Deriving Business Insights from Sales Data

PIZZA SALES SQL DATA ANALYSIS

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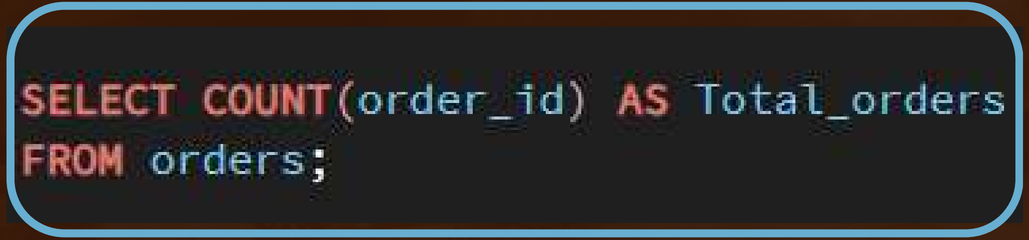
EXECUTIVE SUMMARY

AT-A-GLANCE PERFORMANCE

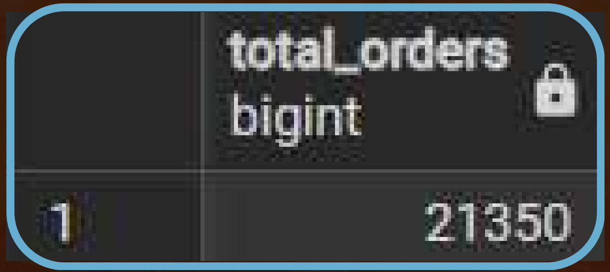
- Total Revenue: $817860
- Total Orders: 21350
- Bestselling Size: Large
- Peak Hours: Lunch and Dinner

HIGH-LEVEL BUSINESS METRICS

Q1: Retrieve the total number of orders placed.

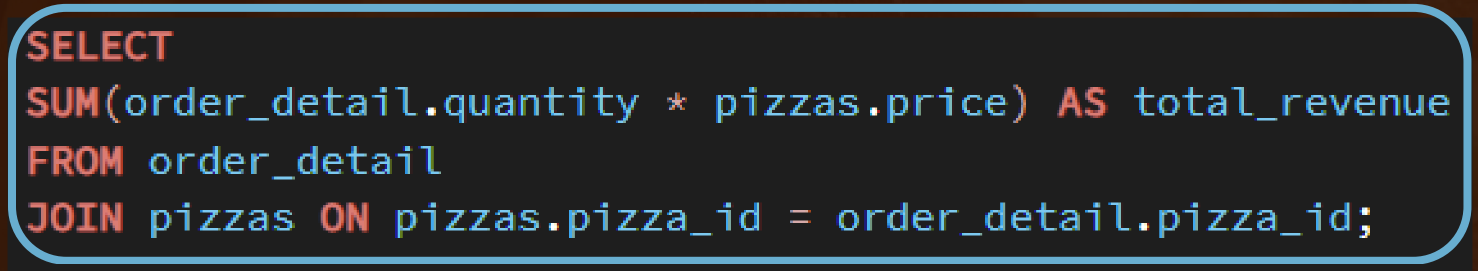


```
SELECT COUNT(order_id) AS Total_orders
FROM orders;
```

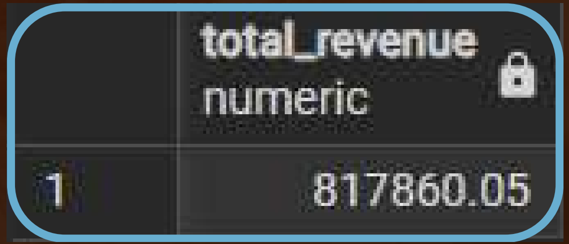


	total_orders bigint
1	21350

Q2: Calculate the total revenue generated from pizza sales.



```
SELECT
SUM(order_detail.quantity * pizzas.price) AS total_revenue
FROM order_detail
JOIN pizzas ON pizzas.pizza_id = order_detail.pizza_id;
```

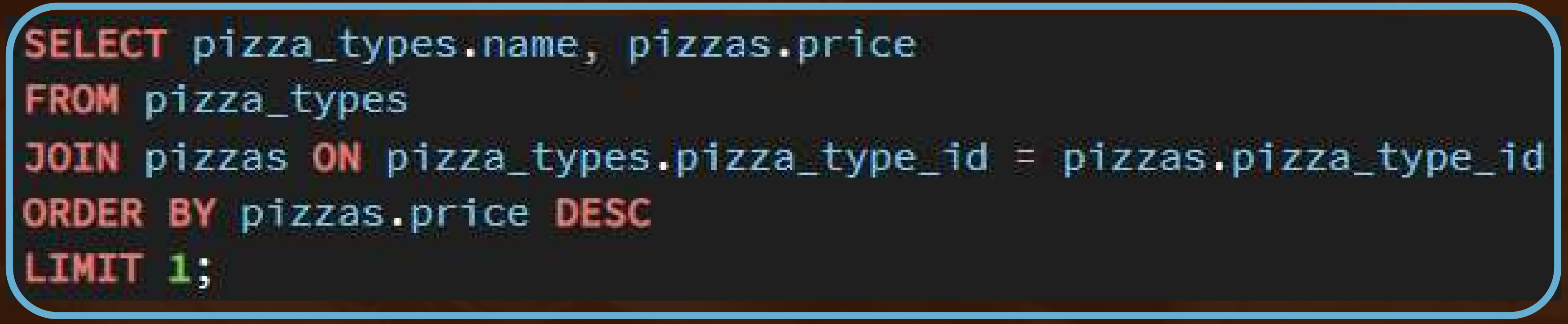


	total_revenue numeric
1	817860.05

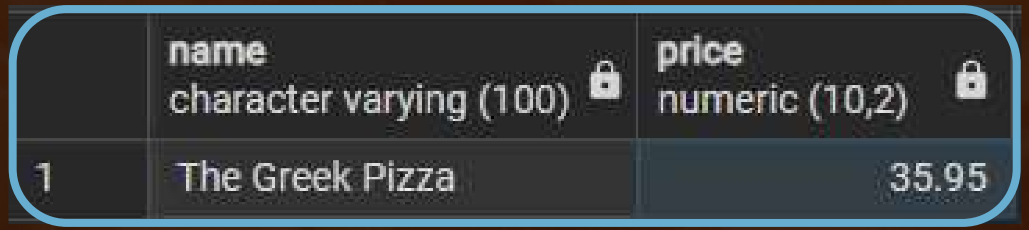
PRODUCT DOMINANCE - SIZE & PRICE

MOST POPULAR CHOICE VS. PREMIUM OPTION

Q3: Identify the highest-priced pizza.

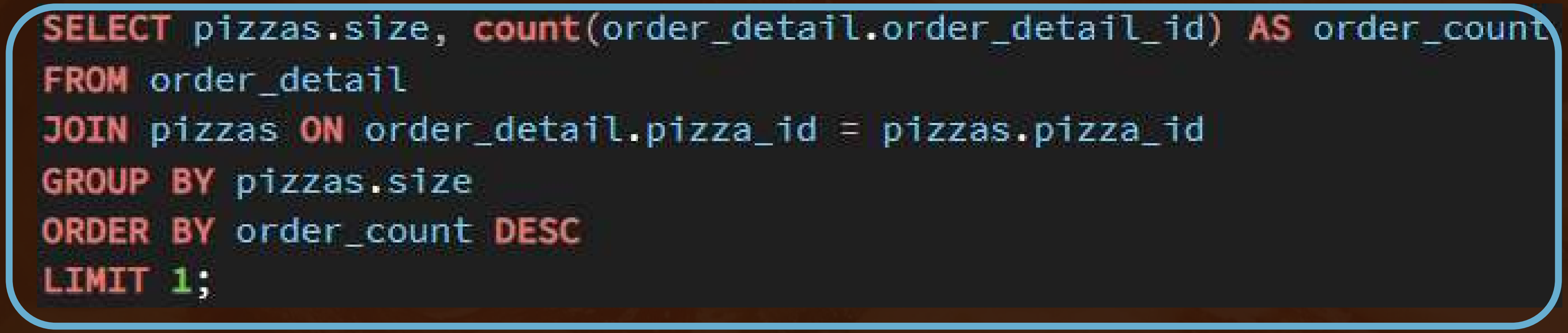


```sql
SELECT pizza_types.name, pizzas.price
FROM pizza_types
JOIN pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
ORDER BY pizzas.price DESC
LIMIT 1;
```

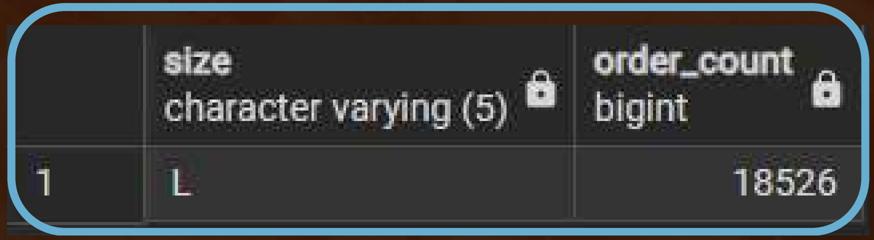


	name character varying (100)	price numeric (10,2)
1	The Greek Pizza	35.95

Q4: Identify the most common pizza size ordered.



```sql
SELECT pizzas.size, count(order_detail.order_detail_id) AS order_count
FROM order_detail
JOIN pizzas ON order_detail.pizza_id = pizzas.pizza_id
GROUP BY pizzas.size
ORDER BY order_count DESC
LIMIT 1;
```



	size character varying (5)	order_count bigint
1	L	18526

TOP 5 PIZZA TYPES BY VOLUME

The Classic Deluxe Pizza

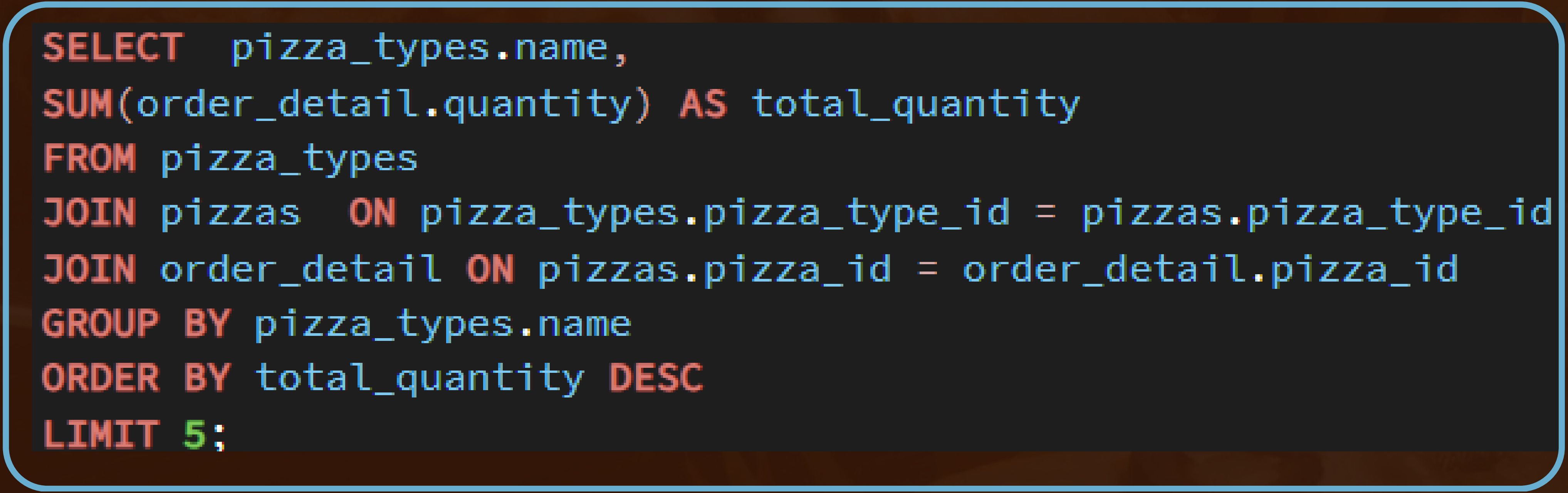
The Barbecue Chicken Pizza

The Hawaiian Pizza

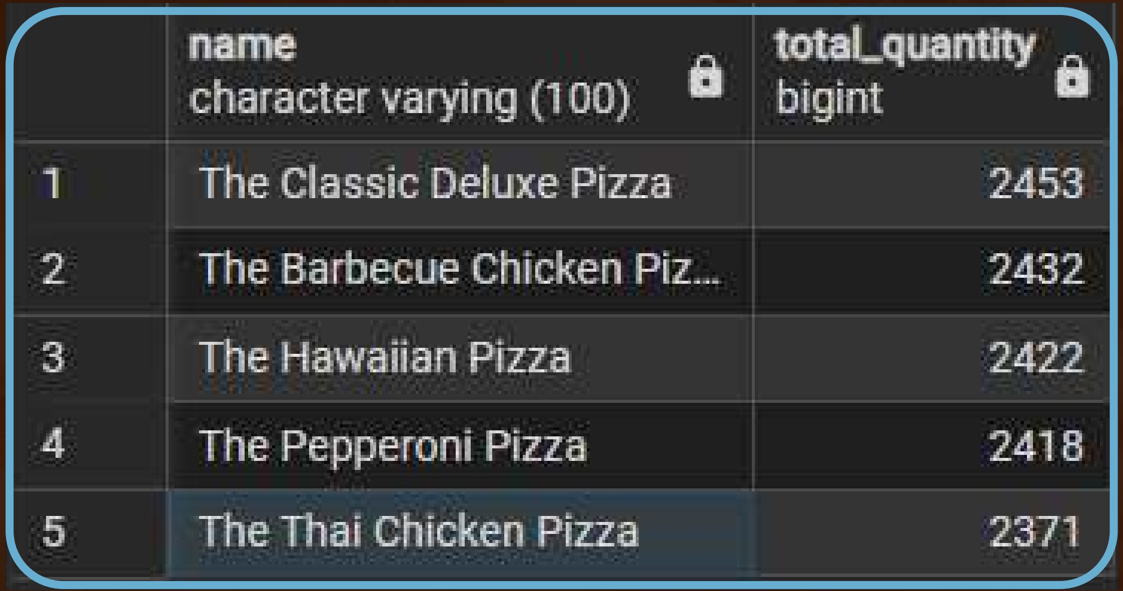
The Pepperoni Pizza

The Thai Chicken Pizza

Q5: List the top 5 most ordered pizza types along with their quantities.



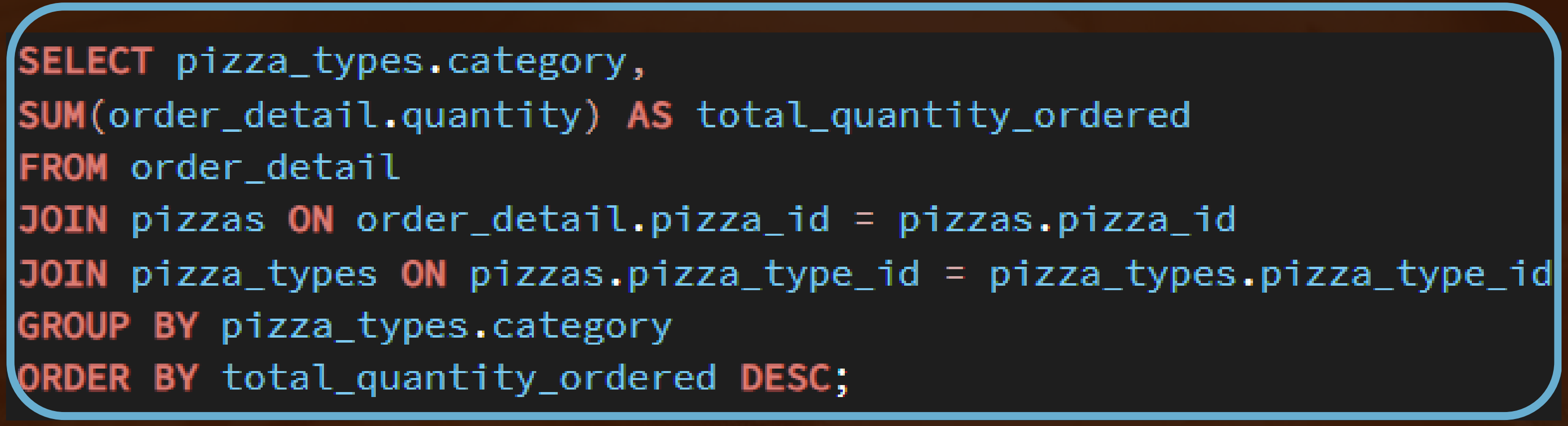
```sql
SELECT  pizza_types.name,
SUM(order_detail.quantity) AS total_quantity
FROM pizza_types
JOIN pizzas  ON pizza_types.pizza_type_id = pizzas.pizza_type_id
JOIN order_detail ON pizzas.pizza_id = order_detail.pizza_id
GROUP BY pizza_types.name
ORDER BY total_quantity DESC
LIMIT 5;
```



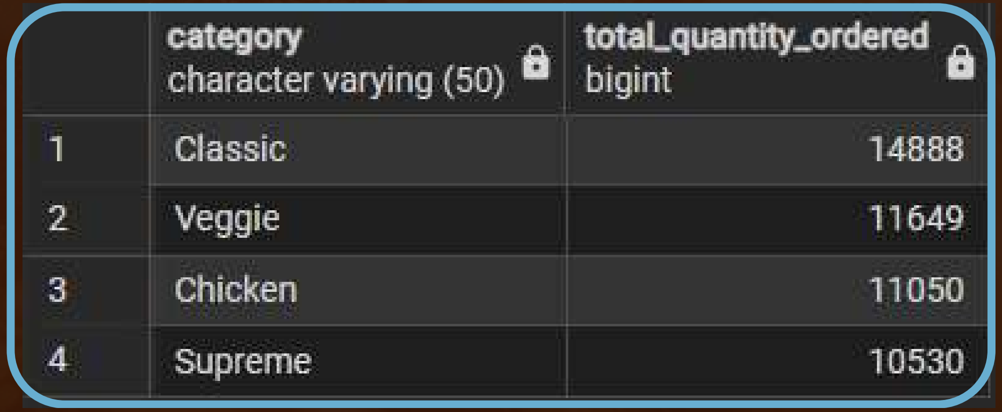
	name character varying (100)	total_quantity bigint
1	The Classic Deluxe Pizza	2453
2	The Barbecue Chicken Piz...	2432
3	The Hawaiian Pizza	2422
4	The Pepperoni Pizza	2418
5	The Thai Chicken Pizza	2371

PIZZA CATEGORY ANALYSIS

Q6: Total Quantity of Each Pizza Category Ordered



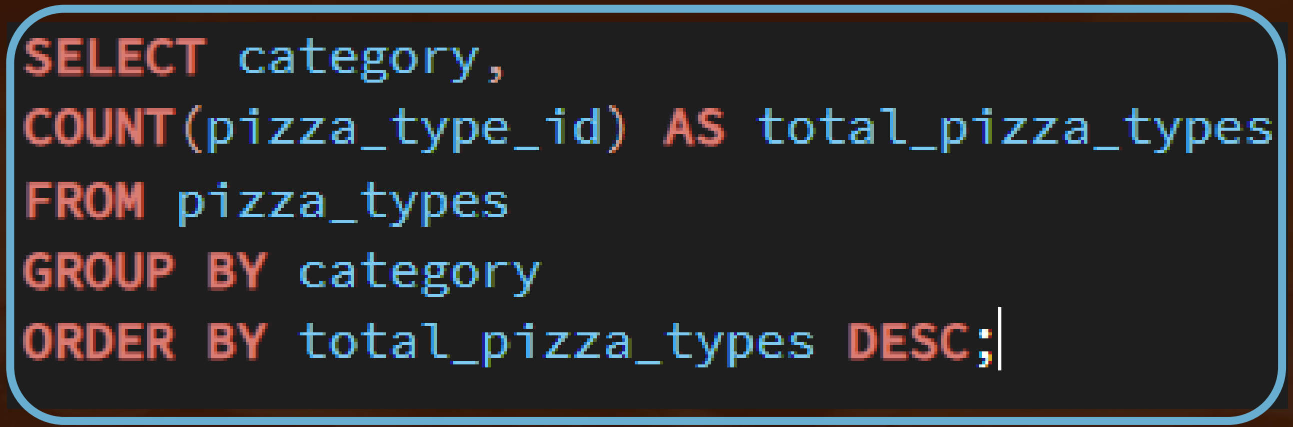
```
SELECT pizza_types.category,
SUM(order_detail.quantity) AS total_quantity_ordered
FROM order_detail
JOIN pizzas ON order_detail.pizza_id = pizzas.pizza_id
JOIN pizza_types ON pizzas.pizza_type_id = pizza_types.pizza_type_id
GROUP BY pizza_types.category
ORDER BY total_quantity_ordered DESC;
```



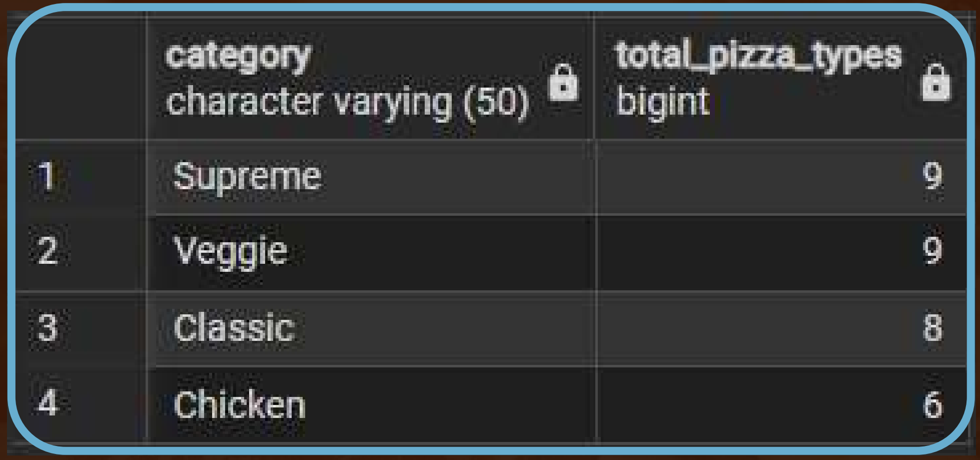
	category character varying (50)	total_quantity_ordered bigint
1	Classic	14888
2	Veggie	11649
3	Chicken	11050
4	Supreme	10530

CLASSIC

Q7: Join relevant tables to find the category-wise distribution of pizzas.



```
SELECT category,
COUNT(pizza_type_id) AS total_pizza_types
FROM pizza_types
GROUP BY category
ORDER BY total_pizza_types DESC;
```

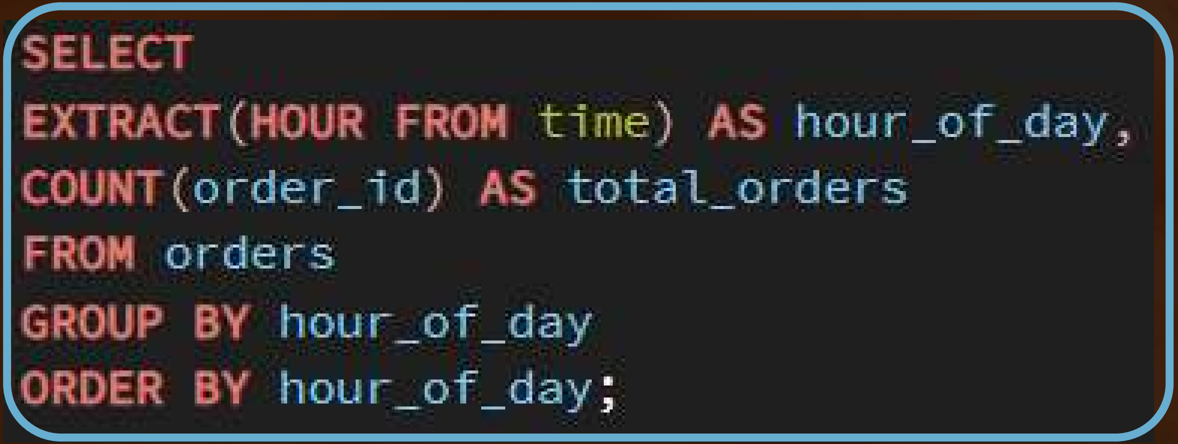


	category character varying (50)	total_pizza_types bigint
1	Supreme	9
2	Veggie	9
3	Classic	8
4	Chicken	6

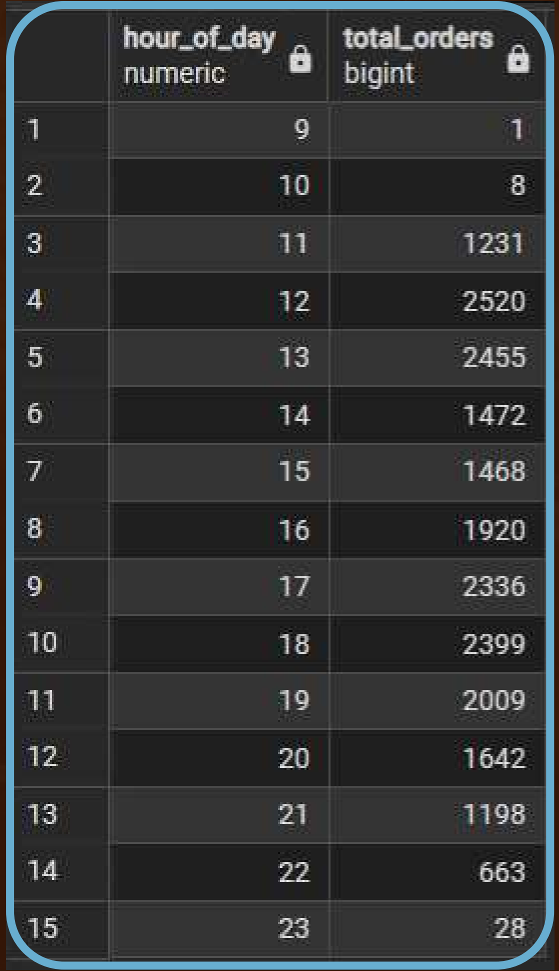
SUPREME

OPERATIONAL & DAILY DEMAND INSIGHTS

Q8: Determine the distribution of orders by hour of the day.

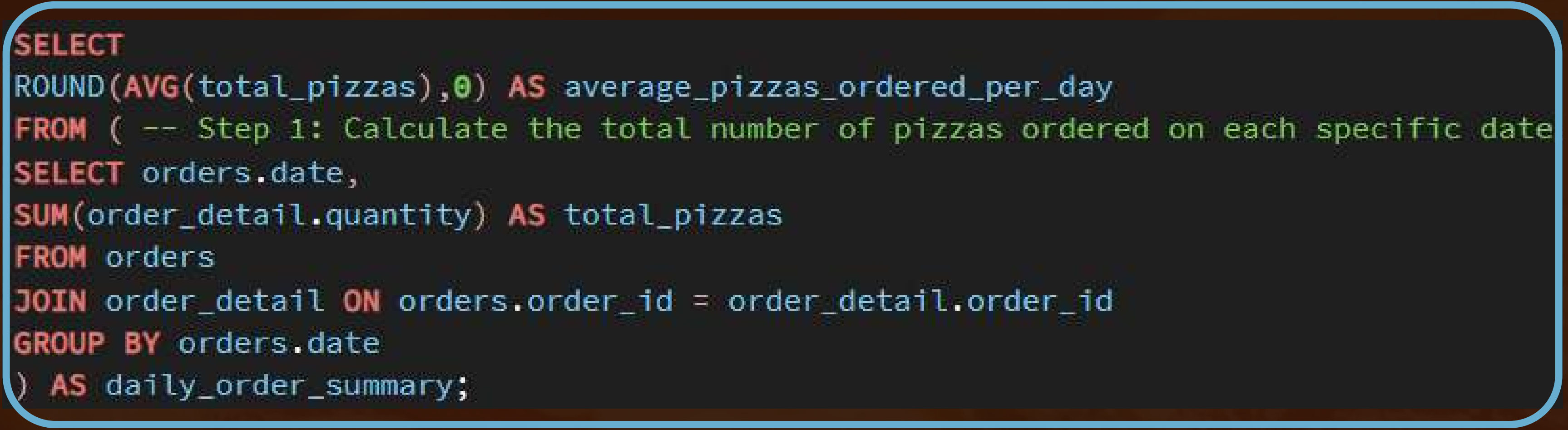


```
SELECT
EXTRACT(HOUR FROM time) AS hour_of_day,
COUNT(order_id) AS total_orders
FROM orders
GROUP BY hour_of_day
ORDER BY hour_of_day;
```

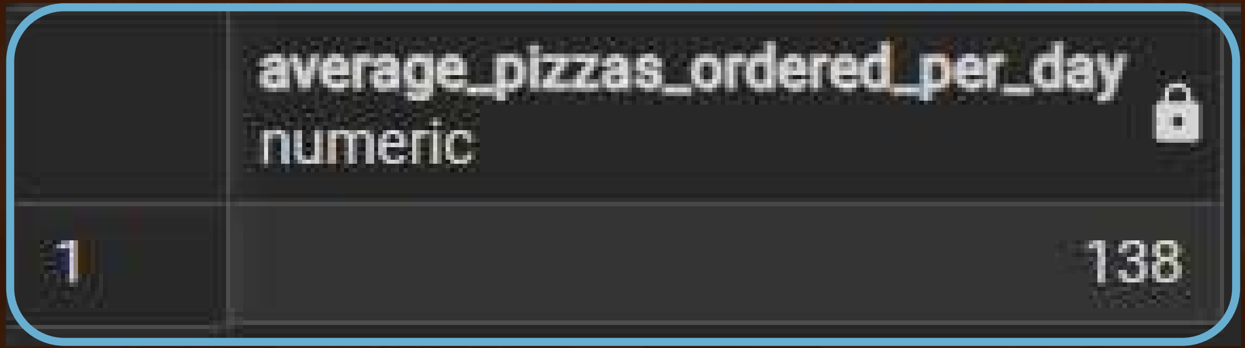


	hour_of_day numeric	total_orders bigint
1	9	1
2	10	8
3	11	1231
4	12	2520
5	13	2455
6	14	1472
7	15	1468
8	16	1920
9	17	2336
10	18	2399
11	19	2009
12	20	1642
13	21	1198
14	22	663
15	23	28

Q9: Group the orders by date and calculate the average number of pizzas ordered per day.



```
SELECT
ROUND(AVG(total_pizzas),0) AS average_pizzas_ordered_per_day
FROM ( -- Step 1: Calculate the total number of pizzas ordered on each specific date
SELECT orders.date,
SUM(order_detail.quantity) AS total_pizzas
FROM orders
JOIN order_detail ON orders.order_id = order_detail.order_id
GROUP BY orders.date
) AS daily_order_summary;
```

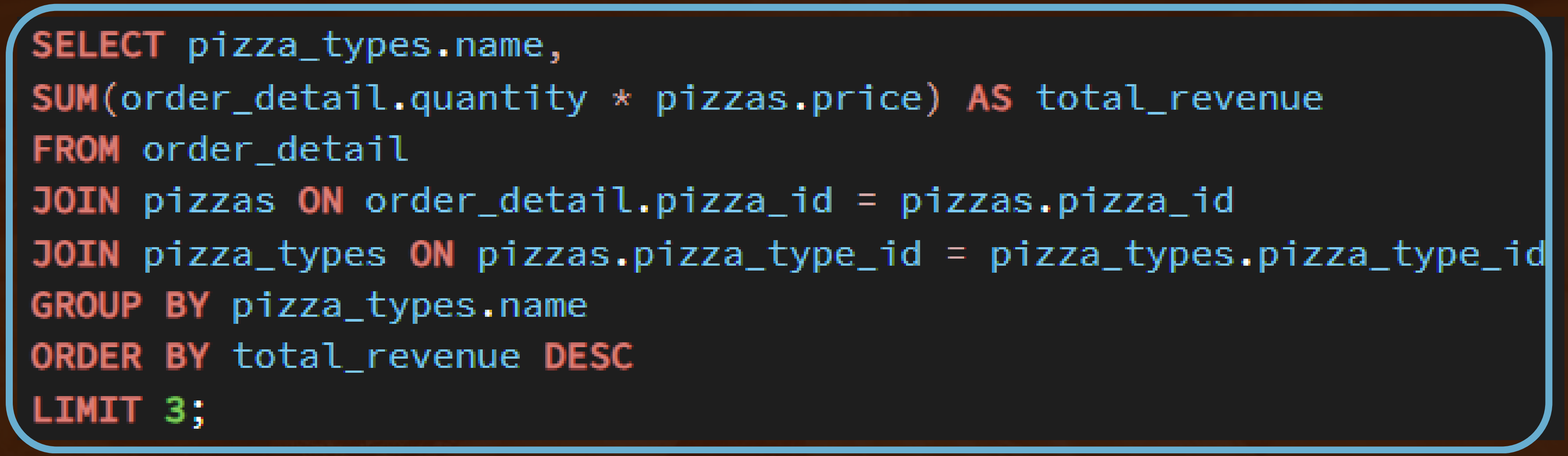


	average_pizzas_ordered_per_day numeric
1	138

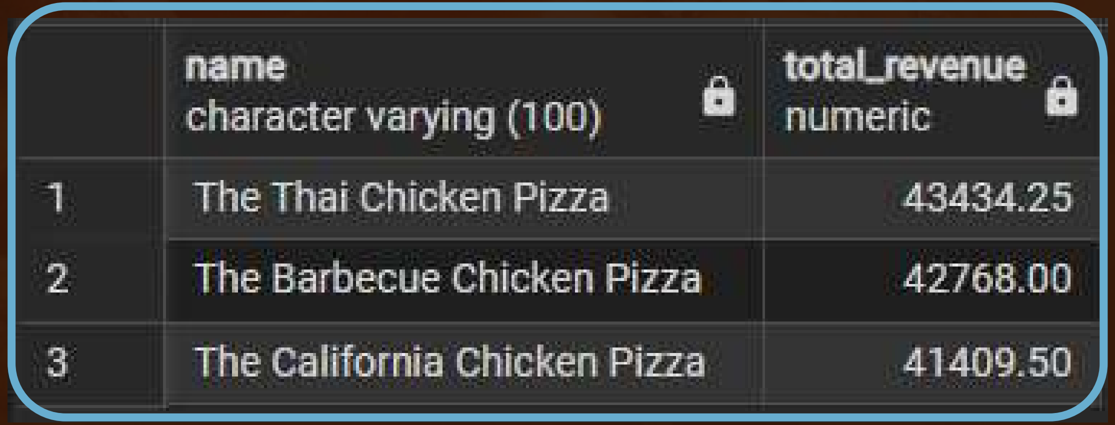
- Lunch Peak (12 PM - 1 PM): Orders spike to 2,520 (12 PM) and 2,455 (1 PM).
- Dinner Peak (5 PM - 6 PM): A secondary peak is observedaround 5 PM (2,336 orders) and 6 PM (2,399 orders).

TOP 3 PIZZA TYPES BY REVENUE

Q10: Determine the top 3 most ordered pizza types based on revenue.



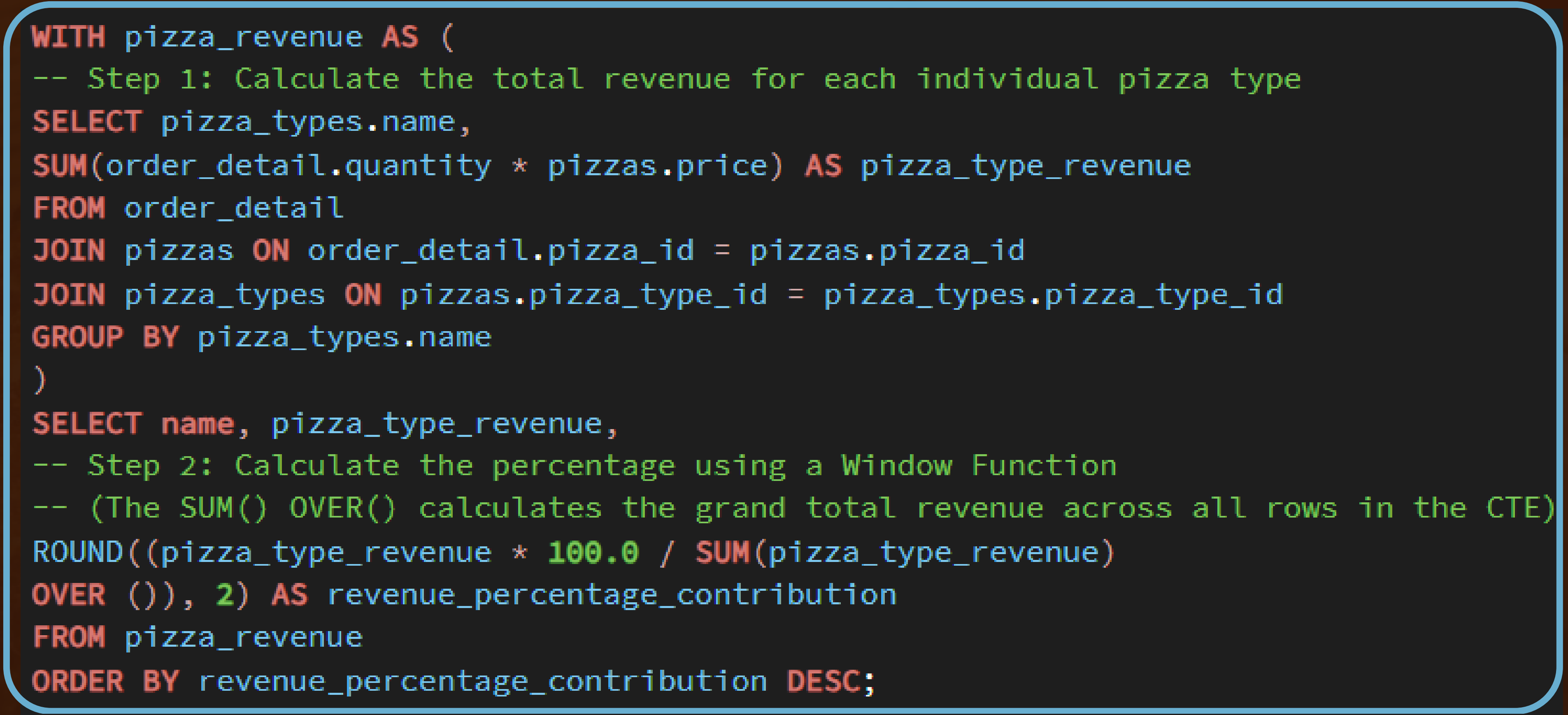
```
SELECT pizza_types.name,
SUM(order_detail.quantity * pizzas.price) AS total_revenue
FROM order_detail
JOIN pizzas ON order_detail.pizza_id = pizzas.pizza_id
JOIN pizza_types ON pizzas.pizza_type_id = pizza_types.pizza_type_id
GROUP BY pizza_types.name
ORDER BY total_revenue DESC
LIMIT 3;
```



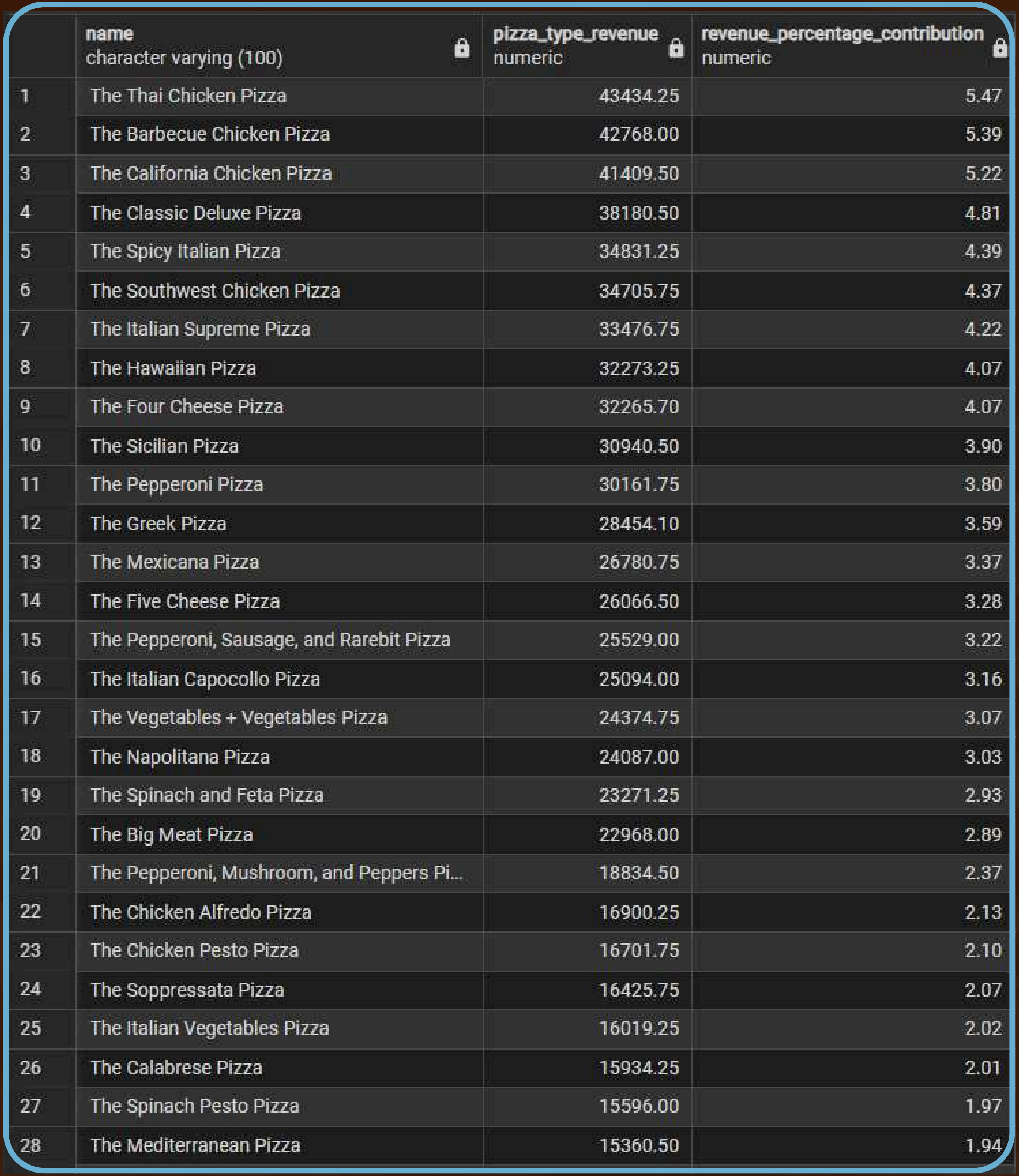
	name character varying (100)	total_revenue numeric
1	The Thai Chicken Pizza	43434.25
2	The Barbecue Chicken Pizza	42768.00
3	The California Chicken Pizza	41409.50

PERCENTAGE CONTRIBUTION TO TOTAL REVENUE

Q11: Calculate the percentage contribution of each pizza type to total revenue.



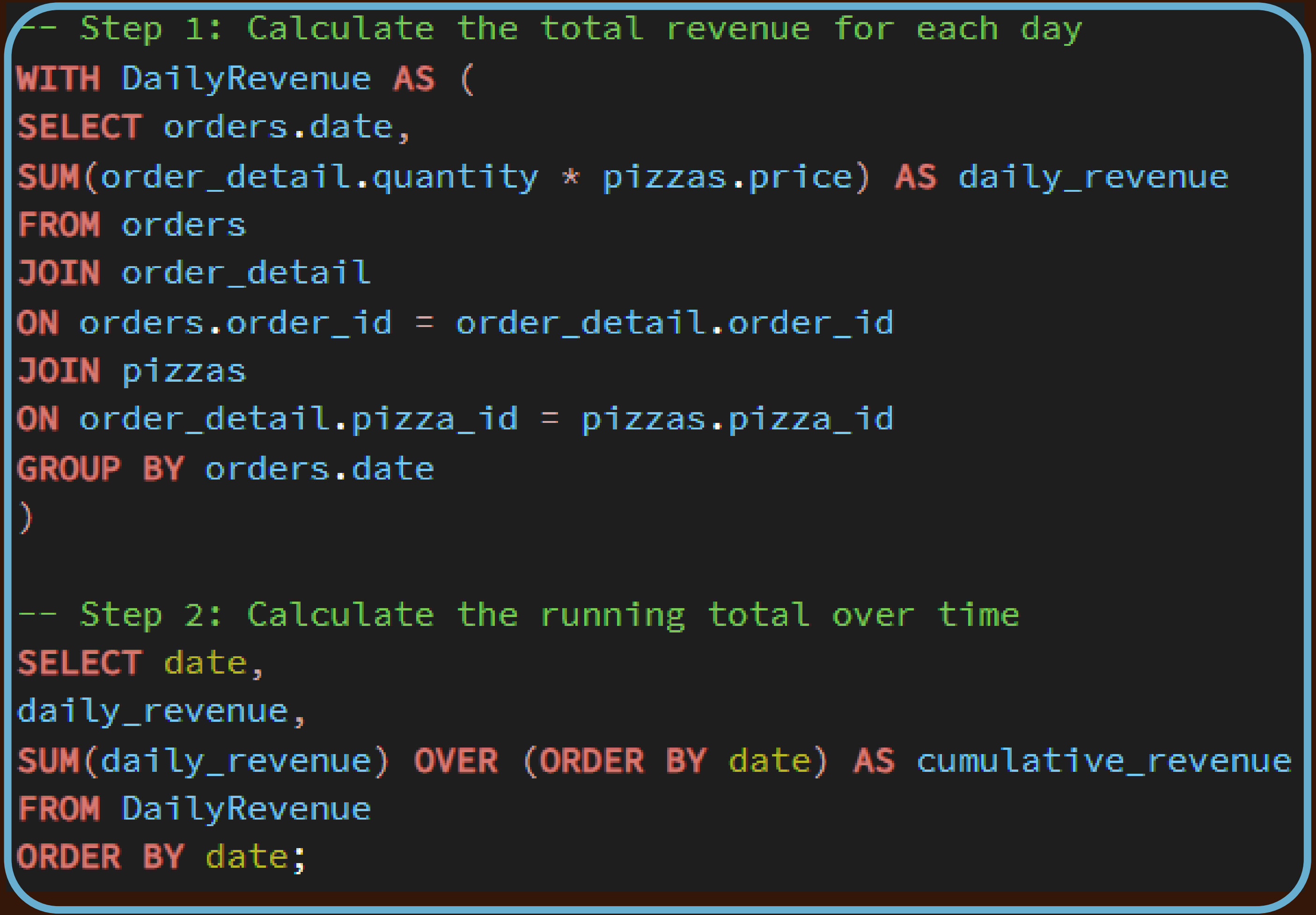
```sql
WITH pizza_revenue AS (
-- Step 1: Calculate the total revenue for each individual pizza type
SELECT pizza_types.name,
SUM(order_detail.quantity * pizzas.price) AS pizza_type_revenue
FROM order_detail
JOIN pizzas ON order_detail.pizza_id = pizzas.pizza_id
JOIN pizza_types ON pizzas.pizza_type_id = pizza_types.pizza_type_id
GROUP BY pizza_types.name
)
SELECT name, pizza_type_revenue,
-- Step 2: Calculate the percentage using a Window Function
-- (The SUM() OVER() calculates the grand total revenue across all rows in the CTE)
ROUND((pizza_type_revenue * 100.0 / SUM(pizza_type_revenue)
OVER ()), 2) AS revenue_percentage_contribution
FROM pizza_revenue
ORDER BY revenue_percentage_contribution DESC;
```



	name character varying (100)	pizza_type_revenue numeric	revenue_percentage_contribution numeric
1	The Thai Chicken Pizza	43434.25	5.47
2	The Barbecue Chicken Pizza	42768.00	5.39
3	The California Chicken Pizza	41409.50	5.22
4	The Classic Deluxe Pizza	38180.50	4.81
5	The Spicy Italian Pizza	34831.25	4.39
6	The Southwest Chicken Pizza	34705.75	4.37
7	The Italian Supreme Pizza	33476.75	4.22
8	The Hawaiian Pizza	32273.25	4.07
9	The Four Cheese Pizza	32265.70	4.07
10	The Sicilian Pizza	30940.50	3.90
11	The Pepperoni Pizza	30161.75	3.80
12	The Greek Pizza	28454.10	3.59
13	The Mexicana Pizza	26780.75	3.37
14	The Five Cheese Pizza	26066.50	3.28
15	The Pepperoni, Sausage, and Rarebit Pizza	25529.00	3.22
16	The Italian Capocollo Pizza	25094.00	3.16
17	The Vegetables + Vegetables Pizza	24374.75	3.07
18	The Napolitana Pizza	24087.00	3.03
19	The Spinach and Feta Pizza	23271.25	2.93
20	The Big Meat Pizza	22968.00	2.89
21	The Pepperoni, Mushroom, and Peppers Pi...	18834.50	2.37
22	The Chicken Alfredo Pizza	16900.25	2.13
23	The Chicken Pesto Pizza	16701.75	2.10
24	The Soppressata Pizza	16425.75	2.07
25	The Italian Vegetables Pizza	16019.25	2.02
26	The Calabrese Pizza	15934.25	2.01
27	The Spinach Pesto Pizza	15596.00	1.97
28	The Mediterranean Pizza	15360.50	1.94

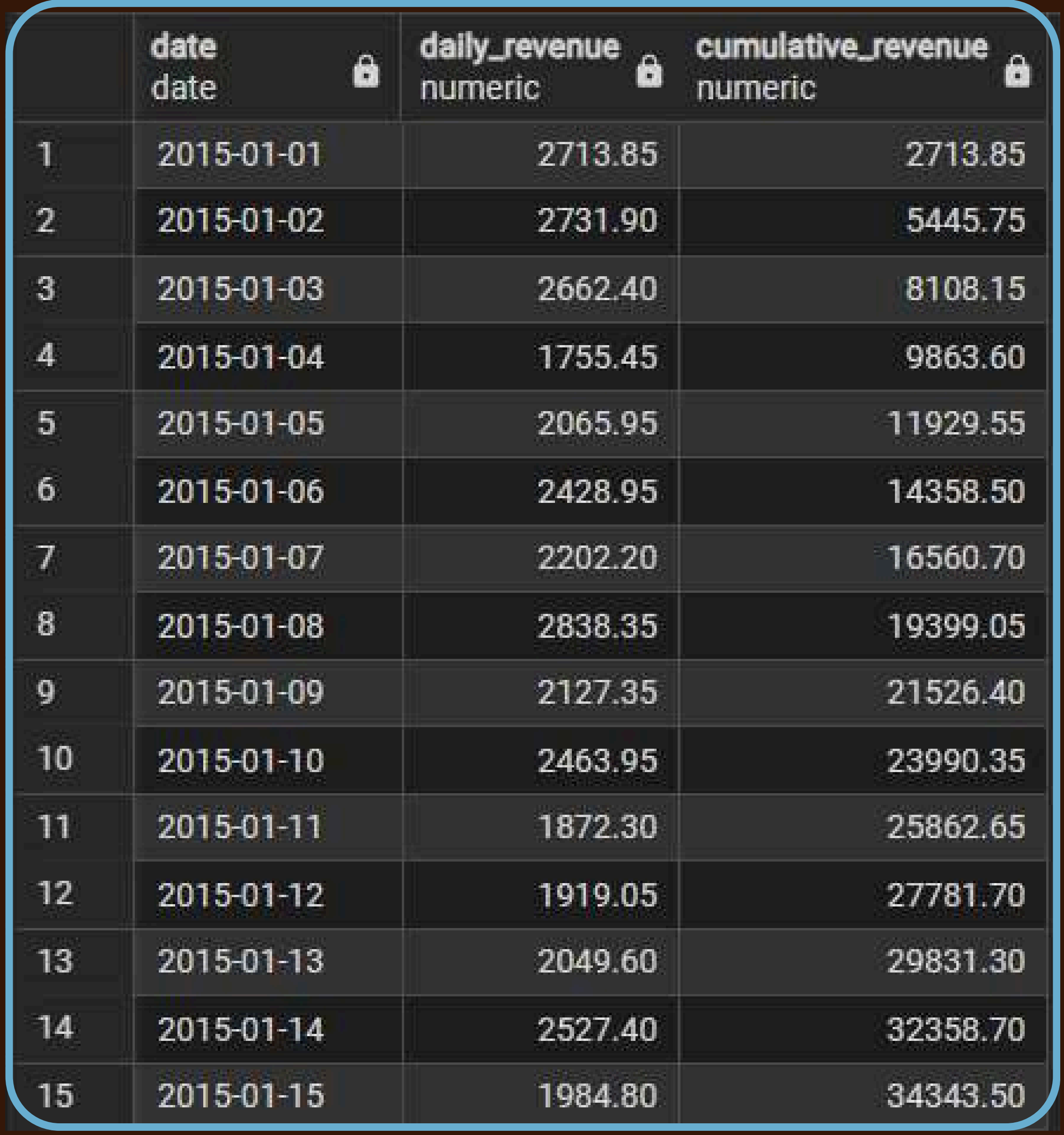
CUMULATIVE REVENUE GROWTH

Q12: Analyze the cumulative revenue generated over time.



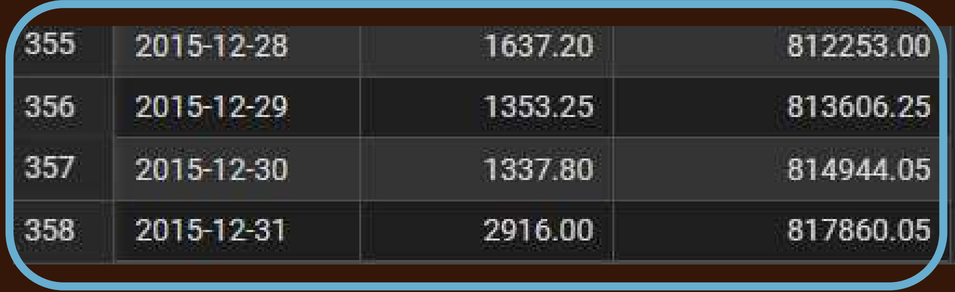
```
-- Step 1: Calculate the total revenue for each day
WITH DailyRevenue AS (
SELECT orders.date,
SUM(order_detail.quantity * pizzas.price) AS daily_revenue
FROM orders
JOIN order_detail
ON orders.order_id = order_detail.order_id
JOIN pizzas
ON order_detail.pizza_id = pizzas.pizza_id
GROUP BY orders.date
)

-- Step 2: Calculate the running total over time
SELECT date,
daily_revenue,
SUM(daily_revenue) OVER (ORDER BY date) AS cumulative_revenue
FROM DailyRevenue
ORDER BY date;
```



	date date	daily_revenue numeric	cumulative_revenue numeric
1	2015-01-01	2713.85	2713.85
2	2015-01-02	2731.90	5445.75
3	2015-01-03	2662.40	8108.15
4	2015-01-04	1755.45	9863.60
5	2015-01-05	2065.95	11929.55
6	2015-01-06	2428.95	14358.50
7	2015-01-07	2202.20	16560.70
8	2015-01-08	2838.35	19399.05
9	2015-01-09	2127.35	21526.40
10	2015-01-10	2463.95	23990.35
11	2015-01-11	1872.30	25862.65
12	2015-01-12	1919.05	27781.70
13	2015-01-13	2049.60	29831.30
14	2015-01-14	2527.40	32358.70
15	2015-01-15	1984.80	34343.50

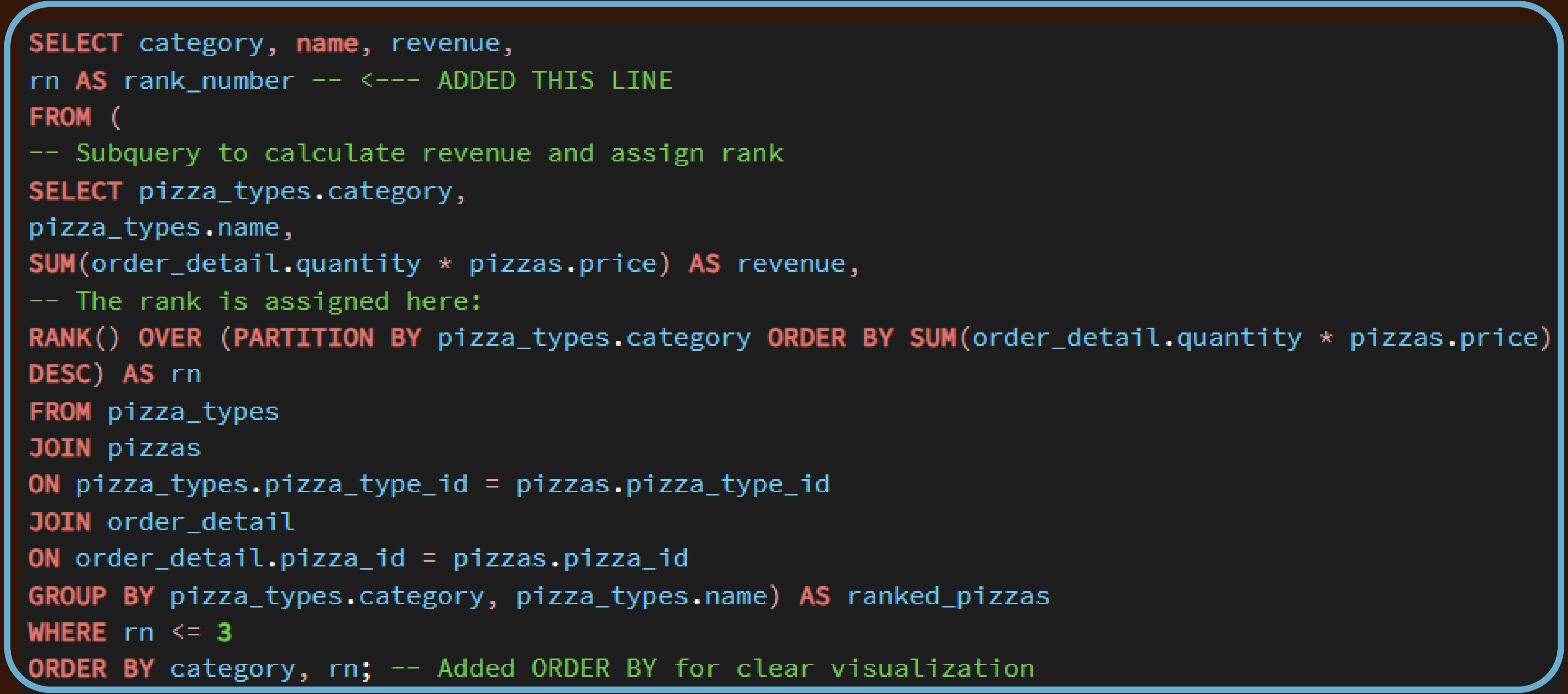
NOTE: This data represents the full sales period, ending on 2015-12-31 with a final cumulative total. Final Cumulative Revenue - $ 817,860.05



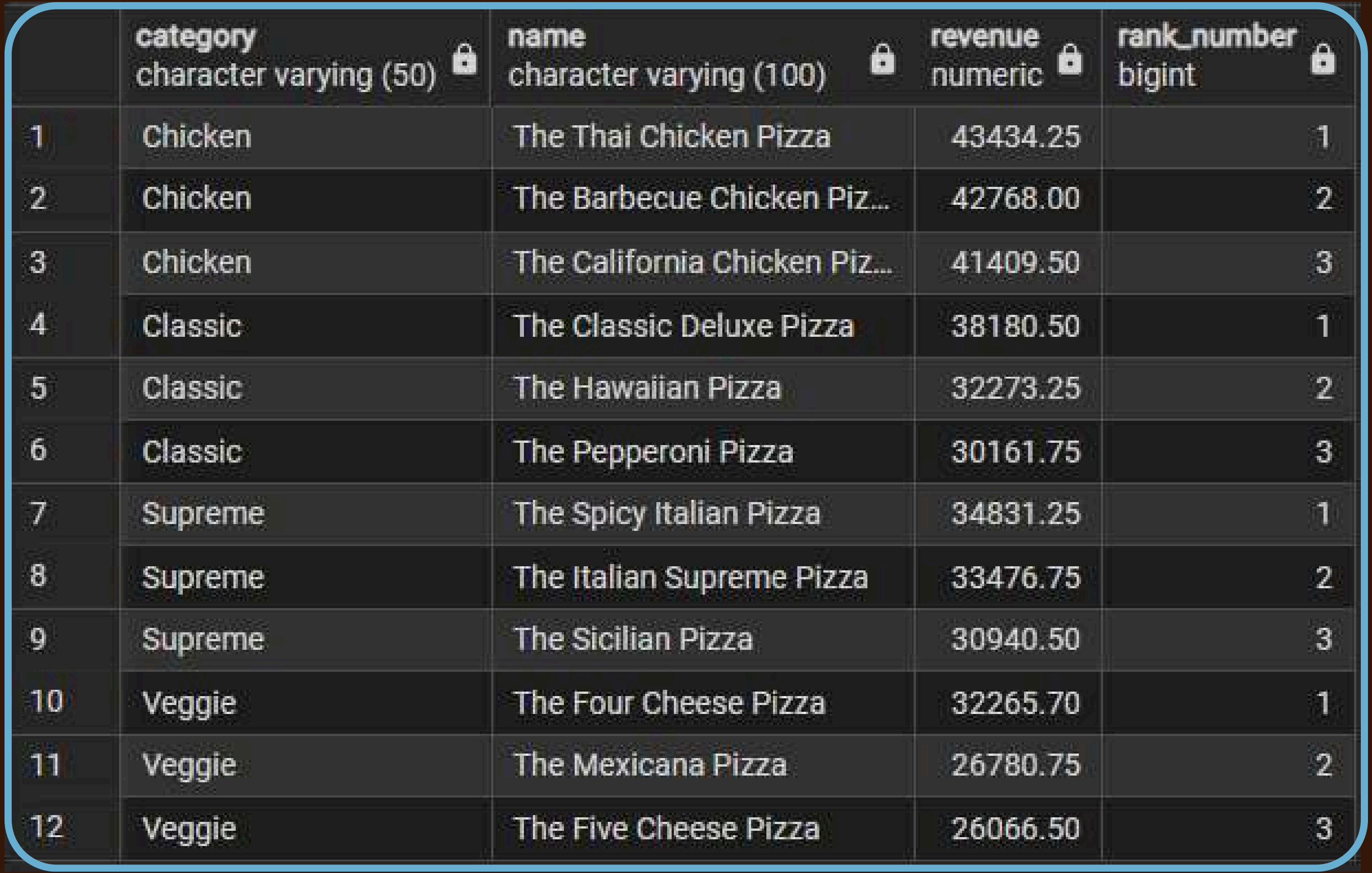
355	2015-12-28	1637.20	812253.00
356	2015-12-29	1353.25	813606.25
357	2015-12-30	1337.80	814944.05
358	2015-12-31	2916.00	817860.05

TOP 3 REVENUE DRIVERS PER CATEGORY

Q13: Determine the top 3 most ordered pizza types based on revenue for each pizza category.



```
SELECT category, name, revenue,
rn AS rank_number -- <--- ADDED THIS LINE
FROM (
-- Subquery to calculate revenue and assign rank
SELECT pizza_types.category,
pizza_types.name,
SUM(order_detail.quantity * pizzas.price) AS revenue,
-- The rank is assigned here:
RANK() OVER (PARTITION BY pizza_types.category ORDER BY SUM(order_detail.quantity * pizzas.price)
DESC) AS rn
FROM pizza_types
JOIN pizzas
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
JOIN order_detail
ON order_detail.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category, pizza_types.name) AS ranked_pizzas
WHERE rn <= 3
ORDER BY category, rn; -- Added ORDER BY for clear visualization
```



	category character varying (50)	name character varying (100)	revenue numeric	rank_number bigint
1	Chicken	The Thai Chicken Pizza	43434.25	1
2	Chicken	The Barbecue Chicken Piz...	42768.00	2
3	Chicken	The California Chicken Piz...	41409.50	3
4	Classic	The Classic Deluxe Pizza	38180.50	1
5	Classic	The Hawaiian Pizza	32273.25	2
6	Classic	The Pepperoni Pizza	30161.75	3
7	Supreme	The Spicy Italian Pizza	34831.25	1
8	Supreme	The Italian Supreme Pizza	33476.75	2
9	Supreme	The Sicilian Pizza	30940.50	3
10	Veggie	The Four Cheese Pizza	32265.70	1
11	Veggie	The Mexicana Pizza	26780.75	2
12	Veggie	The Five Cheese Pizza	26066.50	3

DATA ANALYSIS - MOHD FARHAN AGHA

THANK YOU FOR ATTENTION

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Date: 25th November 2025