**Statistics** is a discipline that concerns the collection, organization, analysis, interpretation and presentation of data. It can help generate inferences from existing data.

**A statistical hypothesis test** is a method of statistical inference used to decide whether the data at the hand sufficiently supports a hypothesis. Hypothesis testing allows the researcher to determine whether the data from the sample is statistically significant. Hypothesis testing is one of the most important processes for measuring the validity and reliability of outcomes in any systematic investigation.

**The null hypothesis** is a typical statistical theory which suggests that no statistical relationship and significance exists in a set of given single observed variable, between two sets of observed data and measured phenomena.

In statistical hypothesis testing, **the alternative hypothesis** is one of the proposed proposition in the hypothesis test.

**A z-test** is a statistical test to determine whether two population means are different when the variances are known and the sample size is large. A z-test is a hypothesis test in which the z-statistic follows a normal distribution. A z-statistic, or z-score, is a number representing the result from the z-test.