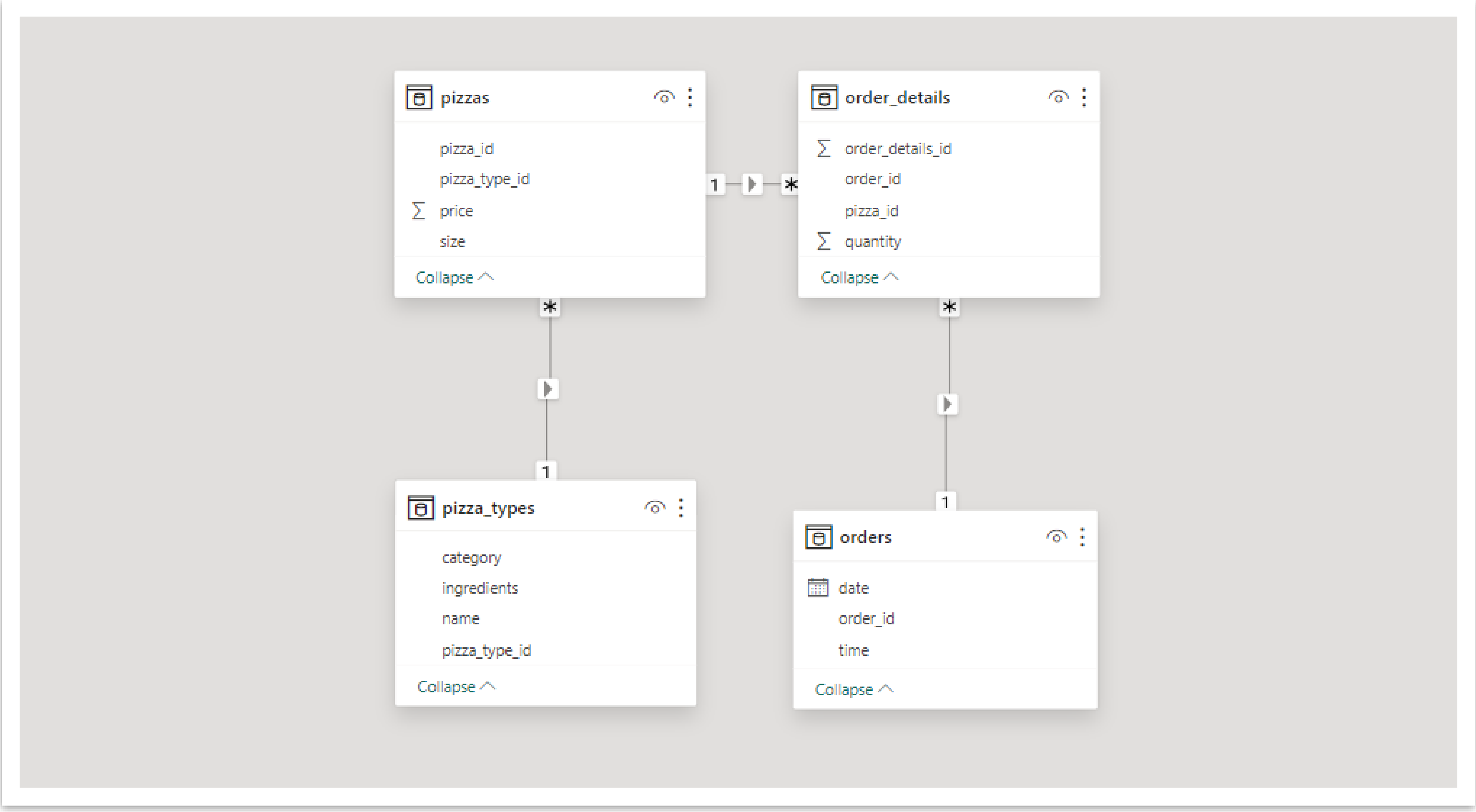
Pizza Sales Analysis Using SQL

BY DEBASISH BORA

Introduction

Hello to everyone, I'm Debasish Bora, and I'd like to welcome you to my presentation on the analysis of pizza sales using SQL. Throughout this presentation, I will highlight the key findings from my analysis, demonstrate how SQL was used to extract valuable insights, and discuss the potential business implications of these findings. So, let's get started and explore how data analysis can transform pizza sales strategies!

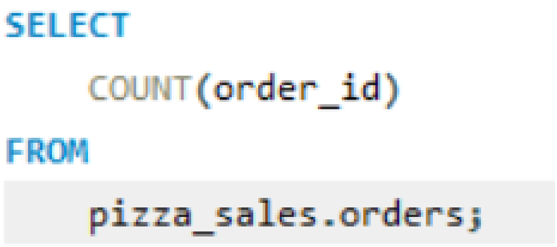
Model View of the Dataset



Let's begin our analysis with the help of some questions.

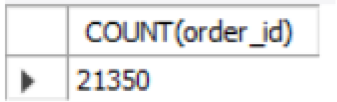
Retrieve the total number of orders placed

Query



```
SELECT
    COUNT(order_id)
FROM
    pizza_sales.orders;
```

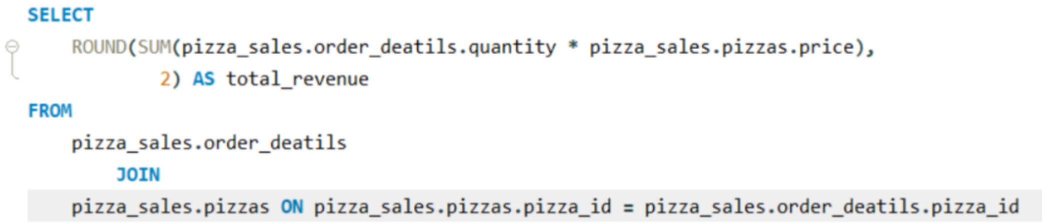
Outcome



	COUNT(order_id)
▶	21350

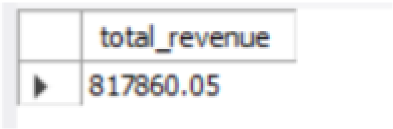
Calculate the total revenue generated from pizza sales

Query



```sql
SELECT
    ROUND(SUM(pizza_sales.order_deatils.quantity * pizza_sales.pizzas.price),
            2) AS total_revenue
FROM
    pizza_sales.order_deatils
        JOIN
    pizza_sales.pizzas ON pizza_sales.pizzas.pizza_id = pizza_sales.order_deatils.pizza_id
```

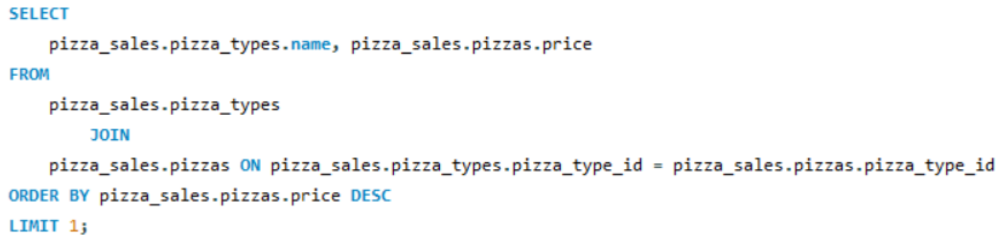
Outcome



	total_revenue
▶	817860.05

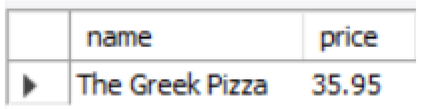
Identify the highest-priced pizza

Query



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

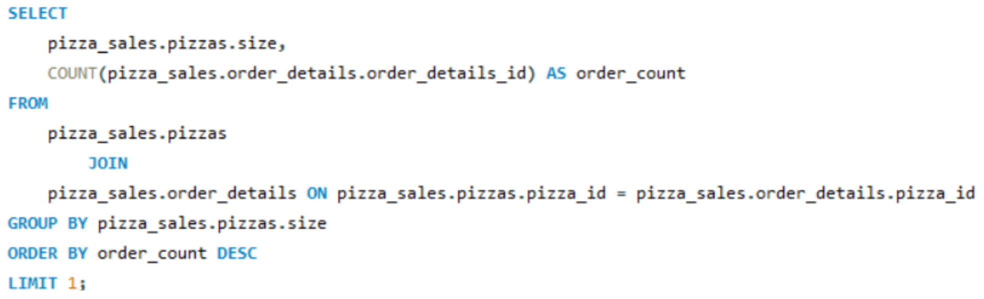
Outcome



name	price
The Greek Pizza	35.95

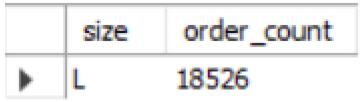
Identify the most common pizza size ordered

Query



```
SELECT
    pizza_sales.pizzas.size,
    COUNT(pizza_sales.order_details.order_details_id) AS order_count
FROM
    pizza_sales.pizzas
        JOIN
    pizza_sales.order_details ON pizza_sales.pizzas.pizza_id = pizza_sales.order_details.pizza_id
GROUP BY pizza_sales.pizzas.size
ORDER BY order_count DESC
LIMIT 1;
```

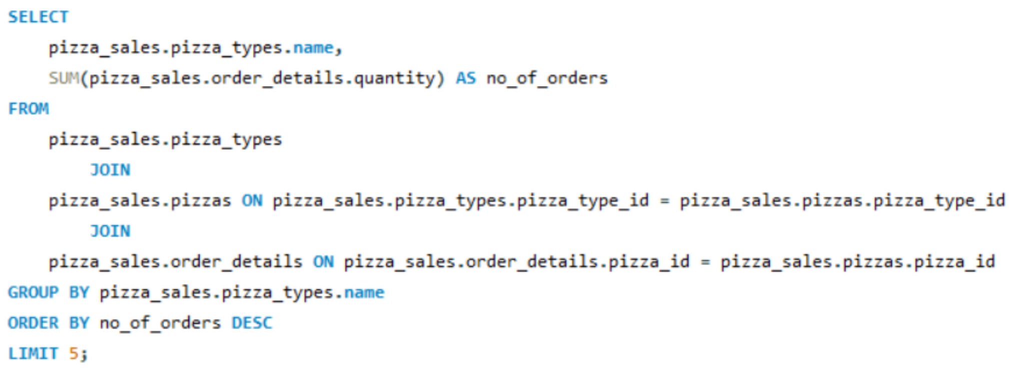
Outcome



	size	order_count
▶	L	18526

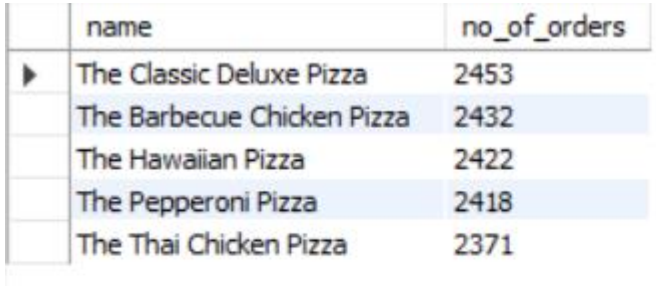
List the top 5 most ordered pizza types along with their quantities

Query



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

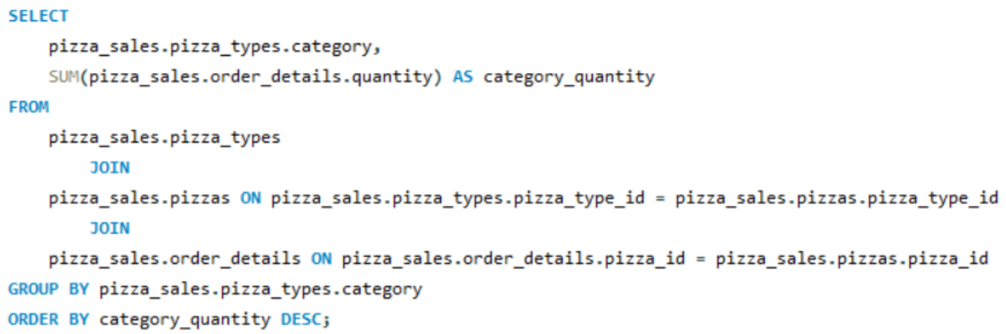
Outcome



name	no_of_orders
The Classic Deluxe Pizza	2453
The Barbecue Chicken Pizza	2432
The Hawaiian Pizza	2422
The Pepperoni Pizza	2418
The Thai Chicken Pizza	2371

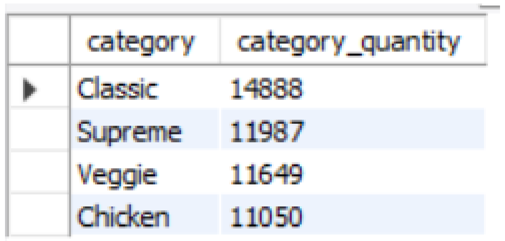
Join the necessary tables to find the total quantity of each pizza category ordered

Query



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

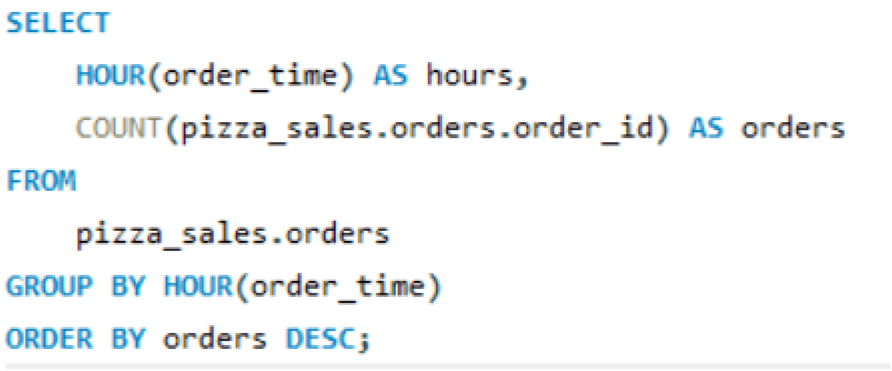
Outcome



	category	category_quantity
▶	Classic	14888
	Supreme	11987
	Veggie	11649
	Chicken	11050

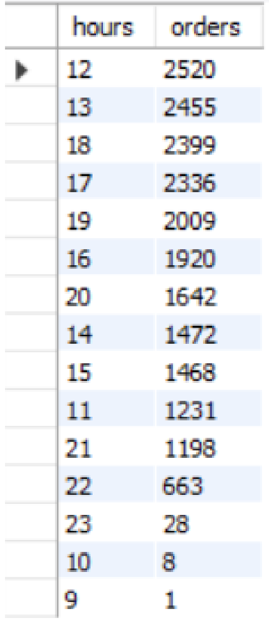
Determine the distribution of orders by hour of the day

Query



```
SELECT
    HOUR(order_time) AS hours,
    COUNT(pizza_sales.orders.order_id) AS orders
FROM
    pizza_sales.orders
GROUP BY HOUR(order_time)
ORDER BY orders DESC;
```

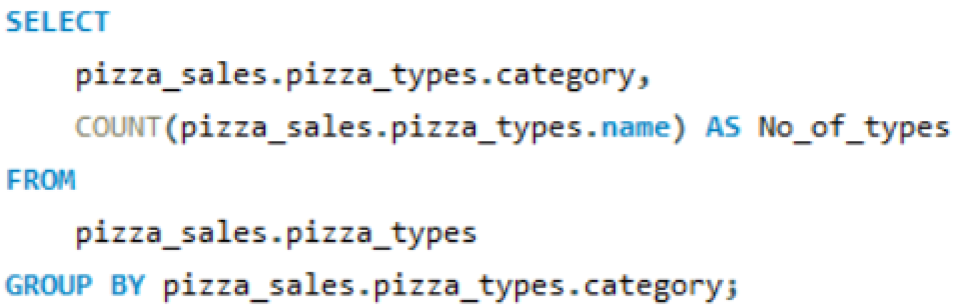
Outcome



hours	orders
12	2520
13	2455
18	2399
17	2336
19	2009
16	1920
20	1642
14	1472
15	1468
11	1231
21	1198
22	663
23	28
10	8
9	1

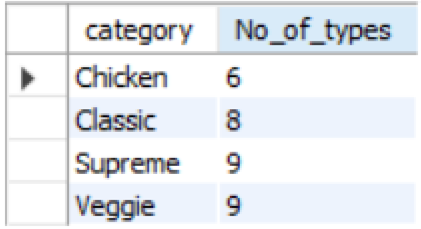
Join relevant tables to find the category-wise distribution of pizzas

Query



```
SELECT
    pizza_sales.pizza_types.category,
    COUNT(pizza_sales.pizza_types.name) AS No_of_types
FROM
    pizza_sales.pizza_types
GROUP BY pizza_sales.pizza_types.category;
```

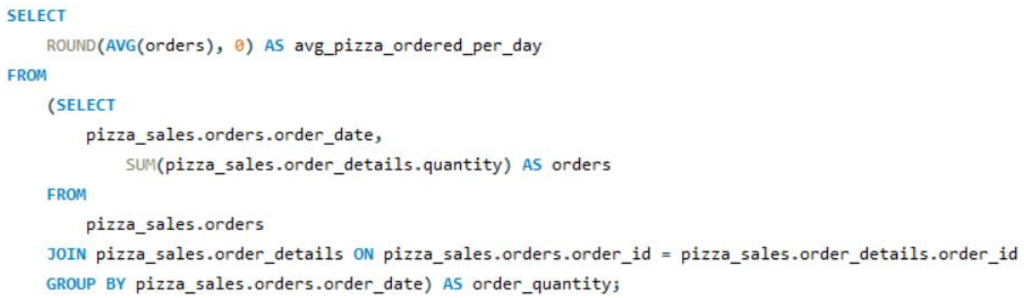
Outcome



	category	No_of_types
▶	Chicken	6
	Classic	8
	Supreme	9
	Veggie	9

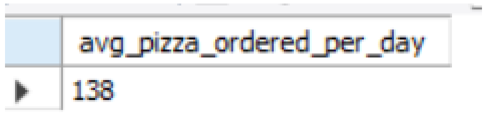
Group the orders by date and calculate the average number of pizzas ordered per day

Query



```
SELECT
    ROUND(AVG(orders), 0) AS avg_pizza_ordered_per_day
FROM
    (SELECT
        pizza_sales.orders.order_date,
            SUM(pizza_sales.order_details.quantity) AS orders
    FROM
        pizza_sales.orders
    JOIN pizza_sales.order_details ON pizza_sales.orders.order_id = pizza_sales.order_details.order_id
    GROUP BY pizza_sales.orders.order_date) AS order_quantity;
```

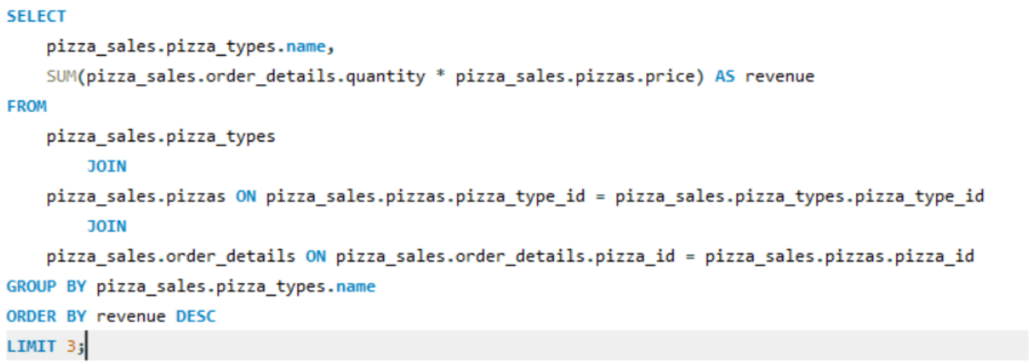
Outcome



avg_pizza_ordered_per_day
138

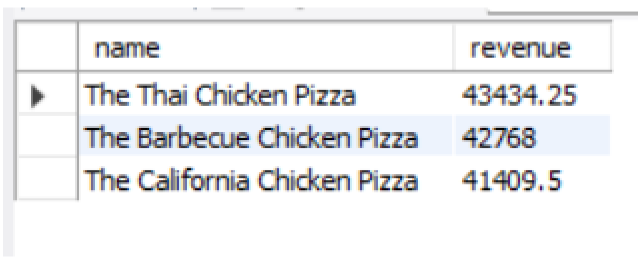
Determine the top 3 most ordered pizza types based on revenue

Query



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

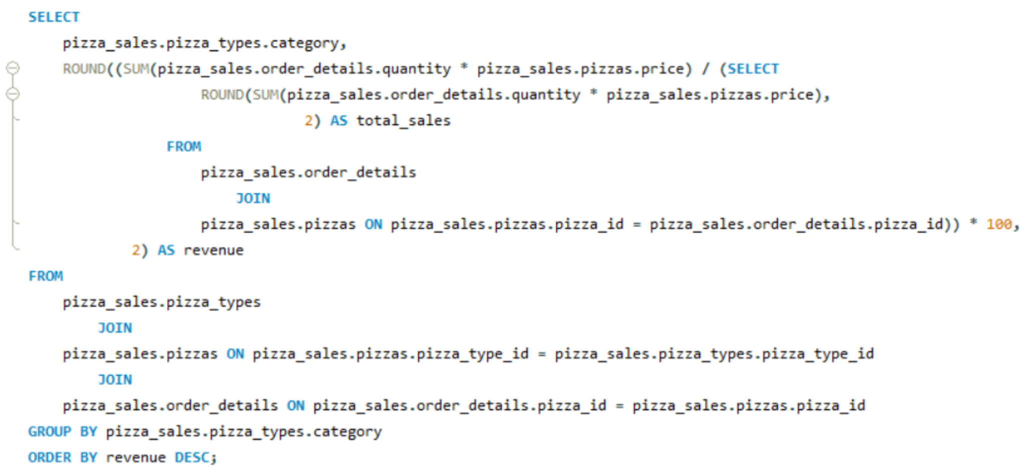
Outcome



name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

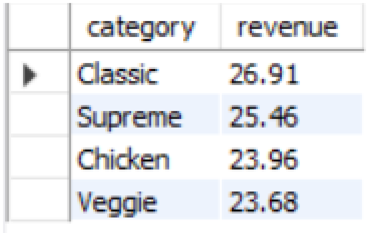
Calculate the percentage contribution of each pizza type to total revenue

Query



```
SELECT
    pizza_sales.pizza_types.category,
    ROUND((SUM(pizza_sales.order_details.quantity * pizza_sales.pizzas.price) / (SELECT
                    ROUND(SUM(pizza_sales.order_details.quantity * pizza_sales.pizzas.price),
                                2) AS total_sales
                FROM
                    pizza_sales.order_details
                        JOIN
                    pizza_sales.pizzas ON pizza_sales.pizzas.pizza_id = pizza_sales.order_details.pizza_id)) * 100,
            2) AS revenue
FROM
    pizza_sales.pizza_types
        JOIN
    pizza_sales.pizzas ON pizza_sales.pizzas.pizza_type_id = pizza_sales.pizza_types.pizza_type_id
        JOIN
    pizza_sales.order_details ON pizza_sales.order_details.pizza_id = pizza_sales.pizzas.pizza_id
GROUP BY pizza_sales.pizza_types.category
ORDER BY revenue DESC;
```

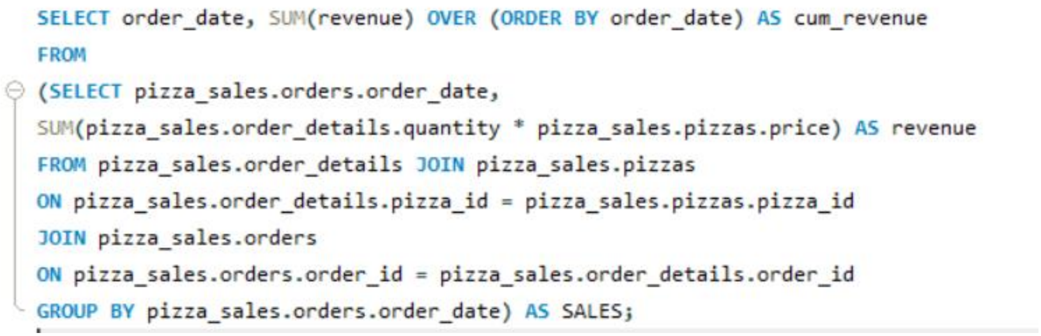
Outcome



category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

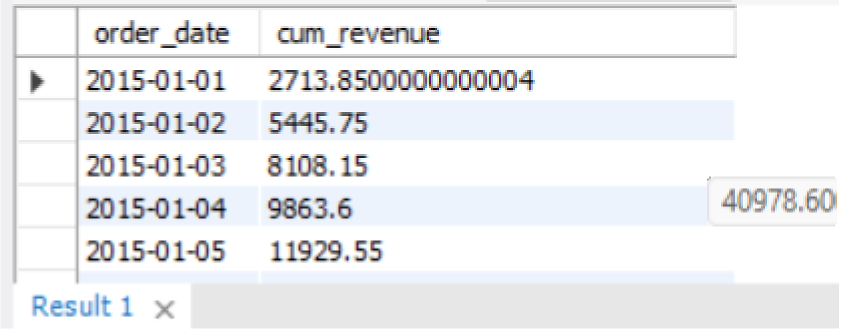
Analyze the cumulative revenue generated over time

Query



```
SELECT order_date, SUM(revenue) OVER (ORDER BY order_date) AS cum_revenue
FROM
(SELECT pizza_sales.orders.order_date,
SUM(pizza_sales.order_details.quantity * pizza_sales.pizzas.price) AS revenue
FROM pizza_sales.order_details JOIN pizza_sales.pizzas
ON pizza_sales.order_details.pizza_id = pizza_sales.pizzas.pizza_id
JOIN pizza_sales.orders
ON pizza_sales.orders.order_id = pizza_sales.order_details.order_id
GROUP BY pizza_sales.orders.order_date) AS SALES;
```

Outcome

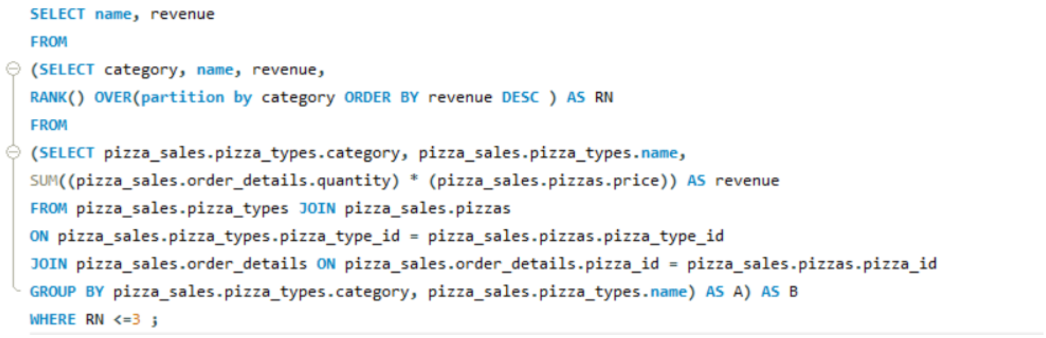


order_date	cum_revenue
2015-01-01	2713.8500000000004
2015-01-02	5445.75
2015-01-03	8108.15
2015-01-04	9863.6
2015-01-05	11929.55

40978.60

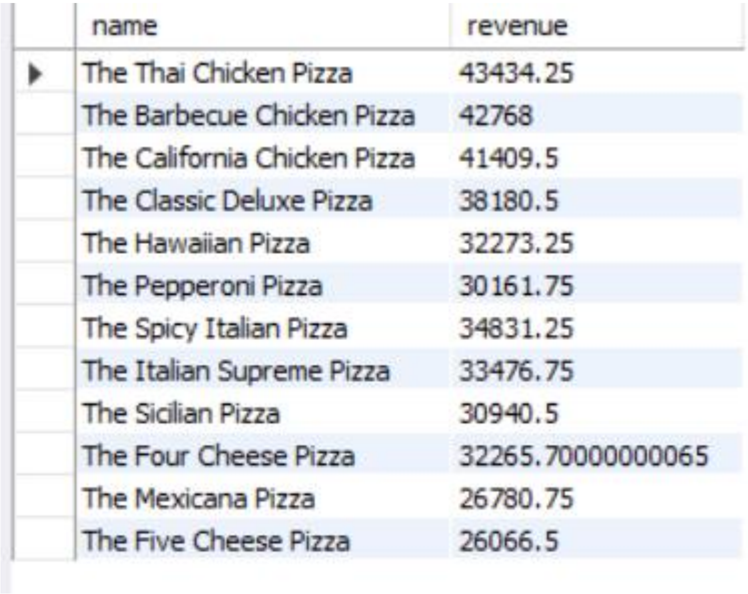
Determine the top 3 most ordered pizza types based on revenue for each pizza category

Query



```
SELECT name, revenue
FROM
(SELECT category, name, revenue,
RANK() OVER(partition by category ORDER BY revenue DESC ) AS RN
FROM
(SELECT pizza_sales.pizza_types.category, pizza_sales.pizza_types.name,
SUM((pizza_sales.order_details.quantity) * (pizza_sales.pizzas.price)) AS revenue
FROM pizza_sales.pizza_types JOIN pizza_sales.pizzas
ON pizza_sales.pizza_types.pizza_type_id = pizza_sales.pizzas.pizza_type_id
JOIN pizza_sales.order_details ON pizza_sales.order_details.pizza_id = pizza_sales.pizzas.pizza_id
GROUP BY pizza_sales.pizza_types.category, pizza_sales.pizza_types.name) AS A) AS B
WHERE RN <=3 ;
```

Outcome



name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5
The Classic Deluxe Pizza	38180.5
The Hawaiian Pizza	32273.25
The Pepperoni Pizza	30161.75
The Spicy Italian Pizza	34831.25
The Italian Supreme Pizza	33476.75
The Sicilian Pizza	30940.5
The Four Cheese Pizza	32265.70000000065
The Mexicana Pizza	26780.75
The Five Cheese Pizza	26066.5

Thank You