**PROBABILTY:** it is chance of happening something .Probability tells us how often some event will happen after many repeated trials.

**Experiment:** repeatable process with set of possible events

**Outcome:** result of an experiment

**Sample space:** all possible outcomes of an experiment.

**Independent event:** whose occurrence doesn’t affect other events.

**Conditional probability:** probability of an event given another event has already occurred.

**Random variable** is a variable whose value is unknown or a function that assigns values to each of an experiment's outcomes. Random variables are most common in probability and statistics, where they are used to quantify outcomes of random occurrences.

**Discrete random variable** has a countable number of possible values. The probability of each value of a discrete random variable is between 0 and 1, and the sum of all the probabilities is equal to 1

**Continuous random variable** is a random variable where the data can take infinitely many values

**Probability mass function (PMF)** is a function that gives the probability that a discrete random variable is exactly equal to some value. Sometimes it is also known as the discrete density function

**probability density function (PDF**), or density of a continuous random variable, is used to specify the probability of the random variable falling within a particular range of values, This probability is given by the integral of this variable's PDF over that range

**Moments** of a function are quantitative measures related to the shape of the function's graph.

zeroth moment is the total probability (i.e. one), the first moment is the expected value, the second central moment is the variance, the third standardized moment is the skewness,and the fourth standardized moment is the kurtosis.

**Skewness**( symmetry) refers to a distortion or asymmetry that deviates from the symmetrical bell curve, or normal distribution, in a set of data.

**Kurtosis** is a statistical measure that defines how heavily the tails of a distribution differ from the tails of a normal distribution.

**Joint PD**: is a statistical measure that is used to calculate the probability of 2 events occurring together at the same time

**Marginal PD**: gives the probability of various values of the variable in the subset without reference to the value of the other variable