# WEEK1 APPLIED LERNING ASSIGNMENT (3MTT)

1. **List and explain the different data analysis tools you know focusing on their features, strengths, and weaknesses.**

**Microsoft Excel**

* **Features**: Excel allows you to organize, manipulate, and analyze data using functions and formulas. It includes pivot tables and basic charting options.
* **Strengths**: It is widely available, user-friendly, and great for smaller datasets or quick analyses.
* **Weaknesses**: It struggles with very large datasets, lacks advanced statistical functions, and is limited in collaboration features.

**SQL**

* **Features**: SQL (Structured Query Language) is used to interact with databases. It allows users to query, update, and manage large datasets.
* **Strengths**: Great for working with large datasets, and it’s the industry standard for database management.
* **Weaknesses**: Requires knowledge of database structures and can be complex for beginners.

**Tableau**

* **Features**: Tableau is focused on data visualization. It allows for drag-and-drop creation of charts, graphs, and dashboards, making it easy to explore large datasets.
* **Strengths**: Highly intuitive interface, supports real-time collaboration, and handles large datasets well.
* **Weaknesses**: It can be expensive, and its data cleaning capabilities are limited compared to other tools.

1. **What do you understand by data analysis and visualization?**

What I Understand by Data Analysis and Visualization

* Data analysis is the process of examining data to uncover trends, patterns, or insights that can help in making informed decisions. It's like having a guide to make better choices based on facts. An example is a man deciding to stay at work until 9 PM because he knows traffic is worst between 5 PM and 7 PM, so he uses that data to avoid a stressful commute.
* Data visualization is the presentation of data in visual formats like charts, graphs, and maps, making it easier to understand complex information quickly.