Measures of Central Tendency

- **Mean**: Also known as the average, is calculated by summing all the values.
- Dividing by the total number of values.
- Sensitive to extreme values and provides a measure of the overall “typical” value.
  Mean = (Sum of all values) / (Number of values)

- **Median:** Median is the middle value in the dataset,
  - Sorted in ascending or descending order.
- If the dataset has an odd number of values,
  - Median is the middle value.
- If the dataset has an even number of values,
  - Median is the average of the two middle values.
- Provides a measure of ‘middle’ value.
- To calculate the median, data must be ordered first.

- **Mode:** Occurs most frequently in a dataset.
- Represents the value(s) with the highest frequency or occurrence.
- A dataset may have one mode, two modes or more than two modes.
- No mode if no value is repeated.
- Useful for identifying the most common value(s) in a dataset.

These measures of central tendency are used to describe the distribution and summarize the data.
They provide insights into the typical value and help in understanding the central characteristics of a dataset.
It is important to consider the appropriate measure of central tendency based on the data type, distribution and the purpose of analysis.

- If the value of the mean is greater than the median, it suggests that the distribution of the data is positively skewed or right skewed. (skewed towards higher values)
- Here, the tail of the distribution extends towards higher values, pulling the mean towards the higher end.
- The simple explanation is if the mean is greater than the median, this indicates that the dataset has some larger values that are pulling the average mean towards the higher end of the distribution.
- It suggests that there are a few relatively high-income values that are impacting the overall average.

- If the median is greater than the mean, this indicates that the dataset has some smaller values that are pulling the median towards the lower end of the distribution.
- It suggests that there are few relatively low-income values that impact the overall median.