SQL PROJECT ON PIZZA SALES DATASET

INTRODUCTION

In this project, I have worked on writing complex queries with subqueries and leveraging window functions for advanced analytics such as ranking, and also have applied various aggregate functions (SUM, AVG, COUNT) to generate critical business insights and improve decision-making. In a recent project, I analyzed a comprehensive pizza sales dataset to identify the most commonly ordered pizza types, revenue trends, and other key performance metrics. Additionally, I've optimized query performance, efficiently handled large datasets, and generated detailed reports to drive strategic business intelligence and support data-driven decision-making.

```sql
-- Retrieve the total number of orders placed.
SELECT
    COUNT(order_id)
FROM
    orders;
```

Result Grid

	COUNT(order_id)
▶	21350

```sql
-- Calculate the total revenue generated from pizza sales.
SELECT
    SUM(details.quantity * pizzas.price) AS revenue
FROM
    details
        JOIN
    pizzas ON details.pizza_id = pizzas.pizza_id;
```

Result Grid

	revenue
▶	817860.049999993

```sql
-- 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
GROUP BY name
ORDER BY price DESC
LIMIT 1;
```

Result Grid | Filter Rows:

name	price
The Brie Carre Pizza	23.65

```sql
-- Identify the most common pizza size ordered.
select size from
(SELECT
    size, sum(details.quantity)
FROM
    details
        JOIN
    pizzas ON details.pizza_id = pizzas.pizza_id
    group by size
    order by quantity desc limit 1) as a;
```

Result Grid

	size
▶	M

```sql
-- List the top 5 most ordered pizza types along with their quantities.
SELECT
    name, SUM(quantity) AS quantities
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    details ON details.pizza_id = pizzas.pizza_id
GROUP BY name
ORDER BY quantities DESC
LIMIT 5;
```

Result Grid | Filter Rows:

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

```sql
-- Join the necessary tables to find the total quantity of each pizza category ordered.
SELECT
    category, SUM(quantity) AS quantities
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    details ON details.pizza_id = pizzas.pizza_id
GROUP BY category
ORDER BY quantities;
```

Result Grid | Filter Rows

category	quantities
Chicken	11050
Veggie	11649
Supreme	11987
Classic	14888

```sql
-- Determine the distribution of orders by hour of the day.
SELECT
    HOUR(orders.ordertime) AS hours,
    COUNT(order_id) AS total_orders
FROM
    orders
GROUP BY hours
ORDER BY hours ASC;
```

Result Grid | Filter Rov

hours	total_orders
9	1
10	8
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920

```sql
-- Join relevant tables to find the category-wise distribution of pizzas.
SELECT
    category, COUNT(name) AS distribution
FROM
    pizza_types
GROUP BY category
ORDER BY category;
```

Result Grid | Filter Rov

category	distribution
Chicken	6
Classic	8
Supreme	9
Veggie	9

```sql
-- Group the orders by date and calculate the average number of pizzas ordered per day.
SELECT
    AVG(quantity) AS average
FROM
    (SELECT
        orders.date, SUM(details.quantity) AS quantity
    FROM
        details
    JOIN orders ON details.order_id = orders.order_id
    GROUP BY date) AS a;
```

Result Grid

	average
▶	138.4749

```sql
-- Determine the top 3 most ordered pizza types based on revenue.
SELECT
    name, revenue
FROM
    (SELECT
        pizza_types.name,
            SUM(details.quantity * pizzas.price) AS revenue
    FROM
        pizza_types
    JOIN pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
    JOIN details ON details.pizza_id = pizzas.pizza_id
    GROUP BY name
    ORDER BY revenue DESC
    LIMIT 3) AS a
```

Result Grid | Filter Rows:

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

```sql
-- Calculate the percentage contribution of each pizza type to total revenue.
SELECT
    pizza_types.category,
    ROUND(SUM(details.quantity * pizzas.price) / (SELECT
                    SUM(details.quantity * pizzas.price) AS revenue
                FROM
                    details
                        JOIN
                    pizzas ON details.pizza_id = pizzas.pizza_id) * 100,
            2) AS percentage_contribution
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    details ON details.pizza_id = pizzas.pizza_id
GROUP BY category;
```

Result Grid | Filter Rows:

category	percentage_contribution
Classic	26.91
Veggie	23.68
Supreme	25.46
Chicken	23.96

```sql
-- Analyze the cumulative revenue generated over time.
select sum(revenue)
over(partition by ordertime order by ordertime) as cumulative_revenue from
(select orders.ordertime, sum(details.quantity*pizzas.price) as revenue
from orders join details
on orders.order_id=details.order_id
join pizzas
on details.pizza_id=pizzas.pizza_id) as a;
```

Result Grid | Filter

	cumulative_revenue
▶	817860.049999993

```sql
-- Determine the top 3 most ordered pizza types based on revenue for each pizza category.
select category,name,revenue,details from
(select category,name, revenue,
rank() over(partition by category order by revenue desc ) as details from
(SELECT
        category,pizza_types.name,
           SUM(details.quantity * pizzas.price) AS revenue
    FROM
        pizza_types
    JOIN pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
    JOIN details ON details.pizza_id = pizzas.pizza_id
    group by category,name
    order by revenue desc)as a) as b
    where details<=3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell C

category	name	revenue	details
Chicken	The Thai Chicken Pizza	43434.25	1
Chicken	The Barbecue Chicken Pizza	4276 42768	2
Chicken	The California Chicken Pizza	41409.5	3
Classic	The Classic Deluxe Pizza	38180.5	1
Classic	The Hawaiian Pizza	32273.25	2
Classic	The Pepperoni Pizza	30161.75	3
Supreme	The Spicy Italian Pizza	34831.25	1
Supreme	The Italian Supreme Pizza	33476.75	2