STC 137 Worksheet: Tutorial X

1. For each of the following scenarios, identify the appropriate scale of measurement (nominal, ordinal, interval, or ratio):
2. The type of cuisine (e.g., Italian, Chinese, Mexican) a group of friends prefers.
3. Ranking your favorite movies from best to worst.
4. The temperature recorded in degrees Celsius for a week.
5. The number of students in a classroom.
6. The jersey numbers of players on a soccer team.
7. The height of a plant measured in centimeters over time.
8. Think of real-life examples of data you encounter daily. Classify each example according to the scale of measurement. Use the table below to organise your answers:

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| **Data Example** | **Scale of Measurement** |
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1. Imagine you are conducting a study about student satisfaction. You collect the following data:

* Student feedback categorised as "Good," "Average," or "Poor."
* Average number of hours spent on study per day.
* Student age.

Discuss why understanding the scale of measurement for each type of data is essential for selecting the right statistical analysis.

1. You are tasked with analysing a dataset that includes:

* Names of participants
* Their scores on a test (out of 100)
* Categories of performance (e.g., "Excellent," "Good," "Average," "Poor")

Answer the following questions:

1. Identify the scale of measurement for each variable.
2. Which statistical methods would be appropriate for analysing each variable?
3. Explain how misclassifying a scale (e.g., treating ordinal data as interval data) could affect your conclusions.

**Reflection Questions**

1. Why is it important to differentiate between the scales of measurement in data analysis?
2. How could the misuse of scales of measurement lead to incorrect interpretations of data?
3. Provide an example of a research question you are interested in. Which scales of measurement might be involved?

**Summary**

The four scales of measurement — nominal, ordinal, interval, and ratio — are essential concepts for organising and analysing data effectively. By understanding these scales, you can:

* Choose appropriate statistical methods.
* Avoid errors in interpretation.
* Ensure the validity and reliability of your analysis.

Through the activities in this worksheet, you will develop the ability to identify scales of measurement and apply this knowledge to real-world datasets. Understanding this foundation will improve your confidence in handling data, whether for academic purposes or everyday decision-making.