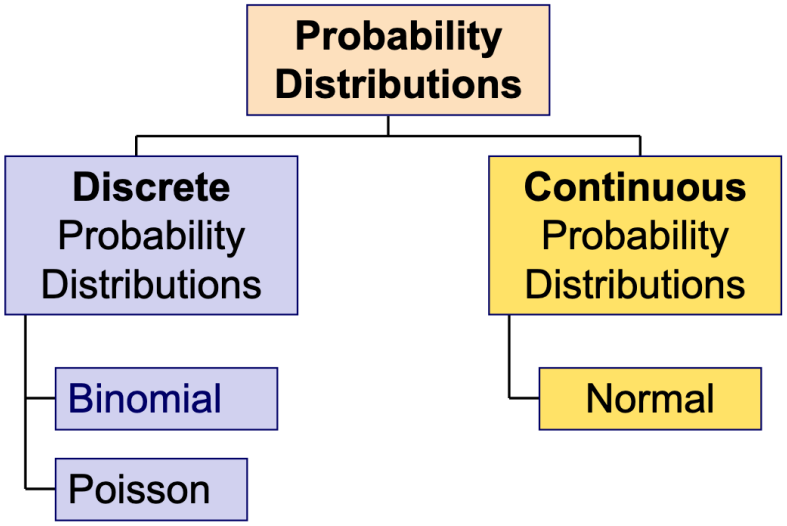
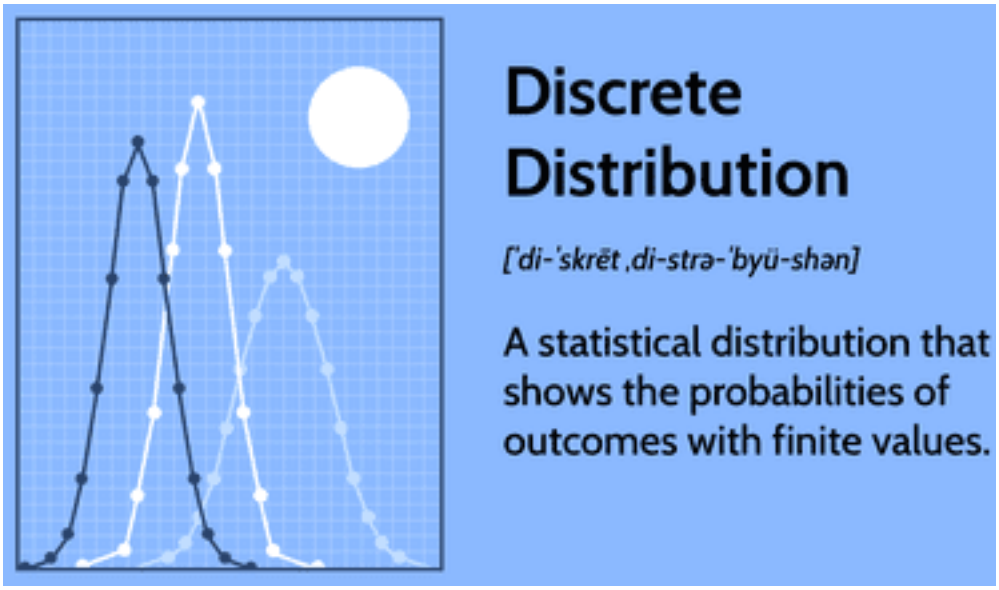
Distribution? What is it?

- The distribution refers to how the data is spread out or clustered around certain values or ranges.
- By examining the distribution, we can gain insights into the characteristics and patterns of the data, which can be useful in making informed decisions and predictions

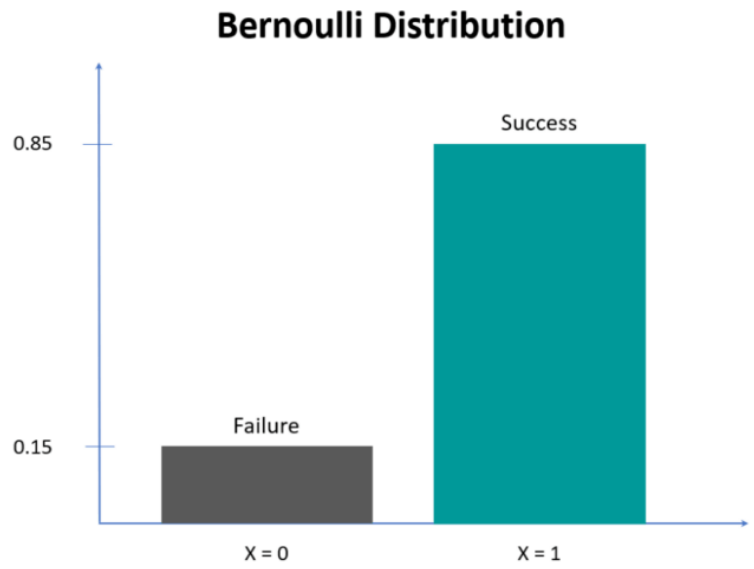


Discrete Distributions



Bernoulli Distribution:

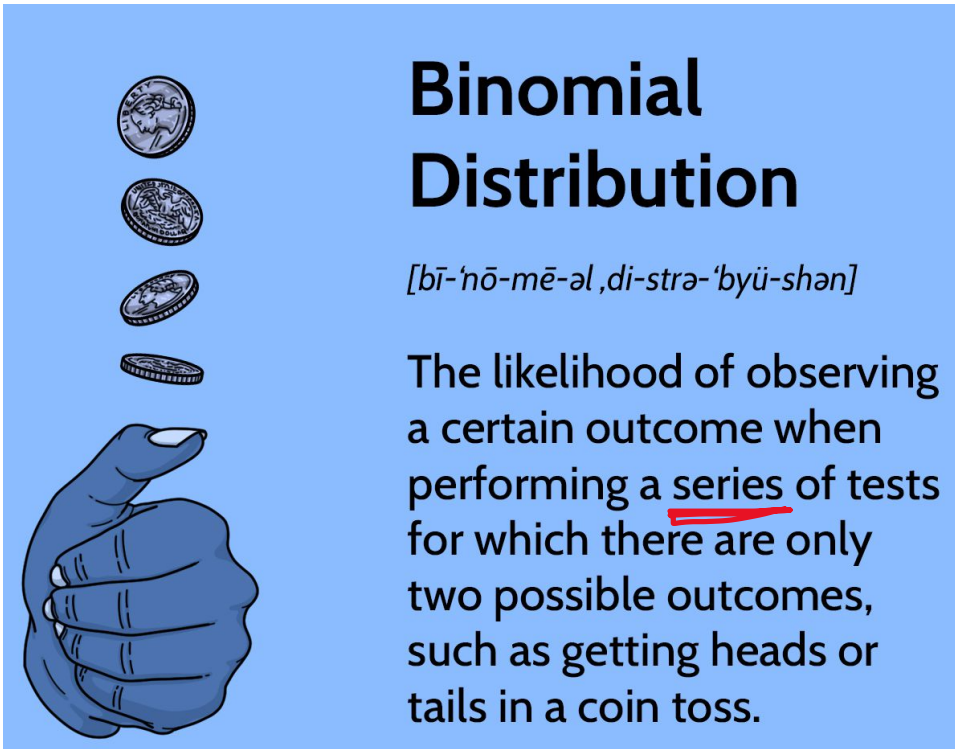
- The discrete probability distribution of a random variable which takes the value 1 with probability p and the value 0 with probability 1-p.
- Less formally, it can be thought of as a model for the set of possible outcomes of any single experiment that asks a yes–no question.



Bernoulli is a special Case of Binomial Distribution!

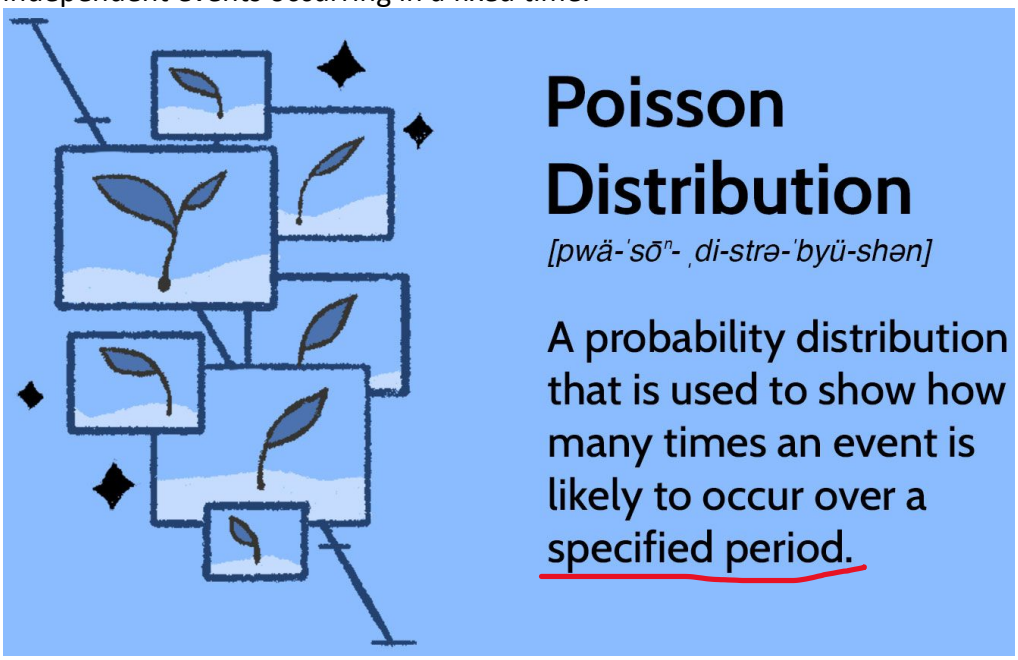
Binomial Distribution:

The binomial distribution is the discrete probability distribution that gives only two possible results in an experiment, either Success or Failure over a **series** of experiments.



Poisson Distribution:

1. A discrete frequency distribution which gives the probability of a number of independent events occurring in a fixed time.

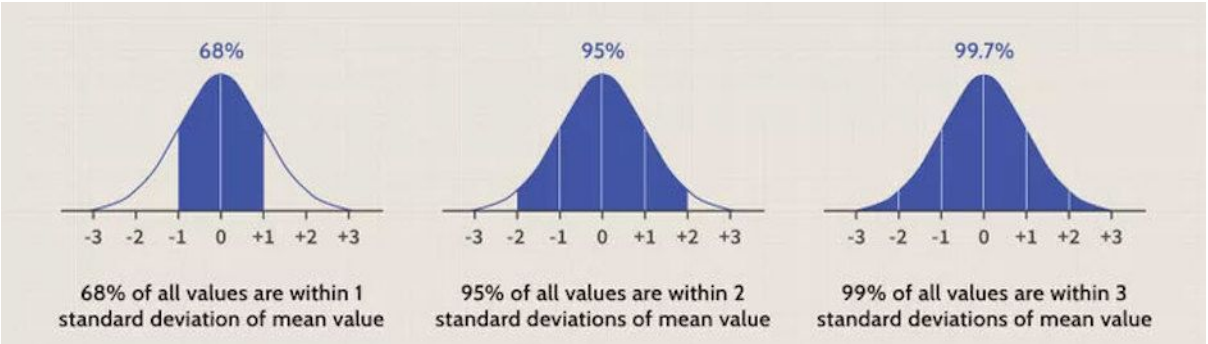


Continuous Distributions:

- **A probability distribution in which the random variable X can take on any value (is continuous).**
- **Because there are infinite values that X could assume, the probability of X taking on any one specific value is zero.**

Normal Distribution:

1. Data are symmetrically distributed with no skew. Most values cluster around a central region, with values tapering off as they go further away from the center.
2. **The measures of central tendency (mean, mode, and median) are exactly the same in a normal**
3. **It is also called a Gaussian Distribution**



Look at: https://www.youtube.com/watch?v=CfZa1daLjwo&list=PLaFfQroTgZnzbfK-Rie19FdV6diehETQy