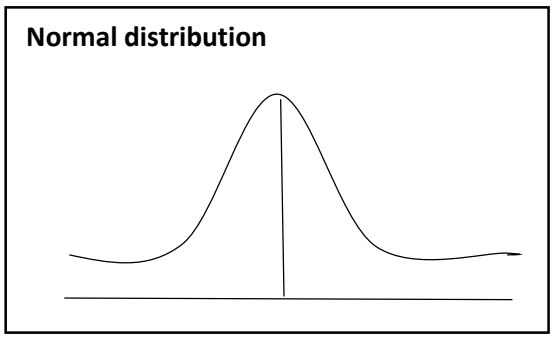
ASSIGNMENT- 3

1. What does symmetric distribution mean?

Ans:

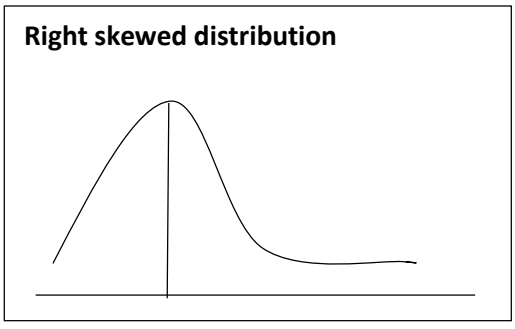


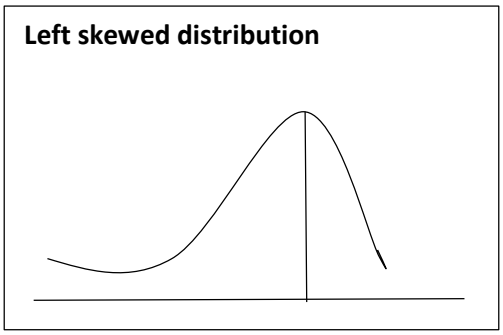
Also known as normal distribution.

A symmetric distribution occurs when the values of variables appear at the regular frequencies and often the mean, median, mode all occur at the same point. If a line were drawn dissecting the middle of the graph, it would reveal two side that mirror one other.

2. What is left skewed distribution and right skewed distribution?

Ans: For skewed distributions, it is quite common to have one tail of the distribution considerably longer or drawn out relative to the other tail. A “skewed right” distribution is one in which the tail is on the right side. A “skewed left” distribution is one in which the tail on the left side.





3. Where are long-tailed distributions used?

Ans: The long tailed distribution represent a period in time when sales for less common products can return a profit due to reduced marketing and distribution costs.

Classic example of long tail businesses includes Amazon and Netflix

It is used to model many internet-era phenomena such as the frequency distribution of book title sold at amazon.com or the frequency of internet search items.

4. What is the central limit theorem?

Ans: The central limit theorem states that the distribution of sample means approximates a normal distribution as the sample size gets larger, regardless of the population's distribution.

5. What are observational and experimental data in statistics?

Ans: Statistic involves a lot of studies, experiments, and data collection.

One such study is observational study. An observational study is a study in which the researcher simply observe the subjects without interfering. They just observe the subject and record data based on their observations.

The other one is experimental study. Data produced by a measurement, test method, experimental design or quasi-experimental design. Experimental data can be reproduced by a variety of different investigators and mathematical analysis may be performed on these data.