Measures of Central Tendency

Saad Almalki

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1 Introduction

Measures of location, or central tendency, are important concepts in probability and statistics.

Some of these measures of central tendency are: the mean, median, and mode.

Measures of dispersion are another classification related to measures of central tendency.

2 Mean

The sample mean is the sum of all the numbers in the series divided by the number of elements in the series.

Example:

$1, 2, 3, 4, 5$

The sample mean is:

$$\frac{1 + 2 + 3 + 4 + 5}{5} = \frac{15}{5} = 3$$

3 Median

The median is the number in the middle of a series.

Example:

$2, 4, 6, 8, 10$

The median here is 6, but if the number of elements in the series is even, we sum the two middle numbers and divide by 2.

Example:

$2, 4, 6, 8, 10, 12$

The median here is:

$$\frac{6 + 8}{2} = \frac{14}{2} = 7$$

4 Mode

The mode is the most frequently occurring number in the series, so it is the easiest one to quickly identify.

Example:

$2, 4, 5, 4, 4, 6, 9$

The mode here is: 4.

Sometimes there is no mode in a series.

Example:

$2, 3, 4, 5, 6$

In this series, there is no mode.

Created by: Saad Almalki

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