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Course: Data Analysis & Visualization

WEEK 1

1. What do you understand by Data Analysis and Visualization

- **Excel:** Microsoft Excel is a spreadsheet software that is popular for its simplicity and ease of use. It has basic data analysis and visualization features such as pivot tables, charts, and formulas. However, it can be limited when working with large datasets or complex analysis.
- **Google Sheets:** Google Sheets is a free, cloud-based spreadsheet software that offers similar features to Excel. It allows for real-time collaboration and sharing, and integrates with other Google tools like Docs and Drive.
- **R:** R is an open-source programming language and software environment for statistical computing and graphics. It has a large number of libraries for data analysis and visualization, making it a popular choice for data scientists.

Strengths: R is free, has a large community of users and contributors, and is highly flexible for complex data analysis.

Weaknesses: R has a steep learning curve and may not be suitable for non-technical users.

2. What do you understand by Data Analysis and Visualization

Data analysis and visualization are closely related concepts that play a key role in extracting meaning from data. Here's a breakdown of each:

Data Analysis: This refers to the process of transforming raw data into information that can be used to make informed decisions. This involves techniques such as cleaning, exploring, transforming, and modelling data to identify patterns, trends, and relationships.

Data Visualization: This refers to the process of representing data in graphical form, such as charts, graphs, maps, and infographics. The goal of data visualization is to communicate complex information concisely that allows for easy interpretation and understanding.