SNS Group (Data Analyst) Assignment

# Part 1: Theoretical Knowledge

1. Explain the importance of data visualization in data analysis. What are the key principles of effective data visualization?

Data Visualization is the visual representation of data to communicate complicated information and maximize the impact of decisions in a business by investors. Principles of data visualization includes:

* Clarity
* Simplicity
* Accuracy
* Consistency
* Accessibility
* Interactivity.

1. What are the main components of Tableau? Describe the process of creating a basic dashboard in Tableau.

Main components of Tableau:

* Desktop Tableau
* Desktop Server
* Tableau Public

Steps to create a basic dashboard:

* Insert a dataset
* Create a new worksheet
* Open a new dashboard
* Configure and add new sheets
* Present the dashboard

1. Discuss the main features of Power BI. How does Power BI differ from Tableau in terms of functionality and use cases?

Main features of Power BI:

* Extract insights from large datasets
* Analyze your datasets in Excel
* Create beautiful maps with your data
* Easily source and transform data with Power Query

Differences between Tableau and Power BI:

* Power BI is free and Tableau has costs.
* Power BI is less flexible than Tableau.
* Power BI is integrated with Microsoft Teams; Tableau is integrated with Tableau Server & Tableau Online.

# Part 2: Practical Application

1. Given a dataset with missing values and inconsistencies, clean and prepare the data for analysis.

Refer Jupyter Notebook

1. Create an interactive sales dashboard in Tableau using the provided sales dataset. The dashboard should include key metrics such as total sales, sales by region, and sales trends over time.

Refer SNS Group Assignment PDF

1. Perform a statistical analysis on a given dataset to identify significant trends and correlations. Provide a summary of your findings.

Refer Jupyter Notebook