# SQL PROJECT ON PIZZA SALES

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# HELLO!

My name is Rahul Raj. In this project, I have utilized SQL queries to analyze and solve various questions related to pizza sales. Through these queries, I targeted to uncover insights and trends that can enhance our understanding of sales performance and customer preferences.

# Schema Diagram

```
              +-----------------+  +-----------------+
              |  orders         |  |  customers      |
              +-----------------+  +-----------------+
              | id (PK)         |  | id (PK)         |
              | order_date      |  | name            |
              | customer_id (FK)|<-----| email       |
              +-----------------+  +-----------------+
                                           |
                                           |
                                           |
                           +-----------------+
                           |  order_items    |
                           +-----------------+
                           | id (PK)         |
                           | order_id (FK)   |------+
                           | pizza_id (FK)   |    |
                           | quantity        |    |
                           +-----------------+    |
                                 |          |
                                 |          |
                           +-----------------+    |
                           |  pizzas         |    |
                           +-----------------+    |
                           | id (PK)         |    |
                           | name            |    |
                           | price           |    |
                           | size            |    |
                           | category_id (FK)|------+
                           +-----------------+
                                 |
                                 |
                                 |
                           +-----------------+
                           | pizza_categories|
                           +-----------------+
                           | id (PK)         |
                           | name            |
                           +-----------------+
```

# Retrieve the total number of orders placed.

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

| count(order_id) |
| --- |
| 21350 |

# Calculate the total revenue generated from pizza sales.

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

Result Grid

| total_sales |
| --- |
| ▶ 356723.85 |

# Identify the highest-priced pizza.

```sql
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 5;
```

**Result Grid** | Filter Rows:

| name | price |
|------|-------|
| The Greek Pizza | 35.95 |
| The Greek Pizza | 25.5 |
| The Brie Carre Pizza | 23.65 |
| The Italian Vegetables Pizza | 21 |
| The Barbecue Chicken Pizza | 20.75 |

# 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;
```

| size | order_count |
|------|-------------|
| L    | 7893        |
| M    | 6827        |
| S    | 6507        |
| XL   | 115         |
| XXL  | 8           |

# 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 Barbecue Chicken Pizza | 2329 |
| The California Chicken Pizza | 1721 |
| The Big Meat Pizza | 1695 |
| The Classic Deluxe Pizza | 1506 |
| The Hawaiian Pizza | 1166 |

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

```sql
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 | Filter Rows

| category | quantity |
|----------|----------|
| Classic  | 6975     |
| Chicken  | 6238     |
| Veggie   | 4357     |
| Supreme  | 4134     |

# Determine the distribution of orders by hour of the day.

```sql
SELECT
    HOUR(time), COUNT(order_id) AS order_count
FROM
    orders
GROUP BY HOUR(time);
```

Result Grid | Filter Row

| HOUR(time) | order_count |
| --- | --- |
| 11 | 1231 |
| 12 | 2520 |
| 13 | 2455 |
| 14 | 1472 |
| 15 | 1468 |

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

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

| category | count(name) |
|----------|-------------|
| Chicken  | 6 |
| Classic  | 8 |
| Supreme  | 9 |
| Veggie   | 9 |

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

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

| Result Grid | Filter Rows: |
| --- | --- |
| avg_pizza_ordered_per_day | |
| ▶ 61 | |

# 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
    pizza_types
        JOIN
    pizzas 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;
```

Result Grid | Filter Rows:

| name | revenue |
|---|---|
| The Barbecue Chicken Pizza | 41230.75 |
| The California Chicken Pizza | 30102.75 |
| The Classic Deluxe Pizza | 23548 |

# 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 pizzas.pizza_id = order_details.pizza_id) * 100,
            2) AS revenue
FROM
    pizza_types
        JOIN
    pizzas 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 revenue DESC;
```

| category | revenue |
|----------|---------|
| Chicken | 30.8 |
| Classic | 28.06 |
| Supreme | 20.63 |
| Veggie | 20.51 |

# 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;
```

Result Grid | Filter Rows: | Exp

| name | revenue |
| --- | --- |
| The Barbecue Chicken Pizza | 41230.75 |
| The California Chicken Pizza | 30102.75 |
| The Chicken Alfredo Pizza | 11606 |
| The Classic Deluxe Pizza | 23548 |
| The Big Meat Pizza | 20340 |
| The Hawaiian Pizza | 15546.5 |
| The Italian Supreme Pizza | 14359.75 |
| The Calabrese Pizza | 12463.5 |
| The Brie Carre Pizza | 9057.949999999937 |
| The Four Cheese Pizza | 17526.550000000232 |
| The Five Cheese Pizza | 15299.5 |
| The Mexicana Pizza | 9428.5 |