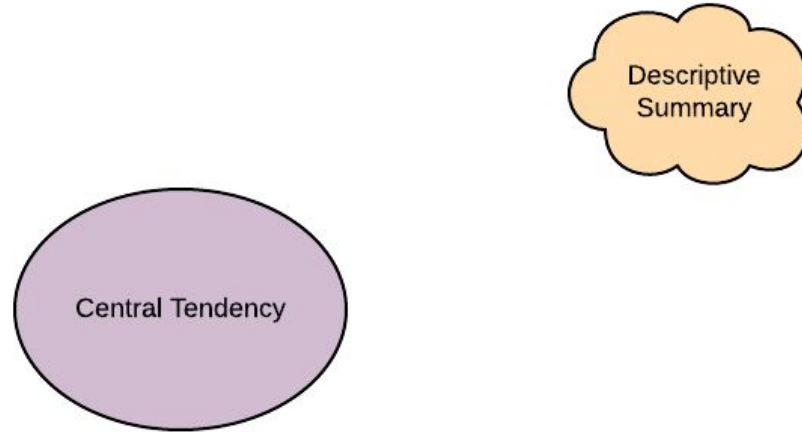
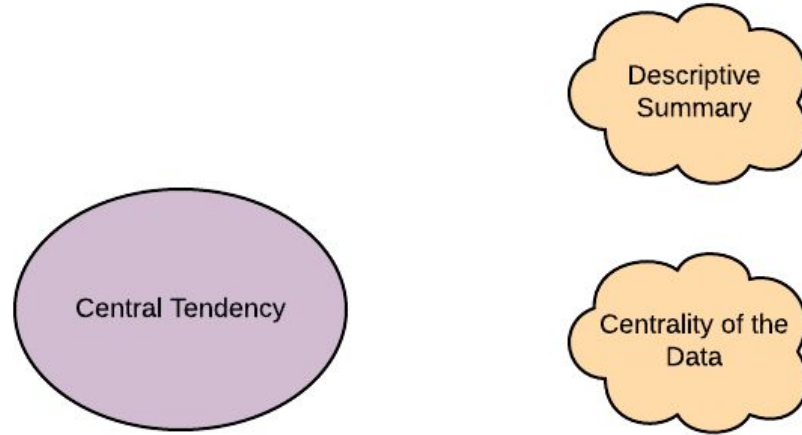


Central Tendencies and Spread of the Data

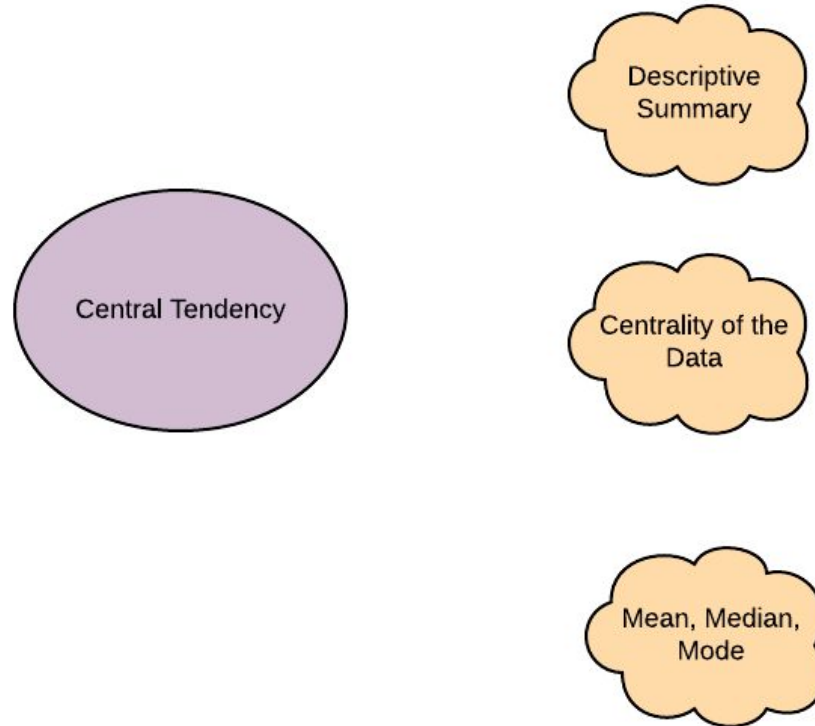
Central Tendency



Central Tendency



Central Tendency



Mean

Mean Percentage
Marks: 85%



Mean Runs: 44.83



Mean

- Sum of all the data points divided by the total number of data points.

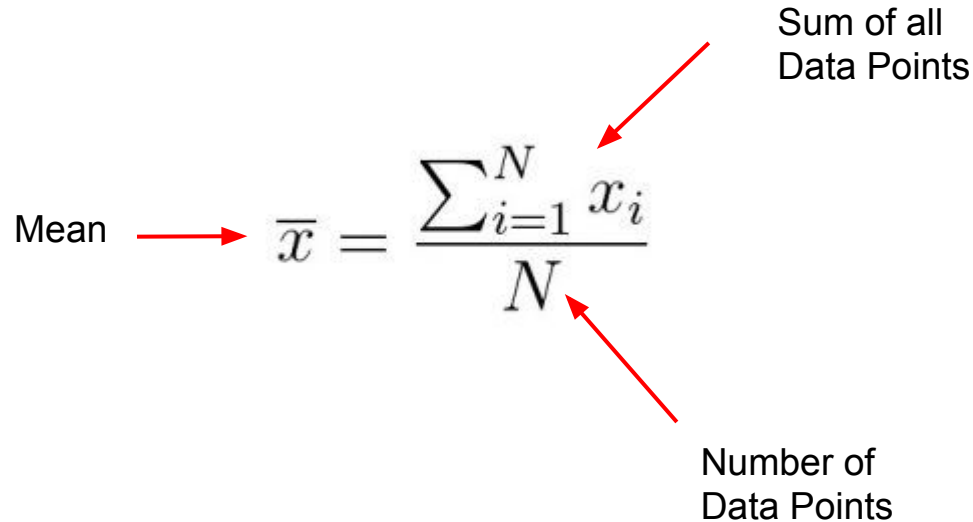
Mean

- Sum of all the data points divided by the total number of data points.

Mean $\rightarrow \bar{x} = \frac{\sum_{i=1}^N x_i}{N}$

Sum of all Data Points $\rightarrow \sum_{i=1}^N x_i$

Number of Data Points $\rightarrow N$

The diagram shows the mathematical formula for the mean, $\bar{x} = \frac{\sum_{i=1}^N x_i}{N}$. A red arrow points from the word "Mean" to the symbol \bar{x} . Another red arrow points from the text "Sum of all Data Points" to the summation term $\sum_{i=1}^N x_i$ in the numerator. A third red arrow points from the text "Number of Data Points" to the variable N in the denominator.

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- Why do we need Mean??

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Average Income of
colleagues in
thousands dollars:

$$\frac{15 + 12 + 14 + 15}{4} = 14k \$$$

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- More useful for Continuous Data Points.

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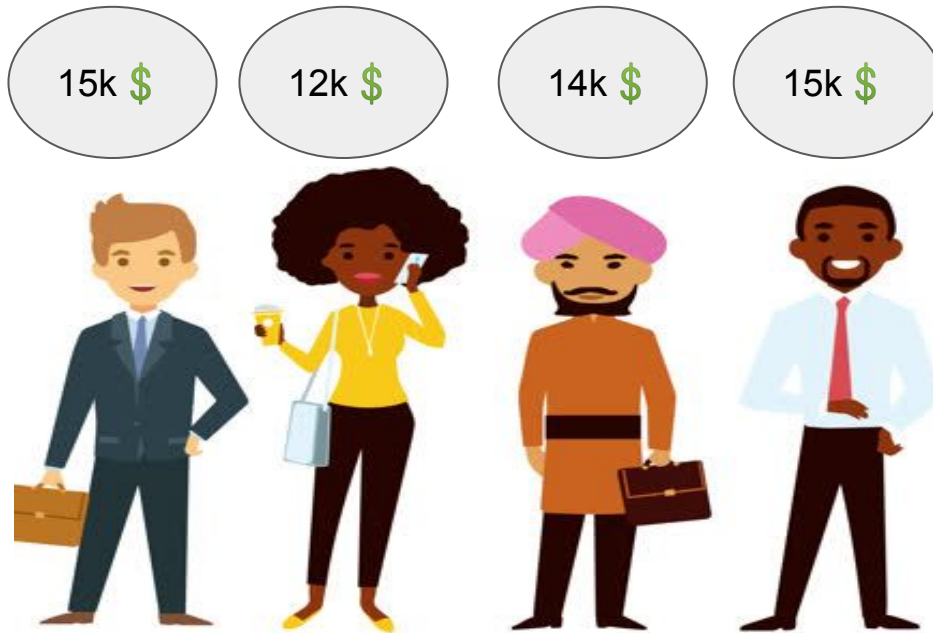
15k \$



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Average

$$\frac{15k+12k+14k+15k}{4} = 14K$$

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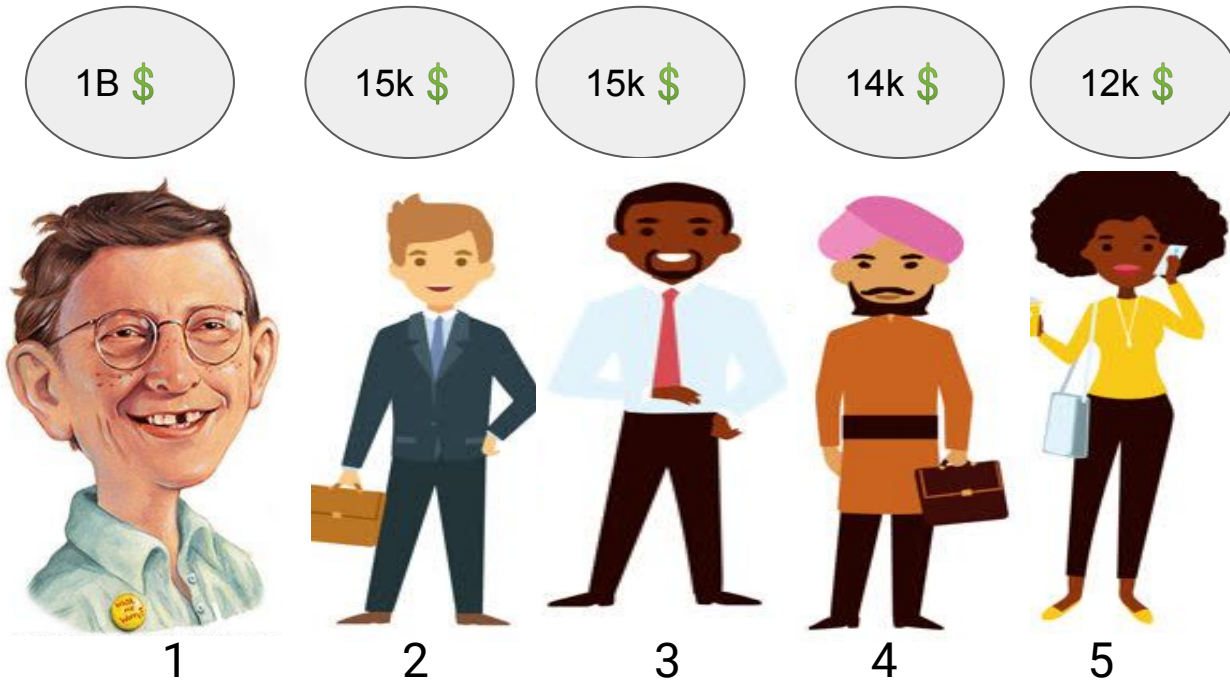
Drake earns 15k \$,
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Average

$$\frac{1B+15k+12k+14k+15k}{4} = 200.01 \text{ M}$$

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Median :-
 $N = 5$, midpoint = 3
15K

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odd:

$$X_{(n+1 / 2)}$$

even:

$$X_{(n+1 / 2)} + X_{(n / 2)}$$

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- Median is a good indicator for ordered data points or continuous data points with extreme points.
- Mean is easy to calculate, Median needs ordering.

Thank You!