**Maven Roasters Coffee Shop Analysis**

**Project Overview**

This project involves analyzing transactional data from Maven Roasters, a coffee shop chain with three locations in New York City. The data covers the period from January to June 2023. The goal is to profile and prepare the raw data, explore it using Excel Pivot Tables, and build a dynamic dashboard to visualize patterns, trends, and opportunities for the business.

**Objectives and Steps Followed**

**Objective 1: Profile and Prepare the Raw Data for Analysis**

**Tasks:**

1. **Add Revenue Column**: Calculate revenue by multiplying price and quantity.
2. **Add Month and Day of Week Columns**:
   * Use the TEXT function to derive month and day of the week from the transaction date.
   * Display these as text (e.g., “Jan”, “Feb”, “Sun”, “Mon”) instead of numerical values.
3. **Data Cleaning**:
   * Remove duplicates.
   * Use the TRIM function to remove white spaces.
   * Apply the PROPER function to convert the first letter of each word to uppercase and all other letters to lowercase.

**Objective 2: Explore the Data with Excel Pivot Tables**

**Tasks:**

1. **Pivot Table Creation**:
   * Create pivot tables to show revenue by month.
   * Display the number of transactions by day of the week and hour of the day.
   * Show the number of transactions by product category, sorted in descending order by transactions.
   * Show the number of transactions and revenue by product type, sorted in descending order and filtered to the Top 15 by transactions.
2. **Add Slicer for Store Location**:
   * Connect the slicer to all PivotTables on the sheet for easy filtering by store location.

**Objective 3: Build a Dynamic Dashboard to Visualize Patterns and Trends**

**Tasks:**

1. **Charts and Visualizations**:
   * Create charts to visualize the key metrics and trends identified in the pivot tables.
   * Modify charts to enhance clarity and visual appeal.
2. **Dashboard Creation**:
   * Assemble the charts and pivot tables into a cohesive and interactive dashboard.
   * Adjust formatting, alignment, and polish to finalize the dashboard.
   * Hide raw PivotTables and remove worksheet gridlines for a clean presentation.

**Key Insights**

* **Total Revenue**: The total revenue for the six months was £698,812.33.
* **Transaction Volume**: There were over 149,000 transactions during the six months.
* **Popular Products**: Brewed Chai tea is the most popular product type, followed by Gourmet brewed coffee and Barista espresso.
* **Top-Grossing Locations**: The Hell's Kitchen location is the highest-grossing store, followed by the Astoria and Lower Manhattan locations.

**Tools and Techniques Used**

* **Excel**: For data connection, cleaning, and visualization
* **Pivot Tables**: For summarizing and analyzing data
* **Slicers**: For interactive filtering
* **TRIM, PROPER, and TEXT Functions**: For data cleaning and transformation

**Operations Performed**

* Removed duplicates
* Used the TRIM function to remove white spaces
* Used the PROPER function to format text properly
* Used the TEXT function to extract month and day of the week
* Created and edited Pivot tables
* Applied slicers and slicer connections
* Modified charts for better visualization
* Created an interactive dashboard