A discrete distribution is a probability distribution that depicts the occurrence that has countable or finite outcomes. Types:

1-Binomial:

A binomial probability distribution is one in which there is only a probability of two outcomes. In this distribution, data are collected in one of two forms after repetitive trials and classified into either success or failure. It generally has a finite set of just two possible outcomes, such as zero or one.

2-Bernoulli:

Bernoulli distributions are similar to binomial distributions because there are two possible outcomes. One trial is conducted, so the outcomes in a Bernoulli distribution are labeled as either a zero or one. A one indicates success, and a zero means failure.

3-Multinomial:

Multinomial distributions occur when there is a probability of more than two outcomes with multiple counts

4-Poisson Distribution:

The Poisson distribution expresses the probability that a given number of events will occur over a fixed period.

A continuous distribution has an infinite range of values. This means that the number of possible outcomes is uncountable, like time. Types:

1-Beta distribution:

A Beta distribution is a versatile way to represent outcomes for percentages or proportions.

Uses: it is used to model continuous random variables whose range is between 0 and

2-Cauchy distribution:

The Cauchy distribution is a family of continuous probably distributions which resemble the normal distribution family of curves. While the similarity is there, it has

a taller peak than a normal. And unlike the normal distribution, its fat tails decay much more slowly.

Uses: used for robustness studies, models the ratio of two normal random variables, models polar and non-polar liquids in porous glasses

3-Exponential distribution:

The exponential distribution is a probability distribution that describes time between events in a Poisson process.

Uses: It is used to model times between events or arrivals.

4-Gamma distribution:

The gamma distribution is a family of right-skewed, continuous probability distributions. These distributions are useful in real-life where something has a natural minimum of 0.

Uses: it is used to model the time between independent events that occur at a constant average rate.

5-Logistic distribution:

The logistic distribution is used for modeling growth, and also for logistic regression. It is a symmetrical distribution, unimodal (it has one peak) and is similar in shape to the normal distribution. However, the logistic distribution is often used because the curve has a relatively simple cumulative distribution formula to work with, compared to the normal distribution.

Uses: It is used to model the uncertainty about the probability of success of an experiment

6-Weibull distribution:

The Weibull distribution is a continuous probability distribution which can fit a wide range of data. It has the ability to adapt to different situations. Depending upon the parameter values, this distribution is used to model the variety of behaviors for a particular function.

Uses: It is mostly used in reliability analysis and life data analysis.