
1	18:31:02	SELECT cuisine, AVG(price) AS average_cost FROM Menu GROUP BY cuisine ORDER BY a...	852 row(s) returned

21. Question: Can we estimate the revenue of restaurants based on order quantities and prices

Query: SELECT r_id, SUM(sales_qty * sales_amount) AS estimated_revenue
FROM Orders GROUP BY r_id;

Output:



r_id	estimated_revenue
211	44720
218	1611
219	3888
221	36828
223	171
226	9141175
227	2292
229	1176
232	222
234	7403592
237	306
241	528
246	1936
248	65560
249	21054
250	204

Result 11

Output

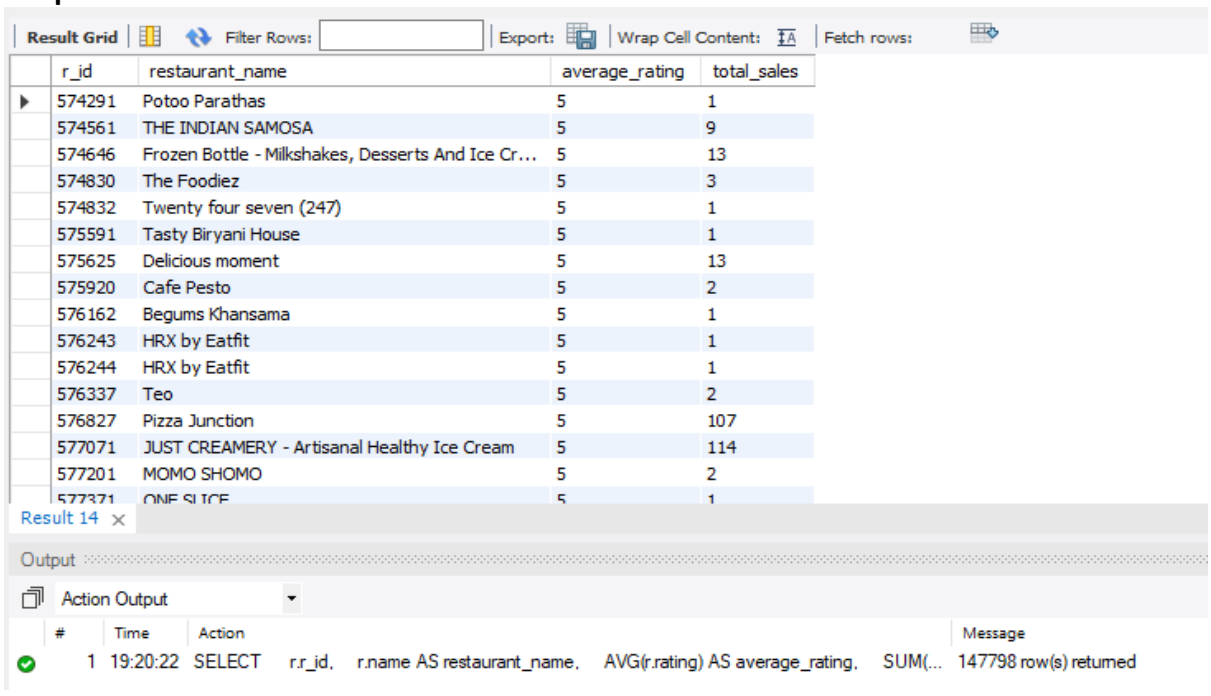
Action Output

#	Time	Action	Message
1	19:14:26	SELECT r_id, SUM(sales_qty * sales_amount) AS estimated_revenue FROM Orders GROUP B...	147798 row(s) returned

22. Question: Is there a significant relationship between a restaurant's rating and its sales quantities

Query: SELECT r.r_id, r.name AS restaurant_name, AVG(r.rating) AS average_rating,
SUM(o.sales_qty) AS total_sales FROM Restaurant r
JOIN Orders o ON r.r_id = o.r_id
GROUP BY r.r_id, r.name ORDER BY average_rating DESC;

Output:



r_id	restaurant_name	average_rating	total_sales
574291	Potoo Parathas	5	1
574561	THE INDIAN SAMOSA	5	9
574646	Frozen Bottle - Milkshakes, Desserts And Ice Cr...	5	13
574830	The Foodiez	5	3
574832	Twenty four seven (247)	5	1
575591	Tasty Biryani House	5	1
575625	Delicious moment	5	13
575920	Cafe Pesto	5	2
576162	Begums Khansama	5	1
576243	HRX by Eatfit	5	1
576244	HRX by Eatfit	5	1
576337	Teo	5	2
576827	Pizza Junction	5	107
577071	JUST CREAMERY - Artisanal Healthy Ice Cream	5	114
577201	MOMO SHOMO	5	2
577371	ONE SLICE	5	1

Result 14

Output

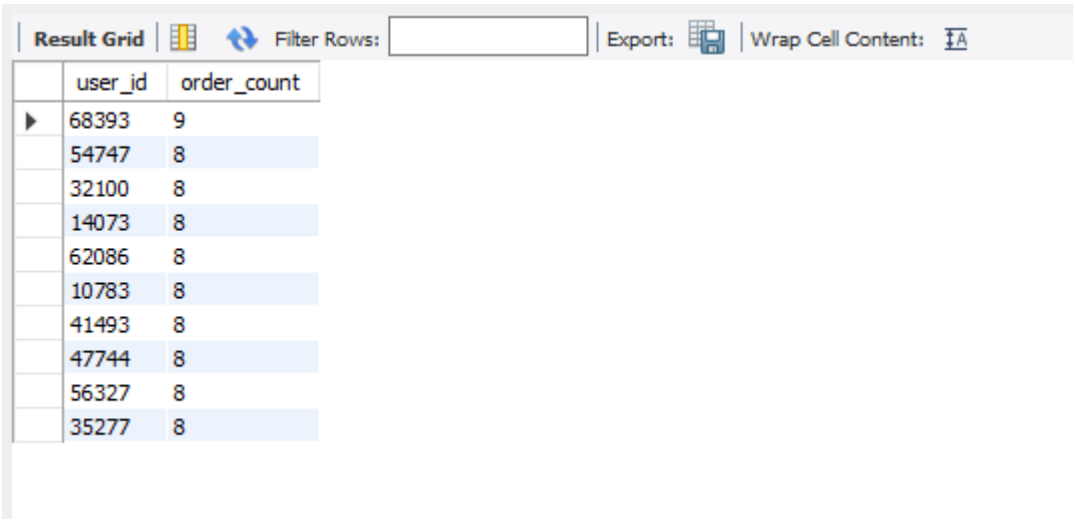
Action Output

#	Time	Action	Message
1	19:20:22	SELECT r.r_id, r.name AS restaurant_name, AVG(r.rating) AS average_rating, SUM(...	147798 row(s) returned

23. Question: Who are the frequent diners and what are their preferences

Query: SELECT user_id, COUNT(*) AS order_count
FROM Orders
GROUP BY user_id ORDER BY order_count DESC LIMIT 10;

Output:



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

user_id	order_count
68393	9
54747	8
32100	8
14073	8
62086	8
10783	8
41493	8
47744	8
56327	8
35277	8

24. Question: How does a particular restaurant perform compared to its direct competitors

Query: SELECT r.name, AVG(rating) AS average_rating, COUNT(Orders.r_id) AS order_count
FROM Restaurant r
LEFT JOIN Orders ON r.r_id = Orders.r_id
WHERE r.cuisine like 'Chinese'
GROUP BY r.name;

Output:

name	average_rating	order_count
Kim Lee	4.2	1
Burger Hut	4.2	1
Hong Kong Chinese Restaurant	1.95	2
Ohri's Ming's Court	4	2
Panda Boy	4.2	1
Chung Wah	4.166666666666667	6
Yuan	3.7	2
In Wok	4.1	1
Krystal Chopstick	4.4	1
Taste of Darjeeling	0	1
Raenss Cafe	0	1
Zest Cafe Bar	4.4	1
Sichuan	4.15	2
Mainland China	4.3	1
Bluedragon by Mandilicious	3.7	1
The Chinese Wok	3.9666666666666663	3
Jade Chinese Cuisine	3.9	1
Hao Chi	4.2	2
Chopstick	2.6666666666666665	3
Chopsticks	2.1	5

25. Question: What is the distribution of restaurant ratings across different cities

Query: SELECT SUBSTRING_INDEX(city, ',', 1) AS city_name, rating,COUNT(*) AS restaurant_count FROM Restaurant GROUP BY city_name, rating ORDER BY city_name, rating DESC;

Output:

city_name	rating	restaurant_count
Amravati	3.5	4
Amravati	3.4	4
Amravati	3.3	5
Amravati	3.2	4
Amravati	3.1	2
Amravati	2.1	1
Amravati	2	1
Amravati	--	81
Amreli	4.7	1
Amreli	4.2	2
Amreli	4	1
Amreli	3.6	1
Amreli	3.5	1
Amreli	3.3	1
Amreli	3	2
Amreli	2.7	1
Amreli	--	17
Amritsar	4.8	1
Amritsar	4.6	1

26. Question: What are the top 10 highest-rated restaurants in each city

Query: SELECT r.city, r.name, r.rating FROM Restaurant r
JOIN (
SELECT city, rating FROM Restaurant
ORDER BY rating DESC LIMIT 10
) AS top_ratings ON r.city = top_ratings.city AND r.rating = top_ratings.rating
ORDER BY r.city, r.rating DESC;

Output:

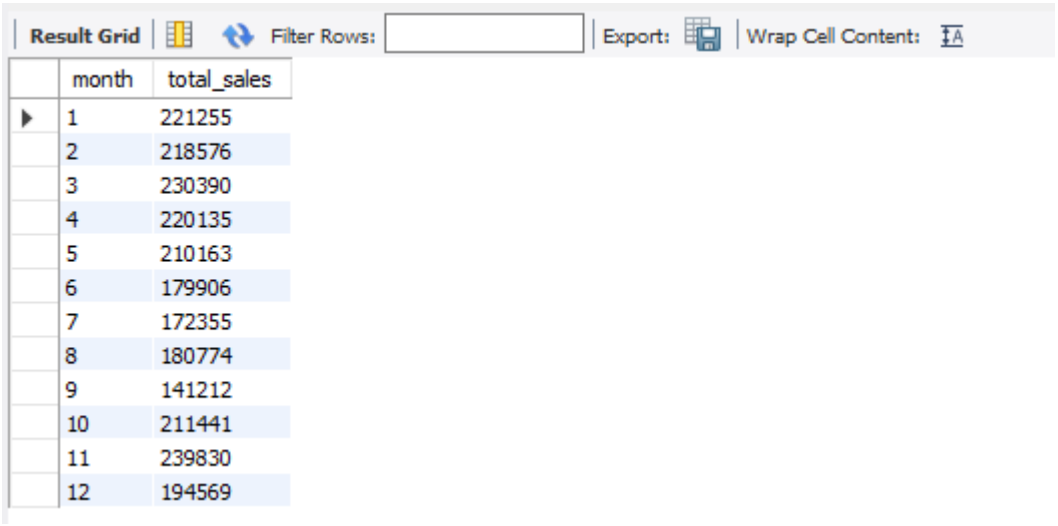
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

city	name	rating
Adyar,Chennai	Bronies	5
Bhawar Kuan,Indore	Agrawal Sweets	5
Central Bangalore,Bangalore	HRX by Eatfit	5
Central Bang	Central Bangalore,Bangalore	5
Central Bangalore,Bangalore	Provenance Deli and Desserts	5
Central Bangalore,Bangalore	Provenance Deli and Desserts	5
Central Bangalore,Bangalore	MOKA ON THE GO	5
Central Bangalore,Bangalore	MOKA ON THE GO	5
Central Bangalore,Bangalore	Fabelle Chocolates - ITC Gardenia	5
Central Bangalore,Bangalore	Fabelle Chocolates - ITC Gardenia	5
Greater Kailash New,Delhi	Gelato Vinto	5
Indiranagar,Bangalore	The Lassi Pub	5
Indiranagar,Bangalore	Frooze	5
Indiranagar,Bangalore	Minus 30	5

27. Question: How do sales quantities trend on a monthly basis

Query: SELECT MONTH(order_date) AS month, SUM(sales_qty) AS total_sales
FROM Orders
GROUP BY month
ORDER BY month;

Output:



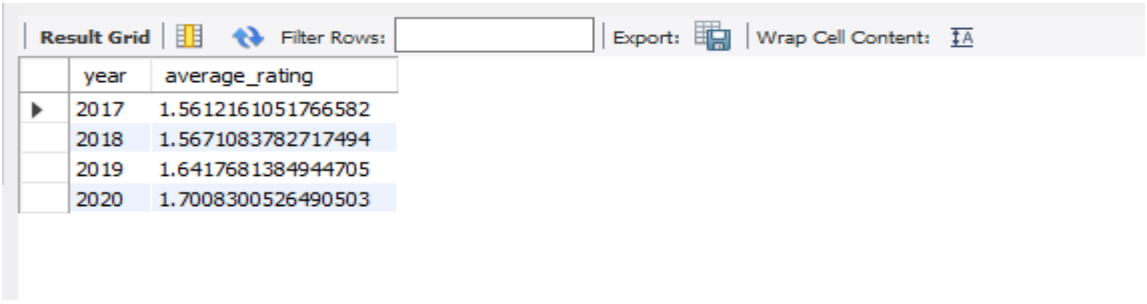
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

month	total_sales
1	221255
2	218576
3	230390
4	220135
5	210163
6	179906
7	172355
8	180774
9	141212
10	211441
11	239830
12	194569

28. Question: How have restaurant ratings changed over the years

Query: SELECT YEAR(order_date) AS year, AVG(rating) AS average_rating
FROM Restaurant
JOIN Orders ON Restaurant.r_id = Orders.r_id
GROUP BY year
ORDER BY year;

Output:



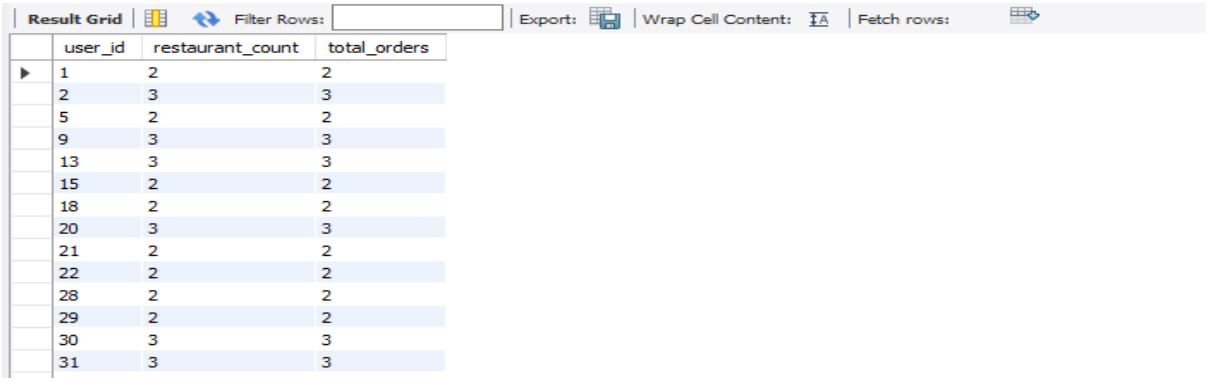
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

year	average_rating
2017	1.5612161051766582
2018	1.5671083782717494
2019	1.6417681384944705
2020	1.7008300526490503

29. **Question**: What percentage of customers order from the same restaurant multiple times

Query: SELECT user_id, COUNT(DISTINCT r_id) AS restaurant_count, COUNT(*) AS total_orders
FROM Orders
GROUP BY user_id
HAVING restaurant_count > 1;

Output:

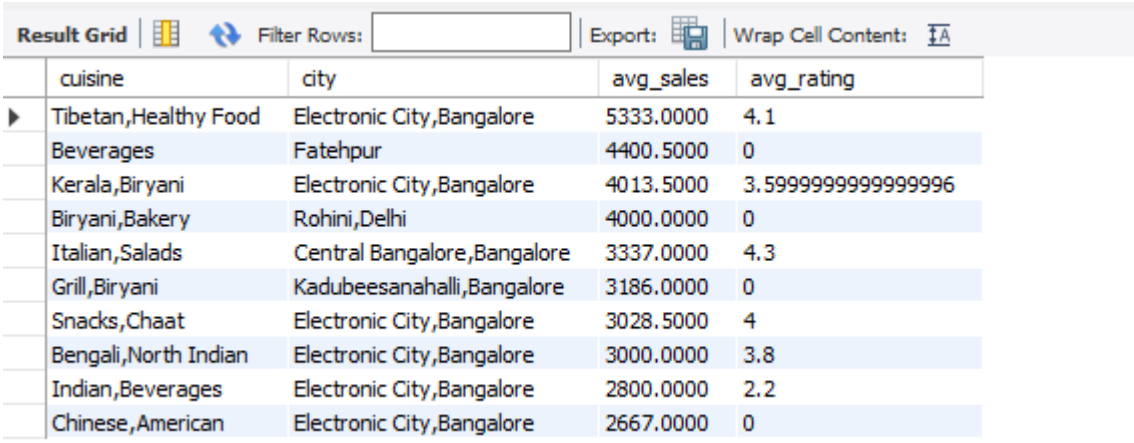


user_id	restaurant_count	total_orders
1	2	2
2	3	3
5	2	2
9	3	3
13	3	3
15	2	2
18	2	2
20	3	3
21	2	2
22	2	2
28	2	2
29	2	2
30	3	3
31	3	3

30. **Question**: What characteristics do the top-performing restaurants share (e.g., location, cuisine, price)

Query: SELECT r.cuisine, r.city,
AVG(o.sales_qty) AS avg_sales,
AVG(r.rating) AS avg_rating
FROM Restaurant r
JOIN Orders o ON r.r_id = o.r_id
GROUP BY r.cuisine, r.city
ORDER BY avg_sales DESC
LIMIT 10;

Output:



cuisine	city	avg_sales	avg_rating
Tibetan,Healthy Food	Electronic City,Bangalore	5333.0000	4.1
Beverages	Fatehpur	4400.5000	0
Kerala,Biryani	Electronic City,Bangalore	4013.5000	3.5999999999999996
Biryani,Bakery	Rohini,Delhi	4000.0000	0
Italian,Salads	Central Bangalore,Bangalore	3337.0000	4.3
Grill,Biryani	Kadubeesanahalli,Bangalore	3186.0000	0
Snacks,Chaat	Electronic City,Bangalore	3028.5000	4
Bengali,North Indian	Electronic City,Bangalore	3000.0000	3.8
Indian,Beverages	Electronic City,Bangalore	2800.0000	2.2
Chinese,American	Electronic City,Bangalore	2667.0000	0

Conclusion:

The SQL data analysis project uncovers essential insights from the Zomato database, shedding light on consumer behavior and restaurant dynamics within the food industry. Key findings include:

- **Consumer Preferences:** Certain cuisines, particularly Italian and Chinese, consistently receive higher ratings, indicating a strong customer preference.
- **Location Impact:** Restaurants in urban areas generally enjoy better ratings and more reviews compared to their rural counterparts, suggesting a link between location and restaurant success.
- **Engagement Trends:** Users who give ratings tend to exert a greater influence on restaurant ratings, highlighting the significance of loyal customers in shaping a restaurant's reputation.

These insights not only aid restaurant owners and marketers in understanding current trends but also inform future strategies in menu development, marketing efforts, and customer engagement initiatives. Ultimately, the project illustrates the value of data analytics in driving informed, strategic decisions in the restaurant sector, promoting a culture of data-driven insights that can enhance overall customer satisfaction and business performance.