SQL PROJECT

PIZZA SALES ANALYSIS

- Sumit Rawat

ABOUT PROJECT

This project utilizes SQL to analyze pizza sales data, uncovering key business insights such as total orders, revenue generation, popular pizza sizes, and top-selling pizzas. By performing joins, aggregations, and time-based analysis, the project identifies sales trends, order distribution, and revenue contribution across different pizza categories. The insights help in inventory management, pricing strategies, and optimizing business operations based on data-driven decisions.

BASIC QUESTIONS

- 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.

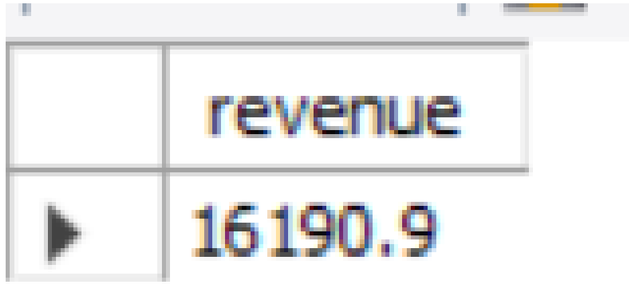
RETRIEVE THE TOTAL NUMBER OF ORDERS PLACED

```sql
SELECT
    COUNT(order_id)
FROM
    orders;
```

	COUNT(order_id)
▶	13305

CALCULATE THE TOTAL REVENUE GENERATED FROM PIZZA SALES

```sql
SELECT
    ROUND(SUM(o.quantity * p.price),2) AS revenue
FROM
    order_details AS o
        JOIN
    pizzas AS p ON o.pizza_id = p.pizza_id;
```



	revenue
▶	16190.9

IDENTIFY THE HIGHEST-PRICED PIZZA

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

name	price
The Greek Pizza	35.95

IDENTIFY THE MOST COMMON PIZZA SIZE ORDERED

```sql
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	400

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

```sql
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 Pepperoni Pizza	64
The Barbecue Chicken Pizza	49
The Thai Chicken Pizza	49
The California Chicken Pizza	48
The Classic Deluxe Pizza	47

INTERMEDIATE QUESTIONS

- 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.

JOIN THE NECESSARY TABLES TO FIND THE TOTAL QUANTITY OF EACH PIZZA CATEGORY ORDERED

```sql
SELECT
    pizza_types.category,
    SUM(order_details.quantity) AS category_quantity
FROM
    pizzas
        JOIN
    pizza_types 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.category
ORDER BY category_quantity DESC;
```

category	category_quantity
Classic	292
Veggie	236
Supreme	225
Chicken	218

DETERMINE THE DISTRIBUTION OF ORDERS BY HOUR OF THE DAY

```sql
SELECT
    HOUR(order_time), COUNT(order_id)
FROM
    orders
GROUP BY HOUR(order_time);
```

HOUR(order_time)	COUNT(order_id)
11	759
12	1554
13	1502
14	970
15	924
16	1193
17	1487
18	1492
19	1238
20	1017
21	742
22	404

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

```sql
SELECT
    category, COUNT(category)
FROM
    pizza_types
GROUP BY category
ORDER BY COUNT(category) DESC;
```

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

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

```sql
SELECT
    ROUND(AVG(quantity),2) as avg_pizzas_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_pizzas_ordered_per_day
66.50

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
    pizzas
        JOIN
    pizza_types 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	936.75
The Barbecue Chicken Pizza	904.75
The Pepperoni Pizza	827.5

ADVANCED QUESTIONS

- 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.

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

```sql
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 order_details.pizza_id = pizzas.pizza_id) * 100,
            2) 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 pizza_types.category
ORDER BY revenue DESC;
```

	category	revenue
▶	Classic	26.7
	Veggie	24.74
	Chicken	24.41
	Supreme	24.16

ANALYZE THE CUMULATIVE REVENUE GENERATED OVER TIME.

```sql
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 revenue;
```

order_date	cum_revenue
2015-01-01	1315.100000000001
2015-01-02	2336.100000000004
2015-01-03	3498.100000000004
2015-01-04	4221.1
2015-01-05	4967.5
2015-01-06	5951.8
2015-01-07	6902.400000000001
2015-01-08	8033.35

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 rn
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 rn <= 3;
```

name	revenue
The Thai Chicken Pizza	936.75
The Barbecue Chicken Pizza	904.75
The California Chicken Pizza	812
The Pepperoni Pizza	827.5
The Classic Deluxe Pizza	749.5
The Napolitana Pizza	560
The Italian Supreme Pizza	773.75
The Pepper Salami Pizza	642.5

827.5