ANOVA

### ANOVA ( Analysis of Variance) helps us to complete our job of selecting the best features. The variance of a feature determines how much it is impacting the response variable. If the variance is low, it implies there is no impact of this feature on response and vice-versa.

### Why is ANOVA necessary?

The ANOVA test is used as the primary and initial step in examining the variables that influence a certain data set. After the test is complete, the data analyst can run additional tests on the procedural elements that significantly contribute to the inconsistent nature of the data set. In order to provide more data that is consistent with the suggested regression models, the analyst uses the ANOVA test findings in an F-test.

### How It Works

Using the ANOVA test, we can compare more than two groups at once to see whether there is a correlation between them. The F statistic, or F-ratio, which is the outcome of the ANOVA formula, enables the examination of several sets of data to ascertain the variability within and across samples. So by using this F-statistic score, each feature of the data can be ranked accordingly, and the features with higher ranks can be considered as the optimal set of features.