

In mathematics and statistics, central tendency refers to the measure that represents the central or average value of a set of numbers.

There are three primary measures of central tendency:

1. Mean: The mean, often referred to as the average, is calculated by summing up all the values in a dataset and dividing by the total number of values.

- Formula: $\text{Mean} = (\text{Sum of all values}) / (\text{Number of values})$

2. Median: The median is the middle value in a sorted, ascending, or descending list of numbers.

If there is an even number of observations, the median is the average of the two middle values.

- Formula (for odd number of observations): $\text{Median} = \text{Middle value}$
- Formula (for even number of observations): $\text{Median} = (\text{Value at position } n/2 + \text{Value at position } (n/2 + 1)) / 2$

3. Mode:

The mode is the value that appears most frequently in a dataset. A dataset may have one mode (unimodal), more than one mode (multimodal), or no mode at all. The mode is particularly useful for categorical data.

- Formula: No specific formula; it's the value(s) with the highest frequency.

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