Pizza Sales Analysis

Unveiling Insights Through SQL

Introduction

Hello.My name is Zonab Zahra.Today, I'll be taking you through our analysis of pizza sales data, showcasing how SQL queries have enabled us to uncover key insights into customer preferences, sales trends, and more. By the end of this presentation, you'll understand the value of data analytics in optimizing business strategies

Database Schema

```
create table pizzas(
pizza_id text,
pizza_type_id text,
size text,
price double);
```

```
create table pizza_types(
pizza_type_id text,
name text,
category text,
ingredients text);
```

```
create table orders(
order_id int not null,
order_date date not null,
order_time time not null,
primary key(order_id));
```

```
create table order_details(
order_details_id int not null,
order_id int not null,
pizza_id text not null,
quantity int not null,
primary key(order_details_id));
```

Problems

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

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

- Calculate the percentage contribution of each pizza type to total revenue.
- Analyze the cumulative revenue generated over time.
- Determine the top 3 most ordered pizza types based on revenue for each pizza category.

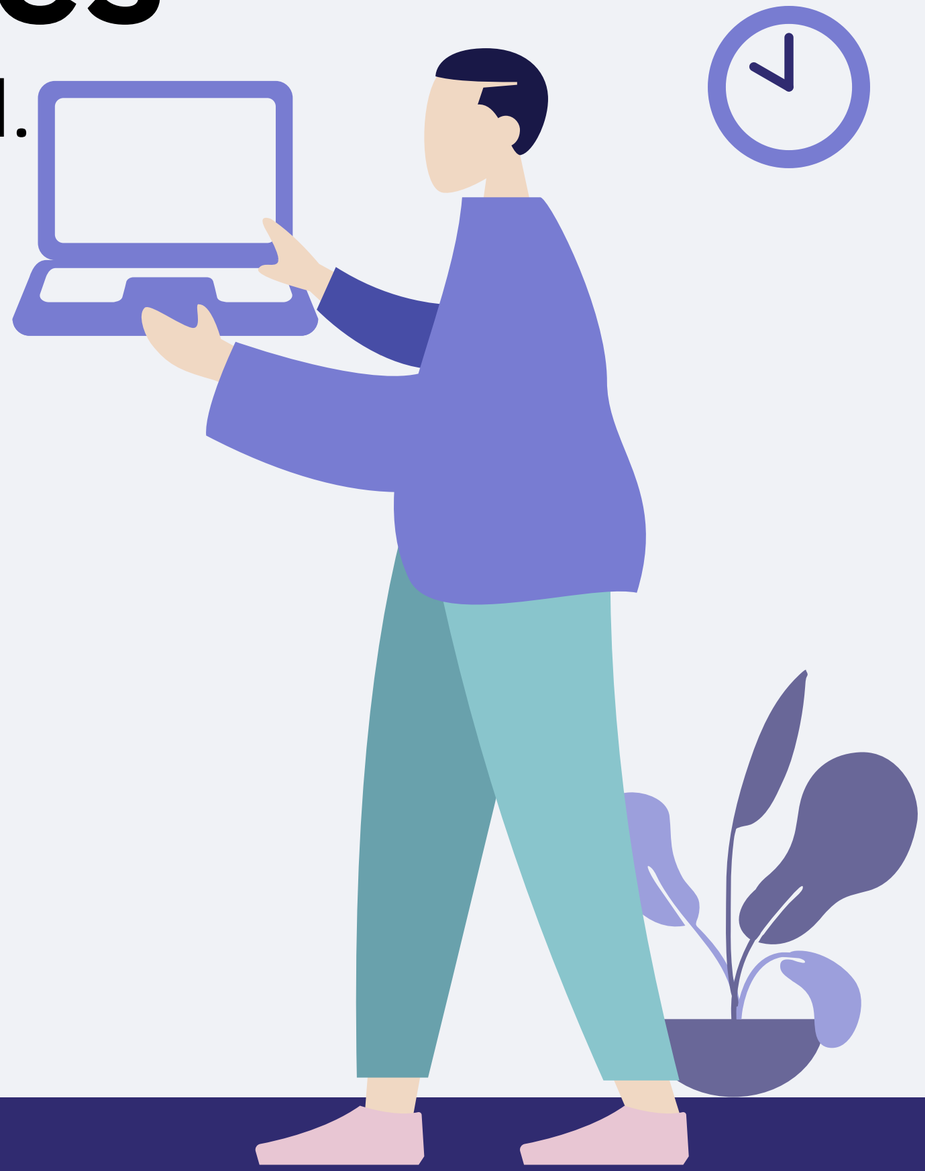
SQL Queries

Retrieve the total number of orders placed.

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

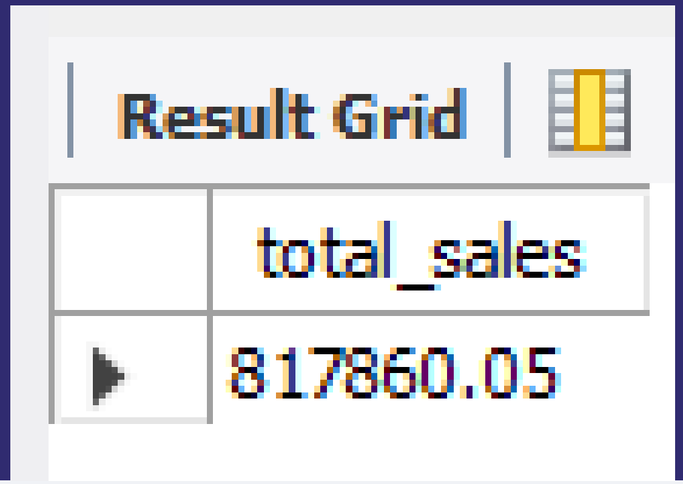
Result Grid

	total_orders
▶	21350



Calculate the total revenue generated from pizza sales.

```sql
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;
```



Identify the highest-priced pizza.

```sql
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.

```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

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;
```

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.

```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

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);
```

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

Due to space constraints, I am only able to show half of the output. The complete output is quite large, and I've included a representative portion here for reference.

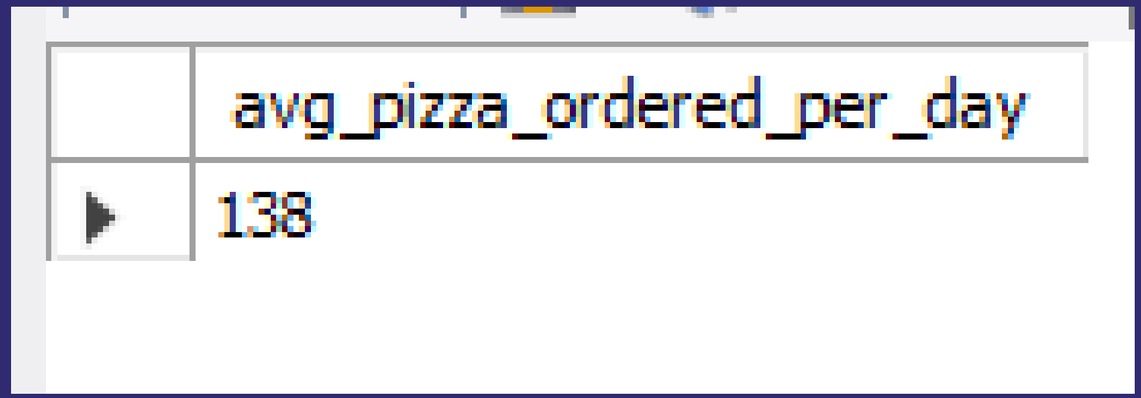
Join relevant tables to find the category-wise distribution of pizzas.

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

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

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;
```

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.

```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

Analyze the cumulative revenue generated over time.

```sql
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;
```

Due to space constraints, I am only able to show half of the output. The complete output is quite large, and I've included a representative portion here for reference.

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

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;
```

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