PIZZA SALES ANALYSIS - SQL PROJECT

Analyzing Sales Data for Insights and Trends

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Introduction

OBJECTIVE:

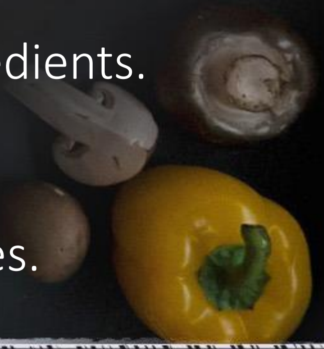
Purpose of the Project:

•To analyze pizza sales data using SQL queries.

•To generate insights on orders, revenue, and popular pizza trends.

Data Sources:

- Pizza Types:
  - Details of various pizza types, their categories, and ingredients.
- Pizzas:
  - Information about different pizzas, their sizes, and prices.

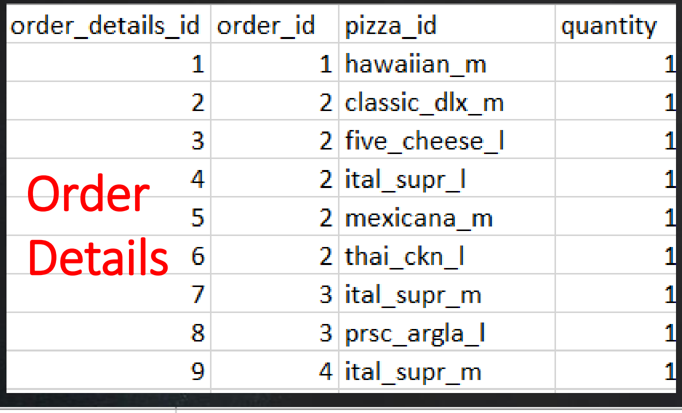


Orders:

Records of pizza orders including order IDs, dates, and details of the pizzas ordered.

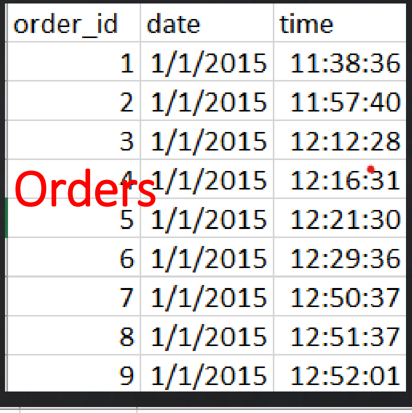
Order Details:

Records of order ID ,pizza ordered and quantity



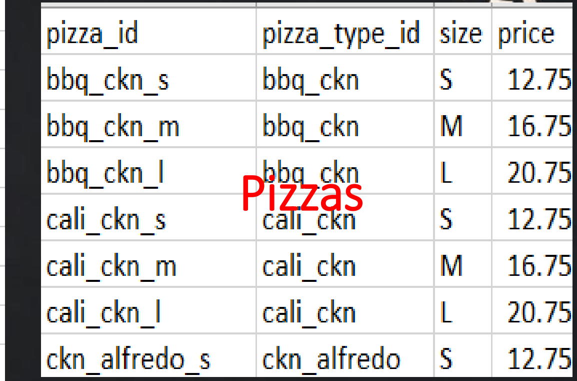
Order Details

order_details_id	order_id	pizza_id	quantity
1	1	hawaiian_m	1
2	2	classic_dlx_m	1
3	2	five_cheese_l	1
4	2	ital_supr_l	1
5	2	mexicana_m	1
6	2	thai_ckn_l	1
7	3	ital_supr_m	1
8	3	prsc_argla_l	1
9	4	ital_supr_m	1



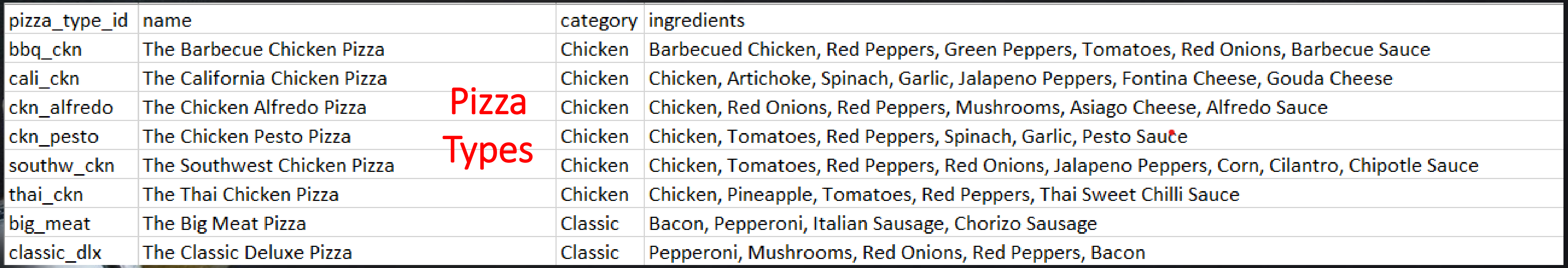
Orders

order_id	date	time
1	1/1/2015	11:38:36
2	1/1/2015	11:57:40
3	1/1/2015	12:12:28
4	1/1/2015	12:16:31
5	1/1/2015	12:21:30
6	1/1/2015	12:29:36
7	1/1/2015	12:50:37
8	1/1/2015	12:51:37
9	1/1/2015	12:52:01



Pizzas

pizza_id	pizza_type_id	size	price
bbq_ckn_s	bbq_ckn	S	12.75
bbq_ckn_m	bbq_ckn	M	16.75
bbq_ckn_l	bbq_ckn	L	20.75
cali_ckn_s	cali_ckn	S	12.75
cali_ckn_m	cali_ckn	M	16.75
cali_ckn_l	cali_ckn	L	20.75
ckn_alfredo_s	ckn_alfredo	S	12.75



Pizza Types

pizza_type_id	name	category	ingredients
bbq_ckn	The Barbecue Chicken Pizza	Chicken	Barbecued Chicken, Red Peppers, Green Peppers, Tomatoes, Red Onions, Barbecue Sauce
cali_ckn	The California Chicken Pizza	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese
ckn_alfredo	The Chicken Alfredo Pizza	Chicken	Chicken, Red Onions, Red Peppers, Mushrooms, Asiago Cheese, Alfredo Sauce
ckn_pesto	The Chicken Pesto Pizza	Chicken	Chicken, Tomatoes, Red Peppers, Spinach, Garlic, Pesto Sauce
southw_ckn	The Southwest Chicken Pizza	Chicken	Chicken, Tomatoes, Red Peppers, Red Onions, Jalapeno Peppers, Corn, Cilantro, Chipotle Sauce
thai_ckn	The Thai Chicken Pizza	Chicken	Chicken, Pineapple, Tomatoes, Red Peppers, Thai Sweet Chilli Sauce
big_meat	The Big Meat Pizza	Classic	Bacon, Pepperoni, Italian Sausage, Chorizo Sausage
classic_dlx	The Classic Deluxe Pizza	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppers, Bacon

Key Metrics and Insights

Total Orders:

Calculating the total number of orders placed.

Revenue Analysis:

Calculating total revenue and identifying revenue trends.

Popular Pizzas:

- Identifying the highest-priced pizza and the most common pizza size.
- Listing the top 5 most ordered pizza types.

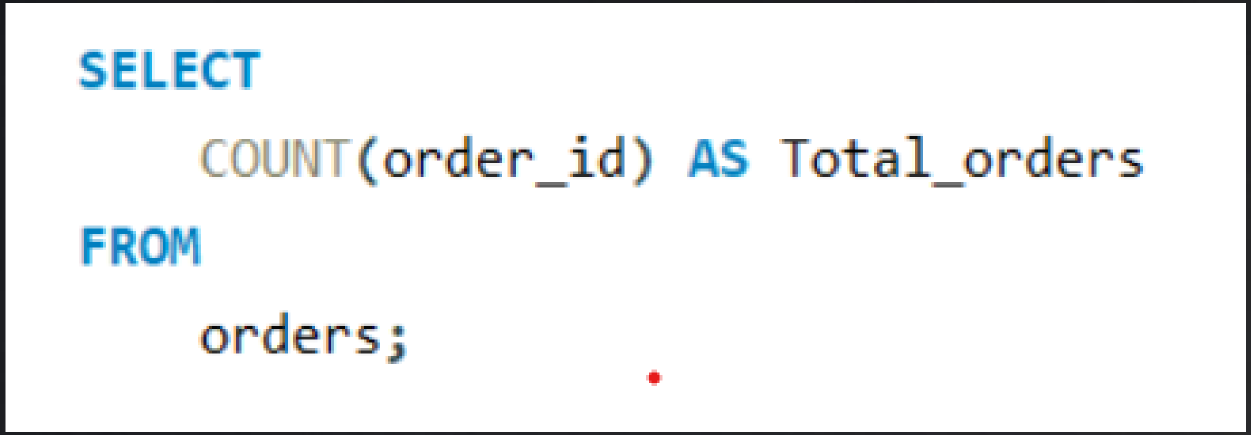
Category Analysis:

- Analyzing the quantity of each pizza category ordered.
- Distribution of orders by hour and category.

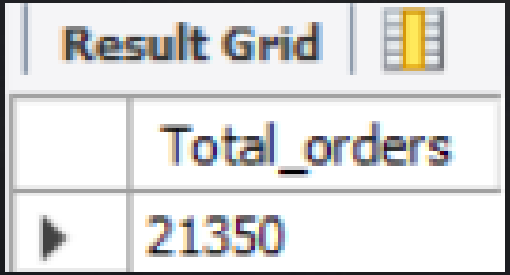
Advanced Metrics:

- Percentage contribution of each pizza type to total revenue.
- Cumulative revenue over time.
- Top pizzas based on revenue by category.

Retrieve the total number of orders placed

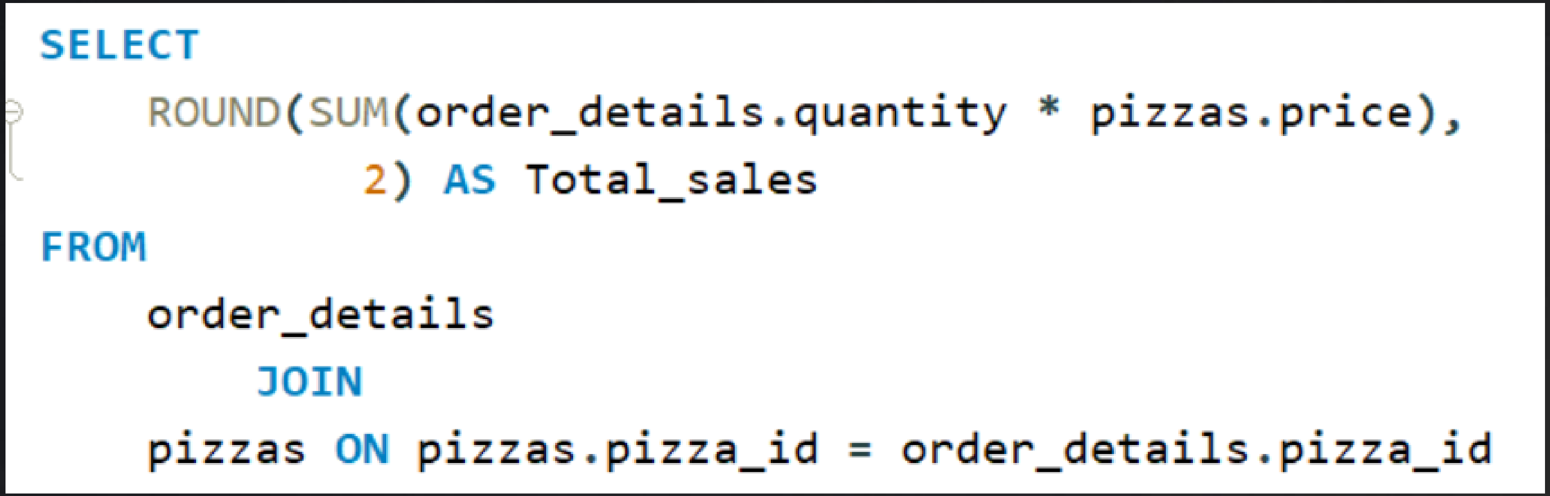


```
SELECT
    COUNT(order_id) AS Total_orders
FROM
    orders;
```

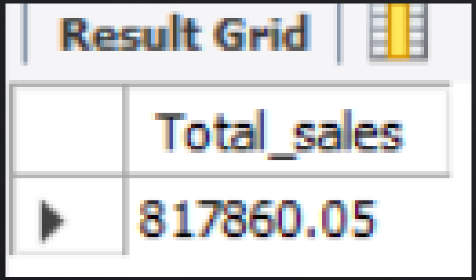


Total_orders
21350

Calculate the total revenue generated from pizza sales

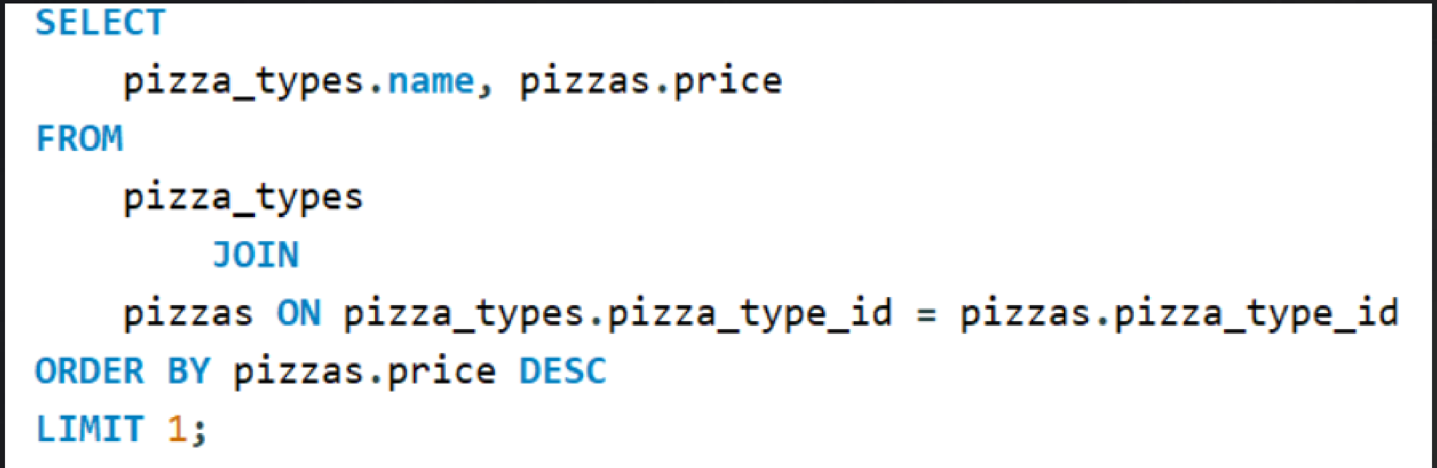


```
SELECT
    ROUND(SUM(order_details.quantity * pizzas.price),
            2) AS Total_sales
FROM
    order_details
        JOIN
    pizzas ON pizzas.pizza_id = order_details.pizza_id
```

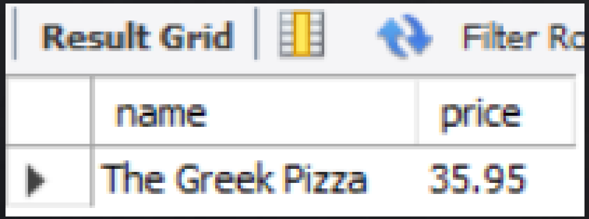


	Total_sales
▶	817860.05

Identify the highest-priced pizza

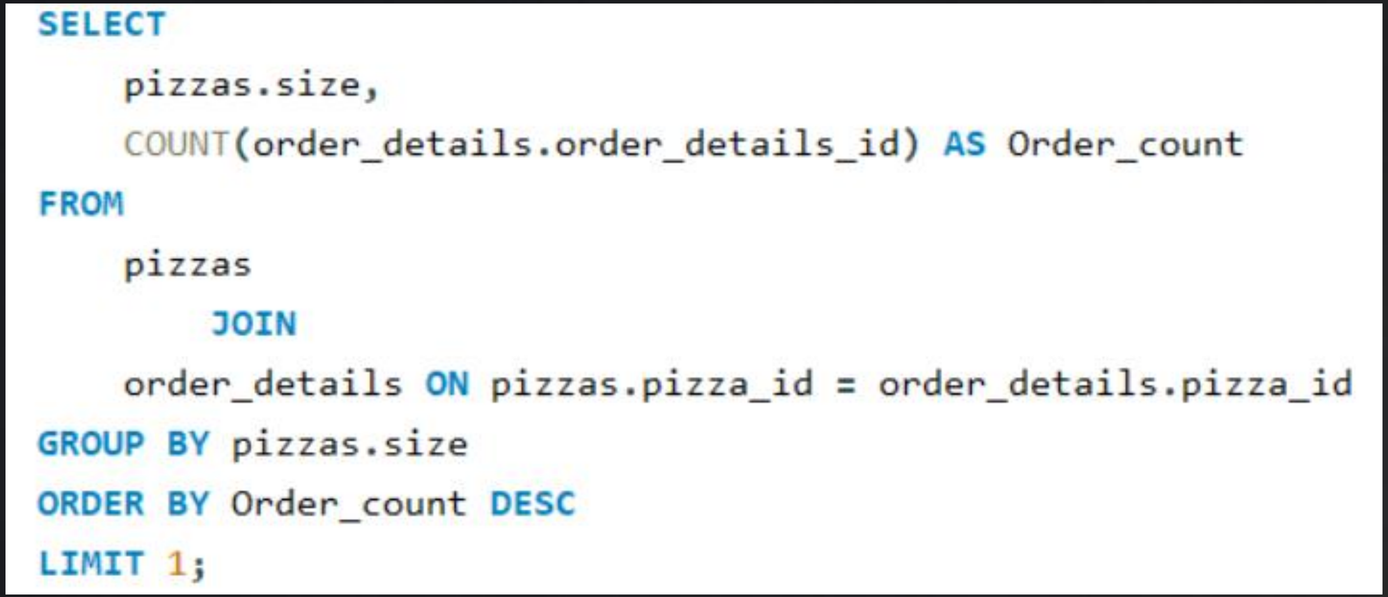


```
SELECT
    pizza_types.name, pizzas.price
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
ORDER BY pizzas.price DESC
LIMIT 1;
```

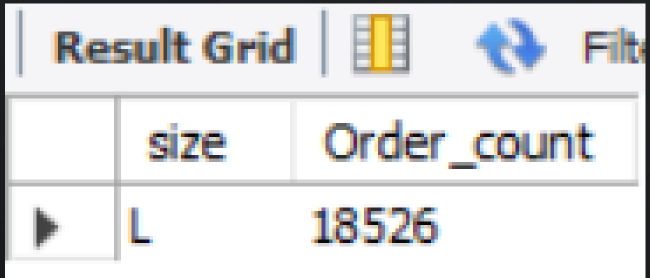


name	price
The Greek Pizza	35.95

Identify the most common pizza size ordered

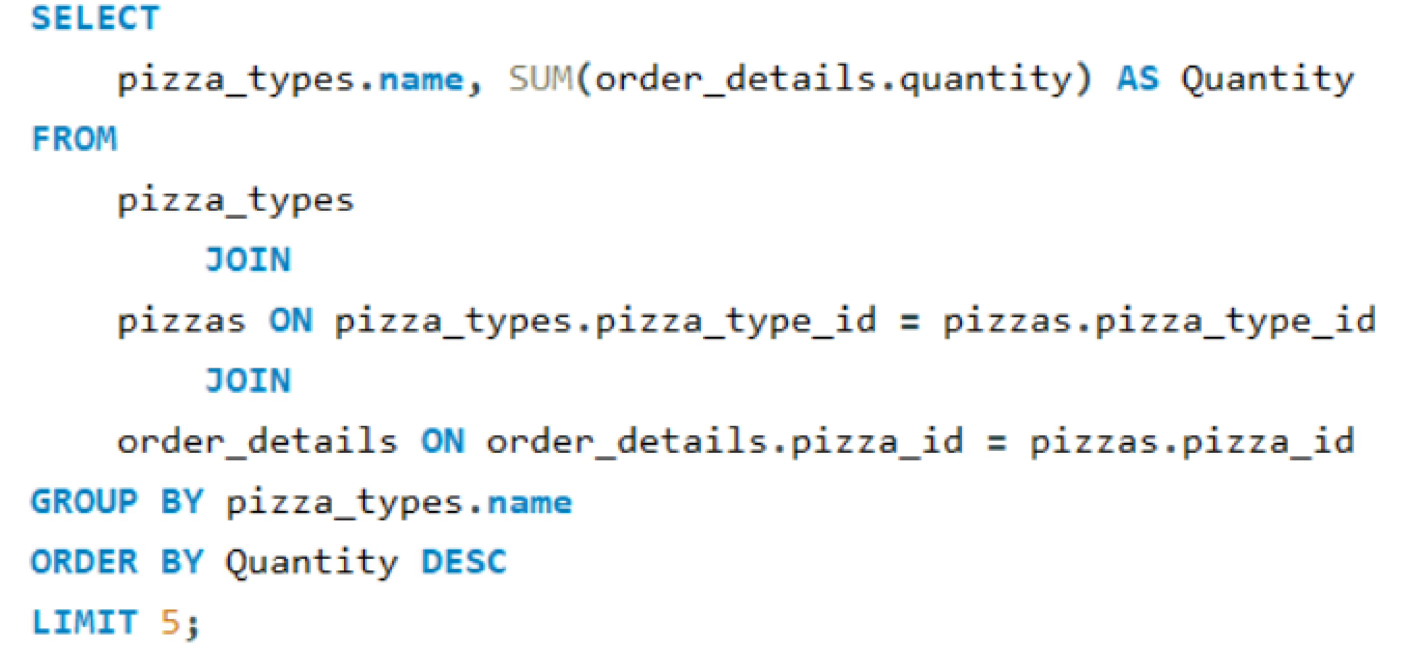


```
SELECT
    pizzas.size,
    COUNT(order_details.order_details_id) AS Order_count
FROM
    pizzas
        JOIN
    order_details ON pizzas.pizza_id = order_details.pizza_id
GROUP BY pizzas.size
ORDER BY Order_count DESC
LIMIT 1;
```

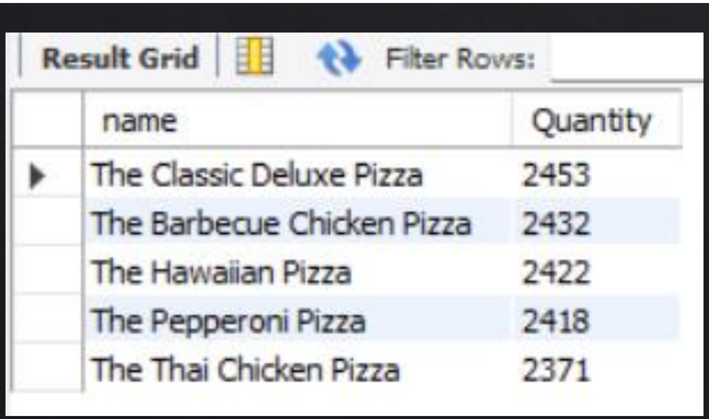


size	Order_count
L	18526

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

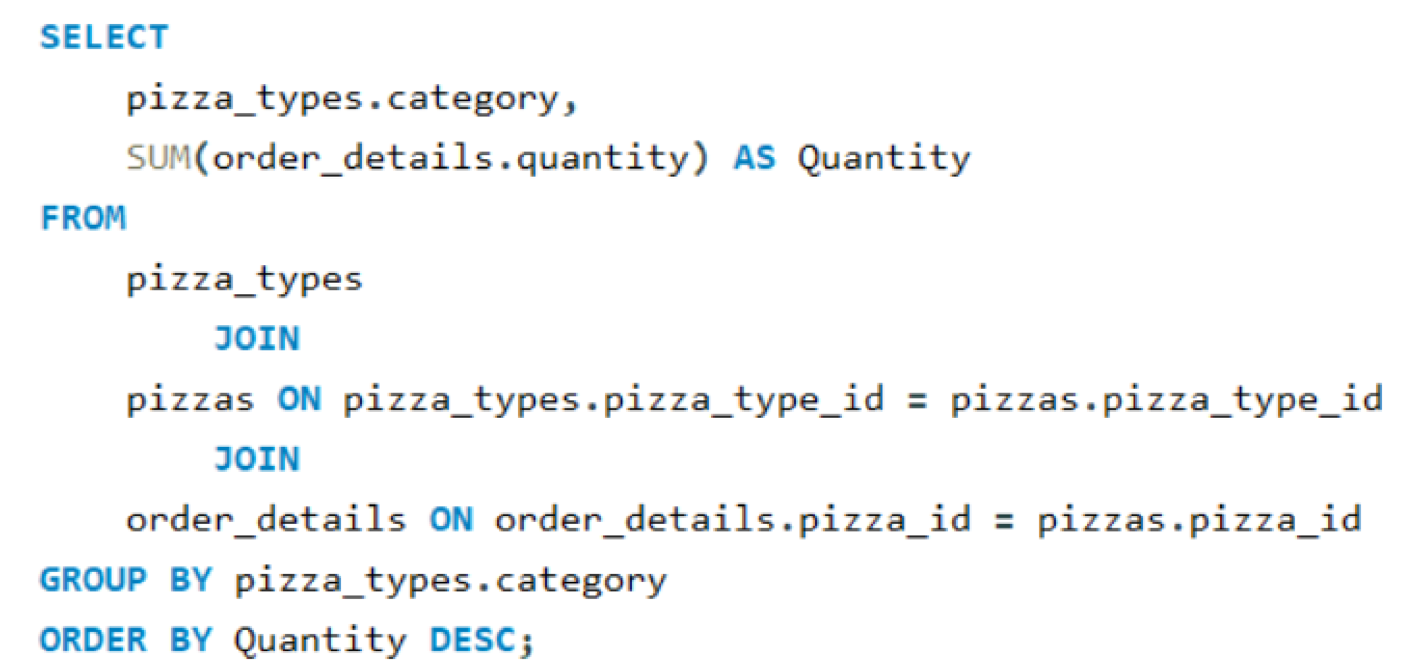


```
SELECT
    pizza_types.name, SUM(order_details.quantity) AS Quantity
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY Quantity DESC
LIMIT 5;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

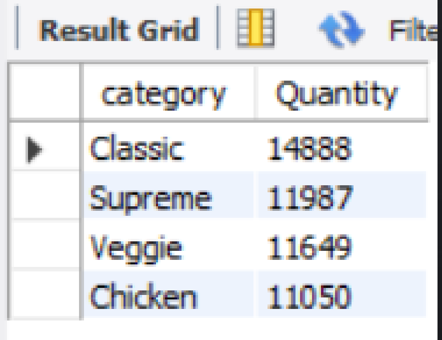


name	Quantity
The Classic Deluxe Pizza	2453
The Barbecue Chicken Pizza	2432
The Hawaiian Pizza	2422
The Pepperoni Pizza	2418
The Thai Chicken Pizza	2371

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

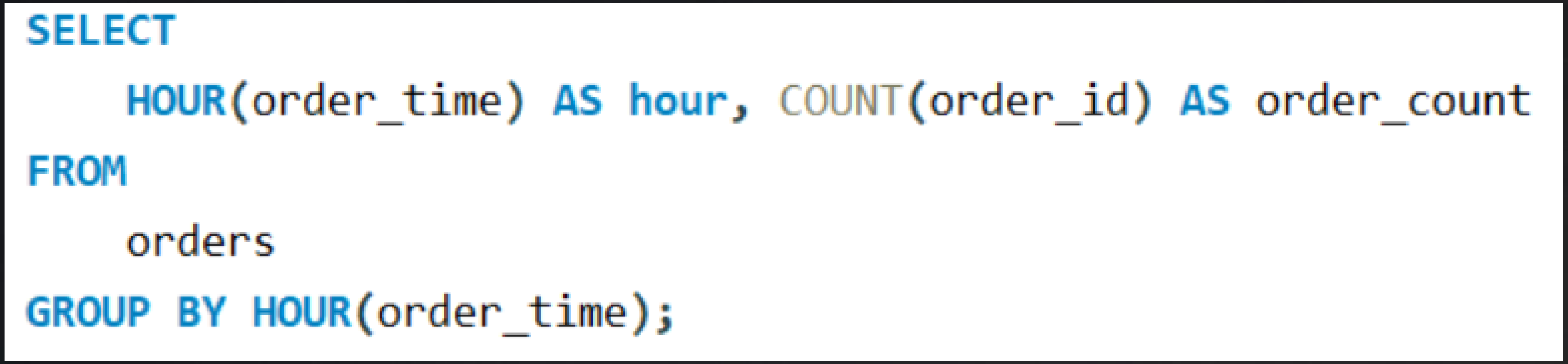


```
SELECT
    pizza_types.category,
    SUM(order_details.quantity) AS Quantity
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category
ORDER BY Quantity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

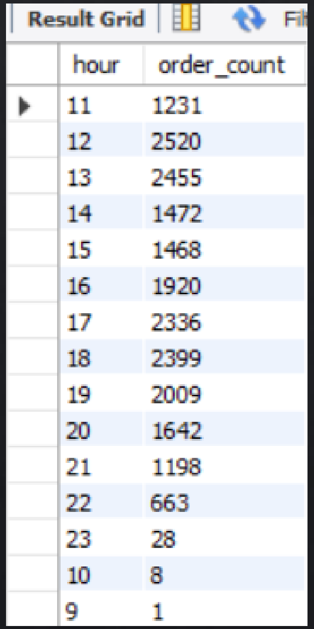


category	Quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

Determine the distribution of orders by hour of the day

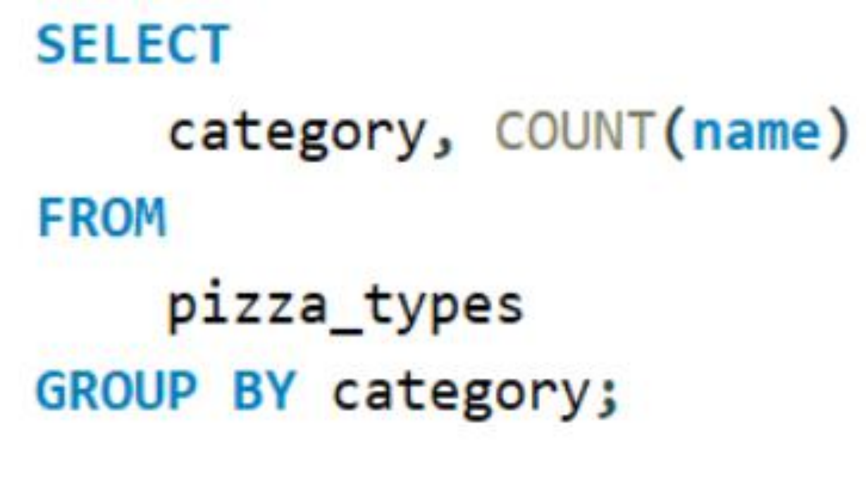


```
SELECT
    HOUR(order_time) AS hour, COUNT(order_id) AS order_count
FROM
    orders
GROUP BY HOUR(order_time);
```

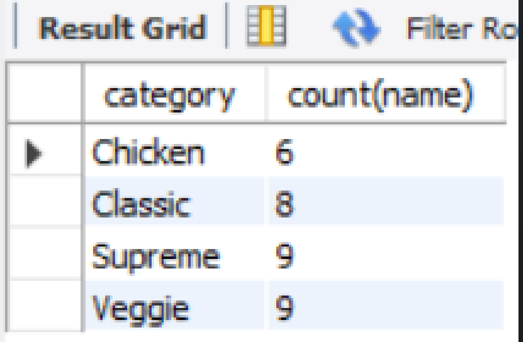


hour	order_count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336
18	2399
19	2009
20	1642
21	1198
22	663
23	28
10	8
9	1

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

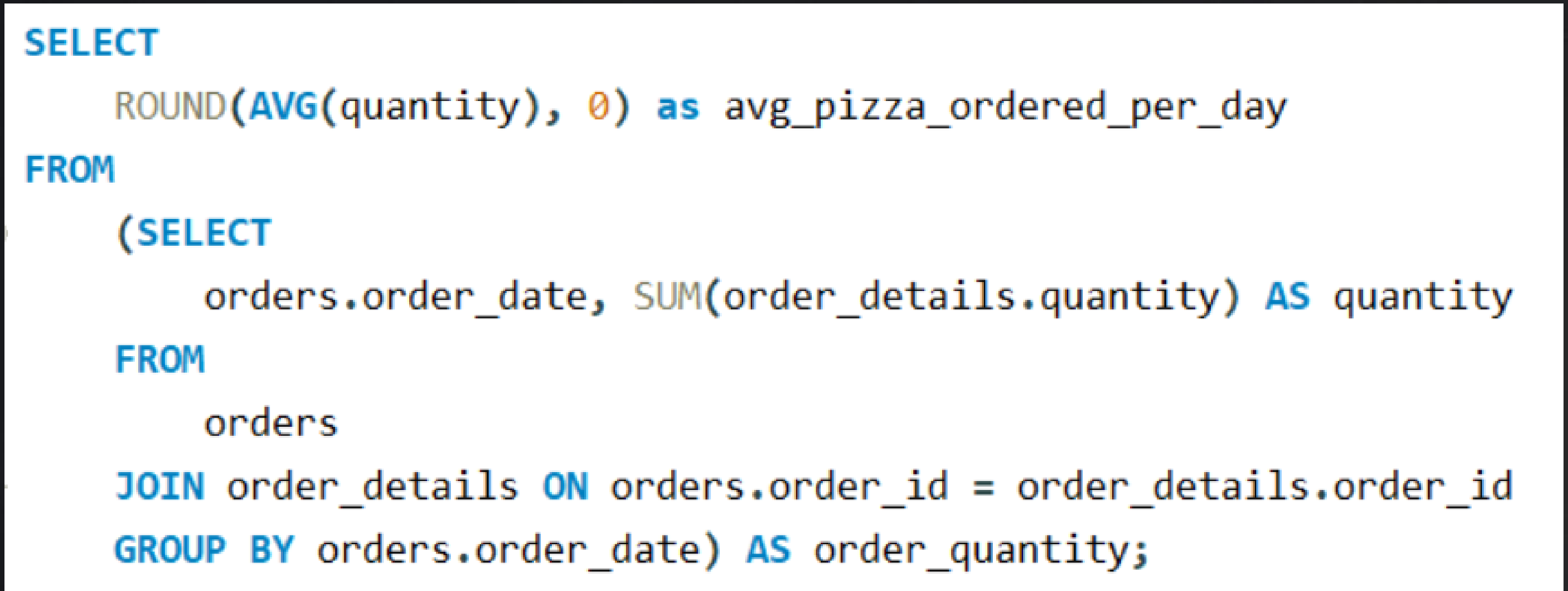


```
SELECT
    category, COUNT(name)
FROM
    pizza_types
GROUP BY category;
```

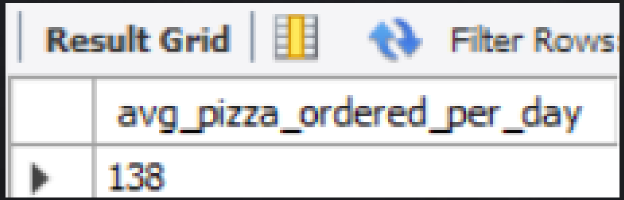


category	count(name)
Chicken	6
Classic	8
Supreme	9
Veggie	9

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

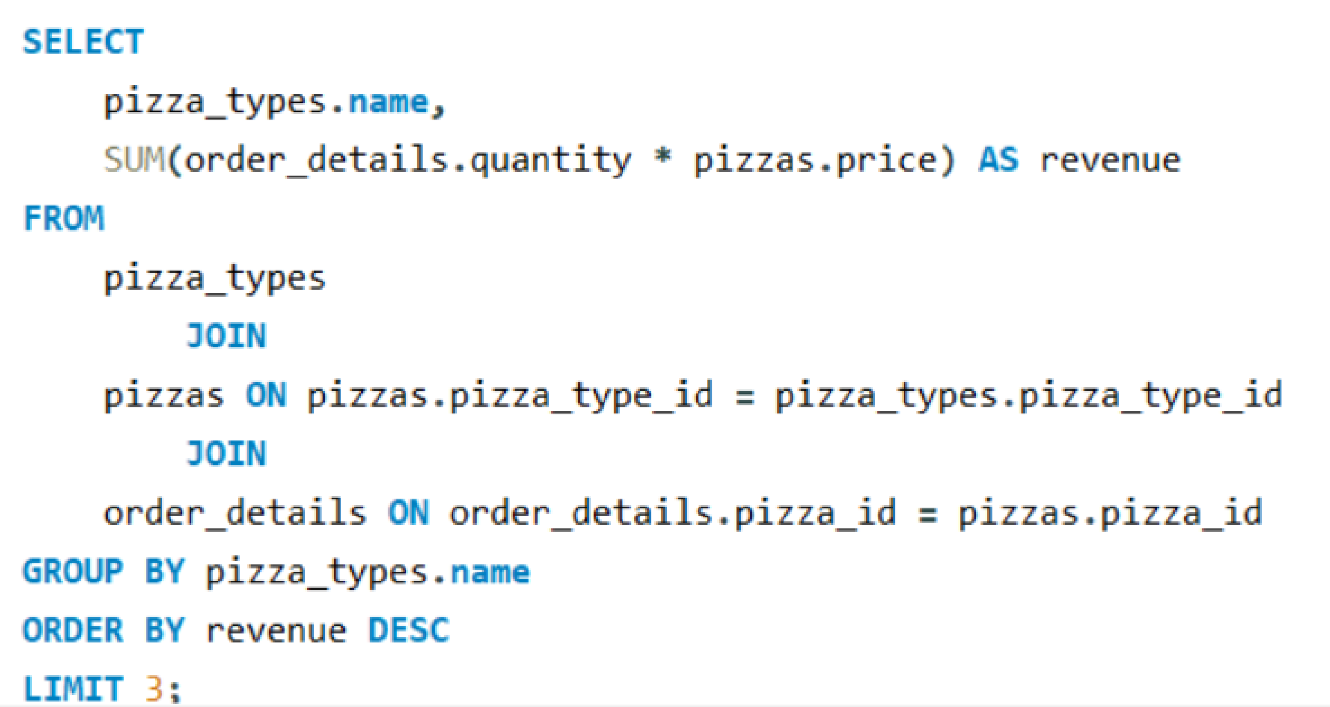


```
SELECT
    ROUND(AVG(quantity), 0) as avg_pizza_ordered_per_day
FROM
    (SELECT
        orders.order_date, SUM(order_details.quantity) AS quantity
    FROM
        orders
    JOIN order_details ON orders.order_id = order_details.order_id
    GROUP BY orders.order_date) AS order_quantity;
```

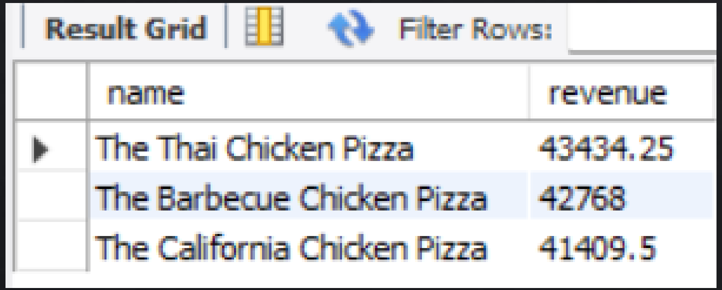


	avg_pizza_ordered_per_day
▶	138

Determine the top 3 most ordered pizza types based on revenue

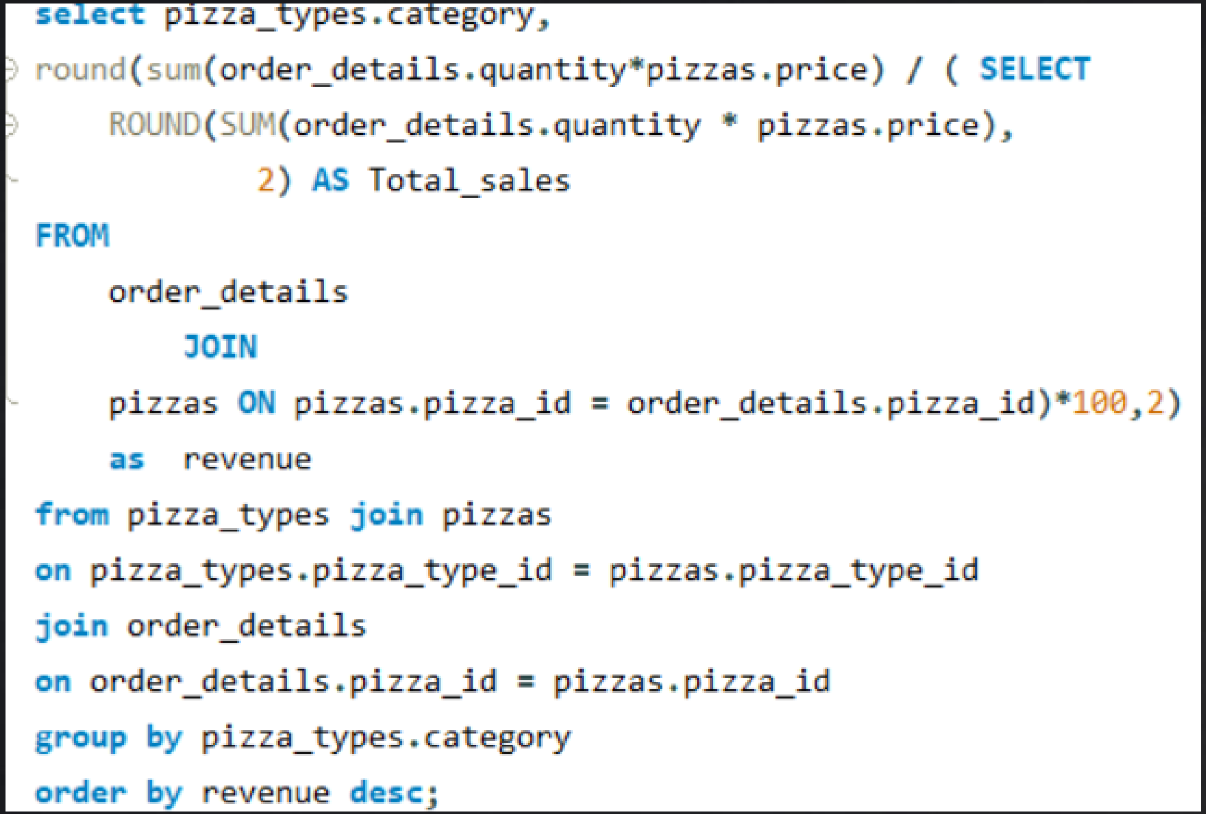


```sql
SELECT
    pizza_types.name,
    SUM(order_details.quantity * pizzas.price) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY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

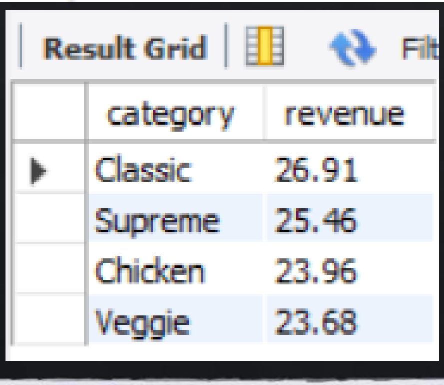


```
   name                            revenue
▶  The Thai Chicken Pizza          43434.25
   The Barbecue Chicken Pizza      42768
   The California Chicken Pizza    41409.5
```

Calculate the percentage contribution of each pizza type to total revenue

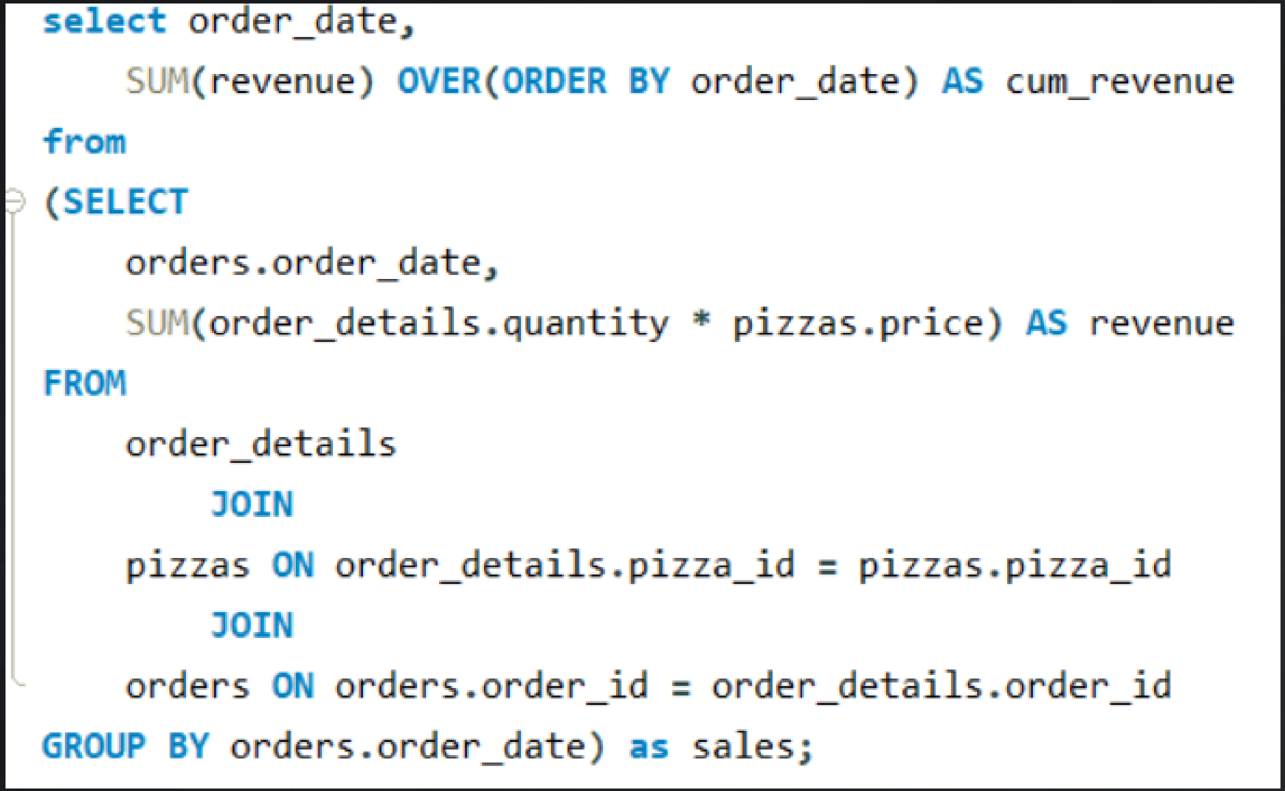


```
select pizza_types.category,
round(sum(order_details.quantity*pizzas.price) / ( SELECT
    ROUND(SUM(order_details.quantity * pizzas.price),
            2) AS Total_sales
FROM
    order_details
        JOIN
    pizzas ON pizzas.pizza_id = order_details.pizza_id)*100,2)
    as  revenue
from pizza_types join pizzas
on pizza_types.pizza_type_id = pizzas.pizza_type_id
join order_details
on order_details.pizza_id = pizzas.pizza_id
group by pizza_types.category
order by revenue desc;
```

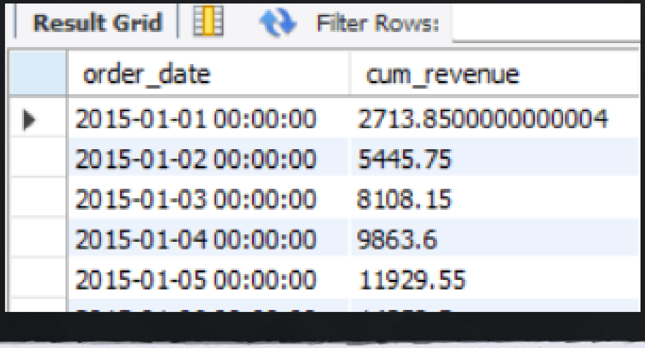


category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

Analyze the cumulative revenue generated over time

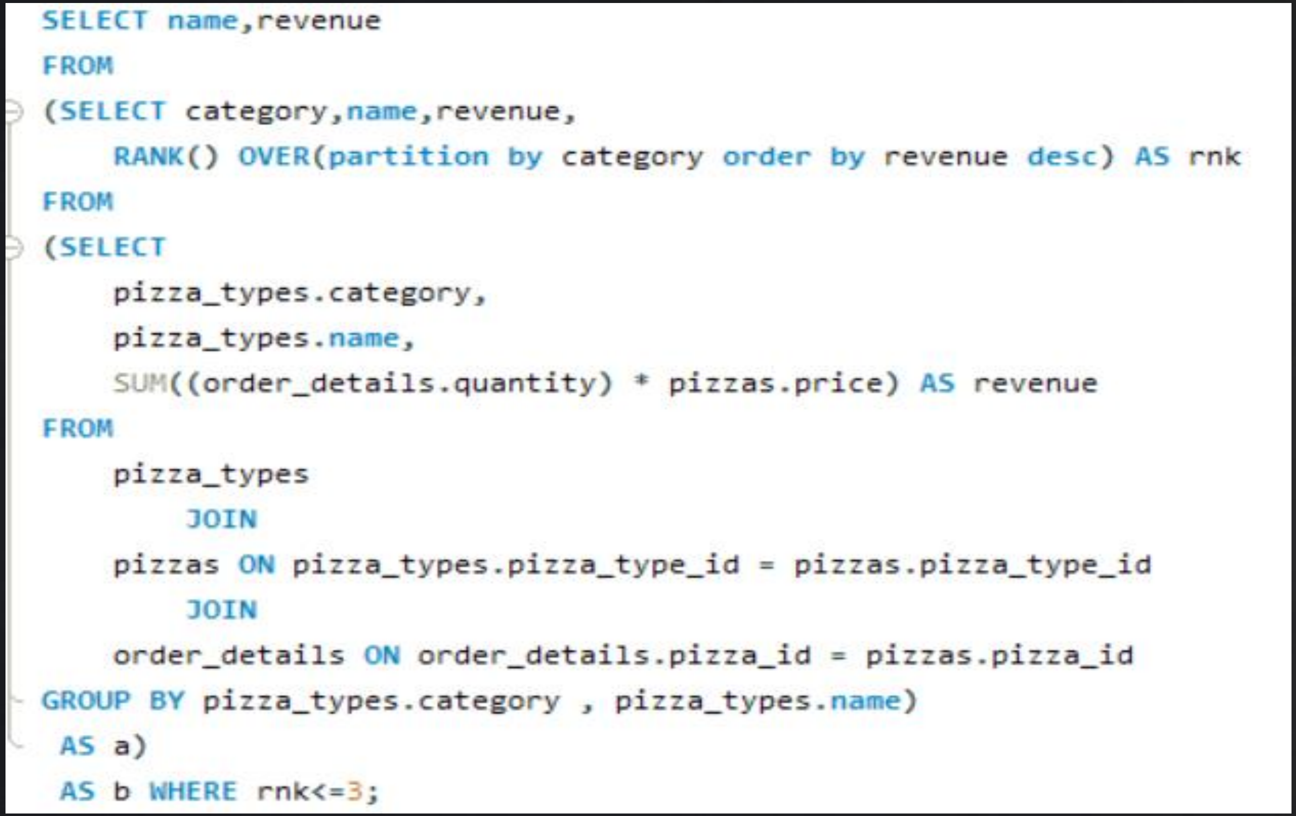


```
select order_date,
    SUM(revenue) OVER(ORDER BY order_date) AS cum_revenue
from
(SELECT
    orders.order_date,
    SUM(order_details.quantity * pizzas.price) AS revenue
FROM
    order_details
        JOIN
    pizzas ON order_details.pizza_id = pizzas.pizza_id
        JOIN
    orders ON orders.order_id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

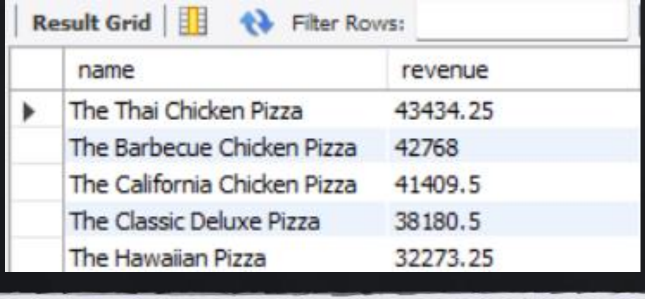


order_date	cum_revenue
2015-01-01 00:00:00	2713.8500000000004
2015-01-02 00:00:00	5445.75
2015-01-03 00:00:00	8108.15
2015-01-04 00:00:00	9863.6
2015-01-05 00:00:00	11929.55

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 rnk
FROM
(SELECT
    pizza_types.category,
    pizza_types.name,
    SUM((order_details.quantity) * pizzas.price) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category , pizza_types.name)
 AS a)
 AS b WHERE rnk<=3;
```



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

THANK YOU