# TASK 2-Data Visualization and Storytelling

1. **Why is data visualization important?**

   - Makes complex data **easy to understand**.
   - Helps identify **trends, patterns, and outliers** quickly.
   - Aids **decision-making** by presenting insights clearly.
   - Supports **data storytelling** to communicate findings effectively to non-technical stakeholders.

2. **When would you use a pie chart vs a bar chart?**
   **Pie chart:**
   To show parts of a whole, usually for up to 5–6 categories (e.g., market share distribution).
   **Bar chart**:
   To compare quantities across categories, especially when you have many items or want to see ranking/trends.

3. **How can you make visualizations engaging?**
   - Use clear titles and labels.
   - Add interactivity (filters, tooltips) in tools like Tableau or Power BI.
   - Highlight key insights using color or annotations.
   - Use consistent, minimal colors and avoid clutter.
   - Choose the right chart type for the message.
   - Tell a story with a logical flow, not just display charts.
4. **What is data storytelling?**
   Data storytelling is the art of combining data, visuals, and narrative to:
   - Communicate insights clearly,
   - Drive decisions, and
   - Connect with the audience emotionally and logically.

5. **How do you avoid misleading visualizations?**

   - Start axes at zero when necessary (e.g., bar charts).
   - Use consistent scales across charts.
   - Avoid 3D effects or distorted visuals.
   - Do not cherry-pick data or hide important context.
   - Label units, sources, and totals clearly.
   - Always check the integrity of data and calculations.
5. **What are best practices in dashboard design?**

- Start with a goal: Who is the user and what do they need to see?
- Use a clean, consistent layout (grid-based).
- Limit the number of visualizations per view.
- Use filters and interactive elements.
- Place the most important info at the top (top-down storytelling).
- Use color wisely for meaning, not decoration.
- Include legends, labels, and brief descriptions.

7. **Which visualization tools have you used?**

I have used Power BI and Tableau extensively for building dashboards and reports.I've also experimented with Google Data Studio for web-based reporting and am comfortable with Excel for simple visualizations.I feel at ease utilizing these tools' slicers, charts, filters, and computed fields to extract and display insightful