

Lecture 3:

1) Measures of Central Tendency

A) Mean, of a set of measurements is defined to be the sum of the measurements divided by the total number of measurements.

B) Median, of a set of measurements is defined to be the middle value when the measurements are arranged in order of magnitude.

C) Mode, of a set of measurements is defined as the measurement that occurs most often (with highest frequency).

Mean (\bar{X})

A) In terms of formula:

$$\frac{\sum X_i}{N}$$

Raw

$$\frac{\sum F X_i}{N}$$

Simple Frequency

$$\frac{\sum F X_{mid}}{N}$$

Grouped Frequency

mid point of
the i^{th} CLASS
interval

B) Important Properties of the Mean

$$\sum (X_i - \bar{X}) = 0$$

If the mean of a distribution is subtracted from each score in that distribution and the difference are added, the sum of will be zero

$$\sum (X_i - \bar{X})^2 = \text{MINIMUM}$$

The mean is defined as the point about which the sum of the square deviations is minimize.