Pizza Sales Data Analysis using SQL

Introduction

This project involves analyzing pizza sales data to uncover key business insights using SQL. The analysis covers total revenue, most popular pizza types, and sales trends, providing a comprehensive overview of customer preferences and performance metrics.

ORDERS .CSV

order_id	date	time
1	1/1/2015	11:38:36
2	1/1/2015	11:57:40
3	1/1/2015	12:12:28
4	1/1/2015	12:16:31
5	1/1/2015	12:21:30
6	1/1/2015	12:29:36
7	1/1/2015	12:50:37

ORDERS_DETAIL.CSV

order_details_id	order_id	pizza_id	quantity
1	1	hawaiian_m	1
2	2	classic_dlx_m	1
3	2	five_cheese_l	1
4	2	ital_supr_l	1
5	2	mexicana_m	1
6	2	thai_ckn_l	1
7	3	ital_supr_m	1
8	3	prsc_argla_l	1
9	4	ital_supr_m	1
10	5	ital_supr_m	1

PIZZAS.CSV

pizza_id	pizza_type_id	size	price
bbq_ckn_s	bbq_ckn	S	12.75
bbq_ckn_m	bbq_ckn	M	16.75
bbq_ckn_l	bbq_ckn	L	20.75
cali_ckn_s	cali_ckn	S	12.75
cali_ckn_m	cali_ckn	M	16.75
cali_ckn_l	cali_ckn	L	20.75
ckn_alfredo_s	ckn_alfredo	S	12.75
ckn_alfredo_m	ckn_alfredo	M	16.75
ckn_alfredo_l	ckn_alfredo	L	20.75

PIZZA_TYPES.CSV

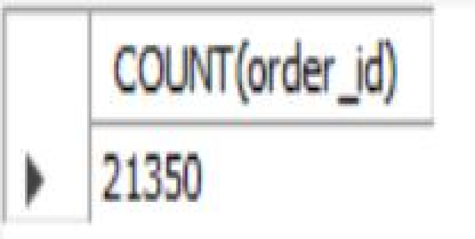
pizza_type_id	name	category	ingredients
bbq_ckn	The Barbecue Chicken Pizza	Chicken	Barbecued Chicken, Red Peppers, Green Peppers, Tomatoes, Red Onions, Barbecue Sauce
cali_ckn	The California Chicken Pizza	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese
ckn_alfredo	The Chicken Alfredo Pizza	Chicken	Chicken, Red Onions, Red Peppers, Mushrooms, Asiago Cheese, Alfredo Sauce
ckn_pesto	The Chicken Pesto Pizza	Chicken	Chicken, Tomatoes, Red Peppers, Spinach, Garlic, Pesto Sauce
southw_ckn	[illegible]west Chicken [illegible]	Chicken	Chicken, Tomatoes, Red Peppers, Red Onions, Jalapeno Peppers, Corn, Cilantro, Chipotle Sauce
thai_ckn	The [illegible]zza	Chicken	Chicken, Pineapple, Tomatoes, Red Peppers, Thai Sweet Chilli Sauce
big_meat	The Big M[illegible]	Classic	Bacon, Pepperoni, Italian Sausage, Chorizo Sausage
classic_dlx	The Classic D[illegible]	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppers, Bacon
hawaiian	The Hawaiian Pizza	Classic	Sliced Ham, Pineapple, Mozzarella Cheese
ital_cpcllo	The Italian Capocollo Pizza	Classic	Capocollo, Red Peppers, Tomatoes, Goat Cheese, Garlic, Oregano

Import CSV File

```
-- TO ADD csv file to sql first make data base
CREATE DATABASE example;
-- then right click on tables and import project wizard
-- but if file is too large then make a table

create table orders(
order_id int not null,
order_date date not null,
order_time time not null,
primary key (order_id))
-- then right click on orders and import project wizard
```

Retrieve the total number of orders placed.

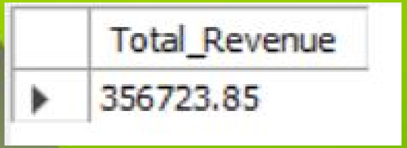
```
SELECT
    COUNT(order_id)
FROM
    orders
```



COUNT(order_id)
21350

Calculate the total revenue generated from pizza sales.

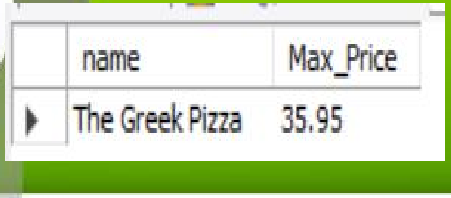
```
SELECT
    ROUND(SUM(order_detail.quanity * pizzas.price),
            2) AS Total_Revenue
FROM
    order_detail
        JOIN
    pizzas ON order_detail.pizza_id = pizzas.pizza_id
```



	Total_Revenue
▶	356723.85

Identify the highest-priced pizza.

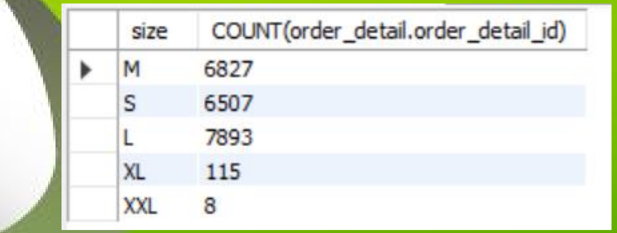
```
SELECT
    pizza_types.name, pizzas.price AS Max_Price
FROM
    pizzas
        JOIN
    pizza_types ON pizzas.pizza_type_id = pizza_types.pizza_type_id
ORDER BY pizzas.price DESC
LIMIT 1
```



	name	Max_Price
▶	The Greek Pizza	35.95

Identify the most common pizza size ordered.

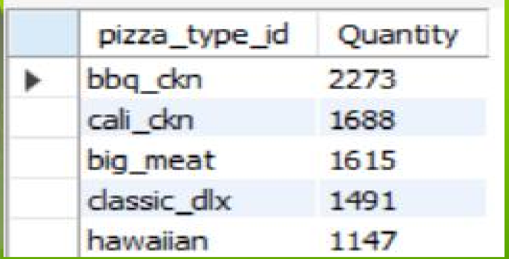
```
SELECT
    pizzas.size, COUNT(order_detail.order_detail_id)
FROM
    order_detail
        JOIN
    pizzas ON pizzas.pizza_id = order_detail.pizza_id
GROUP BY pizzas.size
```



size	COUNT(order_detail.order_detail_id)
M	6827
S	6507
L	7893
XL	115
XXL	8

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

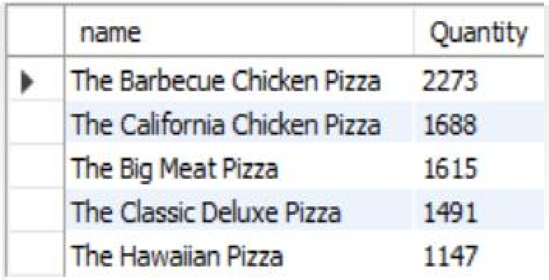
```
SELECT
    ROUND(SUM(order_detail.quanity * pizzas.price),
            2) AS Total_Revenue
FROM
    order_detail
        JOIN
    pizzas ON order_detail.pizza_id = pizzas.pizza_id
```



	pizza_type_id	Quantity
▶	bbq_ckn	2273
	cali_ckn	1688
	big_meat	1615
	classic_dlx	1491
	hawaiian	1147

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

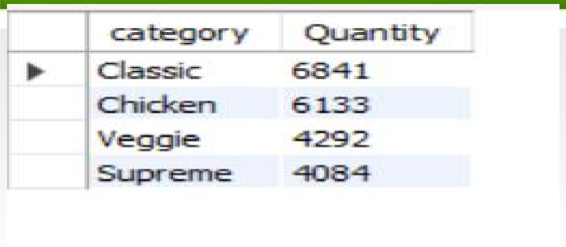
```
SELECT
    pizza_types.name, COUNT(order_detail.quanity)
as Quantity
FROM
    order_detail
        JOIN
    pizzas ON pizzas.pizza_id = order_detail.pizza_id
        JOIN
    pizza_types ON pizzas.pizza_type_id =
pizza_types.pizza_type_id
GROUP BY pizza_types.name
order by Quantity desc limit 5
```



name	Quantity
The Barbecue Chicken Pizza	2273
The California Chicken Pizza	1688
The Big Meat Pizza	1615
The Classic Deluxe Pizza	1491
The Hawaiian Pizza	1147

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

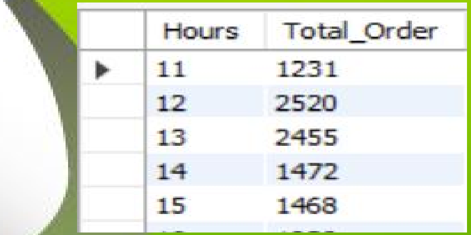
```
SELECT
    pizza_types.category,
    COUNT(order_detail.quanity) AS Quantity
FROM
    pizza_types
        JOIN
    pizzas ON pizzas.pizza_type_id =
pizza_types.pizza_type_id
        JOIN
    order_detail ON pizzas.pizza_id = order_detail.pizza_id
GROUP BY pizza_types.category
ORDER BY Quantity DESC
LIMIT 5
```



	category	Quantity
▶	Classic	6841
	Chicken	6133
	Veggie	4292
	Supreme	4084

Determine the distribution of orders by hour of the day.

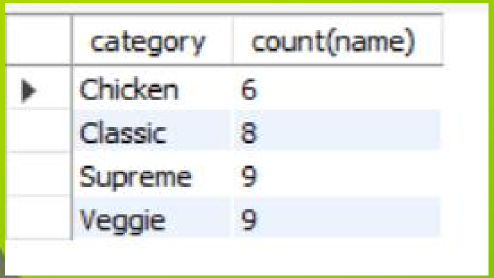
```
SELECT
    HOUR(order_time) AS Hours, COUNT(order_id)
AS Total_Order
FROM
    orders
GROUP BY HOUR(order_time)
```



	Hours	Total_Order
▶	11	1231
	12	2520
	13	2455
	14	1472
	15	1468

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

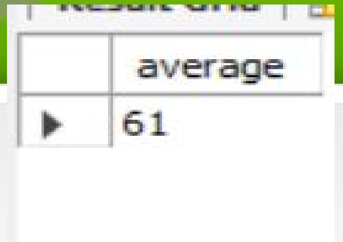
```
select category,count(name)
FROM pizza_types
group by category
```



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

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

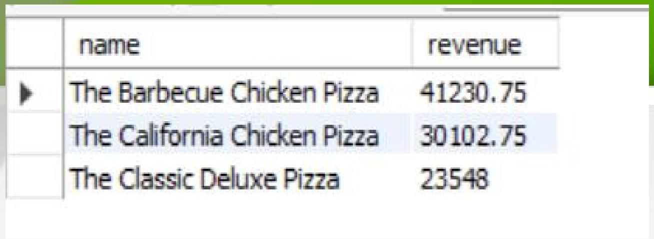
```
SELECT
    round(AVG(Total_Order),0) AS average
FROM
    (SELECT
        orders.order_date, SUM(order_detail.quanity) AS Total_Order
    FROM
        orders
    JOIN order_detail ON orders.order_id = order_detail.order_id
    GROUP BY orders.order_date) AS order_per_day;
```



```
  average
▶ 61
```

Determine the top 3 most ordered pizza types based on revenue.

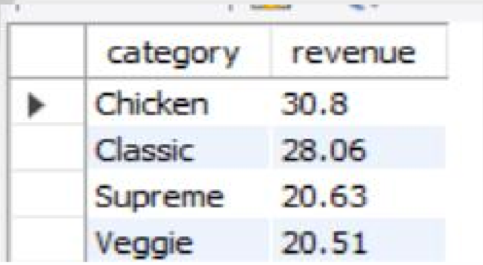
```
SELECT
    pizza_types.name,
    ROUND(SUM(order_detail.quanity * pizzas.price),
            2) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
        JOIN
    order_detail ON pizzas.pizza_id = order_detail.pizza_id
GROUP BY pizza_types.name
ORDER BY revenue DESC
LIMIT 3
```



name	revenue
The Barbecue Chicken Pizza	41230.75
The California Chicken Pizza	30102.75
The Classic Deluxe Pizza	23548

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

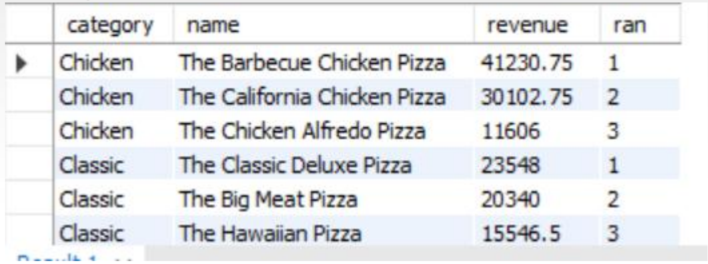
```
SELECT
    pizza_types.category,
    Round(SUM(order_detail.quanity * pizzas.price) /
(SELECT SUM(order_detail.quanity * pizzas.price)
FROM order_detail JOIN
pizzas ON order_detail.pizza_id = pizzas.pizza_id)*100,2) as revenue

FROM
    pizza_types
        JOIN
    pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
        JOIN
    order_detail ON pizzas.pizza_id = order_detail.pizza_id
GROUP BY pizza_types.category
ORDER BY revenue DESC
```



	category	revenue
▶	Chicken	30.8
	Classic	28.06
	Supreme	20.63
	Veggie	20.51

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

```
select category,name,revenue,ran
from
(select category,name,revenue,
RANK() OVER(partition by category order by revenue desc) as ran
from
(SELECT
    pizza_types.category,pizza_types.name,
    ROUND(SUM(order_detail.quanity * pizzas.price),
            2) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
        JOIN
    order_detail ON pizzas.pizza_id = order_detail.pizza_id
GROUP BY pizza_types.name,pizza_types.category
ORDER BY revenue DESC) as a) as b
where ran<=3
```



category	name	revenue	ran
Chicken	The Barbecue Chicken Pizza	41230.75	1
Chicken	The California Chicken Pizza	30102.75	2
Chicken	The Chicken Alfredo Pizza	11606	3
Classic	The Classic Deluxe Pizza	23548	1
Classic	The Big Meat Pizza	20340	2
Classic	The Hawaiian Pizza	15546.5	3