

PIZZA MANIA

Hello !

Welcome to my project on SQL-based analysis of pizza sales data.
My name is Nitin Dubey, In this project, I have used SQL queries to answer questions related to pizza sales.
This analysis provides insights into sales trends, customer preferences, and business performance.

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Pizza Sales Database: "pizzamania"

The "pizzamania" database in MySQL is specifically structured to manage pizza sales data. It includes four essential tables: pizzas, orders, order_details, and pizza_types. Each table is designed to capture different aspects of the sales process, providing a complete and detailed view of the data.

Database Structure

1. pizzas Table

- o Columns:

- pizza_id: A unique identifier for each pizza.
- pizza_type_id: Links to the type of pizza.
- size: Describes the size of the pizza (small, medium, large).
- price: The price of the pizza.

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2. orders Table

- Columns:
 - **order_id:** A unique identifier for each order.
 - **order_time:** The time the order was placed.
 - **order_date:** The date the order was placed.

3.order_details Table

- Columns:
 - **order_id:** Links to the corresponding order.
 - **pizza_id:** Links to the specific pizza ordered.
 - **quantity:** The number of pizzas ordered.
 - **order_details_id:** A unique identifier for each entry in the order details.

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4. pizza_types Table

- Columns:

- **pizza_type_id:** A unique identifier for each type of pizza.
- **name:** The name of the pizza type.
- **category:** The category of the pizza (e.g., vegetarian, non-vegetarian).
- **ingredients:** The ingredients used in the pizza.

This well-organized database structure ensures that all aspects of pizza sales are captured efficiently, facilitating easy data access and analysis.

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Retrieve the total number of orders placed.

```
CREATE DATABASE PizzaMania;  
-- write the questions and solve our query  
-- Retrieve the total number of orders placed.  
select count(order_id) as total_orders from orders;
```

	total_orders
	8198

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Calculate the total revenue generated from pizza sales.

```
SELECT round(sum(order_details.quantity*price) ,2)as Total_revenue  
from order_details join pizzas  
on pizzas.pizza_id=order_details.pizza_id;
```

Result Grid	
	Total_revenue
▶	87565.15

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Identify the highest-priced pizza.

```
select npizza_types.name , pizzas.price  
from npizza_types join pizzas  
on npizza_types.pizza_type_id=pizzas.pizza_type_id  
order by pizzas.price desc limit 1;
```

	name	price
▶	The Greek Pizza	35.95

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Identify the most common pizza size ordered.

```
SELECT
    pizzas.size, COUNT(order_details.order_details_id) as Quantity
FROM
    pizzas
    JOIN
    order_details
    ON pizzas.pizza_id = order_details.pizza_id
GROUP BY pizzas.size
order by Quantity desc limit 1;
```

Result Grid		
	size	Quantity
▶	L	1998

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

```
SELECT
    npizza_types.name, COUNT(order_details.quantity) AS Quantity
FROM
    npizza_types
    JOIN
    pizzas ON npizza_types.pizza_type_id = pizzas.pizza_type_id
    JOIN
    order_details ON order_details.pizza_id= pizzas.pizza_id
GROUP BY npizza_types.name
ORDER BY Quantity DESC
LIMIT 5;
```

name	Quantity
The Pepperoni Pizza	289
The Barbecue Chicken Pizza	261
The California Chicken Pizza	254
The Classic Deluxe Pizza	239
The Thai Chicken Pizza	233

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

```
3 • SELECT
4     npizza_types.category, COUNT(order_details.quantity) AS Quantity
5 FROM
6     npizza_types
7     JOIN
8         pizzas ON npizza_types.pizza_type_id = pizzas.pizza_type_id
9     JOIN
10        order_details ON order_details.pizaa_id= pizzas.pizza_id
11    GROUP BY npizza_types.category
12    ORDER BY Quantity DESC;
```

	category	Quantity
▶	Classic	1550
	Supreme	1300
	Veggie	1245
	Chicken	1124

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Determine the distribution of orders by hour of the day.

```
SELECT  
    HOUR(order_time) AS Order_by_hours,  
    COUNT(order_id) AS order_count  
FROM  
    orders  
GROUP BY HOUR(order_time);  
-- counts order and categorize it by hour+
```

Order_by_hours	order_count
11	449
12	976
13	926
14	603
15	554
16	731
17	983
18	882
19	779
20	620
21	448
22	237
23	6
10	4

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

```
SELECT npizza_types.category, count(npizza_types.name)
from npizza_types group by category;
```

	category	count(npizza_types.name)
▶	Chicken	6
	Classic	8
	Supreme	9
	Veggie	9

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

```
select avg(Quantity) 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 orders_Quantity;
-- avg(quantity)
-- 136.2308
```

	avg(Quantity)
▶	136.2308

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

```
(select npizza_types.name as Pizza , sum(order_details.quantity*pizzas.price) as Revenue  
from npizza_types join pizzas  
on npizza_types.pizza_type_id = pizzas.pizza_type_id  
join order_details  
on order_details.pizaa_id = pizzas.pizza_id  
group by Pizza  
order by Revenue desc limit 3  
);
```

Pizza	Revenue
The Barbecue Chicken Pizza	4748.25
The California Chicken Pizza	4467
The Thai Chicken Pizza	4308.25

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

```
SELECT npizza_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.pizaa_id) *100,2) as Revenue  
    from npizza_types join pizzas  
    on npizza_types.pizza_type_id = pizzas.pizza_type_id  
    join order_details  
    on order_details.pizaa_id = pizzas.pizza_id  
    group by npizza_types.category  
    order by Revenue DESC ;
```

	category	Revenue
▶	Classic	26.58
	Supreme	25.99
	Veggie	24.29
	Chicken	23.14

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Analyze the cumulative revenue generated over time.

```
select order_date , sum(Revenue) over(order by order_date) as cummulative_Revenue
from
(select orders.order_date ,
sum(order_details.quantity*pizzas.price) as Revenue
from order_details join pizzas
on order_details.pizaa_id = pizzas.pizza_id
join orders
on orders.order_id = order_details.order_id
group by orders.order_date) as sales;
```

order_date	cummulative_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
2015-01-08	14358.5
2015-01-09	19399.05
2015-01-10	21526.4
2015-01-11	23990.350000000002
	25862.65

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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 npizza_types.category , npizza_types.name , sum(order_details.quantity*pizzas.price) as Revenue
from npizza_types join pizzas
on npizza_types.pizza_type_id = pizzas.pizza_type_id
join order_details
on order_details.pizza_id = pizzas.pizza_id
group by npizza_types.category, npizza_types.name) as a
) as b
where rn <=3;
```

name	Revenue
The Barbecue Chicken Pizza	4748.25
The California Chicken Pizza	4467
The Thai Chicken Pizza	4308.25
The Classic Deluxe Pizza	3705.5
The Pepperoni Pizza	3686
The Hawaiian Pizza	3073
The Italian Supreme Pizza	3832.75
The Spicy Italian Pizza	3587.5
The Sicilian Pizza	3552.75
The Four Cheese Pizza	3405.0999999999945
The Five Cheese Pizza	3108
The Vegetables + Vegetabl...	2953.25

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Thank you
for your time