SQL For Data Analysis

1)Retrieve the total number of orders placed.

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

	COUNT(ORDER_ID)
1	21350

---

2)Calculate the total revenue generated from pizza sales.

```
    SELECT
    round(SUM(p.price * o.quantity),
          2) AS total_revenue
FROM
         pizzas p
    JOIN orders_details o ON p.pizza_id = o.pizza_id;
```

	TOTAL_REVENUE
1	817860.05

---

3)Identify the highest-priced pizza.

```
SELECT
    pt.name,
    p.price
FROM
         pizzas p
    JOIN pizza_types pt ON p.pizza_type_id = pt.pizza_type_id
ORDER BY
    p.price DESC
FETCH FIRST 1 ROWS ONLY;
```

	NAME	PRICE
1	The Greek Pizza	35.95

---

4)Identify the most common pizza size ordered.

```
SELECT
    p.pizza_size,
    COUNT(od.order_id) count_of_orders
FROM
         orders_details od
    JOIN pizzas p ON od.pizza_id = p.pizza_id
GROUP BY
    pizza_size
ORDER BY
    COUNT(od.order_id) DESC;
```

	PIZZA_SIZE	COUNT_OF_ORDERS
1	L	18526
2	M	15385
3	S	14137
4	XL	544
5	XXL	28

---

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

```
SELECT
    pt.name,
    SUM(od.quantity)   AS total_quantity,
    COUNT(od.order_id) AS total_orders
FROM
         pizzas p
    JOIN orders_details od ON p.pizza_id = od.pizza_id
    JOIN pizza_types    pt ON pt.pizza_type_id = p.pizza_type_id
GROUP BY
    pt.name
ORDER BY
    SUM(od.quantity) DESC
FETCH FIRST 5 ROWS ONLY;
```

	NAME	TOTAL_QUANTITY	TOTAL_ORDERS
1	The Classic Deluxe Pizza	2453	2416
2	The Barbecue Chicken Pizza	2432	2372
3	The Hawaiian Pizza	2422	2370
4	The Pepperoni Pizza	2418	2369
5	The Thai Chicken Pizza	2371	2315

---

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

```
SELECT
    pt.category,
    SUM(od.quantity) AS total_quantity
FROM
        pizza_types pt
    JOIN pizzas         p ON pt.pizza_type_id = p.pizza_type_id
    JOIN orders_details od ON od.pizza_id = p.pizza_id
GROUP BY
    pt.category
ORDER BY
    total_quantity DESC;
```

	CATEGORY	TOTAL_QUANTITY
1	Classic	14888
2	Supreme	11987
3	Veggie	11649
4	Chicken	11050

---

7)Determine the distribution of orders by hour of the day.

```
SELECT
    EXTRACT(HOUR FROM order_time) AS hrs,
    COUNT(order_id)               AS total_orders
FROM
    orders
GROUP BY
    EXTRACT(HOUR FROM order_time)
ORDER BY
    total_orders DESC;
```

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

---

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

```
SELECT
    category,
    COUNT(pizza_type_id) AS pizza_type
FROM
    pizza_types
GROUP BY
    category;
```

	CATEGORY	PIZZA_TYPE
1	Chicken	6
2	Classic	8
3	Supreme	9
4	Veggie	9

---

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

```
SELECT
    round(AVG(qnt),
          0) AS orders_per_day
FROM
    (
        SELECT
            o.order_date,
            SUM(od.quantity) AS qnt
        FROM
                 orders o
            JOIN orders_details od ON o.order_id = od.order_id
        GROUP BY
            order_date
    ) order_quantity;
```

	ORDERS_PER_DAY
1	138

---

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

```
SELECT
    pt.name,
    SUM(p.price * od.quantity) AS revenue
FROM
         pizza_types pt
    JOIN pizzas         p ON pt.pizza_type_id = p.pizza_type_id
    JOIN orders_details od ON od.pizza_id = p.pizza_id
GROUP BY
    pt.name
ORDER BY
    revenue DESC
FETCH FIRST 3 ROWS ONLY;
```

	NAME	REVENUE
1	The Thai Chicken Pizza	43434.25
2	The Barbecue Chicken Pizza	42768
3	The California Chicken Pizza	41409.5

---

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

```
SELECT pt.category,
       ROUND(SUM(p.price * od.quantity) / (
           SELECT SUM(p2.price * od2.quantity)
           FROM pizzas p2
           JOIN orders_details od2
           ON p2.pizza_id = od2.pizza_id
       ) * 100, 0) AS revenue
FROM pizza_types pt
JOIN pizzas p
ON pt.pizza_type_id = p.pizza_type_id
JOIN orders_details od
ON p.pizza_id = od.pizza_id
GROUP BY pt.category
ORDER BY revenue DESC;
```

	CATEGORY	REVENUE
1	Classic	27
2	Supreme	25
3	Chicken	24
4	Veggie	24

---

12)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(orders_details.quantity * pizzas.price) AS revenue
        FROM
                orders_details
            JOIN pizzas ON orders_details.pizza_id = pizzas.pizza_id
            JOIN orders ON orders.order_id = orders_details.order_id
        GROUP BY
            orders.order_date
    ) sales;
```

	ORDER_DATE	CUM_REVENUE
1	01-01-15	2713.85
2	02-01-15	5445.75
3	03-01-15	8108.15
4	04-01-15	9863.6
5	05-01-15	11929.55
6	06-01-15	14358.5
7	07-01-15	16560.7
8	08-01-15	19399.05
9	09-01-15	21526.4
10	10-01-15	23990.35

---

13)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(orders_details.quantity*pizzas.price)as revenue
from pizza_types join pizzas
on pizza_types.pizza_type_id=pizzas.pizza_type_id
join orders_details
on orders_details.pizza_id=pizzas.pizza_id
group by pizza_types.category,pizza_types.name) a) b
where rn<=3;
```

	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	32265.7
