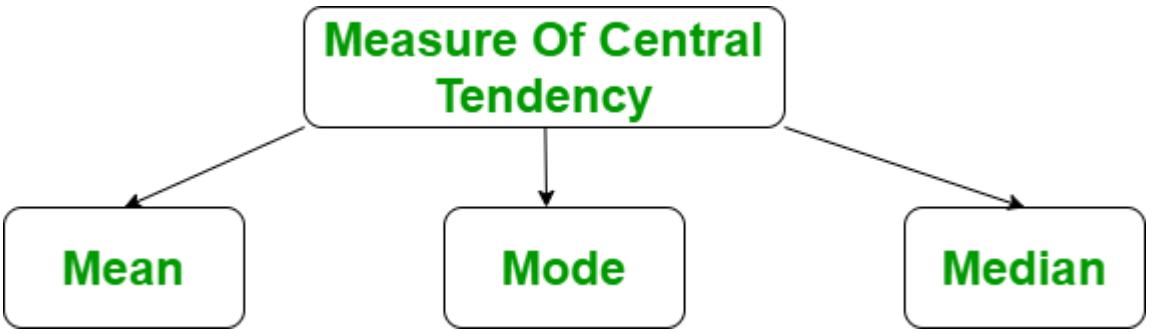
Measure of Central Tendency

For mesauring the central tendency of the data, some tools are used. These are:

1. Mean
2. Median
3. Mode

With the help of these one can know about the deviation or distribution of the dataset.



Mean

Mean is the average of the given numbers and is calculated by dividing the sum of given numbers by the total number of numbers.

Calculating the Mean With Python

```
def calculate_mean(sample):
   return sum(sample) / len(sample)

print(calculate_mean([4, 8, 6, 5, 3, 2, 8, 9, 2, 5]))
```

Output: 5.2

Using Python's *mean() function*

```
import statistics

statistics.mean([4, 8, 6, 5, 3, 2, 8, 9, 2, 5])
```

Output: 5.2

Median

To find the median, we need to:

1. Sort the sample
2. Locate the value in the middle of the sorted sample

Calculating the Median With Python

```
def my_median(sample):
    n = len(sample)
    index = n // 2
    # Sample with an odd number of observations
    if n % 2:
        return sorted(sample)[index]
    # Sample with an even number of observations
    return sum(sorted(sample)[index - 1:index + 1]) / 2


my_median([3, 5, 1, 4, 2])
```

Using Python's *median() function*

```
import statistics

statistics.median([3, 5, 1, 4, 2])
```

Mode

Mode is defined as the value that is repeatedly occurring in a given set.
To find the mode, order the numbers lowest to highest and see which number appears the most often.

Calculating the Mode With Python

```
from collections import Counter


def my_mode(sample):
    c = Counter(sample)
        return [k for k, v in c.items() if v ==
c.most_common(1)[0][1]]


my_mode(["male", "male", "female", "male"])
```

Using Python's *mode() function*

```
import statistics

statistics.mode([4, 1, 2, 2, 3, 5])
```