

VI. Data Visualization Using PowerBi

AIM:

To learn the Power BI Desktop interface and workflow by connecting to Excel/CSV/SQL data sources, creating basic visualizations (bar, line, pie), writing calculated columns and measures (DAX), and assembling an interactive dashboard that answers simple business questions.

PROCEDURE:

1. Open Power BI Desktop & Inspect Interface

1. Launch Power BI Desktop.
2. Note key panes: Fields, Visualizations, Filters, Data/Report/Model view.
3. Switch to Data view briefly to understand where tables and columns appear.

2. Connect to Data Sources

A. Excel

1. Home → Get data → Excel → choose SalesData.xlsx.
2. In Navigator, check the Sales sheet and click Load.

B. CSV

1. Home → Get data → Text/CSV → choose Targets.csv.
2. Preview and click Load.

3. Clean & Transform (Power Query)

1. Home → **Transform data** to open Power Query Editor.
2. For Sales table:
 - Ensure Date column has Date datatype.
 - Create a TotalSales column: Quantity * UnitPrice (Add Column → Custom Column → =[Quantity]*[UnitPrice]).
 - Trim whitespace in text columns; remove duplicates if needed.
3. For Targets.csv:
 - Convert Month to date or text format consistently (e.g., YYYY-MM).
4. Close & Apply.

4. Create Basic Visualizations

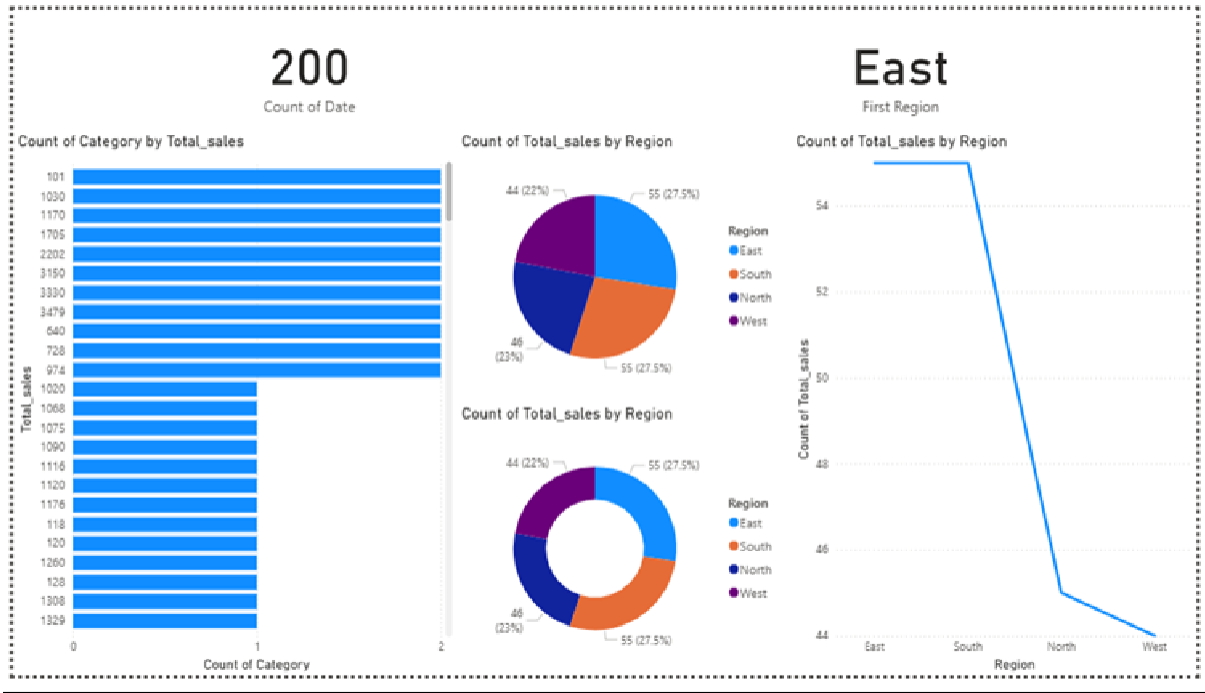
Create a new report page and add visualizations:

1. **Bar chart** — Sales by Category
 - Axis: Category
 - Value: Total Sales
 - Add data labels, sort descending.
2. **Line chart** — Monthly Sales Trend
 - Axis: Sales[YearMonth] (set type to categorical or continuous as needed)
 - Values: Total Sales
 - Add a slicer for Region.
3. **Pie chart / Donut** — Sales proportion by Region
 - Legend: Region
 - Values: Total Sales
4. **Card visuals** — Key KPIs
 - Cards showing Total Sales, Total Quantity, Avg Order Value.
5. **Table / Matrix** — Top 10 Products by Sales
 - Columns: Product, Total Sales, Total Quantity
 - Use Top N filter on Product to show top 10.

5. Build a Dashboard-like Report Page

1. Arrange visuals into a clean layout:
 - Top row: KPI cards and a date/region slicer.
 - Left column: bar chart (Category) & table (Top products).
 - Right column: line chart (trend) & pie/donut (region share).
 - Bottom: gauge or variance chart comparing sales vs target.
2. Add titles, tooltips, and consistent formatting (font sizes, number formats).
3. Save the .pbix file.

OUTPUT:



RESULT:

Thus, the given program was written and executed successfully.