Data Analysis and visualization week 2 Assignment

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Question

1. What are the key differences between categorical data and numerical data?
2. How do you use the SUM function in Excel to add up a range of numbers?
3. What is the purpose of the AVERAGE function in Excel, and how do you apply it to a dataset?

Answers:

Key differences between categorical data and numerical data

1. Categorical Data represents data that can be sorted into categories or groups while Numerical Data represents data that can be measured and expressed as numbers.
2. Categorical Data Arithmetic operations like addition or subtraction cannot be performed while Numerical Data Arithmetic operations (addition, subtraction, multiplication, division) can be performed.
3. Categorical Data best represented using bar charts or pie charts while Numerical Data best represented using histograms, line graphs, or scatter plots.
4. Categorical Data nominal or ordinal in nature e.g., Colors: Red, Blue, Green while Numerical Data Interval or ratio scale eg Temperature in Celsius, Weight, Distance

How to use the sum function in excel to add up a range of numbers

To use the **SUM** function in Excel to add up a range of numbers, follow these steps:

1. Select the cell where you want the result of the sum to appear.
2. Type the formula:
    - To sum a range of numbers, type: =SUM(A1:A10) (This will add up all the values in cells A1 through A10).
    - To sum non-adjacent cells or ranges, type: =SUM(A1, A5, B1:B5) (This adds the values in A1, A5, and the range B1 to B5).
3. Press Enter, and the result will be calculated and displayed in the selected cell.

Purpose of the AVERAGE function in Excel, and how to apply it to a dataset

The **AVERAGE** function in Excel is used to calculate the mean (or average) of a set of numbers. It adds all the numbers in the selected range and divides the total by the count of those numbers.

Purpose:

The **AVERAGE** function helps you find the central value in a dataset, providing a quick way to summarize the data. It is useful for understanding trends, comparing values, or simplifying large datasets.

How to Apply It:

1. **Select the cell** where you want the average to appear.
2. **Type the formula**:
    - To calculate the average for a range of numbers, use: =AVERAGE (A1:A10) (This calculates the average of the numbers in cells A1 through A10).
    - You can also specify multiple, non-adjacent ranges or individual cells, e.g., =AVERAGE (A1, A5, B1:B5).
3. **Press Enter**, and the result will be displayed in the selected cell.