Uniform Distribution

The uniform distribution is a fundamental probability distribution that describes situations where **all outcomes within a specific range are equally likely**. It's often used to model scenarios where there's no inherent bias towards any particular value, and all possibilities within the defined bounds have an equal chance of occurring.

Probability Density Function (PDF):

The PDF (f(x)) of the uniform distribution defines the relative likelihood of a value (x) occurring within the interval:

$$f(x) = 1/(b - a)$$

- **a:** Represents the lower bound of the interval.
- **b:** Represents the upper bound of the interval.

Cumulative Distribution Function (CDF):

The Cumulative Distribution Function (CDF) (F(x)) of the uniform distribution provides the probability that a value will be less than or equal to a specific value (x) within the interval:

$$F(x) = (x - a)/(b - a)$$