



Summarization

- **Descriptive Statistics:** Descriptive statistics are used to summarize and describe the main features of a dataset. This includes measures such as mean, median, mode, range, variance, and standard deviation.
- **Measures of Central Tendency:** Measures of central tendency indicate the central or typical value in a dataset. The three most common measures of central tendency are the mean, median, and mode.
- **Measures of Dispersion or Variability:** Measures of dispersion or variability describe how spread out the values in a dataset are. Common measures include range, variance, standard deviation, and interquartile range.

- **Quartiles:** Quartiles divide a dataset into four equal parts, each representing 25% of the data. The three quartiles are:

First quartile (Q1): 25th percentile

Second quartile (Q2): 50th percentile, also known as the median

Third quartile (Q3): 75th percentile

- Example:

65,72,75,78,80,82,85,86,88,89,90,92,94,95,96,97,98,99,99,100

- Measures of Central Tendency:

Mean: 88.55

Median (Q2): 91

Mode: No mode in this dataset.

Measures of Dispersion or Variability:

Range: 35

Variance: Calculated as described above.

Standard Deviation: Square root of the variance.

Interquartile Range (IQR):

$Q3 - Q1 = 96.5 - 81 = 15.5$