Project Title: Pizza Sales Analysis (2023)

Overview: This project analyzes pizza sales data from 2023 to gain insights into business performance. The dataset contains 48,621 rows and 12 columns.

It is divided into two parts:

a) SQL Server Analysis
b) Excel dashboard creation

Part 1: SQL Server Analysis

Problem Statement: Analyze key performance indicators (KPIs) for pizza sales data to understand business performance. Calculate metrics such as total revenue, average order value, total pizzas sold, total orders, and average pizzas per order.

Data Import and Database Creation:

1. Import the CSV/flat file into MS SQL Server.
2. Create the Pizza_sales_2023_DB database.
3. Create the Pizza_sales_2023 table with appropriate columns.

SQL Queries:

1. **Total Revenue:**

SQL

```
SELECT ROUND(SUM(total_price), 2) AS Total_Revenue
FROM Pizza_sales_2023;
```

2. **Average Order Value:**

SQL

```
SELECT ROUND(SUM(total_price) / COUNT(DISTINCT(order_id)), 2)
AS Average_order_value_per_order
FROM Pizza_sales_2023;
```

3. **Total Pizzas Sold:**

SQL

```
SELECT SUM(quantity) AS Total_pizzas_sold
FROM Pizza_sales_2023;
```

4. **Total Orders:**

SQL

```
SELECT COUNT(DISTINCT(order_id)) AS Total_orders
FROM Pizza_sales_2023;
```

5. **Average Pizzas Per Order:**

SQL

```
SELECT CAST(SUM(quantity) AS DECIMAL(10, 2)) /
    CAST(COUNT(DISTINCT(order_id)) AS DECIMAL(10, 2))
FROM Pizza_sales_2023;
```

6. **Busiest Days, Months, Quarters, and Times:**

SQL

```
-- Example for busiest days:
SELECT DATENAME(DW, order_date) AS Order_Day,
    COUNT(DISTINCT order_id) AS total_orders
FROM Pizza_sales_2023
GROUP BY DATENAME(DW, order_date)
ORDER BY COUNT(DISTINCT order_id) DESC;
```

7. **Percentage of Sales by Pizza Category:**

SQL

```
SELECT pizza_category,
    ROUND(SUM(total_price), 2) AS total_sales,
    ROUND(SUM(total_price) * 100 /
        (SELECT SUM(total_price) FROM Pizza_sales_2023),
 2) AS sales_percentage_each_category
FROM Pizza_sales_2023
GROUP BY pizza_category
ORDER BY pizza_category;
```

8. **Percentage of Sales by Pizza Size:**

SQL

```
SELECT pizza_size,
    ROUND(SUM(total_price), 2) AS total_sales,
    ROUND(SUM(total_price) * 100 /
        (SELECT SUM(total_price) FROM Pizza_sales_2023),
 2) AS sales_percentage_by_size
FROM Pizza_sales_2023
GROUP BY pizza_size
ORDER BY sales_percentage_by_size DESC;
```

9. **Total Pizzas Sold by Pizza Category:**

SQL

```
SELECT pizza_category,
    SUM(quantity) AS total_pizzas_sold
FROM Pizza_sales_2023
GROUP BY pizza_category
ORDER BY total_pizzas_sold DESC;
```

10. **Top 5 Best Sellers:**

SQL

```
SELECT TOP 5 pizza_name AS Best_sellers,
    SUM(quantity) AS total_pizzas_sold
FROM Pizza_sales_2023
GROUP BY pizza_name
ORDER BY total_pizzas_sold DESC;
```

11. **Lowest 5 Worst Sellers:**

SQL

```
SELECT TOP 5 pizza_name AS Worst_sellers,
    SUM(quantity) AS total_pizzas_sold
```

```
FROM Pizza_sales_2023

GROUP BY pizza_name

ORDER BY total_pizzas_sold;
```

Part 2: Excel Dashboard Creation

- **Data Extraction:** Retrieve data from SQL Server and import it into Excel.
- **Data Cleaning:** Clean and format data as needed.
- **Data Processing:** Prepare data for analysis (e.g., calculate additional metrics).
- **Data Analysis:** Calculate KPIs and analyze trends.
- **Dashboard Creation:** Create visualizations (charts, graphs) to represent key findings.

Key Findings from the Pizza Sales Data:

- **Revenue:** The pizza business generated a total revenue of approximately £817,860 in 2023.
- **Orders:** An average of 2.32 pizzas were ordered per order, with a total of 21,350 orders placed throughout the year. The average order value was £38.31.
- **Busiest Times:** Mondays, Tuesdays, Saturdays, and Sundays were identified as the busiest days for the business. Peak order times were observed between 12-1 PM and 4-8 PM.
- **Sales Performance:** The "Classic" pizza category and "Large" size pizzas proved to be the top contributors to overall sales.
- **Best and Worst Sellers:** The "Classic Deluxe" and "Chicken" pizzas emerged as the best-selling items, both in terms of orders and revenue. In contrast, the "The Brie Carre" pizza underperformed, recording the lowest number of orders and revenue.

These findings offer valuable insights into the business's sales trends, customer preferences, and peak demand periods, which can be leveraged to optimize operations and marketing strategies.