SQL Project

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Introduction

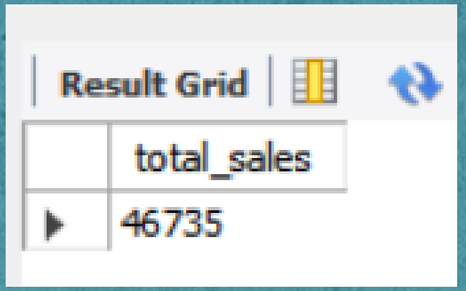
This project explores the power of SQL queries in analyzing a pizza sales dataset. I will demonstrate how SQL can be used to extract valuable insights from raw data, enabling businesses to make informed decisions regarding inventory, marketing strategies, and customer preferences. Our project focuses on some queries like identifying top-selling pizzas, analyzing sales trends, or customer segmentation and many more, showcasing practical applications of SQL within any industry.

Using a comprehensive pizza sales dataset, I have crafted a series of SQL queries to uncover hidden trends and patterns. Our goal is to illustrate how data analysis with SQL can provide valuable information for optimizing business operations and improving customer satisfaction within a pizza business.

BASIC

Q1 - Calculate the total revenue generated from pizza sales.

```
1 •  SELECT
2        ROUND(SUM(order_details.quantity * pizzas.price),
3                2) AS total_sales
4    FROM
5        order_details
6            JOIN
7        pizzas ON order_details.pizza_id = pizzas.pizza_id
```



Q2 - Identify the most common pizza size ordered.

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

Result Grid

p_size	times
L	1089
M	868
S	776
XL	34

Q3 - List the top 5 most ordered pizza types along with their quantities.

```sql
SELECT
    pizza_types.name AS p_type,
    COUNT(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 p_type
ORDER BY quantity DESC
LIMIT 5;
```

Result Grid | Filter Rows:

p_type	Quantity
The Pepperoni Pizza	166
The California Chicken Pizza	134
The Thai Chicken Pizza	132
The Barbecue Chicken Pizza	132
The Classic Deluxe Pizza	127

Intermediate

Q4 - Determine the distribution of orders by hour of the day.

```
1 •  SELECT
2        HOUR(order_time) AS times, COUNT(order_id)
3    FROM
4        orders
5    GROUP BY times;
```

Result Grid | Filter Rows:

times	count(order_id)
11	128
12	251
13	245
14	196
15	154
16	199
17	244
18	246
19	203
20	174
21	115
22	63

Result 1

Q5 - Join relevant tables to find the category-wise distribution of pizzas.

```sql
SELECT
    pizza_types.category AS Category, COUNT(pizza_types.name)
FROM
    pizza_types
GROUP BY Category;
```

Result Grid | Filter Rows:

Category	count(pizza_types.name)
Chicken	6
Classic	8
Supreme	9
Veggie	9

Q6 - Group the orders by date and calculate the average number of pizzas ordered per day.

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

Result Grid | Filter Rows:

round(avg(quantity),0)
135

Q7 - Determine the top 3 most ordered pizza types based on revenue.

```sql
SELECT
    pizza_types.name AS typess,
    ROUND(SUM(order_details.quantity * pizzas.price),
            0) 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 typess
ORDER BY revenue DESC
LIMIT 3;
```

Result Grid | Filter Rows:

typess	revenue
The Thai Chicken Pizza	2484
The Barbecue Chicken Pizza	2401
The California Chicken Pizza	2380

Q7 - Determine the top 3 most ordered pizza types based on revenue.

```sql
SELECT
    pizza_types.category AS typess,
    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 order_details.pizza_id = pizzas.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 typess
ORDER BY revenue DESC;
```

Result Grid | Filter Rows:

typess	revenue
Classic	26.4
Supreme	26
Veggie	24.09
Chicken	23.51

Advanced

Q7 - Analyze the cumulative revenue generated over time.

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

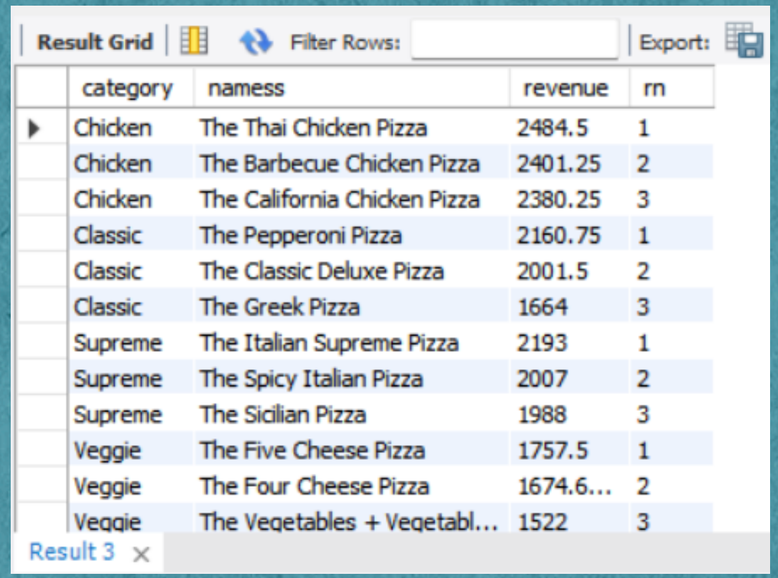
Result Grid | Filter Rows:

dates	revenue	cum_revenue
2015-01-01	2713.85	2713.85
2015-01-02	2731.9	5445.75
2015-01-03	2662.4	8108.15
2015-01-04	1755.45	9863.6
2015-01-05	2065.95	11929.55
2015-01-06	2428.95	14358.5
2015-01-07	2202.2	16560.7
2015-01-08	2838.35	19399.05
2015-01-09	2127.35	21526.4
2015-01-10	2463.95	23990.35
2015-01-11	1872.3	25862.65
2015-01-12	1919.05	27781.7

Result 5

Q8 - Determine the top 3 most ordered pizza types based on revenue for each pizza category.

```sql
select category, namess, revenue,rn
from
(select category, namess, revenue,
rank() over(partition by category order by revenue desc) as rn
from
(select pizza_types.category as category, pizza_types.name as namess,
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 category,namess) as a) as b
where rn<=3;
```



Result Grid | Filter Rows: | Export:

category	namess	revenue	rn
Chicken	The Thai Chicken Pizza	2484.5	1
Chicken	The Barbecue Chicken Pizza	2401.25	2
Chicken	The California Chicken Pizza	2380.25	3
Classic	The Pepperoni Pizza	2160.75	1
Classic	The Classic Deluxe Pizza	2001.5	2
Classic	The Greek Pizza	1664	3
Supreme	The Italian Supreme Pizza	2193	1
Supreme	The Spicy Italian Pizza	2007	2
Supreme	The Sicilian Pizza	1988	3
Veggie	The Five Cheese Pizza	1757.5	1
Veggie	The Four Cheese Pizza	1674.6...	2
Veggie	The Vegetables + Vegetabl...	1522	3

Result 3

Thank you!

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