

SQL PROJECT ON PIZZA SALES

ANALYZING SALES DATA WITH STRUCTURED QUERIES

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INTRODUCTION



Welcome to my SQL project on Pizza Sales, where I analyze a rich dataset to uncover valuable insights about pizza orders, types, and sales trends.

This project aims to:

- Understand the sales performance of different pizzas and categories.
- Identify customer preferences and sales patterns.
- Gain hands-on experience in SQL for data analysis.



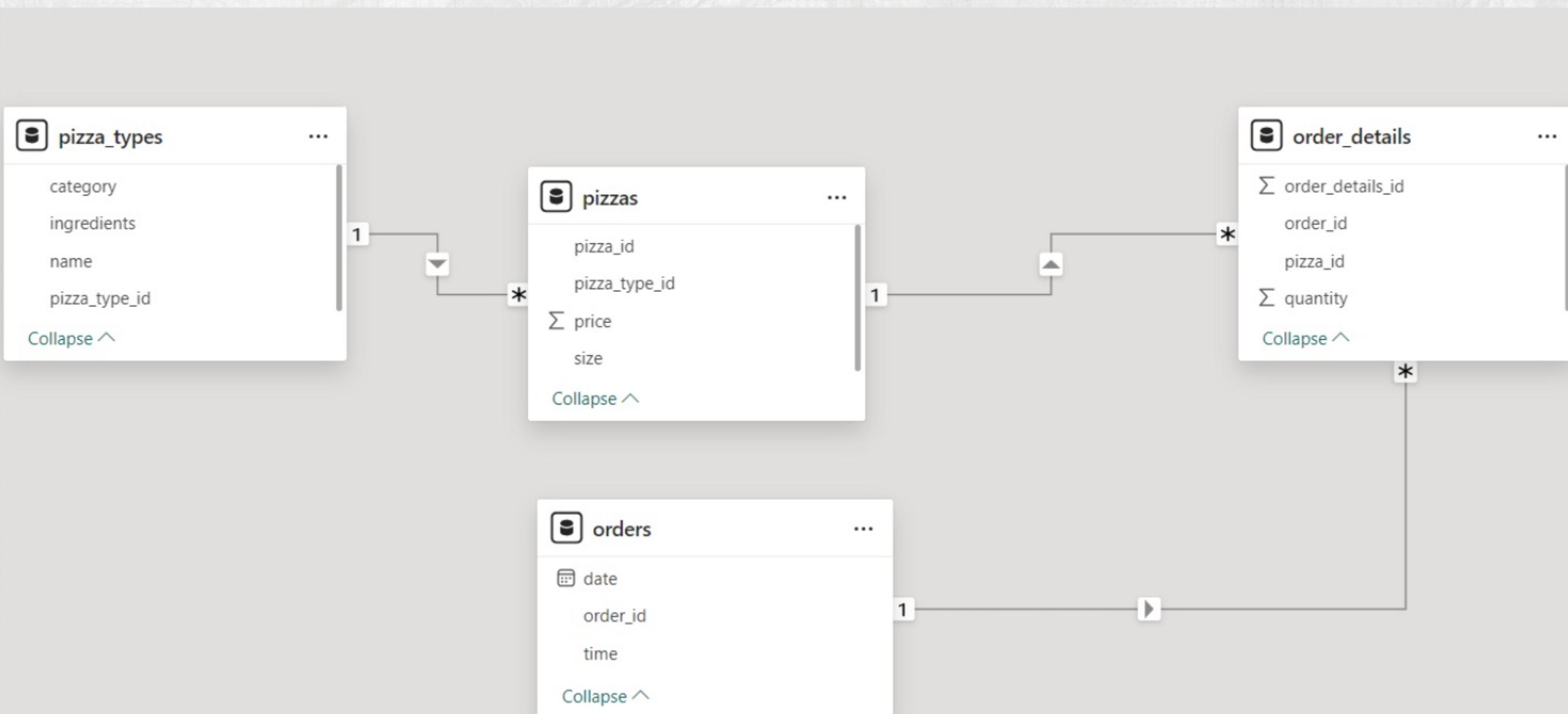
The dataset consists of four tables:

- Pizzas: Information about pizza_id, sizes and price.
- Pizza Types: Details about pizza name, categories and ingredients.
- Orders: Order-specific data like order_id, date and time.
- Order Details: Details like quantity .

By executing 13 SQL queries (5 basic, 5 intermediate, and 3 advanced), I extracted actionable insights and honed my SQL skills. This project showcases how structured query language can be a powerful tool for data-driven decision-making



UNDERSTANDING THE DATASET





TOOL USED

- SQL SERVER MANAGEMENT STUDIO

METHODOLOGY:

- DATA EXPLORATION.
- WRITING AND RUNNING QUERIES.
- INTERPRETING THE RESULTS.



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**

- 6) Join the necessary tables to find the total quantity of each pizza category ordered.
- 7) Determine the distribution of the orders by hour of the day
- 8) Join relevant tables to find out the category wise distribution of pizzas
- 9) Group the orders By Date and calculate the average number of pizzas ordered per day.
- 10) Determine the Top 3 most ordered pizza types based on revenue

- **ADVANCE**

- 11) Calculate the percentage contribution of each pizza type to total revenue.
- 12) Analyze the cumulative Revenue generated over time
- 13) Determine the Top 3 most ordered pizza types based on Revenue for each pizza Category



BASIC QUERY 1

SQLQuery1.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (57)) - Microsoft SQL Server Management Studio

Quick Launch (Ctrl+Q)

Edit View Query Project Tools Window Help

New Query MDX DMX XML DAX Execute

pizzahut

-- Retrieve the total number of orders placed

```
SELECT count(order_id) AS Total_orders FROM orders;
```

Results Messages

Total_orders
1 21350

177 %

Query executed successfully.

SWATI\SQLEXPRESS (16.0 RTM) | SWATI\swati (57) | pizzahut | 00:00:00 | 1 rows

This screenshot shows a Microsoft SQL Server Management Studio (SSMS) interface. The title bar indicates the connection is to 'SWATI\SQLEXPRESS.pizzahut' as user 'SWATI\swati (57)'. The main window contains a query editor with the following content:

```
-- Retrieve the total number of orders placed
SELECT count(order_id) AS Total_orders FROM orders;
```

The results pane below shows a single row of data:

Total_orders
1 21350

A status bar at the bottom of the screen displays the message 'Query executed successfully.' and the execution time '00:00:00 | 1 rows'.

BASIC QUERY 2

SQLQuery6.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (68))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XMLA DAX

pizzahut Execute

Object Explorer

Connect

- dbo.order_details
 - Columns
 - order_details_id (PK)
 - order_id (varchar(50))
 - pizza_id (nvarchar(5))
 - quantity (int, not null)
 - Keys
 - Constraints
 - Triggers
 - Indexes
 - Statistics
- dbo.orders
- dbo.pizza_types
- dbo.pizzas
 - Columns
 - pizza_id (nvarchar(5))
 - pizza_type_id (nvarc...)
 - size (nvarchar(50), n...)
 - price (float, not null)
 - Keys
 - Constraints
 - Triggers
 - Indexes
 - Statistics
- Views
- External Resources
- Synonyms
- Programmability
- Query Store
- Service Broker
- Storage
- Security
- Server Objects
- Replication

-- Calculate the total revenue generated from Pizza sales

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

Results

Total_Revenue
817860.05

Messages

Query executed successfully.

SWATI\SQLEXPRESS (16.0 RTM) | SWATI\swati (68) | pizzahut | 00:00:00 | 1 rows

BASIC QUERY 3

SQLQuery7.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (67))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XML DAX Execute

Object Explorer Connect pizzahut

--Identify the highest priced Pizza

```
SELECT TOP 1 pt.name, p.price AS Highest_priced_pizza
FROM pizzas AS p  join pizza_types AS pt
ON p.pizza_type_id = pt.pizza_type_id
ORDER BY p.price desc;
```

177 %

Results Messages

	name	Highest_priced_pizza
1	The Greek Pizza	35.9500007629395

Query executed successfully.

SWATI\SOLEXPRESS (16.0 RTM) SWATI\swati (67) pizzahut 00:00:00 1 rows

BASIC QUERY 4

SQLQuery8.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (62))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XMLA DAX

pizzahut Execute

--Identify the most common pizza size ordered

```
SELECT Top 1 p.size,COUNT(od.order_details_id) AS order_count
FROM pizzas AS p join order_details AS od
ON p.pizza_id = od.pizza_id
group by p.size order by order_count desc;
```

177 %

Results Messages

	size	order_count
1	L	18526

Query executed successfully.

SWATI\SQLEXPRESS (16.0 RTM) | SWATI\swati (62) | pizzahut | 00:00:00 | 1 rows

BASIC QUERY 5



SQLQuery10.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (63)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XMLA DAX

pizzahut Execute

Object Explorer

--List the Top 5 most ordered pizza types
--along with their quantities

```
SELECT TOP 5 pt.name , Sum(od.quantity) AS quantity
from pizza_types AS pt join pizzas AS p
ON pt.pizza_type_id = p.pizza_type_id
join order_details AS od ON od.pizza_id=p.pizza_id |
group by pt.name
order by quantity desc;
```

177 %

Results Messages

	name	quantity
1	The Classic Deluxe Pizza	2453
2	The Barbecue Chicken Pizza	2432
3	The Hawaiian Pizza	2422
4	The Pepperoni Pizza	2418
5	The Thai Chicken Pizza	2371

Query executed successfully.

SWATI\SQLEXPRESS (16.0 RTM) SWATI\swati (63) pizzahut 00:00:00 5 rows

INTERMEDIATE QUERY1



SQLQuery12.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (60))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XML DAX Execute

pizzahut

Object Explorer

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

```
SELECT pt.category , sum(od.quantity) AS quantity
FROM pizza_types AS pt join pizzas AS p
ON pt.pizza_type_id = p.pizza_type_id
join order_details AS od ON p.pizza_id = od.pizza_id
group by pt.category;
```

177 %

Results Messages

	category	quantity
1	Chicken	11050
2	Classic	14888
3	Supreme	11987
4	Veggie	11649

Query executed successfully.

SWATI\SQLEXPRESS (16.0 RTM) | SWATI\swati (60) | pizzahut | 00:00:00 | 4 rows

INTERMEDIATE QUERY2



SQLQuery13.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (59))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XML DAX

pizzahut Execute

Object Explorer

--Determine the distribution of the orders by hour of the day

```
select DATEPART(HOUR,time) AS Time , COUNT(order_id) AS Orders_COUNT
From orders
group by DATEPART(HOUR,time)
order By time ;
```

Results Messages

Time	Orders_COUNT	
1	9	1
2	10	8
3	11	1231
4	12	2520
5	13	2455
6	14	1472
7	15	1468
8	16	1920
9	17	2336
10	18	2399
11	19	2009
12	20	1642
13	21	1198
14	22	663
15	23	28

Query executed successfully.

SWATI\SQLEXPRESS (16.0 RTM) | SWATI\swati (59) | pizzahut | 00:00:00 | 15 rows

INTERMEDIATE QUERY3

SQLQuery14.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (66))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XMLA DAX Execute

pizzahut

Object Explorer

SQLQuery14.sql - S...(SWATI\swati (66))* SQLQuery13.sql - S...(SWATI\swati (59)) SQLQuery12.sql - S...(SWATI\swati (60)) SQLQuery10.sql - S...(SWATI\swati (63))

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

```
SELECT pt.category , COUNT(p.pizza_id)
from pizza_types AS pt join pizzas AS p
on pt.pizza_type_id = p.pizza_type_id
group by pt.category;
```

177 %

Results Messages

category	(No column name)
1	Chicken
2	Classic
3	Supreme
4	Veggie

Query executed successfully.

SWATI\SQLEXPRESS (16.0 RTM) | SWATI\swati (66) | pizzahut | 00:00:00 | 4 rows

INTERMEDIATE QUERY4



SQLQuery15.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (71))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XMLA DAX

pizzahut Execute

Object Explorer

--Group the orders By Date and calculate the average number of pizzas ordered per day.

```
SELECT AVG(quantity) AS orders_per_day
from (SELECT o.Date , SUM(od.quantity) AS quantity
FROM orders AS o  join order_details AS od
ON o.order_id = od.order_id
Group by Date )AS Orders_quantity;
```

177 %

Results Messages

orders_per_day
138

Query executed successfully.

Quick Launch (Ctrl+Q)

SWATI\SQLEXPRESS (16.0 RTM) | SWATI\swati (71) | pizzahut | 00:00:00 | 1 rows

INTERMEDIATE QUERY5



SQLQuery16.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (65))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XMLA DAX

pizzahut Execute

Object Explorer

--Determine the Top 3 most ordered pizza types based on revenue

```
SELECT TOP 3 pt.name , sum(p.price* od.quantity) AS Total_Revenue
from pizza_types AS pt join pizzas AS p
ON pt.pizza_type_id = p.pizza_type_id
join order_details AS od
On p.pizza_id=od.pizza_id
Group By pt.name
order by Total_Revenue desc;
```

177 %

Results Messages

	name	Total_Revenue
1	The Thai Chicken Pizza	43434.25
2	The Barbecue Chicken Pizza	42768
3	The California Chicken Pizza	41409.5

Query executed successfully.

SWATI\SOLEXPRESS (16.0 RTM) | SWATI\swati (65) | pizzahut | 00:00:00 | 3 rows

ADVANCE QUERY 1

SQLQuery17.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (60))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XMDA DAX Execute

pizzahut

Object Explorer

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

```
SELECT pt.category, Round(sum(od.quantity * p.price)/(select sum(od.quantity*p.price) from order_details AS od join pizzas AS p ON od.pizza_id = p.pizza_id)*100,2) AS Total_Revenue
from pizza_types AS pt join pizzas AS p
ON pt.pizza_type_id = p.pizza_type_id
join order_details AS od
ON od.pizza_id = p.pizza_id
Group by pt.category
order by Total_Revenue desc;
```

Results

category	Total_Revenue
1 Classic	26.91
2 Supreme	25.46
3 Chicken	23.96
4 Veggie	23.68

Query executed successfully.

Quick Launch (Ctrl+Q)

SWATI\SQLEXPRESS (16.0 RTM) SWATI\swati (60) pizzahut 00:00:00 4 rows

ADVANCE QUERY 2



SQLQuery18.sql - SWATI\SQLEXPRESS.pizzahut (SWATI\swati (61))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DMX XML DAT Execute

pizzahut

Object Explorer

--Analyze the cumulative Revenue generated over time

```
SELECT date, sum(Revenue) over(order by date) AS cum_Revenue
FROM
(SELECT o.date, sum(od.Quantity* p.price) AS Revenue
FROM order_details AS od join pizzas AS p
ON p.pizza_id =od.pizza_id
join orders AS o
ON o.order_id = od.order_id
GROUP BY o.date ) AS Sales;
```

Results Messages

	date	cum_Revenue
1	2015-01-01	2713.85000228882
2	2015-01-02	5445.7500038147
3	2015-01-03	8108.15000724792
4	2015-01-04	9863.60000801086
5	2015-01-05	11929.5500087738
6	2015-01-06	14358.5000114441
7	2015-01-07	16560.700012207
8	2015-01-08	19399.0500183105
9	2015-01-09	21526.4000225067
10	2015-01-10	23990.350025177
11	2015-01-11	25862.6500263214
12	2015-01-12	27781.7000274658
13	2015-01-13	29831.3000278473
14	2015-01-14	32358.7000293732
15	2015-01-15	34343.5000324249
16	2015-01-16	36937.6500339508
17	2015-01-17	39001.7600342222

Query executed successfully.

SWATI\SQLEXPRESS (16.0 RTM) | SWATI\swati (61) | pizzahut | 00:00:00 | 358 rows

ADVANCE QUERY 3



The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. The title bar indicates the connection is to SWATI\SQLEXPRESS.pizzahut (SWATI\swati (58)* - Microsoft SQL Server Management Studio). The menu bar includes File, Edit, View, Query, Project, Tools, Window, and Help. The toolbar has various icons for file operations like New Query, Save, Print, and Execute. The Object Explorer on the left shows the database structure for the pizzahut database, including Databases, Tables, and other objects. The main query editor window contains the following T-SQL code:

```
--Determine the Top 3 most ordered pizza types based on Revenue for each pizza Category
SELECT category, name, Revenue FROM
(SELECT category, name, Revenue, rank() over
(partition by category order by Revenue desc) AS rank
FROM
(SELECT pt.category, pt.name, sum(od.quantity*p.price) AS Revenue
FROM pizza_types AS pt join pizzas AS p
ON pt.pizza_type_id = p.pizza_type_id
join order_details AS od On od.pizza_id = p.pizza_id
group By pt.category, pt.name) AS a ) AS b
where rank<=3;
```

The Results pane below the query editor displays the output of the query as a table:

	category	name	Revenue
1	Chicken	The Thai Chicken Pizza	43434.25
2	Chicken	The Barbecue Chicken Pizza	42768
3	Chicken	The California Chicken Pizza	41409.5
4	Classic	The Classic Deluxe Pizza	38180.5
5	Classic	The Hawaiian Pizza	32273.25
6	Classic	The Pepperoni Pizza	30161.75
7	Supreme	The Spicy Italian Pizza	34831.25
8	Supreme	The Italian Supreme Pizza	33476.75
9	Supreme	The Sicilian Pizza	30940.5
10	Veggie	The Four Cheese Pizza	32265.7010040283
11	Veggie	The Mexicana Pizza	26780.75
12	Veggie	The Five Cheese Pizza	26066.5

The status bar at the bottom of the screen shows "Query executed successfully." and the session details: SWATI\SOLEXPRESS (16.0 RTM) | SWATI\swati (58) | pizzahut | 00:00:01 | 12 rows.

KEY INSIGHTS



KEY INSIGHTS FROM PIZZA SALES ANALYSIS

Top-Selling Pizza Types:

- The classic deluxe pizza is most ordered pizza type by quantity and The Thai Chicken pizza is most ordered pizza type by the revenue.

Sales Trends:

- 12pm to 1pm are the peak sales hours of the day while 9am to 10am are the least sales hours of the day.

Customer Preferences:

- People ordered pizzas from the Classic pizza category the most and Chicken pizza category the least by Quantity.

Revenue Drivers:

- Classic pizza category contributed 26.91% ,Supreme 25.46%,Chicken 23.96% , Veggie 23.68% to the Total Revenue.

Order Insights:

- L is the most common pizza size ordered and Average number of Pizzas ordered per day is 138.

Overall Sales Performance:

- Total Revenue: 817860.05
- Number of Orders placed: 21350
- Number of Pizzas Sold: 49574
- Average order Value:38.31



CONCLUSION AND FUTURE SCOPE

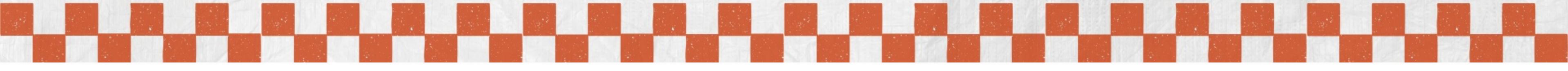


CONCLUSION:

- This project provided valuable insights into the pizza sales dataset by leveraging SQL for data analysis.
- Key achievements include identifying top-selling pizzas, understanding customer preferences, and analyzing sales trends.
- The 13 queries (5 basic, 5 intermediate, and 3 advanced) demonstrated a progressive understanding of SQL concepts, from basic data exploration to advanced analytics.

FUTURE SCOPE:

- Use tools like Power BI or Tableau to create interactive dashboards for better data representation.





THANK YOU!

Feel Free to Ask About Anything

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[https://www.linkedin.com/in/swati-rana-5a8500222?
utm_source=share&utm_campaign=share_via&utm_content=profile&utm_medium=android_app](https://www.linkedin.com/in/swati-rana-5a8500222?utm_source=share&utm_campaign=share_via&utm_content=profile&utm_medium=android_app)

