

# “SQL FOR DATA ANALYSIS PROJECT”



--Submitted By--

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--Project Name--

Topping & Trends: Pizza Sales Analysis Project



# INTRODUCTION

## 1. Project Objective

- To analyze pizza sales and order data using SQL.
- Identify sales trends, top-performing pizzas, and customer preferences.
- Provide actionable insights for business growth.

## 2. Data Sources

- Order Details Table: Includes order ID, timestamps, and customer data.
- Pizza Types Table: Lists pizza names, sizes, and toppings.
- Sales Data Table: Contains order quantities, prices, and revenue.

## 3. SQL Techniques Used

- Data extraction with SELECT queries.
- Aggregation functions like SUM, COUNT, and AVG for performance analysis.
- Filtering and sorting using WHERE, GROUP BY, and ORDER BY.
- Data joining across tables with INNER JOIN, LEFT JOIN, etc.
- Subqueries and Common Table Expressions (CTEs) for complex queries.
- Time-based analysis using date and time functions.

## 4. Key Metrics Analyzed

- Total sales revenue and order volume.
- Most and least popular pizza types and sizes.
- Peak order times (daily, weekly, monthly trends).
- Customer ordering patterns and repeat customers.
- Average order value and revenue per pizza size/type.



- RETRIEVE THE TOTAL  
NUMBER OF ORDERS  
PLACED -

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

total_orders
21350

```
SELECT COUNT(ORDER_ID) AS  
TOTAL_ORDERS FROM ORDERS;
```

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

total\_sales  
817860.05

## 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;
```

name	price
The Greek Pizza	35.95

## Identify the most common pizza size ordered.

```
SELECT
    pizzas.size,
    COUNT(orders_details.order_details_id) AS order_count
FROM
    pizzas
        JOIN
    orders_details ON pizzas.pizza_id = orders_details.pizza_id
GROUP BY pizzas.size
ORDER BY order_count DESC;
```

	size	order_count
▶	L	18526
	M	15385
	S	14137
	XL	544
	XXL	28



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

```
SELECT
    pizza_types.name,
    SUM(orders_details.quantity * pizzas.price) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
        JOIN
    orders_details ON orders_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY revenue DESC
LIMIT 3;
```

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



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

```
SELECT
    pizza_types.name, SUM(orders_details.quantity) AS quantity
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    orders_details ON orders_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY quantity DESC
LIMIT 5;
```

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.

```
• SELECT  
    pizza_types.category,  
    SUM(orders_details.quantity) AS quantity  
FROM  
    pizza_types  
    JOIN  
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id  
    JOIN  
    orders_details ON orders_details.pizza_id = pizzas.pizza_id  
GROUP BY pizza_types.category  
ORDER BY quantity DESC;
```

	category	quantity
▶	Classic	14888
	Supreme	11987
	Veggie	11649
	Chicken	11050



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

- **SELECT**

```
HOUR(order_time), COUNT(order_id) AS order_count
```

```
FROM
```

```
orders
```

```
GROUP BY HOUR(order_time);
```

	HOUR(order_time)	order_count
▶	11	1231
	12	2520
	13	2455
	14	1472
	15	1468
	16	1920
	17	2336



# Calculate the percentage contribution of each pizza type to total revenue.

```
• SELECT
    pizza_types.category,
    round(SUM(orders_details.quantity * pizzas.price) / (SELECT
    ROUND(SUM(orders_details.quantity * pizzas.price),
    2) AS total_sales
  FROM
    orders_details
    JOIN
    pizzas ON pizzas.pizza_id = orders_details.pizza_id) *100,2) as revenue
  FROM
    pizza_types
    JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
    JOIN
    orders_details ON orders_details.pizza_id = pizzas.pizza_id
  GROUP BY pizza_types.category
  ORDER BY revenue DESC;
```

	category	revenue
▶	Classic	26.91
	Supreme	25.46
	Chicken	23.96
	Veggie	23.68

## Analyze the cumulative revenue generated over time.

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

	order_date	cum_revenue
▶	2015-01-01	2713.8500000000004
	2015-01-02	5445.75
	2015-01-03	8108.15
	2015-01-04	9863.6
	2015-01-05	11929.55
	2015-01-06	14358.5
	2015-01-07	16560.7

## 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((orders_details.quantity) * pizzas.price) as revenue  
from pizza_types join pizzas  
on pizza_types.pizza_type_id = pizzas.pizza_type_id  
join orders_details  
on orders_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	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



# THANK YOU!

