1. Parametric Statistical Tests:
2. Z-test

* Your sample size is greater than 30. Otherwise, use a t test.
* Data points should be independent from each other. In other words, one data point isn’t related or doesn’t affect another data point.
* Your data should be normally distributed. However, for large sample sizes (over 30) this doesn’t always matter.
* Your data should be randomly selected from a population, where each item has an equal chance of being selected.
* Sample sizes should be equal if at all possible.

1. T-test

* Used when the population parameters (mean and standard deviation) are not known.
* Used when comparing the means of precisely two groups (e.g. the average heights of men and women).

1. Paired T-Test

* A paired t-test is used when we are interested in the difference between two variables for the same subject.

1. Independent T-test

* Tests the difference between the same variable from different populations (e.g., comparing dogs to cats)
* Your variable of interest is continuous
* You have two and only two groups

1. One sample t-test

* Used when we want to know whether our sample comes from a particular population but we do not have full population information available to us. For instance, we may want to know if a particular sample of college students is similar to or different from college students in general. The one-sample t-test is used only for tests of the sample mean. Thus, our hypothesis tests whether the average of our sample (M) suggests that our students come from a population with a know mean (m) or whether it comes from a different population.

1. ANOVA Test

* Used to compare the means of more than two groups or more(e.g. the average weights of children, teenagers, and adults).

1. Non-parametric Statistical Tests:
2. Chi-square test

* Tests for the strength of the association between two categorical variables.