**Types of distribution**

**Discrete distributions**

**Discrete uniform distribution: All outcomes are equally likely**

In statistics, uniform distribution refers to a statistical distribution in which all outcomes are equally likely. Consider rolling a six-sided die. You have an equal probability of obtaining all six numbers on your next roll, i.e., obtaining precisely one of 1, 2, 3, 4, 5, or 6, equaling a probability of 1/6, hence an example of a discrete uniform distribution.

As a result, the uniform distribution graph contains bars of equal height representing each outcome. In our example, the height is a probability of 1/6 (0.166667).

**Bernoulli Distribution: Single-trial with two possible outcomes**

The Bernoulli distribution is one of the easiest distributions to understand. It can be used as a starting point to derive more complex distributions. Any event with a single trial and only two outcomes follows a Bernoulli distribution. Flipping a coin or choosing between True and False in a quiz are examples of a Bernoulli distribution.

They have a single trial and only two outcomes. Let’s assume you flip a coin once; this is a single trail. The only two outcomes are either heads or tails. This is an example of a Bernoulli distribution.

**Binomial Distribution: A sequence of Bernoulli events**

The Binomial Distribution can be thought of as the sum of outcomes of an event following a Bernoulli distribution. Therefore, Binomial Distribution is used in binary outcome events, and the probability of success and failure is the same in all successive trials. An example of a binomial event would be flipping a coin multiple times to count the number of heads and tails.

**Poisson Distribution: The probability that an event may or may not occur**

Poisson distribution deals with the frequency with which an event occurs within a specific interval. Instead of the probability of an event, Poisson distribution requires knowing how often it happens in a particular period or distance. For example, a cricket chirps two times in 7 seconds on average. We can use the Poisson distribution to determine the likelihood of it chirping five times in 15 seconds.

**Continuous distributions**

**Normal Distribution: Symmetric distribution of values around the mean**

Normal distribution is the most used distribution in data science. In a normal distribution graph, data is symmetrically distributed with no skew. When plotted, the data follows a bell shape, with most values clustering around a central region and tapering off as they go further away from the center.