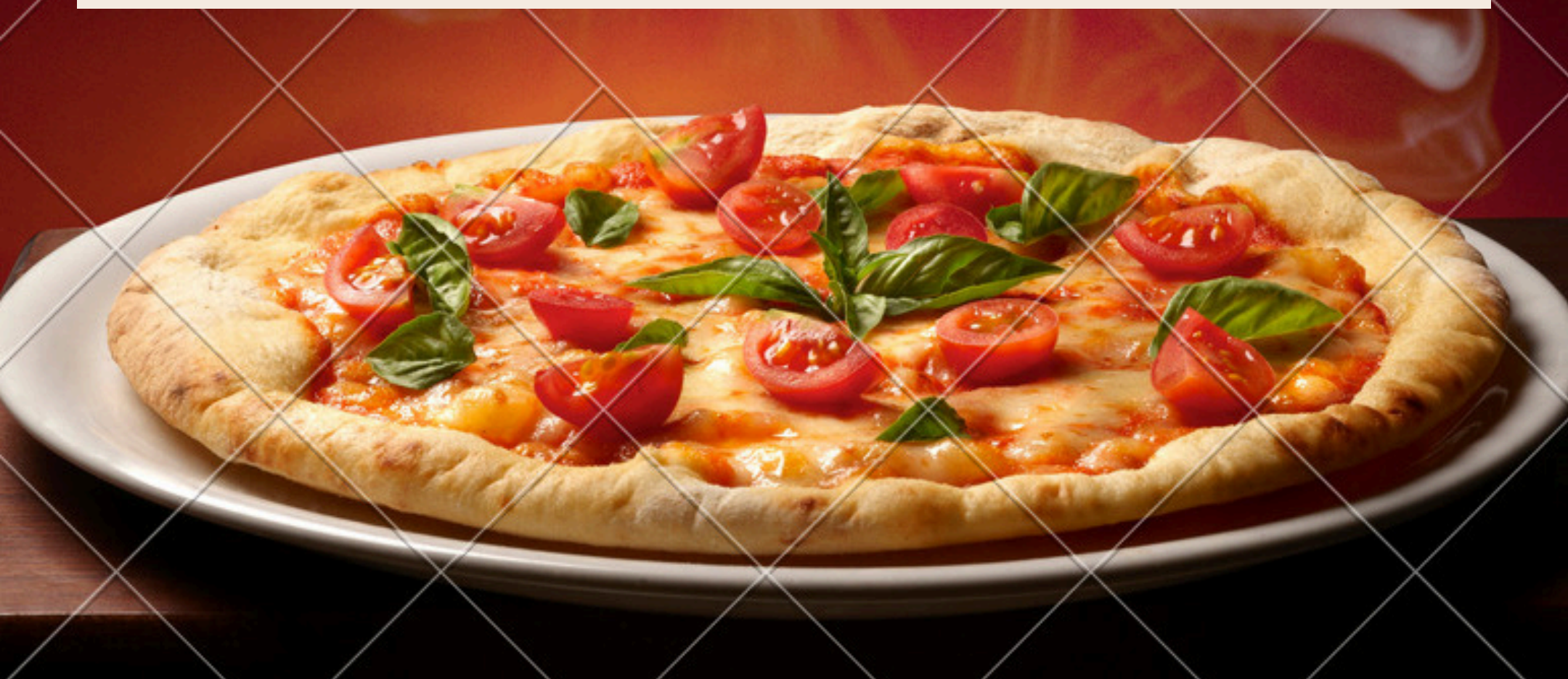
Hello ! my name is Akram Qureshi. In this project i have used SQL to analyze and optimize pizza sales data.



Retrieve the total number of orders placed

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

Result Grid

	COUNT(order_id)
▶	21350

Calculate the total revenue generated from pizza sales

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

Result Grid

	totalrevenue
▶	817860.05

Identify the highest-priced pizza.

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

Result Grid | Filter

	pizza_type_id	price
▶	the_greek	35.95

Identify the most common pizza size ordered.

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

Result Grid | Filter Rows:

size	COUNT(order_details.order_details_id)
L	18526

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

```sql
SELECT 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(pizzas.price * order_details.quantity) 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
JOIN orders
ON orders.order_id = order_details.order_id
GROUP BY pizza_types.category,pizza_types.name) AS a) AS b
WHERE rn<=3;
```

Result Grid | Filter Rows:

name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5
The Classic Deluxe Pizza	38180.5
The Hawaiian Pizza	32273.25
The Pepperoni Pizza	30161.75
The Spicy Italian Pizza	34831.25

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

```sql
SELECT
    pizza_types.pizza_type_id, SUM(order_details.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 pizza_types.pizza_type_id
ORDER BY SUM(order_details.quantity) DESC
LIMIT 5;
```

Result Grid | Filter Rows:

pizza_type_id	SUM(order_details.quantity)
classic_dlx	2453
bbq_ckn	2432
hawaiian	2422
pepperoni	2418
thai_ckn	2371

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

```sql
SELECT
    pizza_types.category, SUM(order_details.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 pizza_types.category
ORDER BY SUM(order_details.quantity) DESC;
```

Result Grid | Filter Rows:

category	SUM(order_details.quantity)
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

Determine the distribution of orders by hour of the day.

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

Result Grid | Filter Rows:

HOUR(time)	COUNT(order_id)
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336

Result 1

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

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

Result Grid | Filter Rows:

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

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

```sql
SELECT
    AVG(quantity_w)
FROM
    (SELECT
        orders.date, SUM(order_details.quantity) AS quantity_w
    FROM
        order_details
JOIN orders ON order_details.order_id = orders.order_id
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 orders.date) AS order_quqntity;
```

Result Grid | Filts

	AVG(quantity_w)
▶	138.4749

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

```sql
SELECT
    pizza_types.name, SUM(pizzas.price * order_details.quantity)
FROM
    pizzas
        JOIN
    order_details ON pizzas.pizza_id = order_details.pizza_id
        JOIN
    pizza_types ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY pizza_types.name
ORDER BY SUM(pizzas.price * order_details.quantity) DESC
LIMIT 3;
```

Result Grid | Filter Rows: | Ex

name	SUM(pizzas.price * order_details.quantity)
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

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

```sql
SELECT
    pizza_types.category,
    (SUM(pizzas.price * order_details.quantity) / (SELECT
            SUM(pizzas.price * order_details.quantity)
        FROM
            pizzas
                JOIN
            order_details ON pizzas.pizza_id = order_details.pizza_id)) * 100 AS percentage
FROM
    pizzas
        JOIN
    order_details ON pizzas.pizza_id = order_details.pizza_id
        JOIN
    pizza_types ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY pizza_types.category
ORDER BY percentage DESC;
```

Result Grid | Filter Rows:

category	percentage
Classic	26.905960255669903
Supreme	25.45631126009884
Chicken	23.955137556847493
Veggie	23.682590927384783

Analyze the cumulative revenue generated over time..

```sql
SELECT date , SUM(revenue) OVER(ORDER BY date) AS cum_revenue
FROM
(SELECT orders.date, SUM(pizzas.price * order_details.quantity) AS revenue
FROM pizzas
JOIN order_details
ON pizzas.pizza_id = order_details.pizza_id
JOIN orders
ON orders.order_id = order_details.order_id
GROUP BY orders.date) AS sales;
```

Result Grid | Filter Rows:

date	cum_revenue
2015-01-01	2713.8500000000004
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