Day-1

What is Tableau?

- Leading data visualization & BI tool used to analyze and get insights from data.

💼 Tableau Products:

1. **Desktop** – Create charts & dashboards.
2. **Server** – Publish, schedule, manage users & permissions.
3. **Online** – Cloud version of Server.
4. **Prep** – ETL operations on source data.
5. **Reader** – View others' workbooks (read-only).
6. **Public** – Open-source platform for sharing Tableau work.

📊 Data Visualization

- Visual representation of data using charts/dashboards instead of rows/columns for effective analysis.

👨‍💻 Job Roles Using Tableau Desktop

- Tableau Developer
- BI Developer
- Data Analyst
- Business Analyst

💼 Licensing Options

1. **Professional** – 14-day free trial.
2. **Student** – Free for 1 year with valid student ID.
3. **Public** – Free forever with limited features.

📥 Download Links

- Professional: https://www.tableau.com/products/desktop/download
- Student: https://www.tableau.com/academic/students

- Public: https://www.tableau.com/products/public/download

📁 **Tableau File Types**

File Type	Extension	Description
Workbook	.twb	Needs source data to open
Packaged Workbook	.twbx	Includes workbook + data
Extract	.hyper	Local snapshot of data
Data Source	.tds	Contains connection info only
Packaged Data Source	.tdsx	.tds + local data (zip)
Bookmark	.tbm	Single worksheet, reusable

📌 **Data Types in Tableau**

- **String** – Text
- **Numerical** – Numbers
- **Date** – Day/Month/Year
- **DateTime** – Date + Time
- **Boolean** – TRUE/FALSE
- **Geographical** – Country, State, etc.

📐 **Dimensions vs Measures**

- **Dimensions** – Qualitative (e.g., name, country)
- **Measures** – Quantitative (e.g., sales, profit)

➕ **Aggregation Functions**

- **SUM()**, **AVG()**, **COUNT()** on measures/dimensions.

🔗 **Data Connections**

1. **Live Connection**
   - Real-time, connected to source.
   - Data auto-refreshes on opening.

2. **Extract Connection**

   - o   Snapshot of data (.hyper).

   - o   Faster, used for complex data.

   - o   Requires manual refresh.