Pizza Sales Analysis Using SQL (MySql)

1.Project Summary:

The project aims to analyze sales performance, customer preferences, and revenue trends for a pizza restaurant.

2. Dataset Name:

Pizza_sales

3. Dataset Content:

The dataset consists of four tables for the analysis i.e.- order_details, orders, pizza_types and pizzas.

4. Data Analysis using SQL:

(i) Retrieve the total number of orders placed.

```
select count(order_id) as total_orders from orders;
```

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

total_orders
21350

(ii) 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 pizzas.pizza_id = order_details.pizza_id
```

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

total_revenue
817860.05

(iii) Identify the highest-priced pizza.

```
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;
```

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

name	price
The Greek Pizza	35.95

(iv) Identify the most common pizza size ordered.

```
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;
```

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

size	order_count
L	18526
M	15385
S	14137
XL	544
XXL	28

(v) **List the top 5 most ordered pizza types along with their quantities.**

```
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;
```

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

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

(vi) **Join the necessary tables to find the total quantity of each pizza category ordered.**

```
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;
```

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

category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

(vii) **Determine the distribution of orders by hour of the day.**

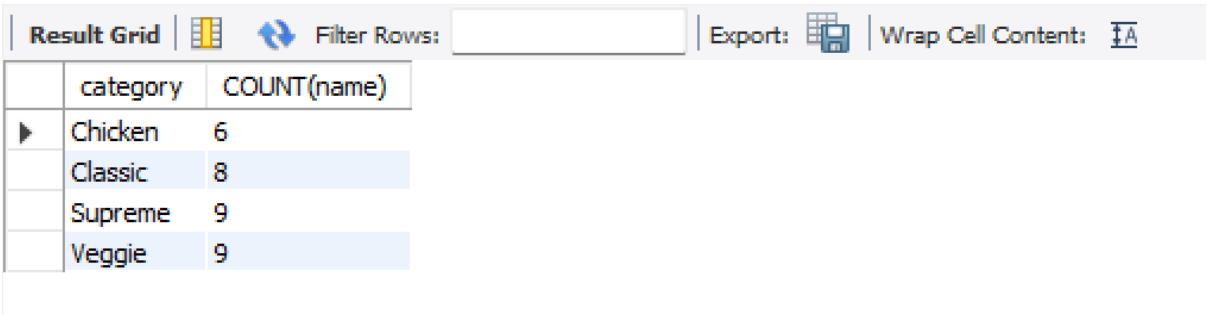
```
SELECT
    HOUR(order_time) AS order_hour,
    COUNT(order_id) AS order_count
FROM
    orders
GROUP BY HOUR(order_time);
```

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

order_hour	order_count
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

(viii) **Join relevant tables to find the category-wise distribution of pizzas.**

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

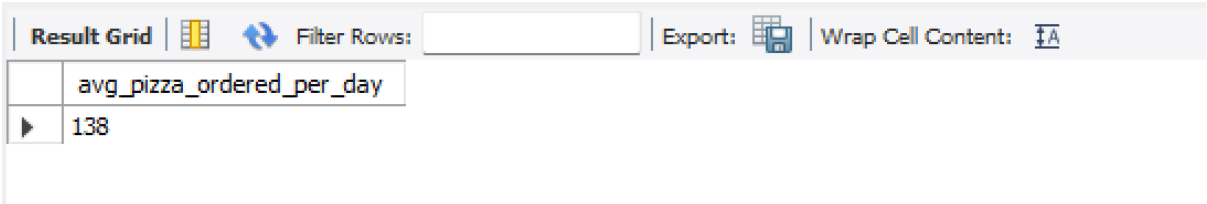


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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

(ix) **Group the orders by date and calculate the average number of pizzas ordered per day.**

```
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 ;
```



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

avg_pizza_ordered_per_day
138

(x) **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;
```

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

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

(xi) **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;
```

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

category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

(xii) **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
2015-01-04	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

Result 1

(xiii) **Determine the top 3 most ordered pizza types based on revenue for each pizza category.**

```sql
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	The 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