

Review of the terminology

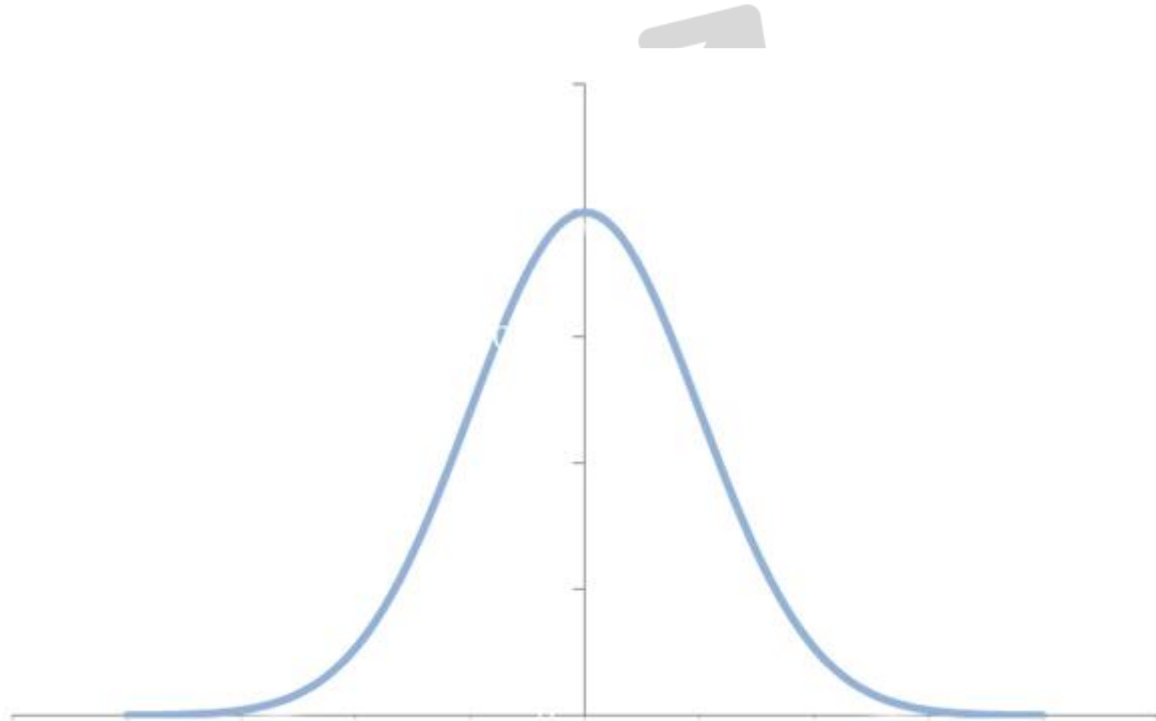


Terminology

- **Statistic** – A Single measure of some attribute of a sample
- **Population Statistic** – The statistic of the entire population in context
- **Sample Statistic** – The statistic of a group taken from a population
- **Standard Deviation** – It is the amount of variation in the population data. It is given by σ

Sampling Distribution

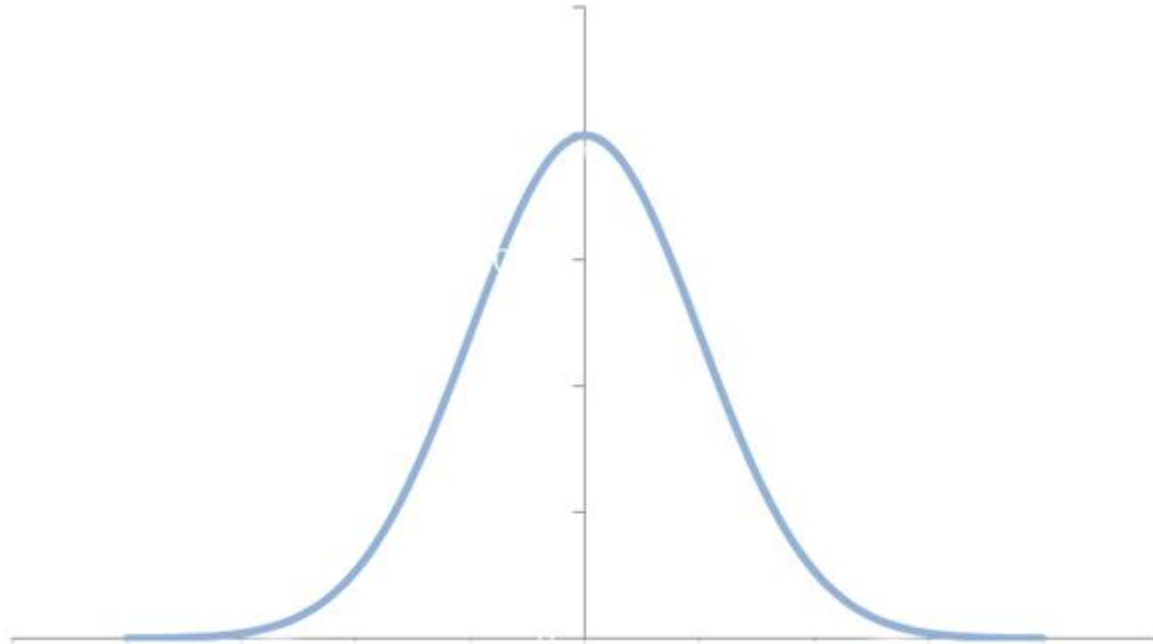
- We have the salaries of all Data Scientists in India.
- We take random samples of 200 people and calculate and plot their means



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The Central Limit Theorem

- While plotting a sampling distribution the mean of sample means is equal to the population mean
- The sampling distribution approaches a normal distribution



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$$\text{Standard Deviation} = \frac{\sigma}{\sqrt{n}}$$

The Central Limit Theorem

- Central Limit Theorem holds true irrespective of the type of distribution of the population.
- Now, we have a way to estimate the population mean by just making repeated observations of samples of a fixed size.
- Greater the sample size, greater is the accuracy in determining the population mean from the sample mean.

