# Supermarket sales-

supermarket dataset

Dataset link-

**Basic Level:**

**Calculate Average Rating:**

Question: What is the average rating of transactions in this dataset?

Solution: Use the AVERAGE function on the "Rating" column.

**Filter Data:**

Question: How many transactions occurred in a specific branch (e.g., "Branch A")?

Solution: Use the Filter feature to count the number of rows in the filtered branch.

**Pivot Table for Gross Income:**

Question: Create a pivot table to show the total gross income for each branch.

Solution: Use the PivotTable feature, with "Branch" in the rows and "gross income" in the values.

**Payment Type Analysis:**

**Question: Calculate the total sales for each payment type (e.g., "Ewallet").**

Solution: Use SUMIFS to calculate sales by payment type.

**Data Visualization - Gender:**

Question: Create a pie chart to visualize the distribution of transactions by gender.

Solution: Use Excel's charting tools.

**Calculate Profit:**

Question: Calculate the total profit by subtracting the cost of goods sold (COGS) from total sales.

Solution: Create a new column for profit and calculate it as "Total" - "cogs."

**Customer Type Analysis:**

Question: Calculate the average rating for each customer type (e.g., "Member" or "Normal").

Solution: Use AVERAGEIFS to calculate the average rating by customer type.

**Intermediate Level:**

**Date Analysis:**

Question: Calculate the number of transactions that occurred in each month.

Solution: Extract the month from the "Date" column and use COUNTIF.

**Complex IF Statement:**

Question: Categorize customers based on their total spending (e.g., "High Spender" or "Regular Spender").

Solution: Use nested IF functions.

**Data Validation - City:**

Question: Create a dropdown list for selecting a city in the dataset.

Solution: Use Data Validation with a list.

***Advanced Filtering:**

Question: Use advanced filtering to find transactions with a high margin percentage (e.g., over 30%).

Solution: Apply advanced filter criteria.

**Variance Analysis:**

Question: Calculate the variance of  unit prices

Solution: Create a new column for variance and calculate it as "Unit price" - [average unit price].

*****Ranking Products:**

Question: Rank products by total sales in descending order.

Solution: Use the RANK function.

*****Dynamic Charts - Time Series:**

Question: Create a dynamic line chart to show the trend of gross income over time.

Solution: Use dynamic named ranges for chart data.

**Scenario Analysis:**

Question: Use Scenario Manager to compare different scenarios for sales and profit.

Solution: Set up scenarios and use the Scenario Manager tool.

**Advanced Charting - Combination Chart:**

Question: Create a combination chart (line and bar) to visualize the relationship between quantity and gross income.

Solution: Customize chart types and series.

**Regression Analysis:**

Question: Perform regression analysis to understand the relationship between unit price and quantity.

Solution: Use the regression analysis tool in Data Analysis.

## Complex level:

1. **Time Series Analysis:**

    - Analyze the monthly sales trends over time.
    - Create a line chart that shows the total sales for each month across all years.

2. **Customer Type and Payment Analysis:**

    - Group invoices by customer type (Member/Normal) and analyze the distribution of payment methods used.
    - Create a pivot table and a stacked column chart to display the data.
    - Identify trends or patterns related to payment preferences.

3. ****Top Customers:**

    - Identify the top 5 customers based on the total sales they generated.
    - Create a table that lists the customer names and their corresponding sales.
    - Use appropriate functions for this analysis.

4. **Branch and Gender Comparison:**

    - Compare the distribution of gender among customers from different branches.
    - Create a pivot table with a calculated field to find the gender distribution for each branch.
    - Display the results in a table or chart to facilitate comparison.

5. **Data Exploration:**

    - Create a PivotTable to analyze the total sales for each "Product line" and "Customer type" combination.
    - Utilize slicers to allow the user to filter and view different combinations easily.
    - Explain how this analysis can provide insights into sales trends based on product lines and customer types.