Power BI Session 1

For Datasets:

- https://github.com/amit-2165/POWER-BI.git

Power BI platform:

- **Power BI Desktop -** https://www.microsoft.com/en-us/download/details.aspx?id=58494

- **Power BI Overview -**

Introduction to Data

- **Data** is a powerful tool for analytics and decision-making.

- Data consists of two components:

  - **Significant Data**: Relevant and useful information.

  - **Insignificant Data (Noise)**: Unnecessary or unwanted data.

Formula:

Data = Significant Data + Insignificant Data (Noise)

Introduction to Power BI

Power BI is a comprehensive reporting and analytics tool that supports:

- **Data Preparation**: Organize and clean data.

- **Data Visualization**: Create insightful visual representations.

- **Data Distribution**: Share reports and dashboards.

- **Data Management**: Manage data on development tools and an online platform.

Role of Data Analysis

- Identify significant data and eliminate noise.

- Power BI integrates seamlessly with data analytics to provide meaningful insights.

Why Power BI?

- Cloud-based analytics service with features like:

  - Fast and easy access to data.

  - A live 360-degree view of the business.

  - Data discovery and exploration.

  - Insights accessible from any device.

  - Collaboration across the organization.

  - Tools to visualize and analyze data effectively.

Benefits of Power BI

1. Live visualization of data with prebuilt content packs and reports.

2. Real-time data updates.

3. Secure and live connection to on-premise and cloud data sources.

4. Intuitive data exploration using natural language queries.

5. Easy integration with Azure and Microsoft products.

6. Fast deployment, hybrid configurations, and secure integration with IT systems.
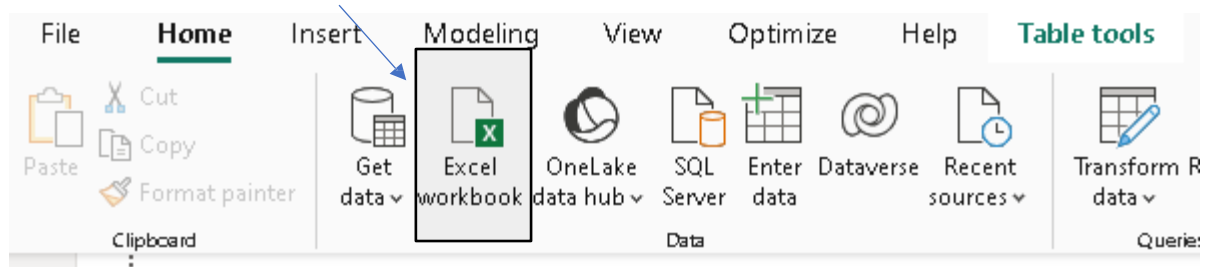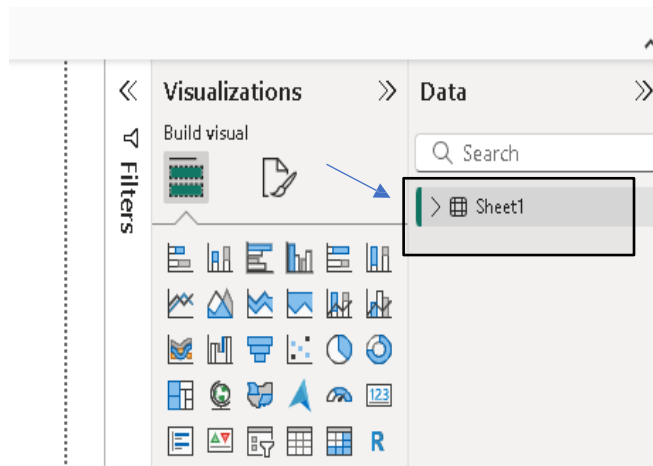
Power BI Home Screen

- **Home Page**: The starting screen of Power BI.

  - Data can be imported from various sources (e.g., Excel, CSV, JSON).
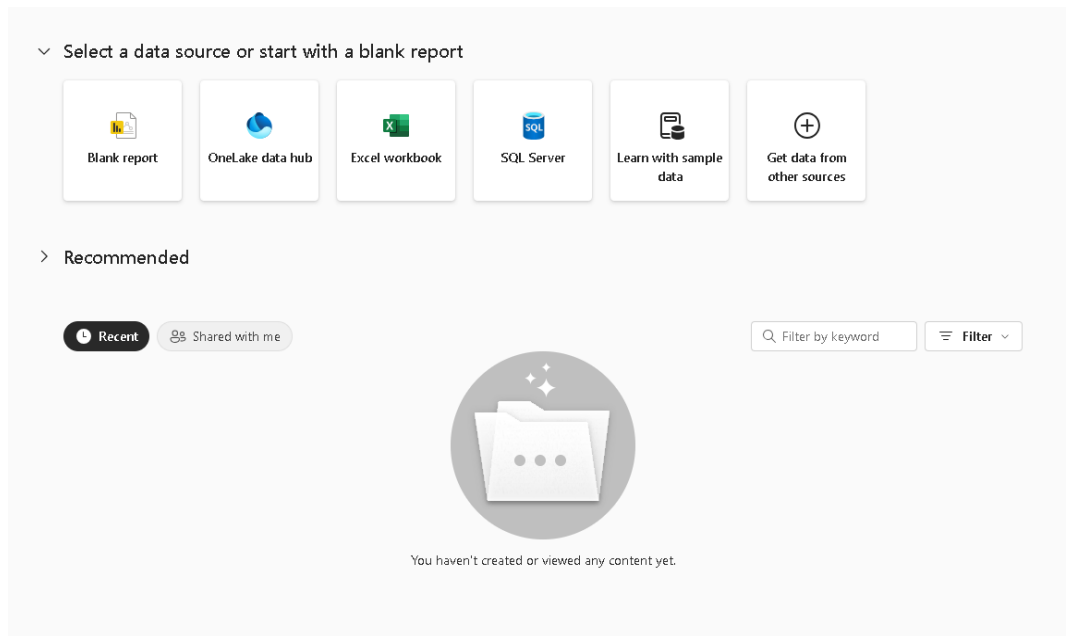
Steps to Import Excel Data:

1. Go to **Home** > **Excel Workbook**.

2. Select the file location (e.g., download folder or a specific folder).

3. Upload the dataset (e.g., global_superstore.xlsx from Kaggle).

4. The dataset will appear in the **Data Tab**.

Key Points:

- Open the sheet and check all tables with the "Σ" (Sigma) symbol for numerical columns.

    - Examples: Discount, Postal Code, Profit, Quantity, Row ID, Sales, Shipping Cost.

- Use the **Table View** (bottom-right corner) to view all data.

Report View

- After importing data, switch to **Report View**.

- Drag and drop fields (e.g., Sales, Discounts) onto the **Canvas** (middle of the screen).

- Use the **Visualization Pane** to convert table data into charts.

Customizing Charts

- Default chart color is blue. Use the **Format Visual** option to:

- o Change chart colors.

- o Add effects and backgrounds.

- o Format text, labels, and legends.

Example: Pie Chart Customization

1. Go to **Format Visual** > **Slices** to change slice colors.

2. Add a background via **Format Visual** > **Effects** > **Background**.

3. Adjust percentage formatting under **Details Labels** > **Values**.

4. Customize legend titles, text alignment, and font styles under **Legend**.
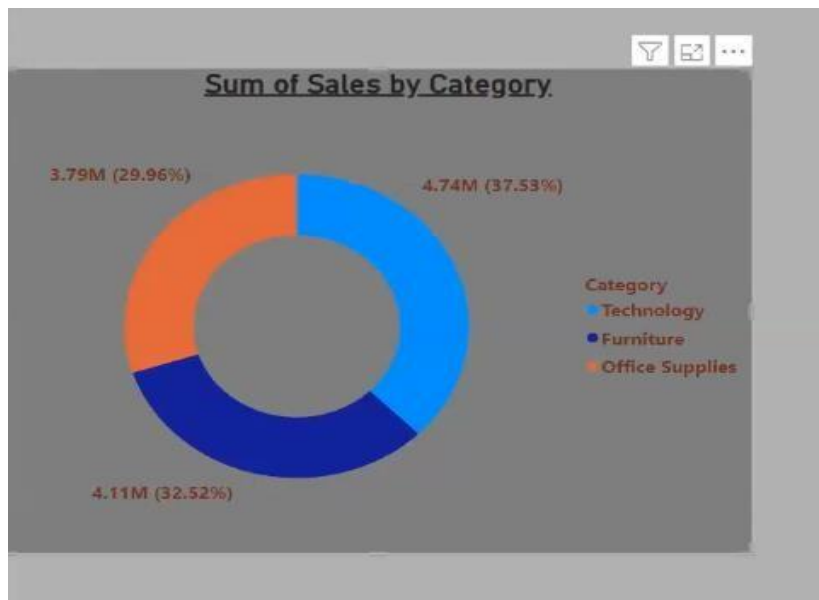
Creating Dashboards in Power BI

Dashboards are used to combine multiple charts and visuals in one view.

Steps to Create a Dashboard

1. **Add a Title**:

   - o Go to **Insert** > **Text Box**.

o   Enter and format the title text.

2. **Add Charts**:

   o   Copy existing charts (Ctrl+C) and paste (Ctrl+V) onto the canvas.

   o   Drag and drop new visuals (e.g., Line Chart, Date Chart, Card Chart) from the Visualization Pane.

3. **Customize Charts**:

   o   Explore options for borders, corners, text colors, shadows, and more via **Format Visual** > **General** > **Visual Border**.

Notes:

- Multiple pages can be added to dashboards for better organization.

- Experiment with different visuals and their formatting options to create professional dashboards.

Summary

Power BI is a powerful tool for analyzing and visualizing data. With features like real-time updates, intuitive interfaces, and seamless integration, it enables users to derive meaningful insights and share them effectively. While anyone can use Power BI, understanding data analytics is essential to create impactful reports and dashboards.