Central Tendency (Measure of Centre)

The central tendency concept is that one single value can best describe the data. **Mean, median,** and **mode** are the three important parameters in statistics. Essentially, all three of them refer to a single aspect called the **Central Tendency**.

**Mean ( 𝜇 )**

The mean is equal to the sum of the values in the dataset divided by the number of values.

Table

Description automatically generated

One of the major disadvantages of using mean rather than using median or mode is, the mean is particularly sensitive to the effect of extreme values. Extreme values are also called **outliers**.

### Median

The median is the middle score for a dataset that has been sorted from small to large. Outliers less affect the median.

Even if you only had 10 scores? In this case, we simply have to take the middle two scores and average the result.

**Mode**

The mode is the most frequent score in a dataset. It represents the highest bar in a histogram or bar chart.

### Calculate Mean, Median and Mode with Python

We can easily calculate mean, median and mode values with python. We use the **numpy** library for the **mean** and **median**, and the **SciPy** library for the **mode**.

import numpy as np

from scipy import stats

salary = [102, 33, 26, 27, 30, 25, 33, 33, 24]

mean\_salary = np.mean(salary)

print("mean:", mean\_salary)

median\_salary = np.median(salary)

print("median:", median\_salary)

mode\_salary = stats.mode(salary)

print("mode:", mode\_salary)

**Dispersion (Measure of Spread)**