Types of Data Distribution:

1. **Normal Distribution (Gaussian Distribution):** Also known as the bell curve, this is one of the most common distributions. In a normal distribution, the data is symmetric around the mean, and most values cluster near the mean with fewer values farther away. The standard deviation determines the spread of the distribution.
2. **Uniform Distribution:** In a uniform distribution, all values have an equal probability of occurring. This distribution is characterized by a constant probability density function across the entire range of values.
3. **Skewed Distribution:**
    - **Positively Skewed (Right Skewed):** In a positively skewed distribution, the tail of the distribution extends towards the higher values, meaning that there are few extreme values on the higher end and more values clustered on the lower end.
    - **Negatively Skewed (Left Skewed):** In a negatively skewed distribution, the tail extends towards the lower values. This implies that there are few extreme values on the lower end and more values clustered on the higher end.
4. **Exponential Distribution:** This distribution is often used to model the time between events in a process known as the exponential decay process. It's characterized by a rapid drop-off in the probability of an event occurring as time increases.
5. **Poisson Distribution:** The Poisson distribution is used to model the number of events that occur in a fixed interval of time or space. It's often used for rare events and is characterized by its discrete nature.
6. **Binomial Distribution:** The binomial distribution models the number of successes in a fixed number of independent Bernoulli trials (events with two possible outcomes, like success/failure). It's used when the probability of success remains constant.
7. **Multinomial Distribution:** A generalization of the binomial distribution, the multinomial distribution deals with experiments that have more than two possible outcomes. It's used to model the distribution of counts among multiple categories.
8. **Log-Normal Distribution:** In a log-normal distribution, the logarithm of the data follows a normal distribution. This distribution is often used for data that are positively skewed on a linear scale.
9. **Gamma Distribution:** The gamma distribution is a versatile distribution that can model various types of distributions depending on its parameters. It's often used to model waiting times or time until an event occurs.

10. **Chi-Square Distribution:** The chi-square distribution arises in statistics, particularly in the context of hypothesis testing. It's commonly used for comparing observed and expected frequencies.