

Which of the following is the correct formula for total variation?

- a) Total Variation = Residual Variation – Regression Variation
- b) Total Variation = Residual Variation + Regression Variation
- c) Total Variation = Residual Variation \* Regression Variation
- d) All of the mentioned

Ans. (a)

Collection of exchangeable binary outcomes for the same covariate data are called outcomes.

- a) random
- b) direct
- c) binomial
- d) none of the mentioned

Ans. (b)

How many outcomes are possible with Bernoulli trial?

- a) 2
- b) 3
- c) 4
- d) None of the mentioned

Ans. (a)

If  $H_0$  is true and we reject it is called

- a) Type-I error
- b) Type-II error
- c) Standard error
- d) Sampling error

Ans. (a)

Level of significance is also called:

- a) Power of the test
- b) Size of the test
- c) Level of confidence
- d) Confidence coefficient

Ans. (b)

The chance of rejecting a true hypothesis decreases when sample size is:

- a) Decrease
- b) Increase
- c) Both of them
- d) None

Ans. (b)

Which of the following testing is concerned with making decisions using data?

- a) Probability
- b) Hypothesis
- c) Causal
- d) None of the mentioned

Ans. (b)

What is the purpose of multiple testing in statistical inference?

- a) Minimize errors
- b) Minimize false positives
- c) Minimize false negatives
- d) All of the mentioned

Ans. (d)

Normalized data are centred at and have units equal to standard deviations of the original data

- a) 0
- b) 5
- c) 1
- d) 10

Ans. (a)

What Is Bayes' Theorem?

Ans. Bayes's theorem is used for the calculation of a conditional probability where intuition often fails. Although widely used in probability, the theorem is being applied in the machine learning field too. Its use in machine learning includes the fitting of a model to a training dataset and developing classification models.

What is z-score?

Ans. The z-test may be a hypothesis test within which the z-statistic is distributed normally. The z-test is best utilized for samples with quite 30 because, in line with the central limit theorem, samples with over 30 samples are assumed to be approximately regularly distributed. The null and alternative hypotheses, also because the alpha and z-score, should all be reported when doing a z-test. The test statistic should next be calculated, followed by the results and conclusion. A z-statistic, also called a z-score, could be a number that indicates what number of standard deviations a score produced from a z-test is above or below the mean population.

What is t-test?

Ans. A t-test is an inferential statistic that's won't see if there's a major difference within the means of two groups that are related in how. It's most ordinarily employed when data sets, like those obtained by flipping a coin 100 times, are expected to follow a traditional distribution and have unknown variances. A t-test could be a hypothesis-testing technique that will be accustomed to assess an assumption that's applicable to a population.

What is percentile?

Ans. Percentile is a statistician's unit of measurement that indicates the value below which a given percentage of observations in a group of observations fall.

What is ANOVA?

Ans. ANOVA is the way to find out if experimental results are significant. One-way ANOVA compares two means from two independent groups using only one independent variable. Two-way ANOVA is the extension of one-way ANOVA using two independent variables to calculate the main effect and interaction effect.

How can ANOVA help?

Ans. It is used to analyze the variance that exists between two or more samples. It is done by testing for the treatment means and also discovering the hypothesis. ANOVA is such an interesting procedure to determine the kind of materials to build products for your customers. With this method, you would be able to analyze market competition, price of competitor's goods, and others, thereby giving you an edge in the production process.