



# **SQL Project**

# **Mayank's PIZZA**

A Project on Pizza House Sales Analysis



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# PROJECT SUMMARY

## 01 OBJECTIVE

To analyze pizza sales data to:

- provide actionable insights on sales performance,
- customer preferences, and
- revenue generation.


## 02 ABOUT THE DATASET

- Analyzing sales records from a pizza restaurant, spanning one year.
- Dataset has 48,620 sales transactions to analyze.

## 02 FEATURES OF THE TOPIC

- Sub Query
- Group By
- Cumulative sum, Rank
- Visualizations

## 04 TOOLS USED

- **MySQL** for data querying and manipulation
  - **Python** (Pandas, Matplotlib, Seaborn)
- 

# Connecting to



# pizza\_house Database

## SQL Server database

Server ⓘ

127.0.0.1:3306

Database (optional)

pizza\_house.sql

Data Connectivity mode ⓘ

☐ Import

☒ DirectQuery

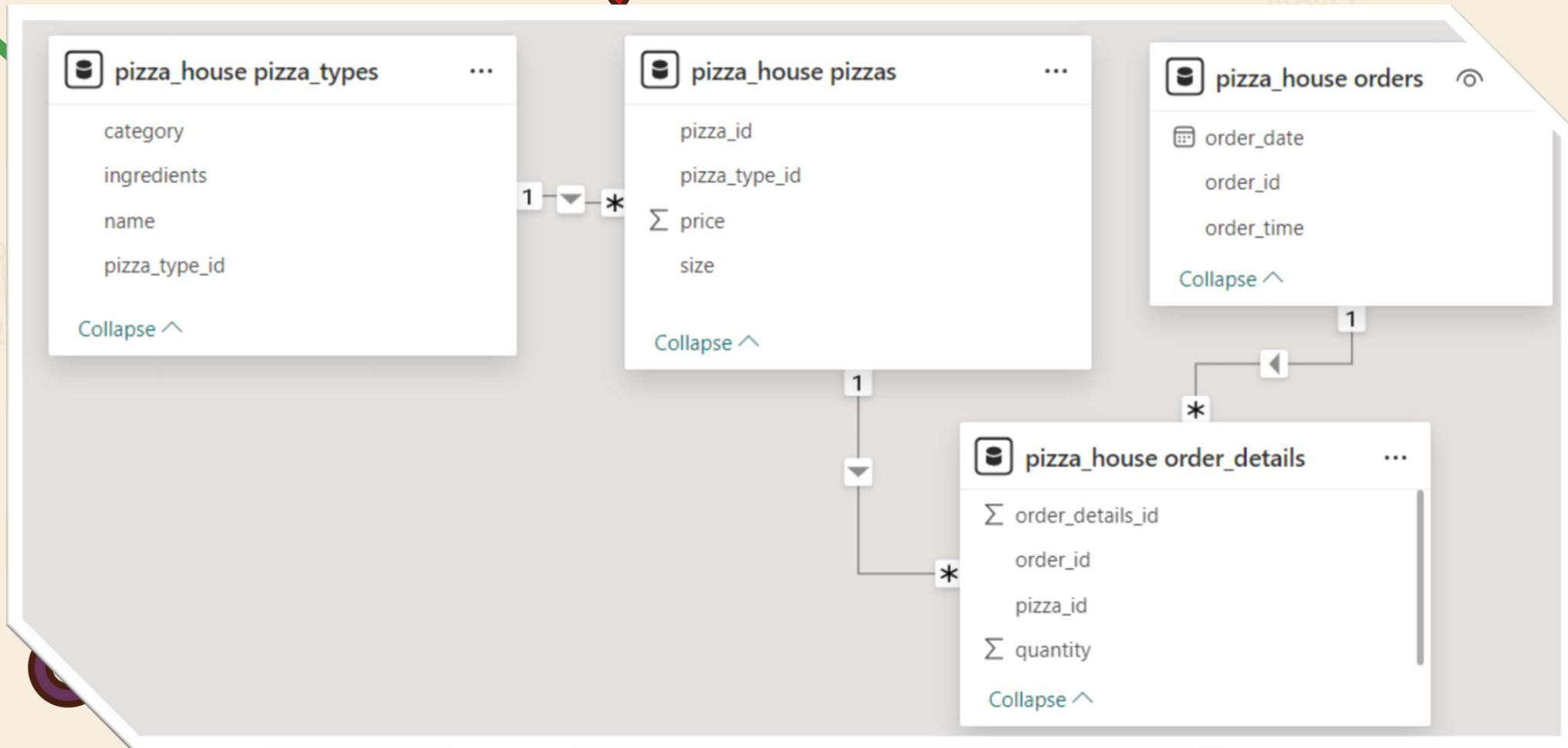
▸ Advanced options

OK

Cancel

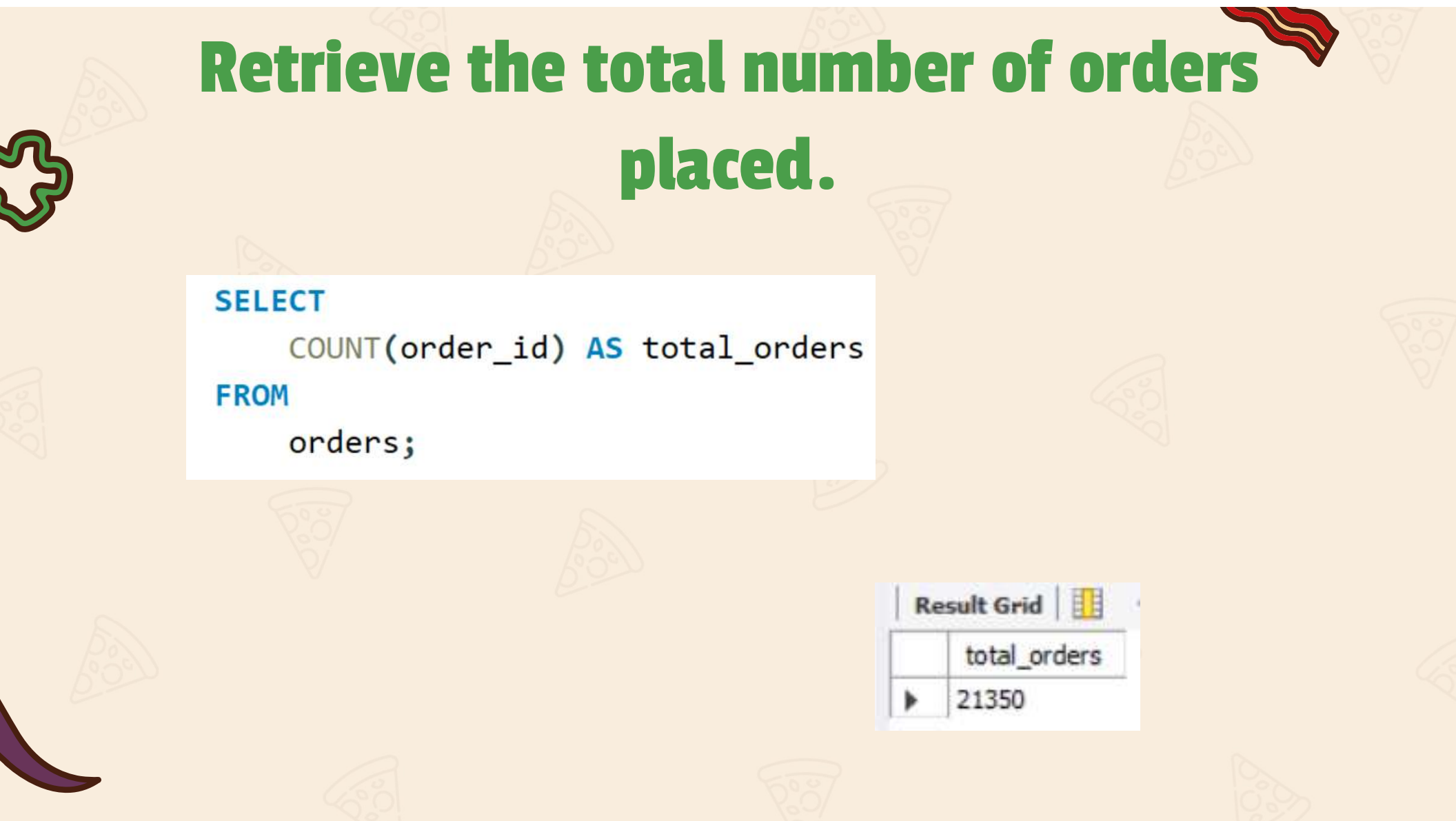


# DATA SCHEMA





# **BASIC QUESTIONS**



# Retrieve the total number of orders placed.

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

Result Grid	
	total_orders
▶	21350

# Calculate the total revenue generated from pizza sales.

```
-- i.e. Sum of qty x price
SELECT
    ROUND(SUM(order_details.quantity * pizzas.price),
          2) AS 'Total Revenue'
FROM
    order_details
    LEFT JOIN
    pizzas ON pizzas.pizza_id = order_details.pizza_id;
```

Result Grid	
	Total Revenue
▶	817860.05

# Identify the highest-priced pizza.

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

Result Grid			Filter Rows:
	name	price	
▶	The Greek Pizza	35.95	



# Identify the most common pizza size ordered.

```
-- i.e. we need order_detail_id and size
SELECT
    size, COUNT(order_details_id) AS Times_ordered
FROM
    order_details
    JOIN
    pizzas ON order_details.pizza_id = pizzas.pizza_id
GROUP BY (size)
ORDER BY Times_ordered DESC
LIMIT 1;
```

Result Grid			Filter Rows:
	size	Times_ordered	
▶	L	18526	

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

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

Result Grid			Filter Rows:
	name	total_qty	
▶	The Classic Deluxe Pizza	2453	
	The Barbecue Chicken Pizza	2432	
	The Hawaiian Pizza	2422	
	The Pepperoni Pizza	2418	
	The Thai Chicken Pizza	2371	

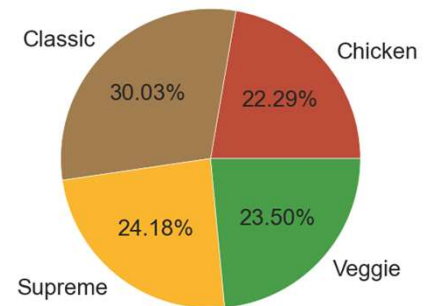


# **ADVANCED** **QUESTIONS**

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

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

Category wise distribution of Orders



Result Grid			Filter Rows:
	category	total_qty	
▶	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 BY hour ASC;
```



Result Grid		Filter
hour	order_count	
9	1	
10	8	
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	

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

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

Result Grid			Filter Rows:
	category	COUNT(name)	
▶	Chicken	6	
	Classic	8	
	Supreme	9	
	Veggie	9	

category	name
Chicken	The Southwest Chicken Pizza
Chicken	The Chicken Alfredo Pizza
Chicken	The Chicken Pesto Pizza
Chicken	The Thai Chicken Pizza
Chicken	The Barbecue Chicken Pizza
Chicken	The California Chicken Pizza
Classic	The Napolitana Pizza
Classic	The Big Meat Pizza
Classic	The Pepperoni Pizza
Classic	The Pepperoni, Mushroom, and Peppers Pizza
Classic	The Italian Capocollo Pizza
Classic	The Hawaiian Pizza
Classic	The Classic Deluxe Pizza
Classic	The Greek Pizza

Supreme	The Spicy Italian Pizza
Supreme	The Sicilian Pizza
Supreme	The Pepper Salami Pizza
Supreme	The Calabrese Pizza
Supreme	The Soppressata Pizza
Supreme	The Brie Carre Pizza
Supreme	The Prosciutto and Arugula Pizza
Supreme	The Spinach Supreme Pizza
Supreme	The Italian Supreme Pizza
Veggie	The Mexicana Pizza
Veggie	The Green Garden Pizza
Veggie	The Five Cheese Pizza
Veggie	The Italian Vegetables Pizza
Veggie	The Mediterranean Pizza
Veggie	The Spinach and Feta Pizza
Veggie	The Vegetables + Vegetables Pizza
Veggie	The Spinach Pesto Pizza
Veggie	The Four Cheese Pizza





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

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

Result Grid		Filter Rows:
	ROUND(AVG(quantity), 0)	
▶	138	

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

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

Result Grid			Filter Rows:
	name	tot_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.

```
-- Revenue% by Category
```

```
CREATE VIEW v3 AS
```

```
(SELECT
```

```
category, SUM(quantity * price) AS tot_revenue
```

```
FROM
```

```
order_details
```

```
JOIN
```

```
pizzas ON order_details.pizza_id = pizzas.pizza_id
```

```
JOIN
```

```
pizza_types ON pizza_types.pizza_type_id = pizzas.pizza_type_id
```

```
GROUP BY category
```

```
ORDER BY tot_revenue DESC);
```

```
-- select * from v3
```

```
SELECT
```

```
category,
```

```
ROUND(tot_revenue * 100 / (SELECT  
SUM(tot_revenue)
```

```
FROM
```

```
v3),
```

```
2) AS 'Revenue%'
```

```
FROM
```

```
v3
```

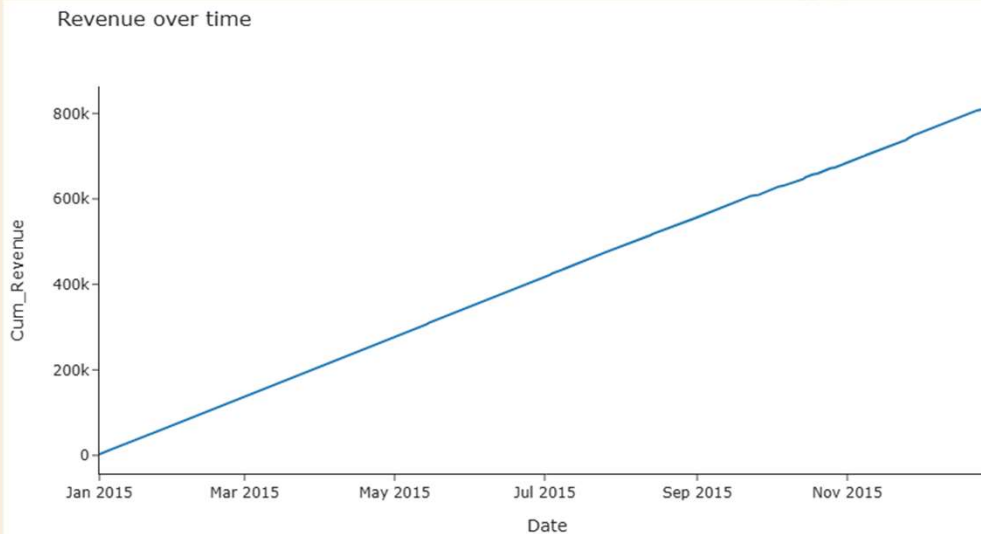
```
GROUP BY category
```

```
ORDER BY 'Revenue%' DESC;
```

Result Grid			Filter Rows:
	category	Revenue%	
▶	Classic	26.91	
	Supreme	25.46	
	Chicken	23.96	
	Veggie	23.68	

# Analyze the cumulative revenue generated over time.

```
-- CUMULATIVE SUM
select order_date, round(sum(revenue) over(order by order_date),2) as cum_revenue
from (select order_date, round(sum(quantity*price),2) as revenue
from order_details join orders
on order_details.order_id =orders.order_id
join pizzas on pizzas.pizza_id = order_details.pizza_id
group by order_date order by order_date) as sales;
```



Result Grid			Filter Rows:
	order_date	cum_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	21526.4	
	2015-01-10	23990.35	
	2015-01-11	25862.65	
	2015-01-12	27781.7	
	2015-01-13	29831.3	
	2015-01-14	32358.7	
	2015-01-15	34343.5	
	2015-01-16	36937.65	
	2015-01-17	39001.75	
	2015-01-18	40978.6	

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

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

Result Grid			Filter Rows:
category	name	revenue	
Chicken	The Thai Chicken Pizza	43434.25	
Chicken	The Barbecue Chicken Pizza	42768	
Chicken	The California Chicken Pizza	41409.5	
Classic	The Classic Deluxe Pizza	38180.5	
Classic	The Hawaiian Pizza	32273.25	
Classic	The Pepperoni Pizza	30161.75	
Supreme	The Spicy Italian Pizza	34831.25	
Supreme	The Italian Supreme Pizza	33476.75	
Supreme	The Sicilian Pizza	30940.5	
Veggie	The Four Cheese Pizza	32265.70	
Veggie	The Mexicana Pizza	26780.75	
Veggie	The Five Cheese Pizza	26066.5	



# THANKS!



Do you have any questions?

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