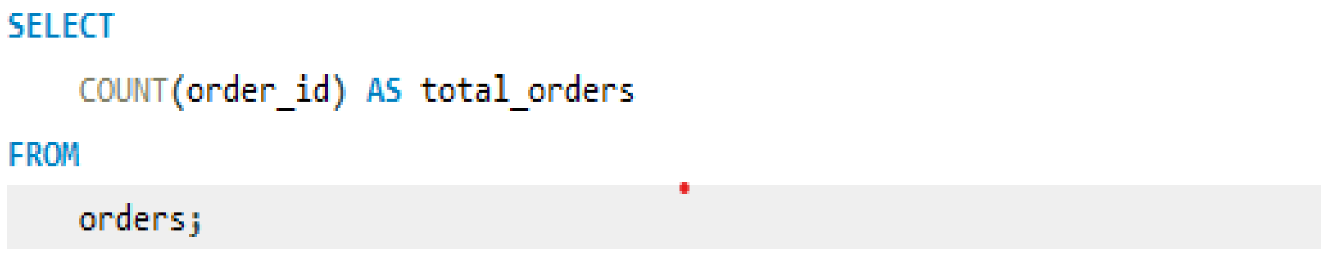
Pizza Sales Project Using SQL

Here I have analysed various trends from pizza sales data such as total sales, average sales per day and so on.

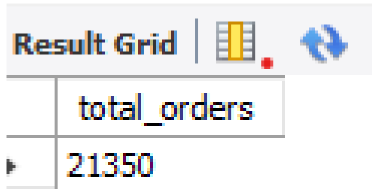
Introduction

- The Pizza Sales Data Analysis project focuses on examining sales performance and customer purchasing patterns for a fictional pizza restaurant using Structured Query Language (SQL). The primary objective of this analysis is to extract valuable business insights that can guide decision-making in areas such as inventory management, marketing strategies, and menu optimization.
- This project demonstrates how SQL can be effectively used to clean, manipulate, and analyze relational data stored in a database, offering a practical example of how data analytics can drive operational improvements in the food and beverage industry.

Q-1) Retrieve the total number of orders placed.

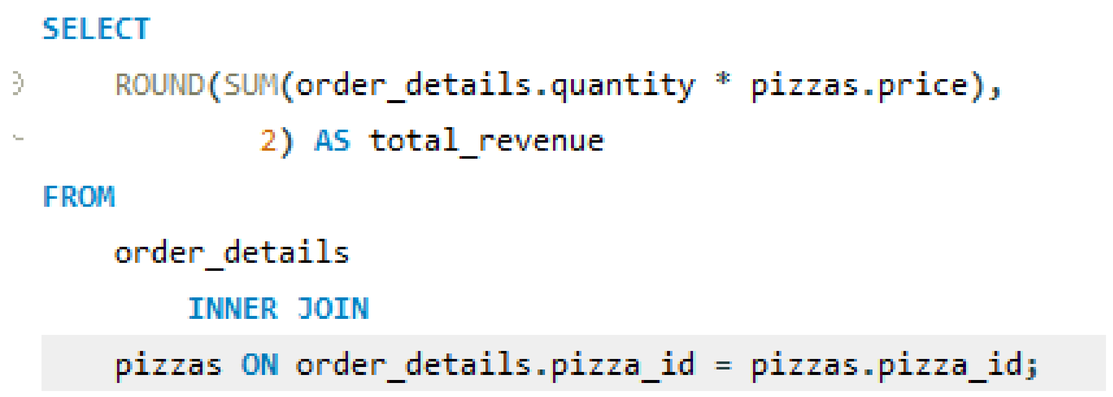


```
SELECT
    COUNT(order_id) AS total_orders
FROM
    orders;
```

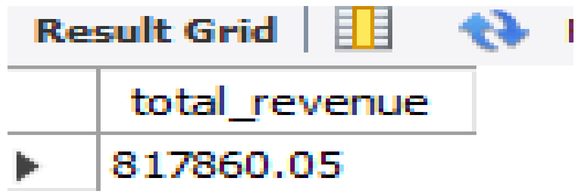


```
Result Grid
total_orders
21350
```

Q-2) Calculate the total revenue generated from pizza sales.

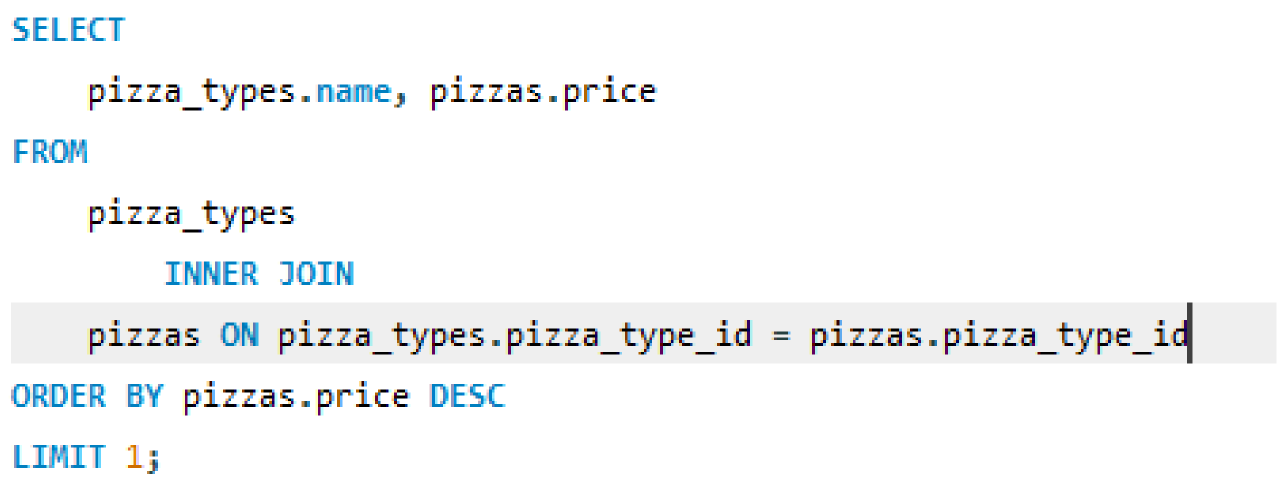


```
SELECT
    ROUND(SUM(order_details.quantity * pizzas.price),
            2) AS total_revenue
FROM
    order_details
        INNER JOIN
    pizzas ON order_details.pizza_id = pizzas.pizza_id;
```

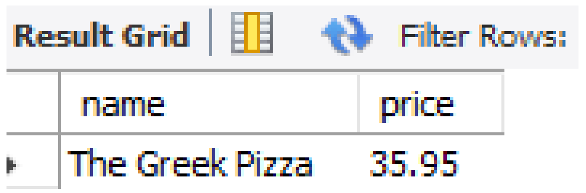


```
total_revenue
817860.05
```

Q-3) Identify the highest-priced pizza.

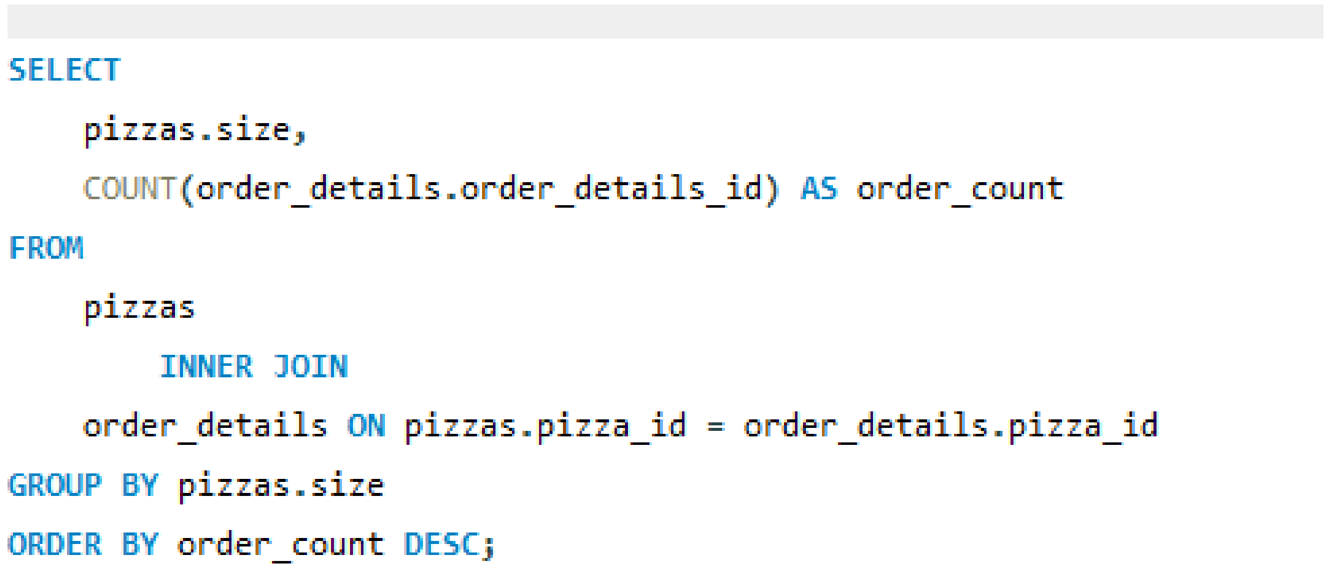


```sql
SELECT
    pizza_types.name, pizzas.price
FROM
    pizza_types
        INNER JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
ORDER BY pizzas.price DESC
LIMIT 1;
```

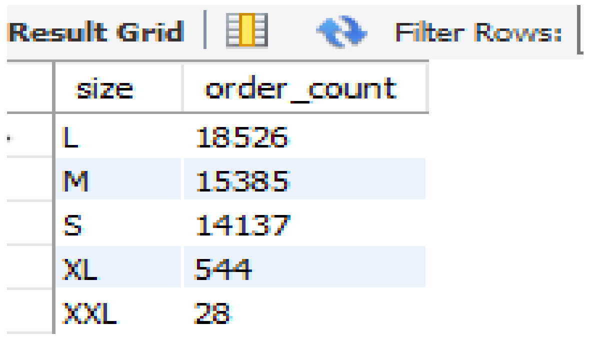


name	price
The Greek Pizza	35.95

Q-4) Identify the most common pizza size ordered.



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

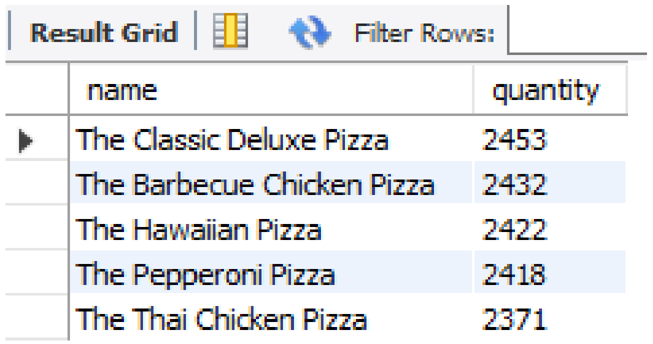


Result Grid | Filter Rows:

size	order_count
L	18526
M	15385
S	14137
XL	544
XXL	28

Q-5) List the top 5 most ordered pizza types along with their quantities.

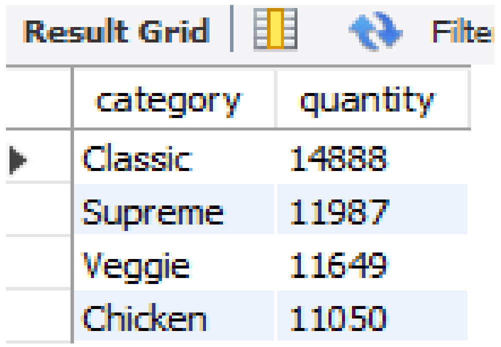
```sql
SELECT
    pizza_types.name, SUM(order_details.quantity) AS quantity
FROM
    pizza_types
        INNER JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        INNER JOIN
    order_details ON pizzas.pizza_id = order_details.pizza_id
GROUP BY pizza_types.name
ORDER BY quantity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



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

Q-6) Join the necessary tables to find the total quantity of each pizza category ordered.

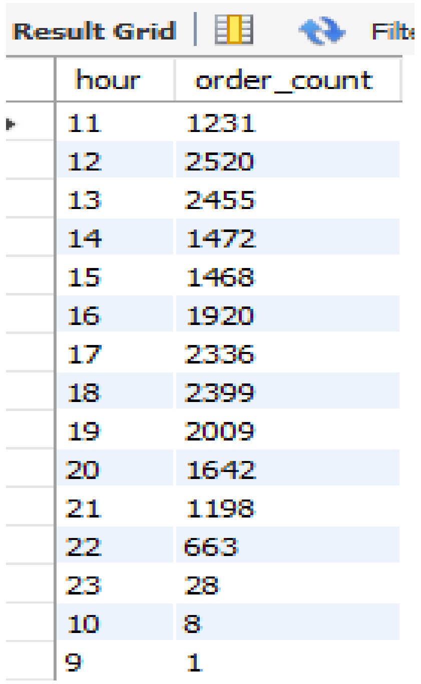
```
SELECT
    pizza_types.category,
    SUM(order_details.quantity) AS quantity
FROM
    pizza_types
        INNER JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        INNER JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category
ORDER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



category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

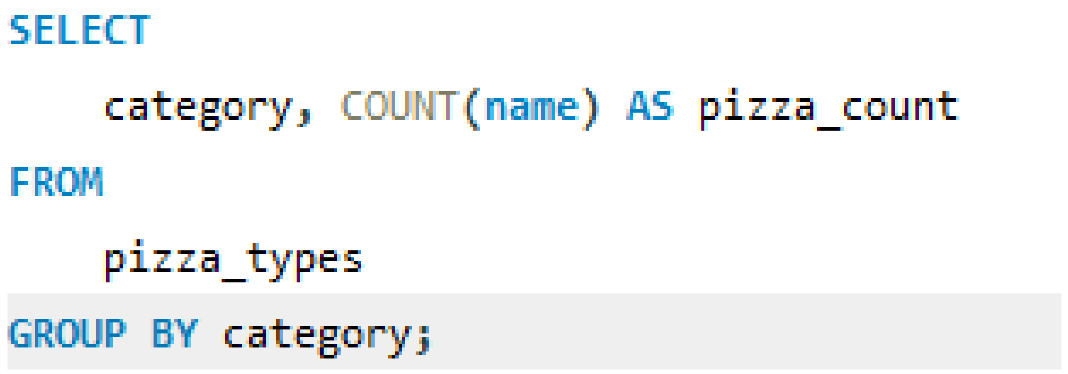
Q-7) Determine the distribution of orders by hour of the day.

```
SELECT
    HOUR(order_time) AS hour, COUNT(order_id) AS order_count
FROM
    orders
GROUP BY hour;
```

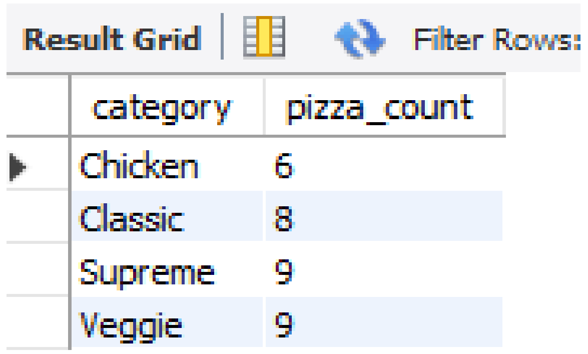


hour	order_count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336
18	2399
19	2009
20	1642
21	1198
22	663
23	28
10	8
9	1

Q-8) Join relevant tables to find the category-wise distribution of pizzas.



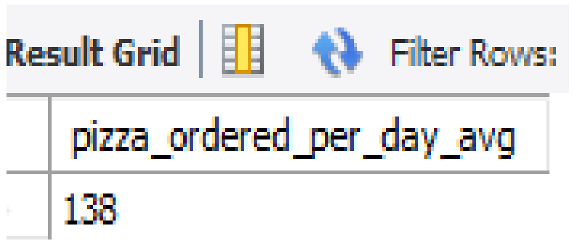
```
SELECT
    category, COUNT(name) AS pizza_count
FROM
    pizza_types
GROUP BY category;
```



category	pizza_count
Chicken	6
Classic	8
Supreme	9
Veggie	9

Q-9) Group the orders by date and calculate the average number of pizzas ordered per day.

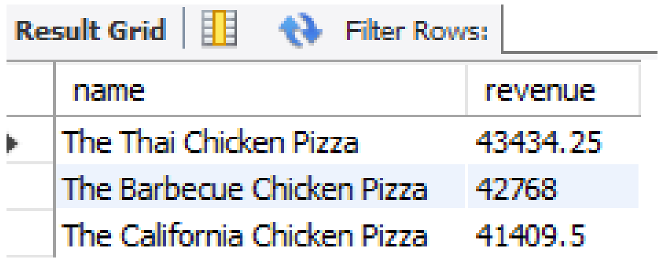
```sql
SELECT
    ROUND(AVG(quantity), 0) AS pizza_ordered_per_day_avg
FROM
    (SELECT
        orders.order_date, SUM(order_details.quantity) AS quantity
    FROM
        orders
    INNER JOIN order_details ON orders.order_id = order_details.order_id
    GROUP BY orders.order_date) AS qunatity_ordered;
```



```
pizza_ordered_per_day_avg
138
```

Q-10) Determine the top 3 most ordered pizza types based on revenue.

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

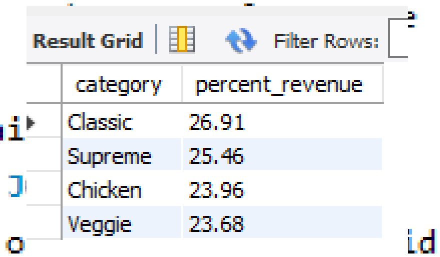

Result Grid | Filter Rows:

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

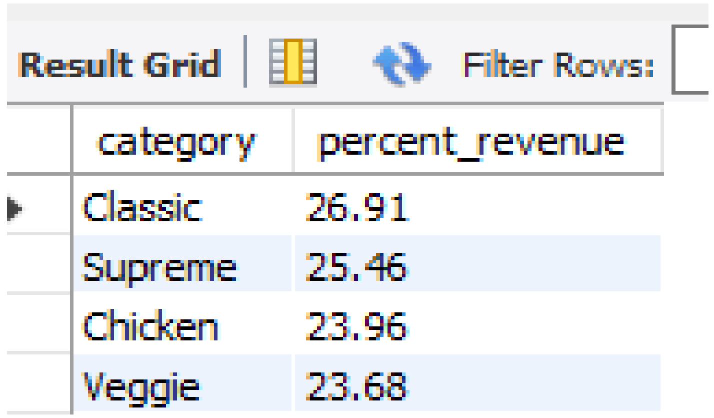
Q-11) Calculate the percentage contribution of each pizza type to total revenue.

```
SELECT
    pizza_types.category,
    ROUND(SUM(order_details.quantity * pizzas.price) / (SELECT
                ROUND(SUM(order_details.quantity * pizzas.price),

            FROM
                order_detai
                    INNER J
                pizzas ON o                       id = pizzas.pizza_id) * 100,
            2) AS percent_revenue
FROM
    pizza_types
        INNER JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        INNER JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category
ORDER BY percent_revenue DESC;
```

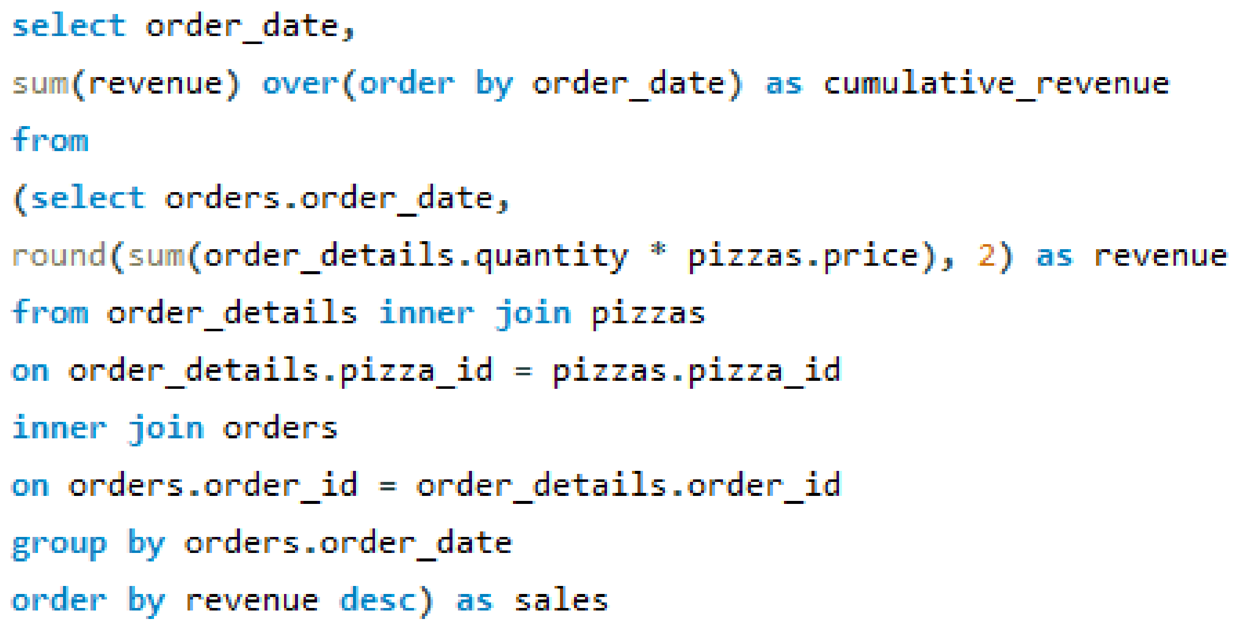


category	percent_revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

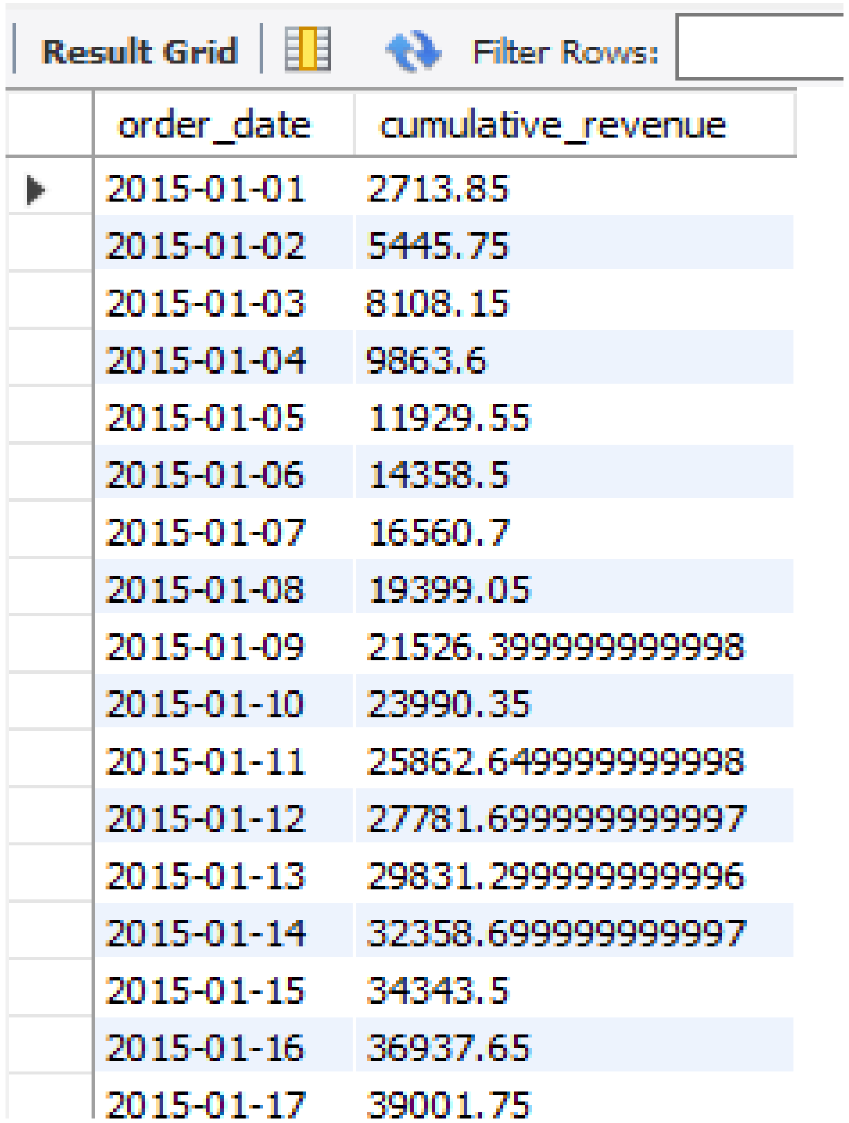


category	percent_revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

Q-12) Analyze the cumulative revenue generated over time.



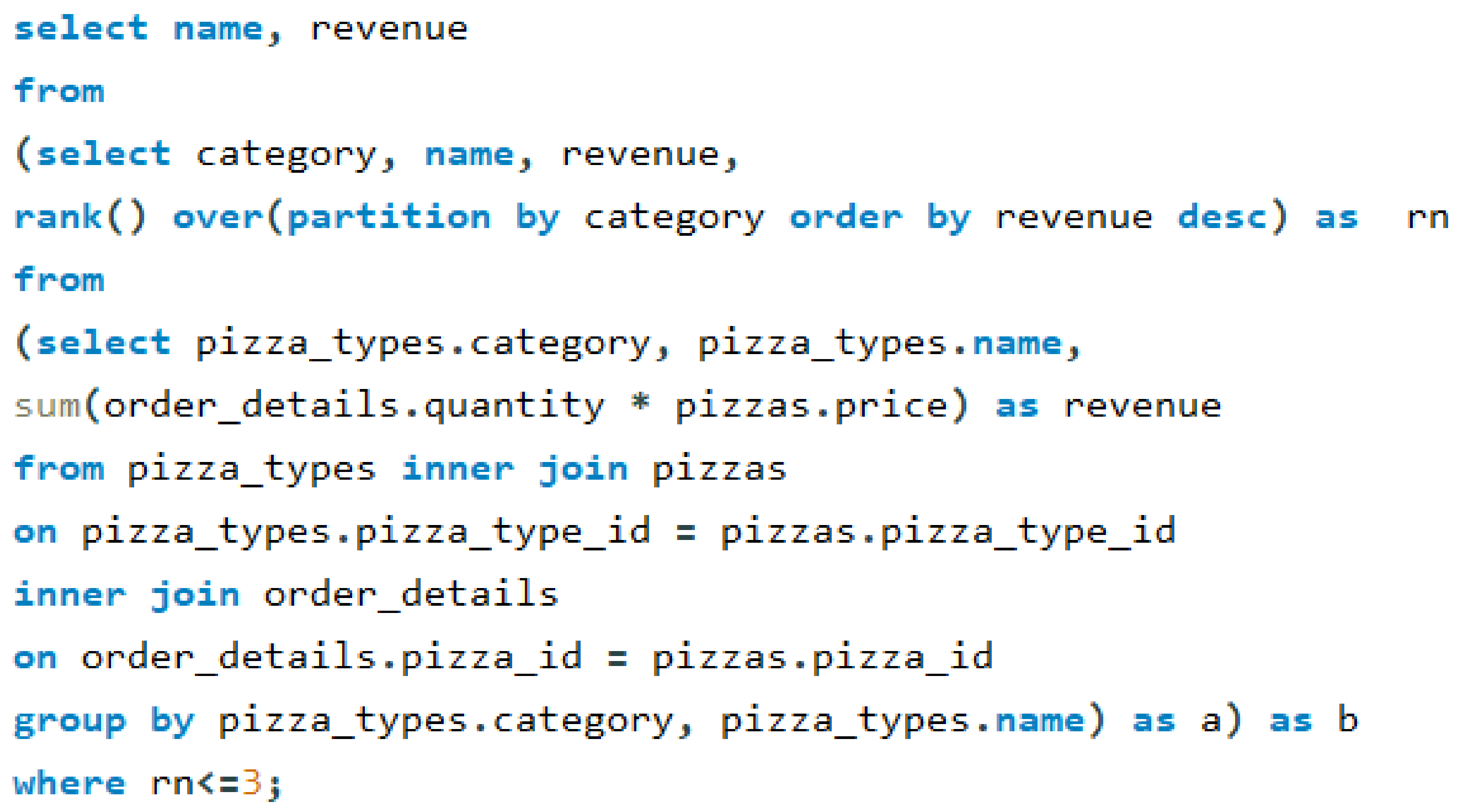
```sql
select order_date,
sum(revenue) over(order by order_date) as cumulative_revenue
from
(select orders.order_date,
round(sum(order_details.quantity * pizzas.price), 2) as revenue
from order_details inner join pizzas
on order_details.pizza_id = pizzas.pizza_id
inner join orders
on orders.order_id = order_details.order_id
group by orders.order_date
order by revenue desc) as sales
```



Result Grid | Filter Rows:

order_date	cumulative_revenue
2015-01-01	2713.85
2015-01-02	5445.75
2015-01-03	8108.15
2015-01-04	9863.6
2015-01-05	11929.55
2015-01-06	14358.5
2015-01-07	16560.7
2015-01-08	19399.05
2015-01-09	21526.399999999998
2015-01-10	23990.35
2015-01-11	25862.649999999998
2015-01-12	27781.699999999997
2015-01-13	29831.299999999996
2015-01-14	32358.699999999997
2015-01-15	34343.5
2015-01-16	36937.65
2015-01-17	39001.75

Q-13) Determine the top 3 most ordered pizza types based on revenue for each pizza category.



```sql
select name, revenue
from
(select category, name, revenue,
rank() over(partition by category order by revenue desc) as  rn
from
(select pizza_types.category, pizza_types.name,
sum(order_details.quantity * pizzas.price) as revenue
from pizza_types inner join pizzas
on pizza_types.pizza_type_id = pizzas.pizza_type_id
inner join order_details
on order_details.pizza_id = pizzas.pizza_id
group by pizza_types.category, pizza_types.name) as a) as b
where rn<=3;
```

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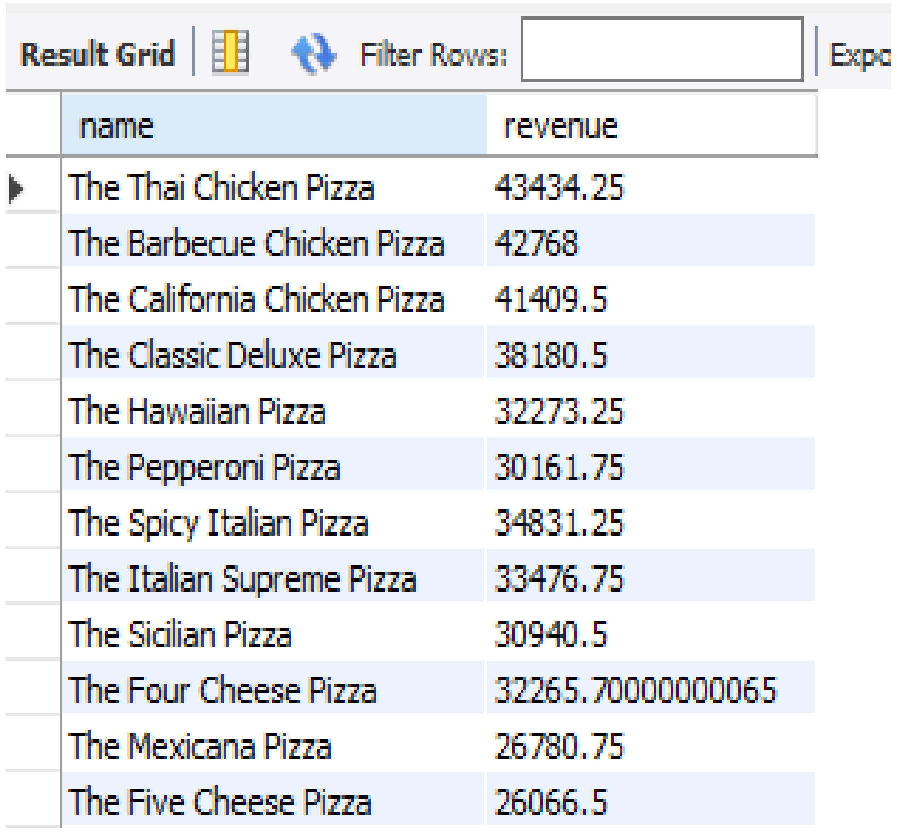

name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5
The Classic Deluxe Pizza	38180.5
The Hawaiian Pizza	32273.25
The Pepperoni Pizza	30161.75
The Spicy Italian Pizza	34831.25
The Italian Supreme Pizza	33476.75
The Sicilian Pizza	30940.5
The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