Pizza Sales Analysis

Using SQL

Project Overview

Title: Project Objective

Content:

- **Analyze pizza sales data using SQL queries.**
- **Derive business insights from basic to advanced SQL operations.**
- **Improve decision-making using data trends and patterns.**

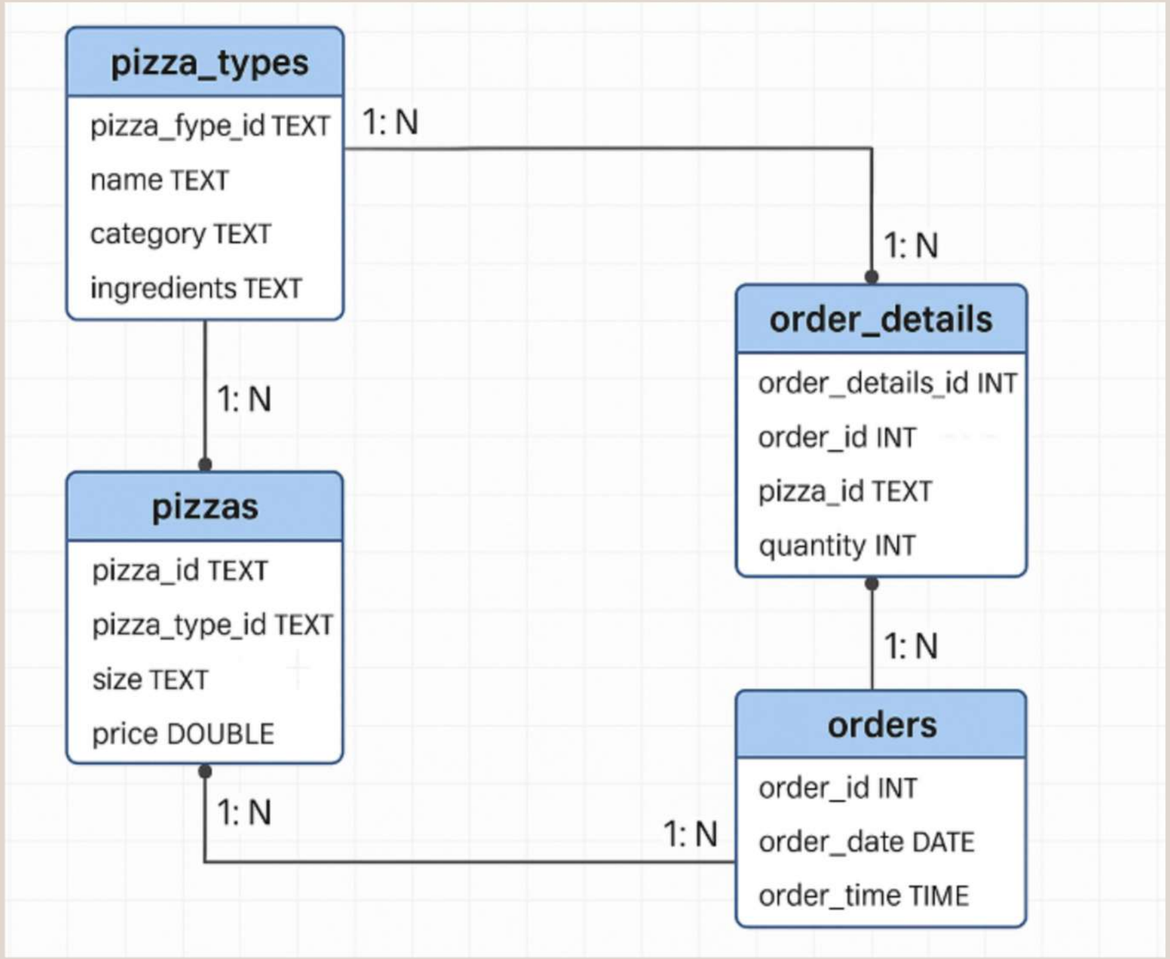
Dataset & Tools

Title: Tools & Data

Content:

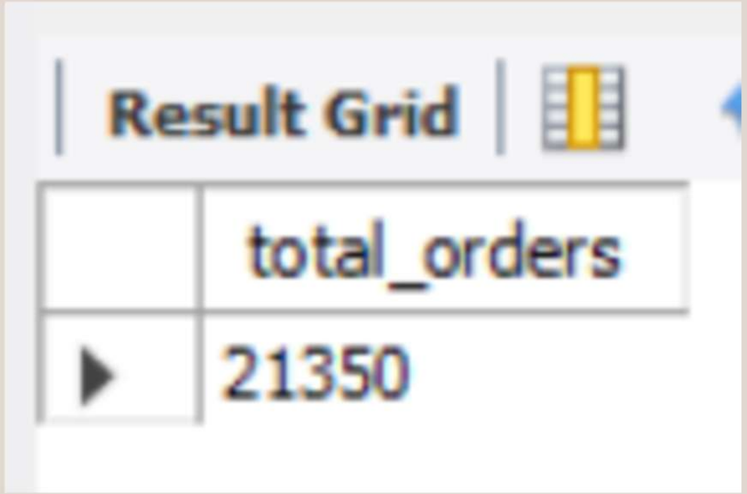
- **Database Tables: orders, order_details, pizzas, pizza_types**
- **Tool: MySQL**
- **Data Source: Pizza Sales Dataset**
- **Techniques Used: SQL Aggregations, Joins, Subqueries, Ranking Functions, Window Functions**

Database Schema



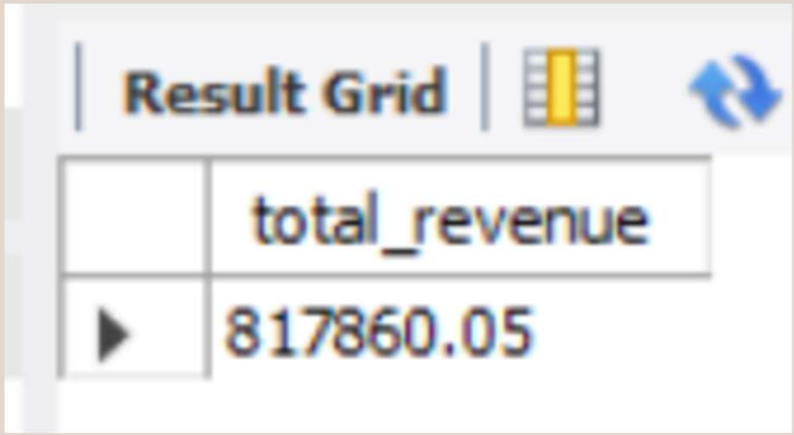
1.Retrieve the total number of orders placed.

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



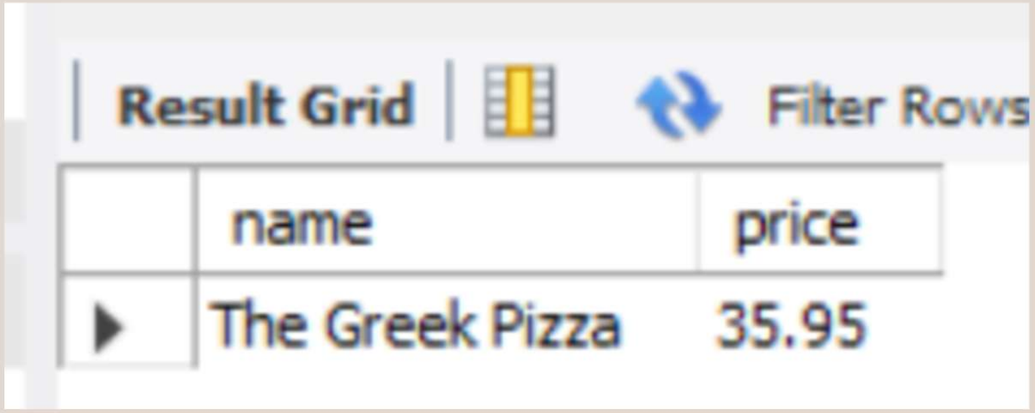
2. Calculate the total revenue generated from pizza sales.

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



3. 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;
```



4. Identify the most common pizza size ordered.

```
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;
```

Result Grid | Filter

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

5. 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;
```

Result Grid | Filter Rows:

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

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

```sql
SELECT
    pizza_types.category,
    SUM(order_details.quantity) AS total_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 total_quantity DESC;
```

Result Grid | Filter Rows:

category	total_quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

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

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

Result Grid | Filter

hour	order_count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336
18	2399
19	2009
20	1642
21	1198

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

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

Result Grid | Filter Row

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

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
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;
```

10. 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 Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

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

```
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 total_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 total_revenue DESC;
```

Result Grid | Filter Row

category	total_revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

12. 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(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 order_date) as sales;
```

Result Grid | Filter Rows:

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

13. 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 limit 3;
```

Result Grid | Filter Rows:

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

Key Takeaways

Title: Summary & Insights

Points:

- **Most revenue comes from [example: Medium-sized pizzas].**
- **Top revenue-generating pizzas are from [example: Chicken category].**
- **Orders peak during [example: Evening hours].**
- **Significant opportunity to improve lesser-selling categories.**

Thank You!