Task 2 (Data Analyst Internship)

Data Visualization and Storytelling

## What is the importance of data visualization?

Data visualization is essential because it allows complex data to be presented clearly and understandably. It:  
- Helps identify trends, outliers, and patterns quickly.  
- Makes it easier to communicate insights to stakeholders.  
- Supports better decision-making through visual context.  
- Enhances data storytelling by translating raw numbers into visuals.

## When do you use a pie chart vs a bar chart?

- A Pie Chart is best for showing proportions or percentages of a whole, especially when there are limited categories (typically <5).  
- A Bar Chart is ideal for comparing quantities across different categories or over time. It is more accurate and readable than pie charts when comparing values.

## How do you make visualizations more engaging?

To make visualizations more engaging:  
- Use a clean and consistent design with limited colors.  
- Add labels, tooltips, or annotations for clarity.  
- Focus on one key insight per chart.  
- Use interactive elements (e.g., filters, drill-downs) in tools like Tableau or Power BI.  
- Align the visuals with the overall narrative or story.

## What is data storytelling?

Data storytelling is the practice of combining data, visuals, and narrative to communicate insights in a meaningful way. It transforms raw data into a compelling message that resonates with the audience. A good data story includes:  
- Clear purpose and audience focus.  
- Relevant visualizations.  
- Contextual background.  
- Call to action or key takeaway.

## How do you avoid misleading visualizations?

To avoid misleading visuals:  
- Start axes at zero when appropriate.  
- Use proportional scales and avoid distortion.  
- Represent data honestly (e.g., don’t exaggerate growth).  
- Avoid cherry-picking or omitting important data points.  
- Provide context such as units, labels, and timeframes.

## What are best practices in dashboard design?

- Prioritize simplicity and clarity.  
- Use consistent layout and color scheme.  
- Group related metrics together logically.  
- Use filters and slicers to enable interactivity.  
- Include a title and brief explanation for each section/chart.  
- Highlight key insights (e.g., KPIs, trends, outliers).

## What tools have you used for visualization?

I have used:  
  
- Power BI – for business-focused dashboards and KPI monitoring.