

STATISTICS WORKSHEET-3

Q1 to Q9 have only one correct answer. Choose the correct option to answer your question.

1. 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

Answer. b) Total Variation=Residual Variation+Regression Variation

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

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

Answer. c) binomial

3. How many outcomes are possible with Bernoulli trial?

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

Answer. a) 2

4. 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

Answer. a) Type-I error

5. Level of significance is also called:

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

Answer. b) Size of the test

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

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

Answer. b) Increase

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

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

Answer. b) Hypothesis

8. 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

Answer. d) All of the mentioned

9. Normalized data are centred at _and have units equal to standard deviations of the original data

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

Answer. d) 10

Q10 and Q15 are subjective answer type questions, Answer them in your own words briefly.

10. What Is Bayes' Theorem?

Answer.

Bayes Theorem states that the conditional probability of an event based on the occurrence of another event. Is equal to the likelihood of the second event given the first event multiplied by the probability of the first event.

11. What is z-score?

Answer.

Z-score indicates how much a given value differs from the standard deviation. The Z-score or standard score is the number of standard deviations a given data point lies above or below mean. Standard deviation is essentially a reflection of the amount of variability within a given data set.

12. What is t-test?

Answer.

T test is a statistical test that is used to compare the means of two groups. It is often used in hypothesis testing to determine whether a process or treatment actually has an effect on the population of interest, or whether two groups are different from one another

13. What is percentile?

Answer.

A percentile is a comparison score between a particular score and the scores of the rest of a group. It shows the percentage of scores that a particular score surpassed.

14. What is ANOVA?

Answer.

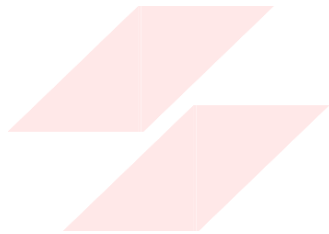
Analysis of variance or ANOVA is a statistical method that separates observed variance data into different components to use for additional tests. A one way ANOVA is used for three or more groups of data to gain information about the relationship between the dependent and independent variables.

15. How can ANOVA help?

Answer.

ANOVA is helpful for testing three or more variables. It provides the overall test of equality of groups. To avoid an increase in error while using a t-test to compare more than two

population groups.



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