PIZZA SALES ANALYSIS PROJECT

Overview :

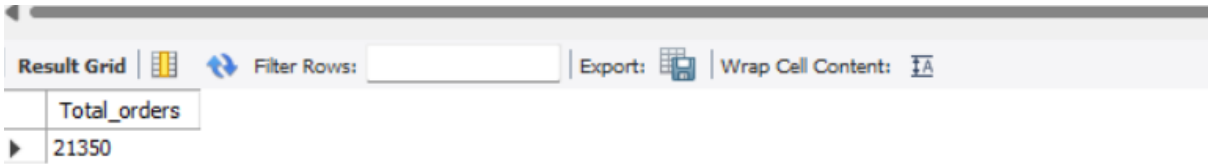
This project involves analysing the pizza sale data using SQL to answer key business questions. This analysis is to uncover insights related to total orders, total sales, popular Pizza types and other important distributions.

This analysis is divided into three sections: Basic, Intermediate and Advanced

Basic Analysis:

1. Retrieve the total number of orders placed.

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



2. Calculate the total revenue generated from pizza sales.

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

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

total_sales
817860.05

3. Identify the highest-priced pizza.

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

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

Name	price
The Greek Pizza	35.95

4. Identify the most common pizza size ordered.

```
SELECT pizzas.size,
COUNT(order_details.order_details_id) AS order_count
FROM order_details
JOIN pizzas ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizzas.size
ORDER BY order_count DESC
LIMIT 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

size	order_count
L	18526

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

```
SELECT pizza_types.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 pizza_types.name
ORDER BY total_quantity DESC
LIMIT 5;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

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

Intermediate Analysis:

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

```
 SELECT    pizza_types.category,
SUM(order_details.quantity) AS total_quantity

FROM pizza_types JOIN
```

pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
JOIN order_details ON pizzas.pizza_id = order_details.pizza_id
GROUP BY pizza_types.category;

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

category	total_quantity
Classic	14888
Veggie	11649
Supreme	11987
Chicken	11050

2. Determine the distribution of orders by hour of the day.

```
SELECT  HOUR(order_time), COUNT(order_id)
FROM  orders
GROUP BY HOUR(order_time);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

HOUR(order_time)	COUNT(order_id)
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336
18	2399
19	2009
20	1642
21	1198
22	663
23	28
10	8
9	1

3. find the category-wise distribution of pizzas

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

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

category	pizza_name_count
Chicken	6
Classic	8
Supreme	9
Veggie	9

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

```
SELECT ROUND(AVG(quantity), 0) as avg_pizzas_ordered
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;
```

Result Grid | Filter Rows: | Export: | Wrap C

avg_pizzas_ordered
138

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

```
SELECT  pizza_types.name,
 SUM(order_details.quantity * pizzas.price) AS
total_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.name
ORDER BY total_revenue DESC
LIMIT 3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

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

Advanced Analysis:

1. Calculate the percentage contribution of each pizza category to total revenue.

```
SELECT pizza_types.category,

ROUND(SUM(order_details.quantity * pizzas.price) / (SELECT
ROUND(SUM(order_details.quantity * pizzas.price)  2) AS
total_sale FROM order_details JOIN

pizzas ON pizzas.pizza_id = order_details.pizza_id) * 100,2) AS
revenue FRO 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;

Result Grid | Filter Rows: | Export: | Wrap Cell

category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

2. Analyze the 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 ;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

order_date	cum_revenue
2015-01-01	2713.850000000004
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

3. 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 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;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

category	name	revenue
Chicken	The Thai Chicken Pizza	43434.25
Chicken	The Barbecue Chicken Pizza	42768
Chicken	The California Chicken Pizza	41409.5
Classic	Deluxe Pizza	38180.5
Classic	The Hawaiian Pizza	32273.25
Classic	The Pepperoni Pizza	30161.75
Supreme	The Spicy Italian Pizza	34831.25
Supreme	The Italian Supreme Pizza	33476.75
Supreme	The Sicilian Pizza	30940.5
Veggie	The Four Cheese Pizza	32265.70000000065
Veggie	The Mexicana Pizza	26780.75
Veggie	The Five Cheese Pizza	26066.5