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PROJECT WRITE-UP:

DESIGNING A SALES DASHBOARD IN EXCEL

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Objectives:

The goal of this project is to design a comprehensive and interactive sales dashboard in Excel that analyzes sales data based on various product categories. The company wants to add user control for product category, so users can select a category and can see the profit and sales month-wise and region-wise accordingly.

The dataset used for this project is titled "E-Commerce Dashboard dataset.xlsx" and contains various features related to sales data.

Dataset Description:

The dataset includes the following features: -

- **Order ID:** Unique identifier for each order
- **Order Date**: Date when the order was placed
- **Ship Date:** Date when the order was shipped
- **Aging**: Used for creating histogram bins
- **Ship Mode:** Mode of shipment for the order
- **Product Category:** Category of the product
- **Product:** Name of the product
- **Sales:** Sales amount
- **Quantity:** Number of units sold
- **Discount:** Discount applied to the order
- **Profit:** Profit from the sale
- **Shipping Cost:** Cost of shipping the order
- **Order Priority:** Priority of the order
- **Customer ID:** Unique identifier for the customer
- **Customer Name:** Name of the customer
- **Segment**: Segment to which the customer belongs
- **City:** City where the customer is located
- **State:** State where the customer is located
- **Country:** Country where the customer is located
- **Region:** Region where the customer is located
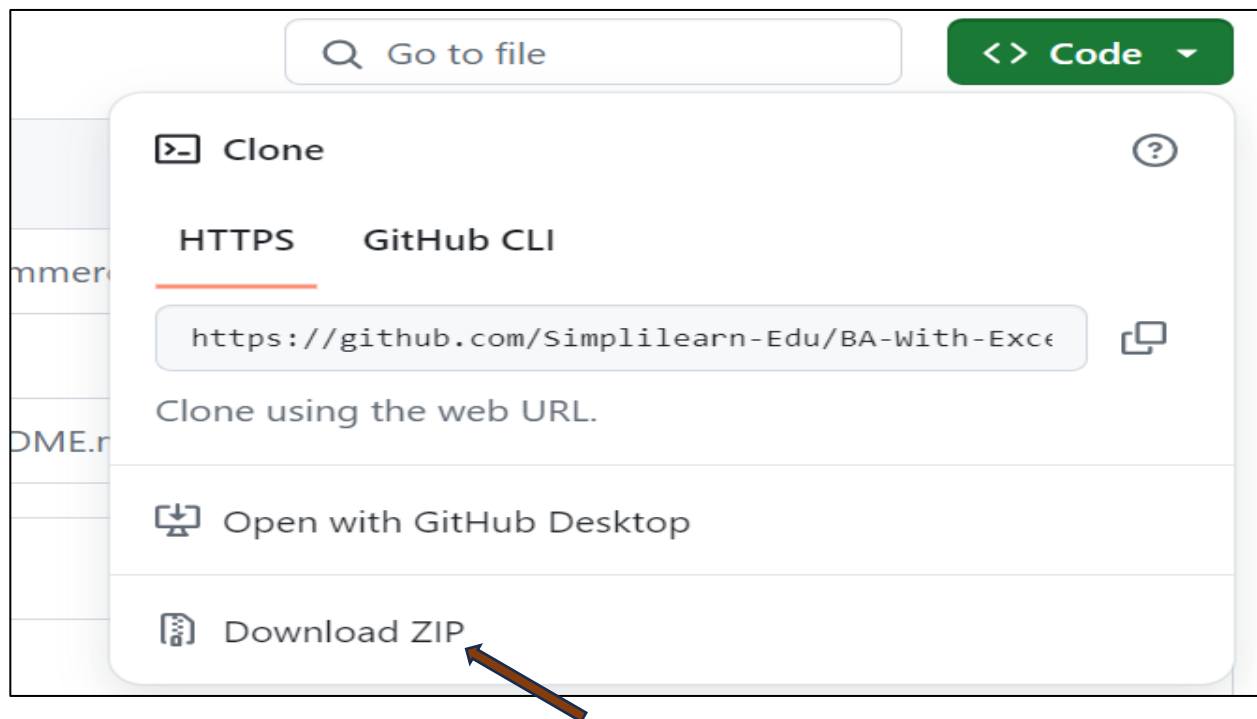- **Months:** Month when the order was placed

PROJECT TASKS:

❖ Download the dataset:

1. Open the link to the GitHub repository given in course end project instructions.
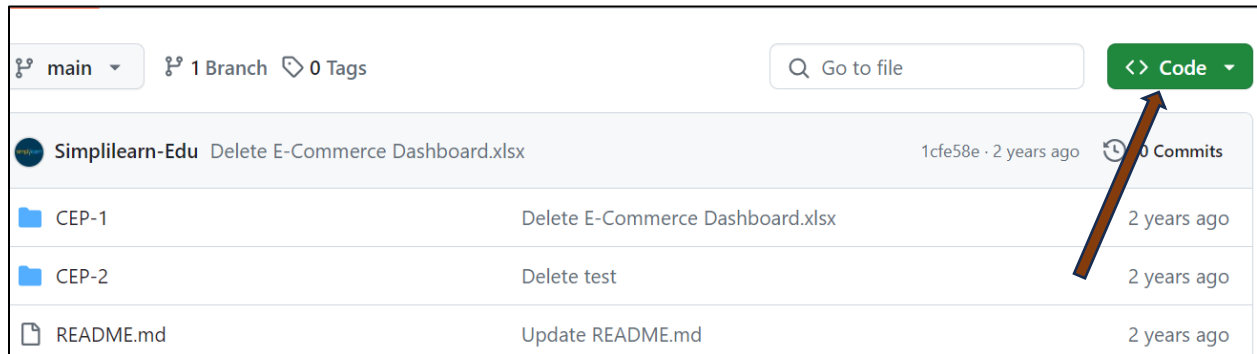
2. Click on the "**<> Code**" button near the top of the page.

3. Then, click on **"Download ZIP"** to download the entire repository as a ZIP file.
4. Extract the ZIP file on computer.
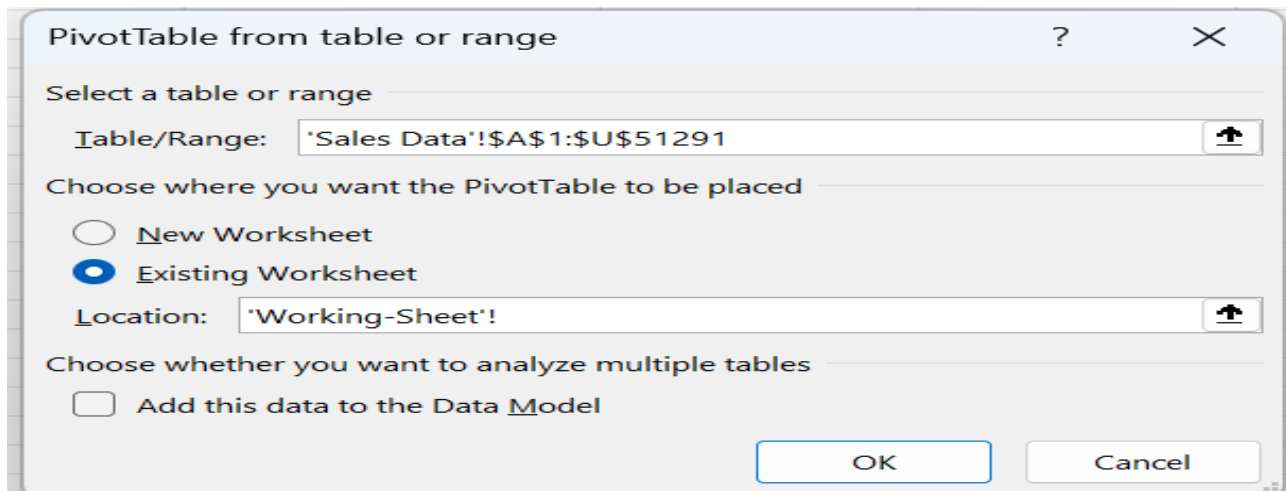5. Navigate to the extracted folder and find the CEP-1 folder.
6. Inside the CEP-1 folder, find the file named "**E Commerce Dashboard Project.xlsx**."
7. We can now open the Excel file for our project work.

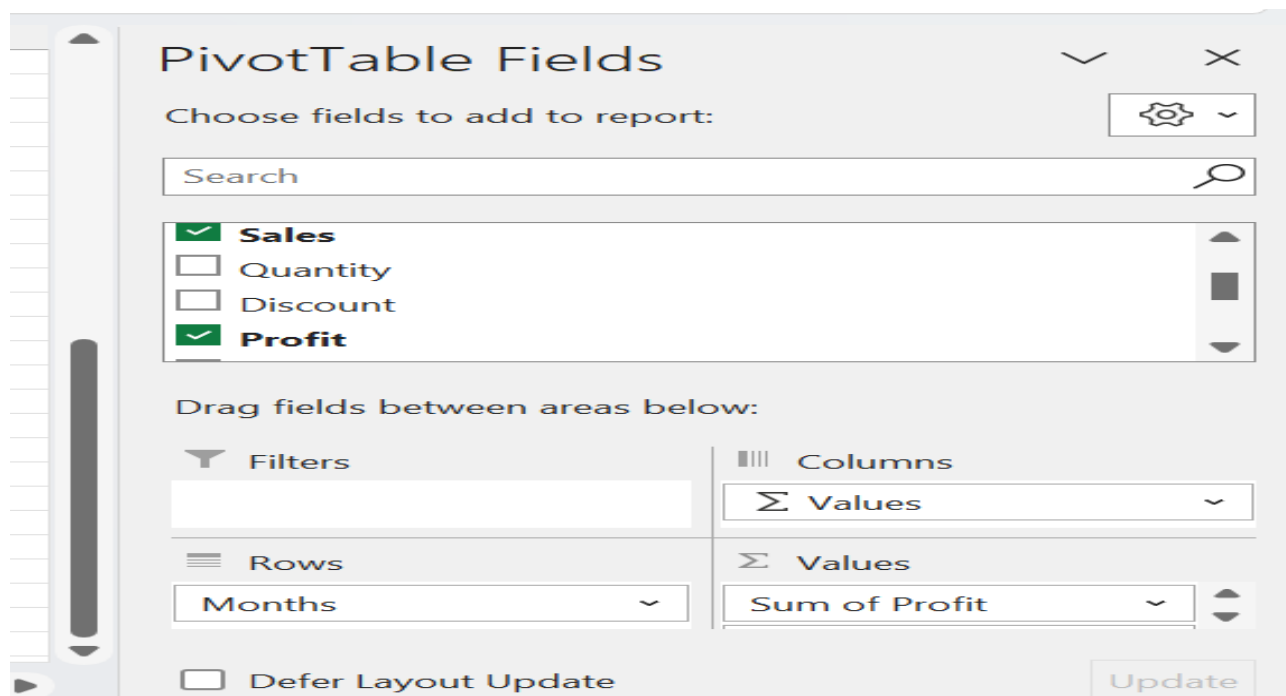### ❖ **Prepare a table of Sales and Profit month-wise in a working sheet**:

To create a table of Sales and Profit month-wise in Excel, follow these steps:

1. Open Excel file with the dataset.
2. Add a new sheet named "Working-Sheet" by click the "+" button at the bottom of the sheet tabs. Double click the new sheet tab and rename "**working-sheet**".
3. Click on the "Insert" tab.
4. Select "PivotTable."

5. Choose "Existing Worksheet."
6. Click inside the worksheet where we want the PivotTable, then click "OK.".

7. In the PivotTable Field List, drag "Month" to the Rows area.
8. Drag "Sales" and "Profit" to the Values area.
8. PivotTable will now show Sales and Profit month-wise. Adjust as needed fields.

Months	Sum of Sales	Sum of Profit
Jan	676313	313566.3467
Feb	610240	286102.6233
Mar	686681	317186.0067
Apr	659404	308364.5133
May	672547	313751.2467
Jun	664560	307585.0233
Jul	685152	318703.2
Aug	670788	310442.8433
Sep	658844	305334.4567
Oct	689116	320748.67
Nov	656663	304716.1
Dec	693073	323401.92
Grand Total	**8023381**	**3729902.95**

❖ **Prepare a table of Sales and Profit region-wise in a working sheet**:

PivotTable Fields

Choose fields to add to report:

Search

☐ Country
☑ **Region**
☐ Months
More Tables...

Drag fields between areas below:

▼ Filters

▥ Columns
Σ Values

≡ Rows
Region

Σ Values
Sum of Profit

☐ Defer Layout Update   Update

To create a table of Sales and Profit region-wise in Excel, follow these steps:

1. Click on the "Insert" tab.
2. Select "PivotTable."
3. Choose Existing Worksheet named "Working-Sheet".
4. Click inside the Working-Sheet where we want the PivotTable, then click "OK."
5. In the PivotTable Field List, drag "Region" to the Rows area.
6. Drag "Sales" and "Profit" to the Values area.
7. PivotTable will now show Sales and Profit region-wise. Adjust as needed fields.

Region	Sum of Profit	Sum of Sales
Africa	332206.8267	713074
Canada	27782.30667	60003
Caribbean	120602.6967	260495
Central	804172.61	1735900
Central Asia	149526.0267	321005
East	206683.0267	446468
EMEA	368553.72	788072
North	349285.21	750482
North Asia	170911.3567	369816
Oceania	253680.8133	544827
South	479146.82	1034884
Southeast Asia	235587.8467	500923
West	231763.69	497432
Grand Total	3729902.95	8023381

❖ Create User Control Combo Box for product category:

1. **Define Named Ranges:**
   - Go to the Datasheet tabs.
   - Select the column with product categories: click the header of the product category column.
   - Press **Ctrl + Shift + Down Arrow** to select entire column.
   - Right – click the selected column. Find and click on Define Name.
   - In the dialog box, name it "Product_Category" and click ok.
   - Repeat these steps for the Sales, Profit, Months, and Region columns, using appropriate names for each.

2. **Add a Dashboard Sheet:**
   - Click the "+" button at the bottom of the Datasheet tabs.
   - Double-click the new sheet tab and rename it to "**Dashboard**."
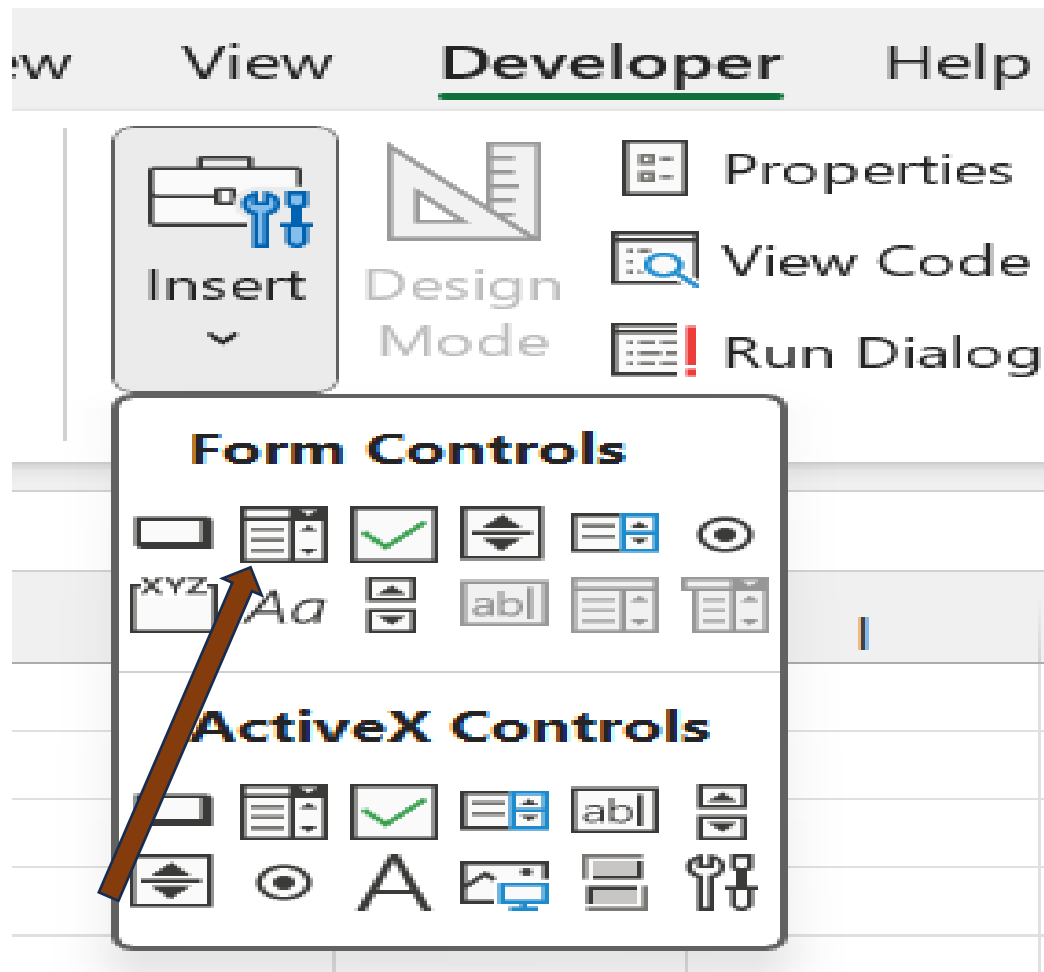
3**. Enable Developer Tab**:

   - Go to File -> Options.
   - Click on Customize Ribbon.
   - Check the Developer option and click OK.
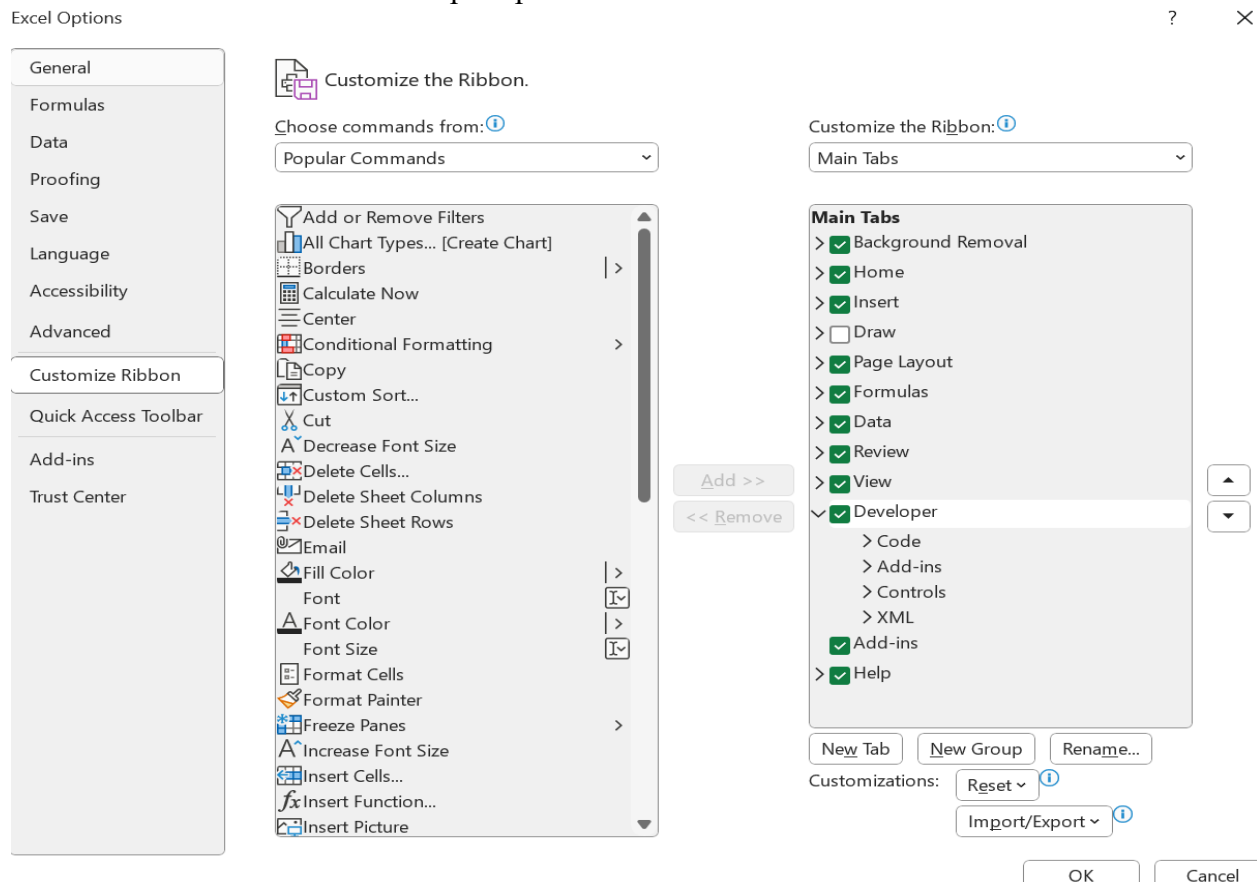
4. Add Combo Box Control:

   - Go to the Developer tab.
   - Click Insert select the Combo Box under "Form Controls".
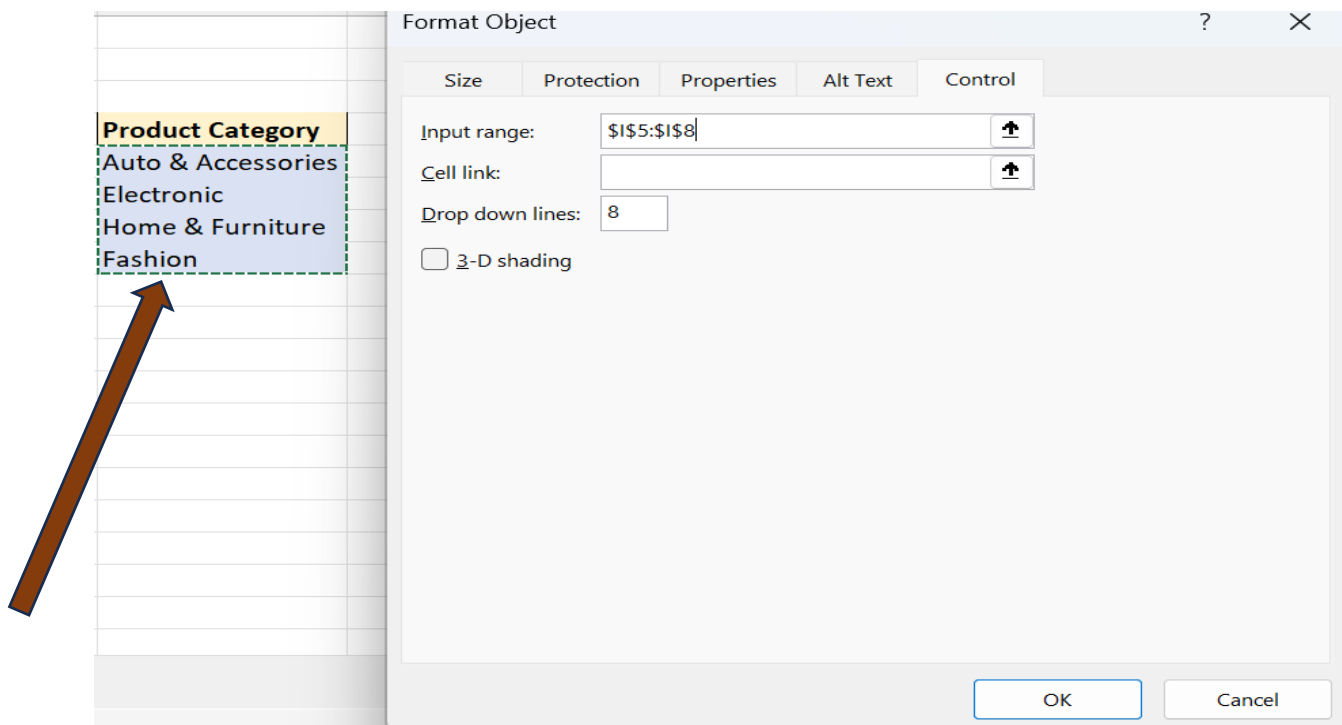   - Draw the Combo Box on the "Dashboard" sheet.

5. Extract Product Categories:

   - In the "working sheet," create a table with unique product categories from dataset.

6. **Configure Combo Box**:

    - Right-click the Combo Box and select Format Control.
    - Set the Input range to the range of product categories.
    - Set the Cell link to a cell where we want the selected value to be displayed.

Format Object

| Size | Protection | Properties | Alt Text | **Control** |

Input range: $I$5:$I$8

Cell link: $I$3

Drop down lines: 8

☐ 3-D shading

[OK] [Cancel]

Product Category
Auto & Accessories
Electronic
Home & Furniture
Fashion
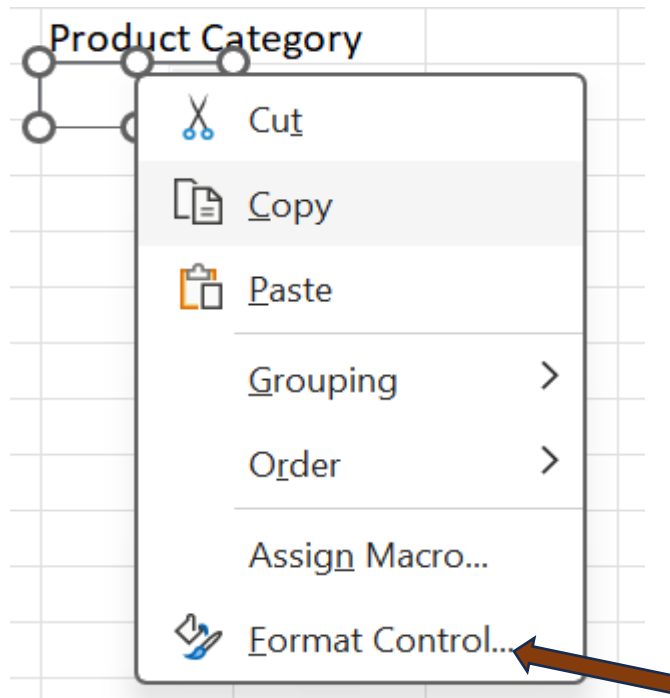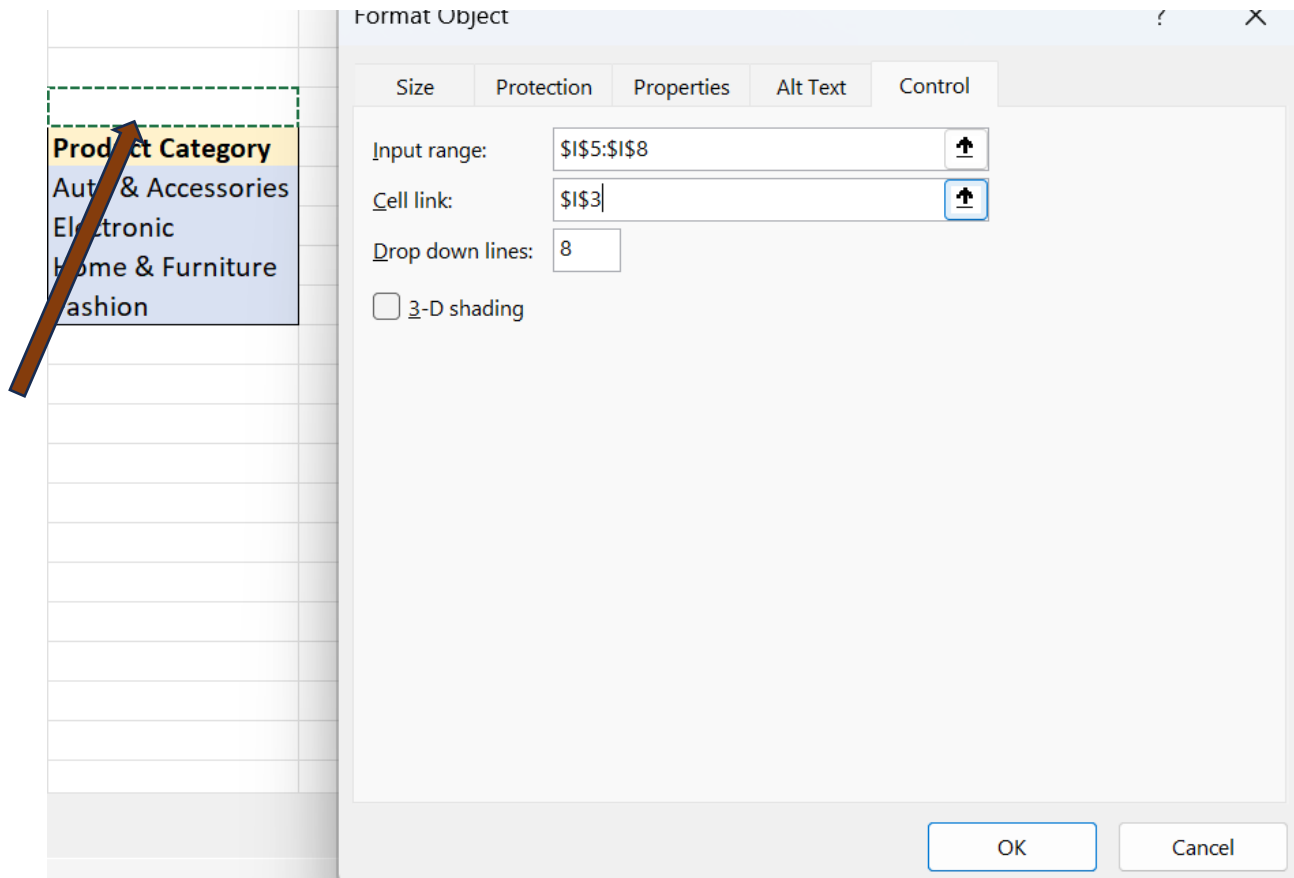
7. **Link Table with Combo Box:**

   - Use Code : **=INDEX(F3:F6,F1)** to display the selected product category.

8. **Create Summary Table:**

   - In the "working sheet," create a table with columns for Product Category, Sales, and Profit.

   -Display values based on the selected category:

Code Used:

    ✦ For Sales: **=SUMIFS(Sales,Product_Category,$C$3)**

    ✦ For Profit: **=SUMIFS(Profit,Product_Category,$C$3)**

Product Category	Home & Furniture
Sales	1319407
Profit	587597.6467

8. **Month-wise and Region-wise Sales/Profit:**

Code Used:

➢ **For Month-wise:**

    ➕ **Sales:** =SUMIFS(Sales,Product_Category,$C$3,Months,$C11)

    ➕ **Profit:** =SUMIFS(Profit,Product_Category,$C$3,Months,$C11)

Months wise Sales and Profit Based on Product Category

Months	Sum of Sales	Sum of Profit
Jan	117677	53274.41
Feb	97361	42988.88
Mar	110048	49264.04
Apr	107029	48286.98
May	107848	47383.34
Jun	111250	48876.38333
Jul	119095	53136.99
Aug	107444	47556.98667
Sep	110696	50175.65667
Oct	101689	44411.79
Nov	112861	49946.88333
Dec	116409	52295.30667
Grand Total	1319407	587597.6467

➢ **For Region-wise:**

    ➕ Sales: =SUMIFS(Sales,Product_Category,$C$3,Region,$H11)

    ➕ Profit: =SUMIFS(Profit,Product_Category,$C$3,Region,$H11)

Region wise Sales and Profit Based on Product Category

Rrgions	Sum of Sales	Profit
Africa	123087	55186.82333
Canada	11413	4930.28
Caribbean	47569	20936.32333
Central	278301	122792.2233
Central Asia	55886	25179.84333
East	68939	31281.03667
EMEA	131180	59505.81333
North	120926	53312.92
North Asia	61194	26957.78667
Oceania	100477	45059.20333
South	175766	77377.15
Southeast Asia	67711	30814.04333
West	76958	34264.2
Grand Total	1319407	587597.6467

- This will dynamically display sales and profit based on the selected product category.

❖ **Visualization with Column Charts of the month-wise sales and profit table and region-wise sales table:**

1. **Month-wise Sales and Profit Chart:**
   - Go to the "Dashboard" sheet.
   - Click Insert -> 2D Clustered Column.
   - Right-click the chart, select "Select Data".
   - Set Chart Data Range to the month-wise sales and profit table on the "working sheet".
   - Click Switch Row/Column as needed.
   - Edit the chart as required.

2. **Region-wise Sales Chart:**
   - Repeat the steps above for the region-wise sales table.
   - Ensure charts dynamically update based on the Combo Box selection.
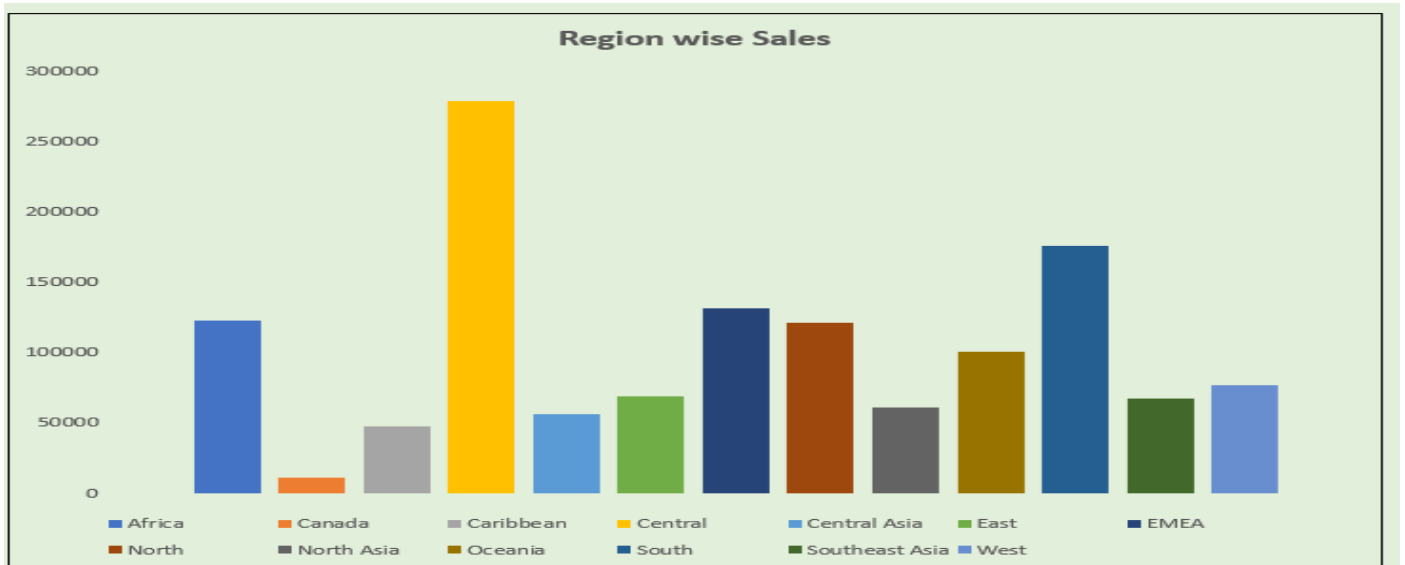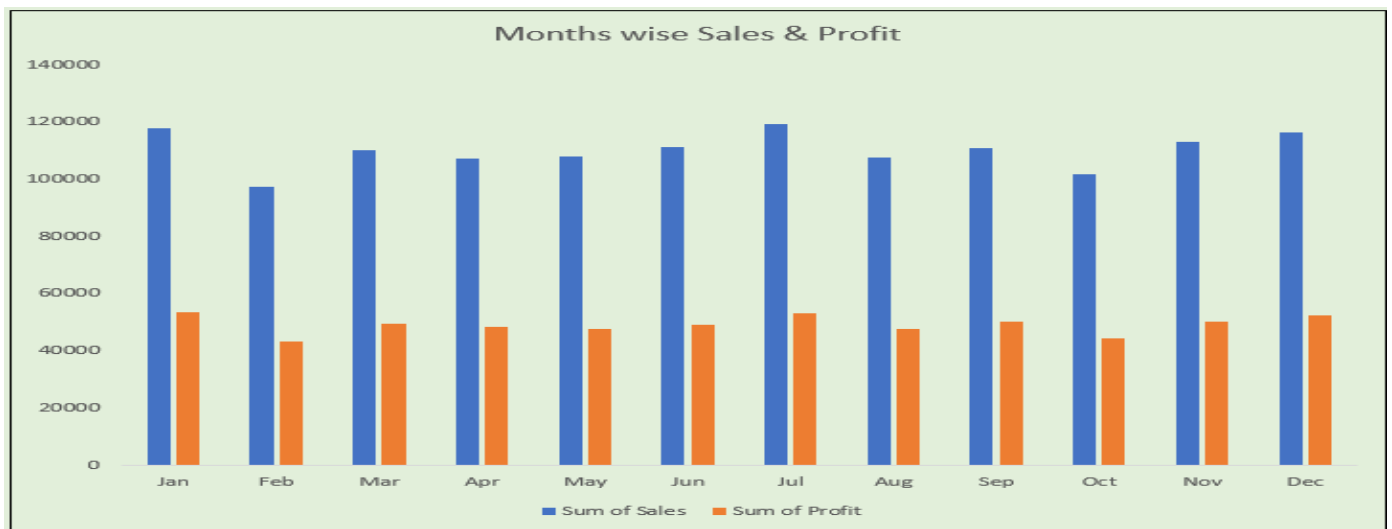
❖ Dashboard Design:

- Arranged the combo box, charts, and additional information neatly on a dedicated dashboard sheet.
- Enhanced the dashboard with titles, labels, and formatting for clarity and visual appeal.

❖ Dashboard Layout:

➢ The final dashboard is organized as follows:

1. **Product Category Selection:**
   - A combo box allows users to select a specific product category.

2. **Month-wise Sales and Profit Column Chart:**
   - Displays trends in sales and profit over the months for the selected product category.

3. **Region-wise Sales Column Chart:**
   - Shows sales distribution across different regions for the selected product category
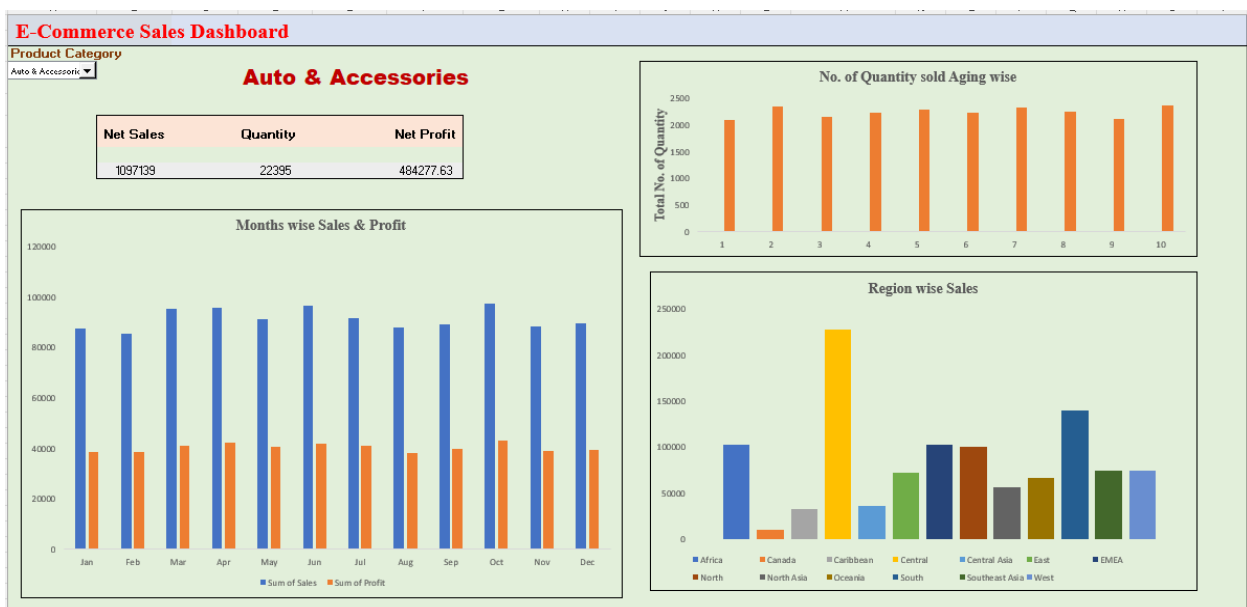
4. **No. of Quantity sold Aging wise Column Chart:**
   - Visualizes the number of orders based on their age categories.

5. **Total Net Sales and Profit and Quantity by Product Category:**
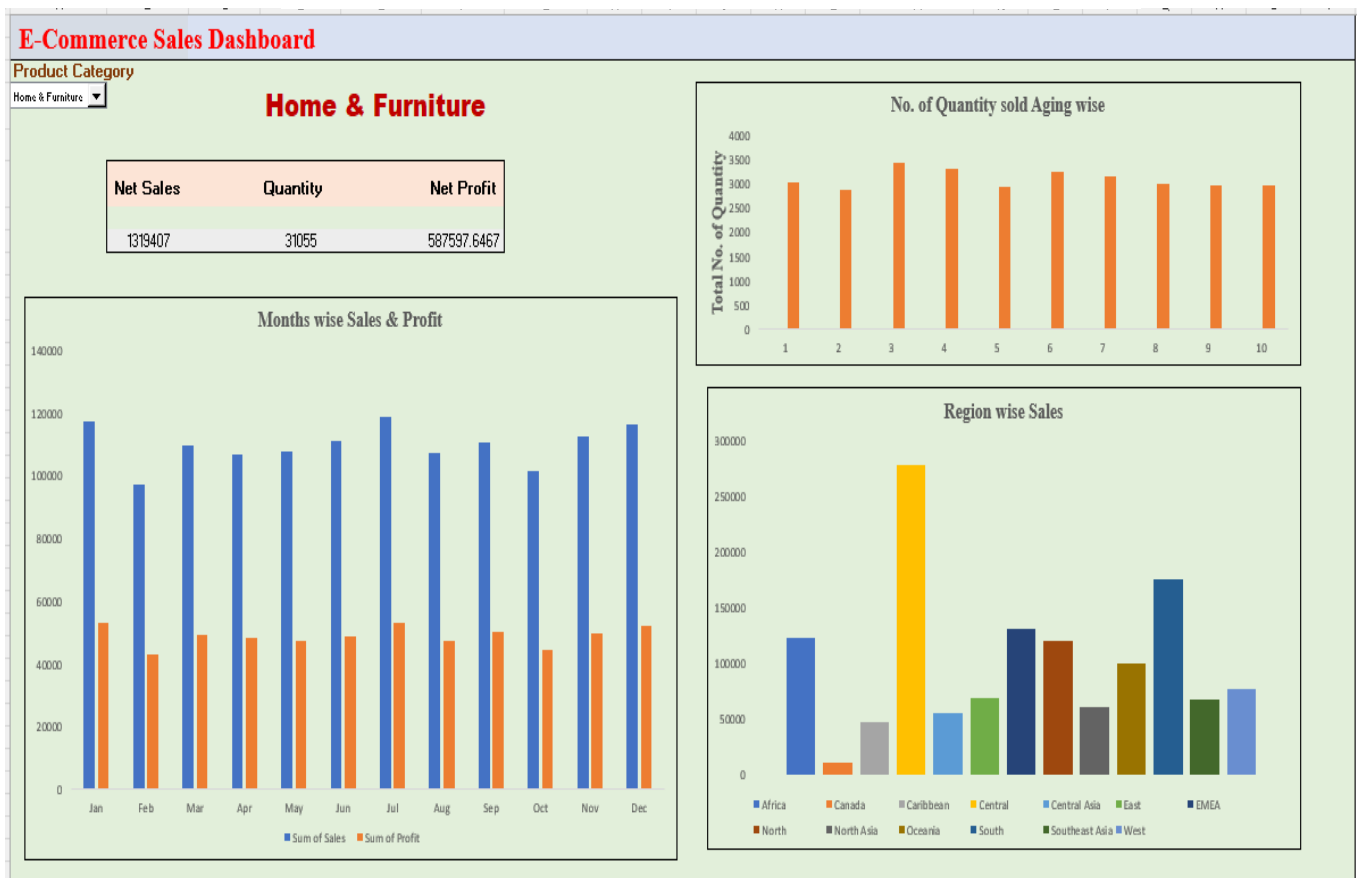   - Summarizes total sales and profit and quantity for the selected product category.

Created Dashboard As shown Below: Auto & Accessories

Created Dashboard As shown Below: Electronic

Created Dashboard As shown Below: Home & Furniture

Tools and Techniques:

➢ Microsoft Excel: Primary tool for data manipulation, analysis, and visualization.
➢ Add-ins: Utilized to extend Excel's functionality for advanced data analysis and visualization tasks.
➢ Pivot Tables: Essential for summarizing sales and profit data by month and region.
➢ Form Controls: Combo box used for creating interactive user controls.
➢ Column Charts: Visual representation of sales and profit trends.

Conclusions:

This project successfully demonstrates the creation of an interactive sales dashboard in Excel. The dashboard allows users to analyze sales data dynamically based on product categories, providing valuable insights into sales trends and regional performance.

The deliverables include a well-organized Excel workbook named Sales_Dashboard_Project.xlsx containing the dataset, pivot tables, charts, and the interactive dashboard. This project showcases the effective use of Excel in transforming raw data into actionable insights through a visually appealing and functional dashboard.