Frequently Asked Questions

1. What are the measures of central tendency?

Answer: The measures of central tendency are mean, median and mode.

2. What is a weighted mean?

Answer: The weighted mean is similar to an arithmetic mean (the most common type of average) where, instead of each of the data points contributing equally to the final average, only some data points contribute more than others. The notion of weighted mean plays a role in descriptive statistics and occurs in a more general form in several other areas of mathematics.

3. What are the weighted versions of mean?

Answer: The term 'weighted average' usually refers to a weighted arithmetic mean, but weighted versions of other means can also be calculated, such as the weighted geometric mean and the weighted harmonic mean.

4. What are the problems arising in weighted mean?

Answer: The problems that arise while using the weighted mean is regarding the selection of weights. Weights may be actual or arbitrary.

5. What is the relationship between simple mean and weighted mean?

Answer:

- Simple arithmetic mean shall be equal to the weighted arithmetic mean if the weights are equal.
- Simple arithmetic mean shall be less than the weighted arithmetic mean if and only if greater weights are assigned to greater values and smaller weights are assigned to smaller values.
- Simple arithmetic mean is greater than the weighted arithmetic mean if and only if smaller weight is attached to the higher values and greater weights are attached to smaller values.

6. Where do we use weighted arithmetic mean?

Answer: Weighted Arithmetic means are useful in problems relating to construction of Index numbers and Standardized birth and death rates.

7. How do we calculate the weighted geometric mean?

Answer: To calculate the weighted geometric mean we use the following formula: Weighted geometric mean is equal to the antilog of summation of the product of weights and the logarithms of X divided by the summation of weights. We use the logarithms to calculate the geometric mean as it is difficult to find the nth root.

8. What is weighted harmonic mean?

Answer: Harmonic mean is quotient of “number of the given values” and “sum of the reciprocals of the given values”. Harmonic mean is another measure of central tendency and based on mathematic footing like arithmetic mean and geometric mean.

9. What are the advantages of weighted mean?

Answer: The advantages of weighted mean are it is realistic, flexible and stock indexing.

10. What is truncated mean?

Answer: A truncated mean or trimmed mean is a statistical measure of central tendency, much like the mean and median. It involves the calculation of the mean after discarding given parts of a probability distribution or sample at the high and low end, and typically discarding an equal amount of both.

11. What is the other name for truncated mean?

Answer: Truncated mean is also known as Windsor mean.

12. What is the advantage of truncated mean?

Answer: The truncated mean is a useful estimator because it is less sensitive to outliers than the mean but will still give a reasonable estimate of central tendency or mean for many statistical models. In this regard, it is referred to as a robust estimator.

13. What is the disadvantage of truncated mean?

Answer: The truncated mean uses more information from the distribution or sample than the median, but unless the underlying distribution is symmetric, the truncated mean of a sample is unlikely to produce an unbiased estimator for either the mean or the median

14. What is a mid-range?

Answer: Midrange is a basic statistical analysis tool. The midrange determines the number that is directly between the highest and lowest number of your data set. There is no way to calculate the highest or lowest numbers in your data set. To do this, you need to organize your data in order from highest to lowest or lowest to highest

15. How is mid-range calculated?

Answer: The midrange of a set of statistical data values is the arithmetic mean of the maximum and minimum values in a data set.

$$\text{Midrange} = \frac{\text{Maximum data entry} + \text{Minimum data entry}}{2}$$