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FACULTY OF ENGINEERING & TECHNOLOGY

Dr. Vinod Kumar Yadav
Assistant Professor in Mathematics
Rama University Uttar Pradesh, Kanpur

LECTURE- 13

BSc (AG)
2nd Year , IIIrd Sem.
Statistical Methods
AES-213



Dr. Vinod Kumar Yadav
Assistant Professor in Mathematics
Rama University Uttar Pradesh, Kanpur

Outline of Lecture

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- Measure of Dispersion
- Purpose
- Definition
- Types
- Characteristics of good measure of dispersion
- Suggested Readings & References



Measure of Dispersion

Purpose

The mean, median & mode is usually not by itself a sufficient measure to find the shape of a distribution of a data set.

We also need a measure that can provide some information about the variation among data set values.

Definition

The measure that help us to know about the spread of a data set is called measure of dispersion.

Measure of dispersion is also called measure of variation or scatteredness or spreadness.

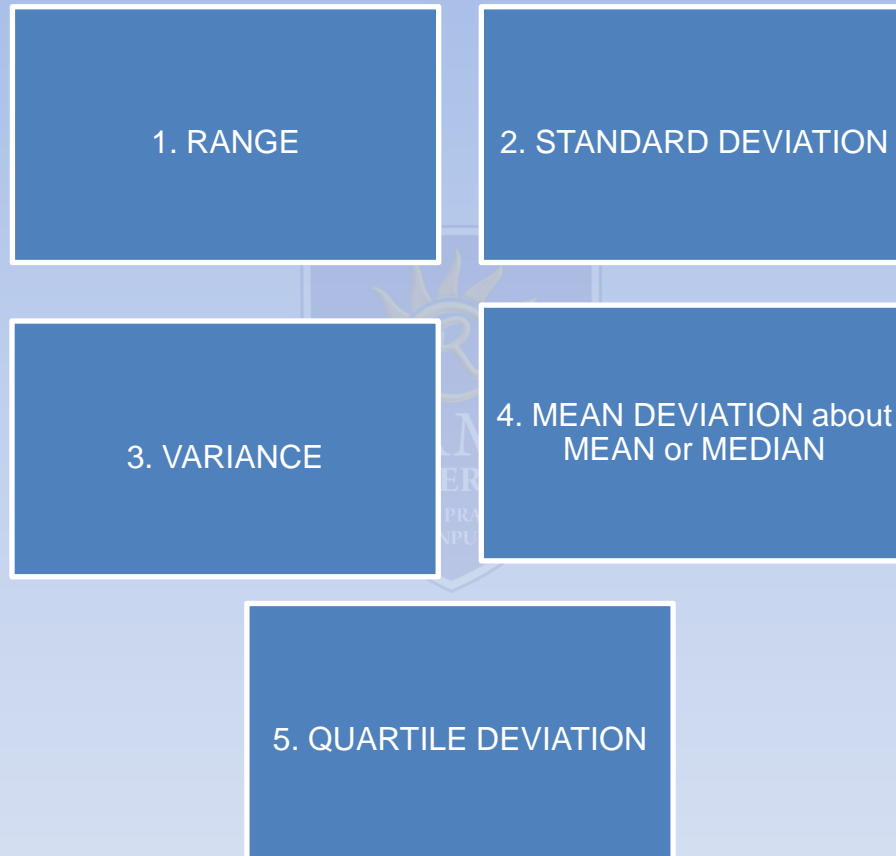
- The measure of central tendency & measure of dispersion taken together gives a better picture of a data set.



Types

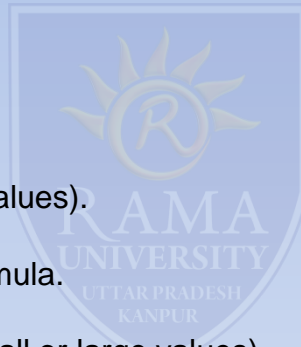
There are main five types of measure of dispersion.

Measure of Dispersion



Properties (or Characteristic) of good measure of dispersion

- ❖ It is easy to understand.
- ❖ It is easy to calculate.
- ❖ It depends on all the observations (or values).
- ❖ It is rigidly defined by mathematical formula.
- ❖ It is not effected by extreme values (small or large values).
- ❖ It is capable for further mathematical calculations.
- ❖ It is least affected by fluctuation of sampling.



Suggested Readings & References

Suggested Readings & References

- 1) Statistical Methods: P.N. Arora, Sumeet Arora & S. Arora; S. Chand & Company Ltd.
- 2) Fundamental of Mathematical Statistics: S.C. Gupta & V. Kapoor; Sultan Chand & Sons.
- 3) Statistics: M.R. Spiegel; Schaum's Outline Series, Mc-Graw Hill Publication.
- 4) Advanced Engineering Mathematics: Erwin Kreyszig; John Wiley & Sons Inc.
- 5) Elements of Statistics: J.P. Chauhan & S. Kumar; Krishna Publication.

The logo of Rama University is a shield-shaped emblem. At the top is a sun with rays. Below the sun is a circle containing the letter 'R'. Underneath the circle, the word 'RAMA' is written in a serif font, followed by 'UNIVERSITY' in a smaller font. At the bottom of the shield, the word 'Rama' is written in a script font.

*** THANK YOU ***