

# Pizza sales analysis

Using SQL for Data Analysis



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# PIZZA



## PROJECT OVERVIEW:



This project analyzes pizza sales data to understand sales trends and popular products using SQL.

## OBJECTIVE:

Identify sales patterns and top-selling pizzas to optimize sales strategies.

## DATA SOURCE:

Pizza sales dataset including order details and customer information.

## TOOLS USED:

SQL for data analysis and insights extraction



# DATABASE STRUCTURE OF PIZZA\_SALES

## Tables:

### orders :

Contains: order\_id, date, time

### order\_details :

Contains: order\_details\_id, order\_id, pizza\_id , quantity

### pizzas :

Contains: pizza\_id, pizza\_type\_id, size, price

### pizza\_types :

Contains: pizza\_type\_id, name, category, ingredients



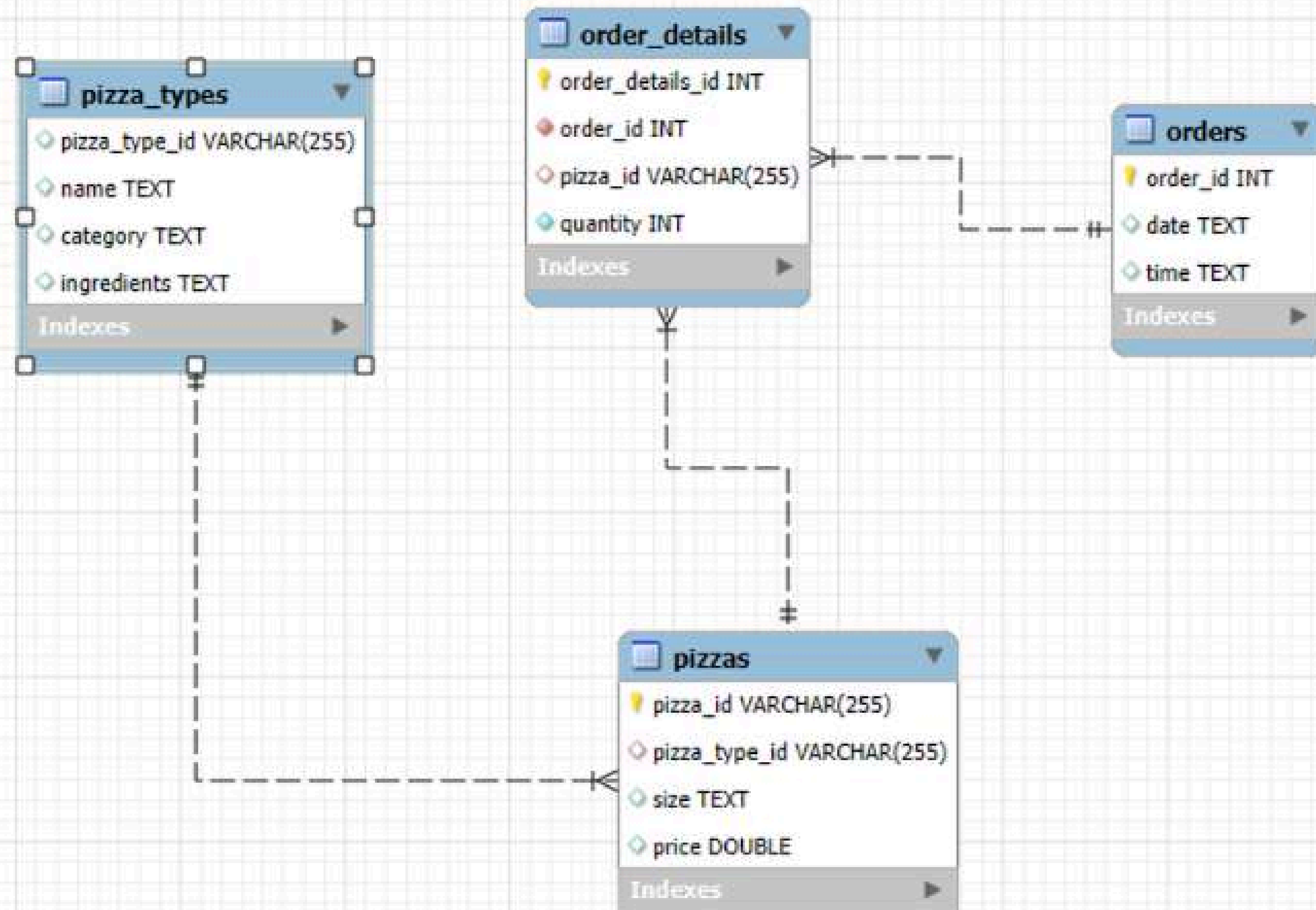
## RELATIONSHIPS:

- 1.Orders to Order Details: One-to-many relationship.
- 2.Order Details to Pizzas: Many-to-one relationship.
- 3.Pizzas to Pizza Types: Many-to-one relationship.





# ER - DIAGRAM





# KEY ANALYSIS QUERIES

## Basic:

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



## Intermediate:

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

## Advanced:

1. Calculate the percentage contribution of each pizza type to total revenue.
2. Analyze the cumulative revenue generated for the first 10 time period.
3. Determine the top 3 most ordered pizza types based on revenue for each pizza category.



Basic

## QUERY 1:

Retrieve the total number of orders placed.



INPUT:

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



OUTPUT:



	total_orders
▶	21350



## QUERY 2:

Calculate the total revenue generated from pizza sales. :::::

### INPUT:

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



### OUTPUT:

	total_revenue
▶	817860.05





## QUERY 3:

Identify the highest-priced pizza.

### INPUT:

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



### OUTPUT:



	name	price
▶	The Greek Pizza	35.95



## QUERY 4:

Identify the most common pizza size ordered.

### INPUT:

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



### OUTPUT:

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



# QUERY 5:



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

## INPUT:

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



## OUTPUT:



	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.

## INPUT:

```
SELECT
    t.category , SUM(o.quantity) AS quantity
FROM
    pizza_types AS t
    JOIN
    pizzas as p ON t.pizza_type_id = p.pizza_type_id
    JOIN
    order_details AS o ON o.pizza_id = p.pizza_id
GROUP BY t.category
ORDER BY quantity DESC;
```



## OUTPUT:

category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050



# QUERY 2:

Determine the distribution of orders by hour of the day.

## INPUT:

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

## OUTPUT:

hour	order_count
9	1
10	8
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336
18	2399

19	2009
20	1642
21	1198
22	663
23	28





# QUERY 3:

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

## INPUT:

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



## OUTPUT:

category	pizza_count
Chicken	6
Classic	8
Supreme	9
Veggie	9





## QUERY 4:

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

### INPUT:

```
SELECT
    ROUND(AVG(quantity), 0) AS avg_no_of_pizza_order
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;
```



### OUTPUT:

avg_no_of_pizza_order
-----------------------

138
-----



# QUERY 5:



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

## INPUT:

```
SELECT
  t.name, SUM(o.quantity * p.price) AS Revenue
FROM
  pizza_types AS t
  JOIN
  pizzas AS p ON t.pizza_type_id = p.pizza_type_id
  JOIN
  order_details AS o ON o.pizza_id = p.pizza_id
GROUP BY t.name
ORDER BY Revenue DESC
LIMIT 3;
```



## OUTPUT:

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.

INPUT:

```
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 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 Revenue DESC;
```



OUTPUT:

category	Revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68



# QUERY 2:

Analyze the cumulative revenue generated for the first 10 records

## INPUT:

```
select
    date , round(sum(Revenue) over(order by date),2)
        as Cum_Revenue
from
    (select orders.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.date) as sales limit 10 ;
```

## OUTPUT:

date	Cum_Revenue
2015-01-01	2713.85
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	19399.05
2015-01-09	21526.4
2015-01-10	23990.35





# QUERY 3:

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

## INPUT:

```
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 ;
```

## OUTPUT:

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
The Sicilian Pizza	30940.5
The Four Cheese Pizza	32265.700000000554
The Mexicana Pizza	26780.75
The Five Cheese Pizza	26066.5





# KEY INSIGHTS AND CONCLUSION



**This pizza sales analysis reveals that the highest revenue is generated by Thai Chicken Pizza, Barbecue Chicken Pizza, and California Chicken Pizza.**

**The most frequently ordered pizza sizes are Large and Medium. Focusing on these top-selling pizza types and popular sizes, especially during peak hours, can help optimize sales and improve revenue generation**







# THANK YOU FOR ATTENTION

THANK YOU FOR REVIEWING MY PROJECT. IF YOU HAVE ANY FEEDBACK OR QUESTIONS, FEEL FREE TO REACH OUT.



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