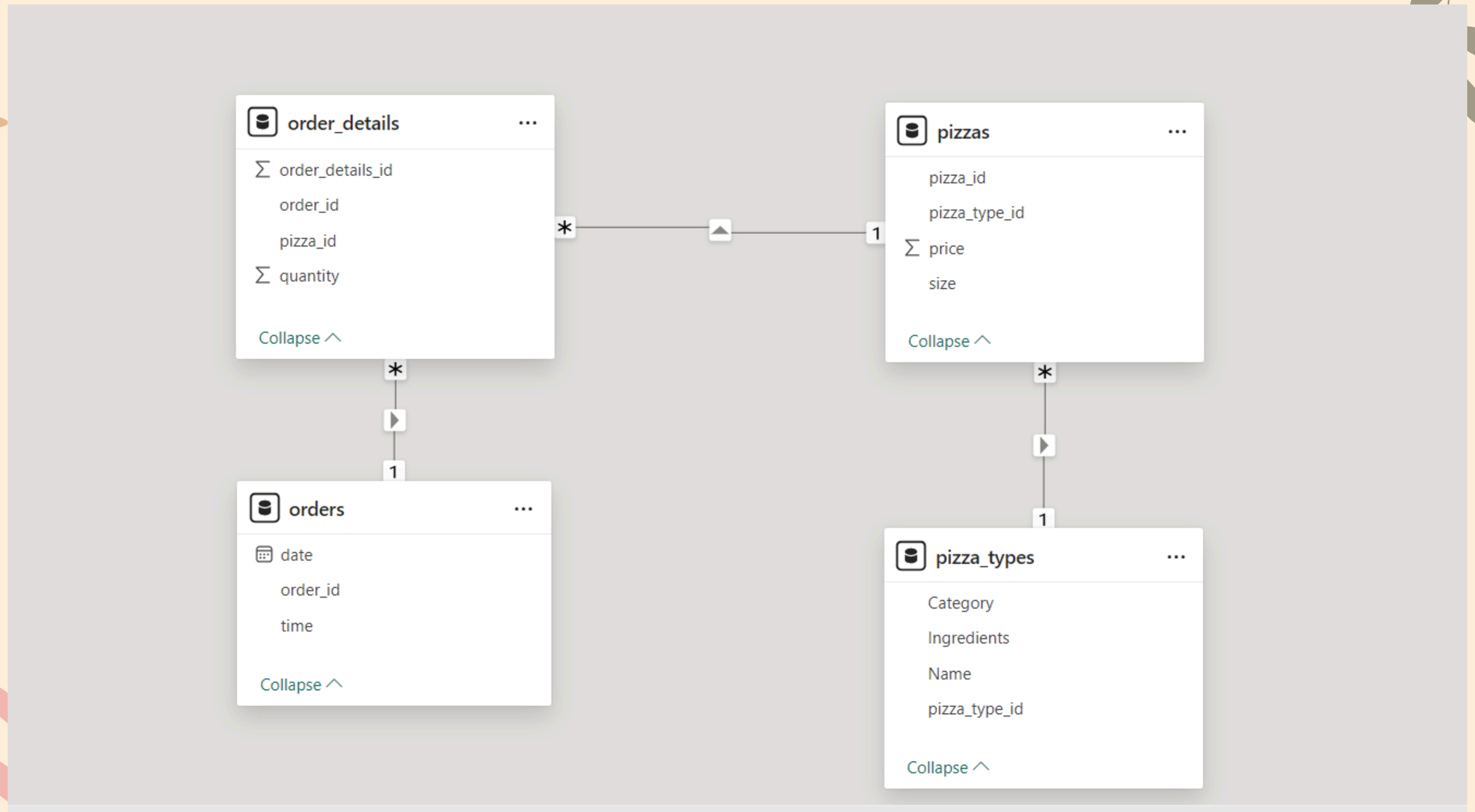
SQL Project on Pizza Sales

using Microsoft SQL Server Management Studio

Introduction

In this project I have used SQL queries to solve questions related to pizza sales, to get valuable information from data in four different tables.


order_details
order_details_id
order_id
pizza_id
quantity
Collapse
pizzas
pizza_id
pizza_type_id
price
size
Collapse
orders
date
order_id
time
Collapse
pizza_types
Category
Ingredients
Name
pizza_type_id
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*
1
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1

Retrieve the total number of orders placed

```
Select COUNT(order_id) as Total_Orders
FROM orders
```

Results | Messages

	Total_Orders
1	21350

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 order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
```

Results | Messages

	Total_Revenue
1	817860.05

Identify the highest-priced pizza

```sql
Select TOP 1 pizza_types.Name as Name, Pizzas.Price as Highest_Price
FROM pizza_types
JOIN pizzas
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
ORDER BY Highest_Price DESC
```

Results | Messages

	Name	Highest_Price
1	The Greek Pizza	35.9500007629395

Identify the most common pizza size ordered

```
Select Top 1 Pizzas.size, COUNT(order_details.order_details_id) as Total_Quantity
FROM Pizzas
JOIN order_details
ON pizzas.pizza_id = order_details.pizza_id
GROUP BY pizzas.size
ORDER BY Total_Quantity DESC
```

Results | Messages

	size	Total_Quantity
1	L	18526

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

```
Select TOP 5 pizza_types.Name as Name, 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 Name
ORDER BY Total_Quantity DESC
```

Results | Messages

	Name	Total_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

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

```
Select pizza_types.Category as Category, SUM(order_details.quantity) as Total_Quantity
FROM order_details
JOIN Pizzas
ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY Category
Order BY Total_Quantity DESC
```

Results | Messages

	Category	Total_Quantity
1	Classic	14888
2	Supreme	11987
3	Veggie	11649
4	Chicken	11050

Determine the distribution of orders by hour of the day

```
Select DATEPART(Hour,Time) as Hour, COUNT(order_id) as Order_Count
FROM Orders
GROUP BY DatePart(Hour,Time)
ORDER BY Hour
```

Results | Messages

	Hour	Order_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

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

```
Select Category, COUNT(Name) as Category_Count
FROM pizza_types
GROUP BY Category
```

Results | Messages

	Category	Category_Count
1	Chicken	6
2	Classic	8
3	Supreme	9
4	Veggie	9

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

```
SELECT ROUND(AVG(Total_Quantity),0) as Average_Quantity FROM
(Select Orders.Date as Date, SUM(order_details.quantity) as Total_Quantity
FROM order_details
JOIN orders
ON order_details.order_id = orders.order_id
GROUP BY Date) as Quantity_Ordered
```

Results | Messages

	Average_Quantity
1	138

Determine the top 3 most ordered pizza types based on revenue

```sql
Select TOP 3 pizza_types.name as Name, ROUND(SUM(order_details.quantity * pizzas.price),2) as Revenue
FROM order_details
JOIN pizzas
ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY Name
ORDER BY Revenue DESC
```

Results | Messages

	Name	Revenue
1	The Thai Chicken Pizza	43434.25
2	The Barbecue Chicken Pizza	42768
3	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 SUM(order_details.quantity * pizzas.price) FROM order_details
JOIN pizzas
ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id) * 100),2) as Percentage
FROM order_details
JOIN pizzas
ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY Category
ORDER BY Percentage DESC
```

Results | Messages

	Category	Percentage
1	Classic	26.91
2	Supreme	25.46
3	Chicken	23.96
4	Veggie	23.68

Analyze the cumulative revenue generated over time

```sql
Select Orders.Date as Date, ROUND(SUM(order_details.quantity * pizzas.price),2) as Revenue,
ROUND(SUM(SUM(order_details.quantity * pizzas.price)) OVER (ORDER BY Date),2) as Cumulative_Revenue
FROM order_details
JOIN pizzas
ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
JOIN Orders
ON Orders.order_id = order_details.order_id
GROUP BY Date
ORDER BY Date
```

Results | Messages

	Date	Revenue	Cumulative_Revenue
1	2015-01-01	2713.85	2713.85
2	2015-01-02	2731.9	5445.75
3	2015-01-03	2662.4	8108.15
4	2015-01-04	1755.45	9863.6
5	2015-01-05	2065.95	11929.55
6	2015-01-06	2428.95	14358.5
7	2015-01-07	2202.2	16560.7

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

```sql
WITH CTE AS
(
Select pizza_types.name as Name, pizza_types.category as Category, ROUND(SUM(order_details.quantity * pizzas.price),2) as Revenue,
RANK() OVER(Partition by pizza_types.category ORDER BY SUM(order_details.quantity * pizzas.price) DESC) as RN
FROM order_details
JOIN pizzas ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY Name, Category
)

Select Name, Category, Revenue
FROM CTE
WHERE RN<=3
```

Results | Messages

	Name	Category	Revenue
1	The Thai Chicken Pizza	Chicken	43434.25
2	The Barbecue Chicken Pizza	Chicken	42768
3	The California Chicken Pizza	Chicken	41409.5
4	The Classic Deluxe Pizza	Classic	38180.5
5	The Hawaiian Pizza	Classic	32273.25
6	The Pepperoni Pizza	Classic	30161.75
7	The Spicy Italian Pizza	Supreme	34831.25
8	The Italian Supreme Pizza	Supreme	33476.75
9	The Sicilian Pizza	Supreme	30940.5
10	The Four Cheese Pizza	Veggie	32265.7
11	The Mexicana Pizza	Veggie	26780.75
12	The Five Cheese Pizza	Veggie	26066.5

Thank You