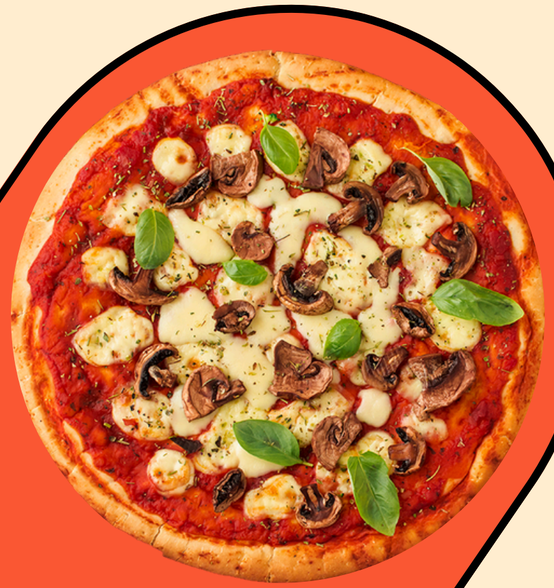
PIZZA SALES ANALYSIS

SQL Portfolio Project



Analysis using SQL

By Essha Bisen

PROJECT OVERVIEW

This project focuses on analyzing pizza sales data using SQL to extract meaningful business insights.
The analysis helps understand sales performance, customer preferences, and revenue trends.

TOOLS & DATASET

TOOLS USED

- SQL
- Relational Database
- Canva(For Report)

DATASET DETAILS

- Pizza sales dataset
- Multiple related tables
- Structured business data

01.

Sales Performance Analysis:

Analyzed total orders and total revenue to understand overall sales performance using SQL queries.

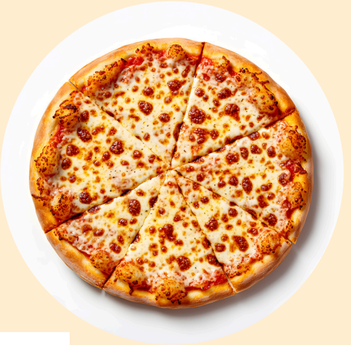
02.

Customer Preference Analysis:

Identified popular pizzas, sizes, and categories to understand customer ordering patterns.

PROJECT ANALYSIS OVERVIEW

TOTAL NUMBER OF ORDERS PLACED



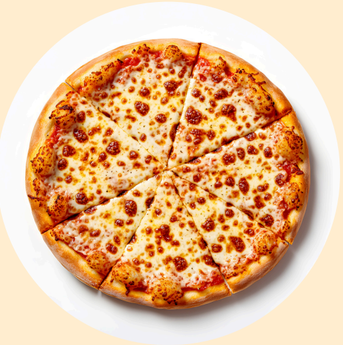
```
SELECT
    COUNT(order_id) AS total_orders
FROM
    orders;
```

Result Grid

	total_orders
▶	21350

Insight: This shows the overall volume of customer orders in the dataset and helps understand total business activity.

TOTAL REVENUE GENERATED FROM PIZZA SALES



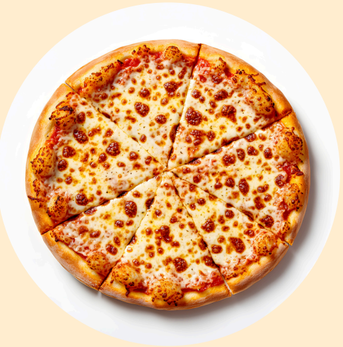
```
SELECT
    ROUND(SUM(order_details.quantity * pizzas.price),
            2) AS total_sales
FROM
    order_details
        JOIN
    pizzas ON pizzas.pizza_id = order_details.pizza_id
```

Result Grid

total_sales
817860.05

Insight: Total revenue indicates the overall financial performance of pizza sales during the given period.

HIGHEST PRIZED PIZZA



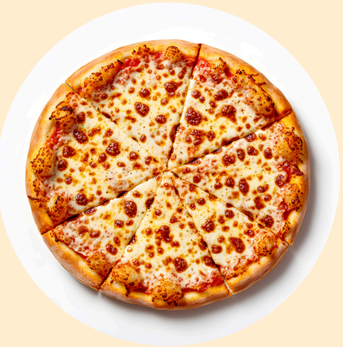
```
SELECT
    pizza_types.name, pizzas.price
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
ORDER BY pizzas.price DESC
LIMIT 1;
```

Result Grid | Filter

name	price
The Greek Pizza	35.95

Insight: Identifying the highest-priced pizza helps understand premium products and pricing strategy.

MOST COMMON PIZZA SIZE ORDERED

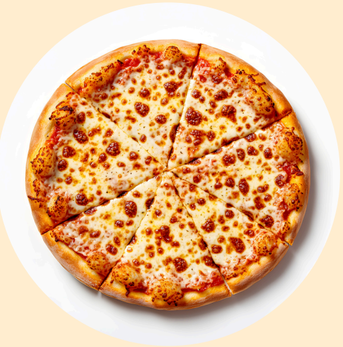


```sql
SELECT
    pizzas.size,
    COUNT(order_details.order_details_id) AS order_count
FROM
    pizzas
        JOIN
    order_details ON pizzas.pizza_id = order_details.pizza_id
GROUP BY pizzas.size
ORDER BY order_count DESC;
```

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

Insight: This reveals customer preference for pizza sizes, which is useful for inventory and demand planning.

TOP 5 MOST ORDERED PIZZA TYPES ALONG WITH THEIR QUANTITIES

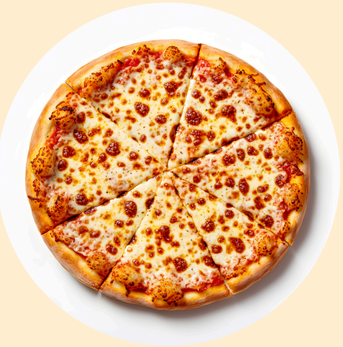


```sql
SELECT
    pizza_types.name, SUM(order_details.quantity) AS quantity
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY quantity DESC
LIMIT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

name	quantity
The Classic Deluxe Pizza	2453
The Barbecue Chicken Pizza	2432
The Hawaiian Pizza	2422
The Pepperoni Pizza	2418
The Thai Chicken Pizza	2371

Insight: Top ordered pizzas highlight customer favorites and best-selling products.

TOTAL QUANTITY OF EACH PIZZA CATEGORY ORDERED

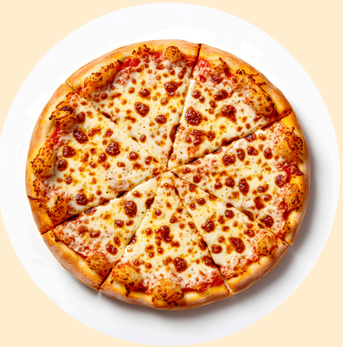


```sql
SELECT
    pizza_types.category,
    SUM(order_details.quantity) AS quantity
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category
ORDER BY quantity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

category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

Insight: Category-wise quantity analysis shows which pizza categories are most popular among customers.

DISTRIBUTION OF ORDERS BY HOUR OF THE DAY



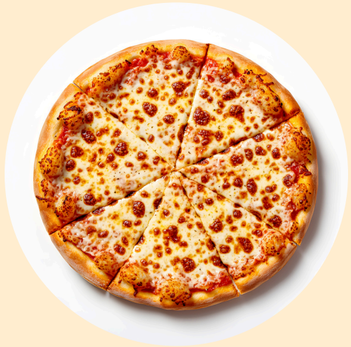
```sql
SELECT
    HOUR(order_time) AS hour, COUNT(order_id) AS order_count
FROM
    orders
GROUP BY HOUR(order_time);
```

hour	order_count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920

hour	order_count
17	2336
18	2399
19	2009
20	1642
21	1198
22	663
23	28
10	8
9	1

Insight: This analysis helps identify peak ordering hours, useful for staff planning and promotions.

CATEGORY-WISE DISTRIBUTION OF PIZZAS

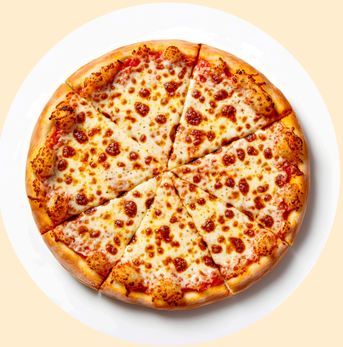


```
SELECT
    category, COUNT(name)
FROM
    pizza_types
GROUP BY category;
```

category	COUNT(name)
Chicken	6
Classic	8
Supreme	9
Veggie	9

Insight: Shows how sales are spread across different pizza categories, helping compare category performance.

AVERAGE NUMBER OF PIZZAS ORDERED PER DAY

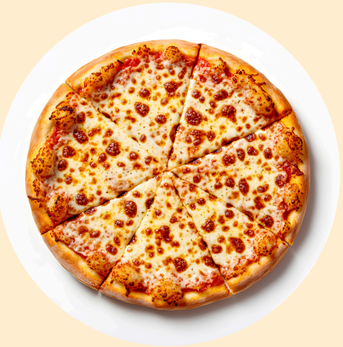


```sql
SELECT
    ROUND(AVG(quantity), 0) as avg_pizza_ordered_per_day
FROM
    (SELECT
        orders.order_date, SUM(order_details.quantity) AS quantity
    FROM
        orders
    JOIN order_details ON orders.order_id = order_details.order_id
    GROUP BY orders.order_date) AS order_quantity;
```

	avg_pizza_ordered_per_day
▶	138

Insight:Daily average orders help understand consistent demand and overall sales stability.

TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE

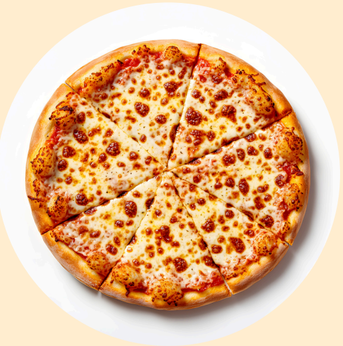


```sql
SELECT
    pizza_types.name,
    SUM(order_details.quantity * pizzas.price) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY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

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

Insight: High-revenue pizzas may not always be the most ordered, highlighting the importance of pricing impact.

PERCENTAGE CONTRIBUTION OF EACH PIZZA TYPE TO TOTAL REVENUE

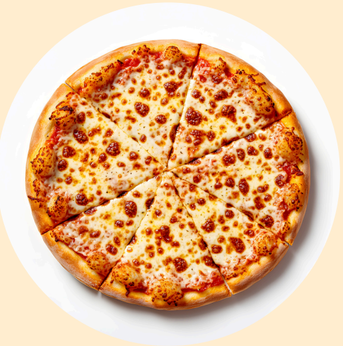


```sql
SELECT
    pizza_types.category,
    ROUND(SUM(order_details.quantity * pizzas.price) / (SELECT
                    ROUND(SUM(order_details.quantity * pizzas.price),
                                2) AS total_sales
                FROM
                    order_details
                        JOIN
                    pizzas ON pizzas.pizza_id = order_details.pizza_id) * 100,
            2) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON 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;
```

category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

Insight: This identifies which pizza types contribute the most to overall revenue, helping prioritize high-value products.

CUMULATIVE REVENUE GENERATED OVER TIME

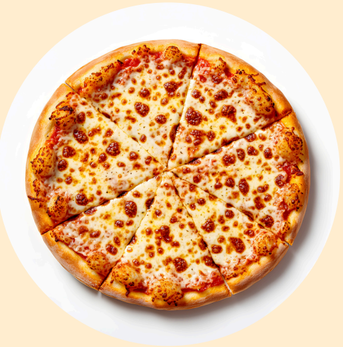


```
SELECT order_date,
SUM(revenue) OVER (ORDER BY order_date) AS cum_revenue
FROM
(SELECT orders.order_date,
SUM(order_details.quantity * pizzas.price) AS revenue
FROM order_details JOIN pizzas
ON order_details.pizza_id = pizzas.pizza_id
JOIN  orders
ON orders.order_id = order_details.order_id
GROUP BY 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
2015-01-08	19399.05
2015-01-09	21526.4
2015-01-10	23990.350000000002
2015-01-11	25862.65
2015-01-12	27781.7
2015-01-13	29831.300000000003
2015-01-14	32358.700000000004
2015-01-15	34343.50000000001
2015-01-16	36937.65000000001
2015-01-17	39001.75000000001
2015-01-18	40978.600000000006
2015-01-19	43365.75000000001
2015-01-20	45763.65000000001
2015-01-21	47804.20000000001
2015-01-22	50300.90000000001
2015-01-23	52724.600000000006
2015-01-24	55013.850000000006
2015-01-25	56631.40000000001
2015-01-26	58515.80000000001
2015-01-27	61043.85000000001
2015-01-28	63059.85000000001
2015-01-29	65105.150000000016
2015-01-30	67375.45000000001

Insight: Cumulative revenue analysis helps track business growth trends and seasonal patterns over time.

TOP 3 PIZZA TYPES BY REVENUE FOR EACH 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 ;
```

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	32265.70000000065
The Mexicana Pizza	26780.75
The Five Cheese Pizza	26066.5

Insight: This reveals top-performing pizzas within each category, supporting category-level business decisions.


THANK YOU