SQL PROJECT ON PIZZA SALES

INTRODUCTION TO PIZZA SALES DATA ANALYSIS PROJECT

The Pizza Sales Data Analysis Project is a comprehensive exploration of transactional data from a fictional pizza shop. This project focuses on utilizing Structured Query Language (SQL) to derive meaningful insights from sales data, enabling data-driven decision-making for the business.

QUESTIONS

Basic:

- Retrieve the total number of orders placed.
- Calculate the total revenue generated from pizza sales.
- Identify the highest-priced pizza.
- Identify the most common pizza size ordered.
- List the top 5 most ordered pizza types along with their quantities.

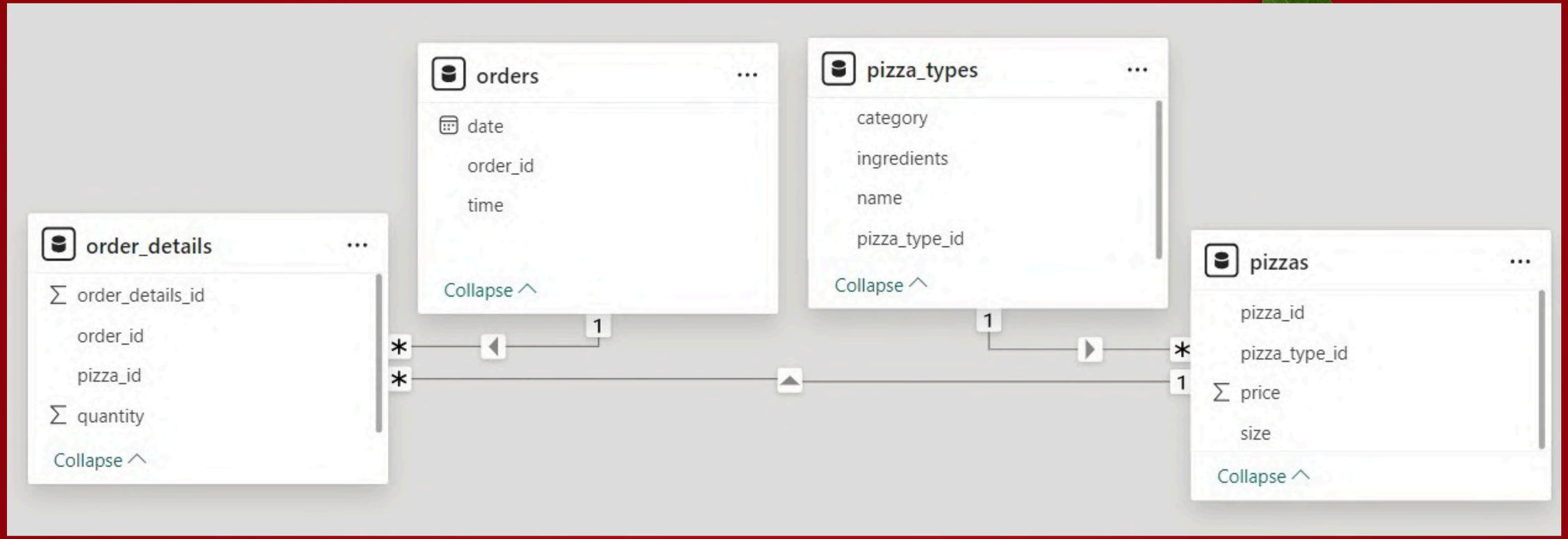
Intermediate:

- Join the necessary tables to find the total quantity of each pizza category ordered.
- Determine the distribution of orders by hour of the day.
- Join relevant tables to find the category-wise distribution of pizzas.
- Group the orders by date and calculate the average number of pizzas ordered per day.
- Determine the top 3 most ordered pizza types based on revenue.

Advanced:

- Calculate the percentage contribution of each pizza type to total revenue.
- Analyze the cumulative revenue generated over time.
- Determine the top 3 most ordered pizza types based on revenue for each pizza category.

TABLES: THE DATASET CONSISTS OF TABLES SUCH AS ORDERS, ORDER_DETAILS, PIZZAS, AND PIZZA_TYPES.



RETRIEVE THE TOTAL NUMBER OF ORDERS PLACED.

```sql
-- 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.

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

Result Grid

	Total_Revenue
▶	817860.05

IDENTIFY THE HIGHEST-PRICED PIZZA.

```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
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.

```sql
-- Identify the most common pizza size ordered.
SELECT
    pizzas.size, COUNT(order_details.order_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;
```

Result Grid | Filter

size	Order_Count
L	18526

LIST THE TOP 5 MOST ORDERED PIZZA TYPES ALONG WITH THEIR QUANTITIES.

```sql
-- 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;
```

Result Grid | Filter Rows:

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.

```sql
-- Join the necessary tables to find the total quantity of each pizza category ordere
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;
```

Result Grid | Filte

category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

DETERMINE THE DISTRIBUTION OF ORDERS BY HOUR OF THE DAY.

```sql
-- Determine the distribution of orders by hour of the day.
select * from orders;
SELECT
    HOUR(order_time) AS hours, COUNT(order_id) AS orders
FROM
    orders
GROUP BY hours
ORDER BY orders DESC;
```

Result Grid

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

JOIN RELEVANT TABLES TO FIND THE CATEGORY-WISE DISTRIBUTION OF PIZZAS.

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

Result Grid

	category	count
▶	Chicken	6
	Classic	8
	Supreme	9
	Veggie	9

GROUP THE ORDERS BY DATE AND CALCULATE THE AVERAGE NUMBER OF PIZZAS ORDERED PER DAY.

```sql
-- Group the orders by date and calculate the average number of
-- pizzas ordered per day.
SELECT
    ROUND(AVG(total_order), 0) AS avg_pizzas_per_day
FROM
    (SELECT
        orders.order_date AS order_date,
            SUM(order_details.quantity) AS total_order
    FROM
        orders
    JOIN order_details ON orders.order_id = order_details.order_id
    GROUP BY orders.order_date) AS a;
```

Result Grid | Filter

	avg_pizzas_per_day
▶	138

DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE.

```sql
-- Determine the top 3 most ordered pizza types based on revenue.
SELECT
    pizza_types.name,
    ROUND(SUM(order_details.quantity * pizzas.price),
            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.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

CALCULATE THE PERCENTAGE CONTRIBUTION OF EACH PIZZA TYPE TO TOTAL REVENUE.

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

Result Grid | Filter Rows:

category	per_distribution(%)
Classic	26.91
Veggie	23.68
Supreme	25.46
Chicken	23.96

ANALYZE THE CUMULATIVE REVENUE GENERATED OVER TIME.

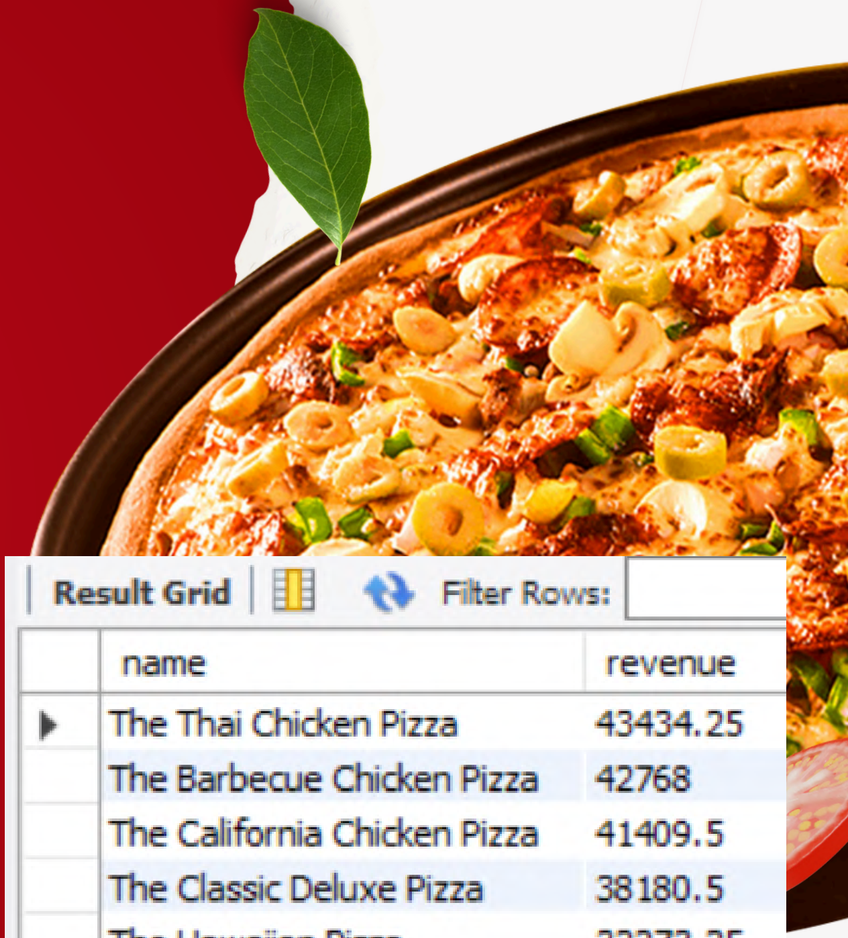
```sql
-- Analyze the cumulative revenue generated over time.
SELECT
    order_date, sales,
    SUM(sales) OVER (ORDER BY order_date) AS cumm_sales
FROM (
    SELECT
        orders.order_date,
        ROUND(SUM(pizzas.price * order_details.quantity), 2) AS sales
    FROM
        pizzas
    JOIN
        order_details
        ON pizzas.pizza_id = order_details.pizza_id
    JOIN
        orders
        ON orders.order_id = order_details.order_id
    GROUP BY
        orders.order_date
    ORDER BY
        orders.order_date ASC
) AS sales;
```

Result Grid | Filter Rows:

order_date	sales	cumm_sales
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

DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE FOR EACH PIZZA CATEGORY.

```sql
-- Determine the top 3 most ordered pizza types based on revenue for each pizza category.
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(pizzas.price * order_details.quantity) 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
        ORDER BY
            pizza_types.category ASC
    ) AS a
) AS b
WHERE
    rn <= 3;
```



Result Grid | Filter Rows:

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

THANK YOU!