

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

Ans:- b)

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

Ans:- c)

3. How many outcomes are possible with Bernoulli trial?
- a) 2
 - b) 3
 - c) 4
 - d) None of the mentioned

Ans:- a)

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

Ans:- a)

5. 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)

6. The chance of rejecting a true hypothesis decreases when sample size is:
- a) Decrease
 - b) Increase
 - c) Both of them
 - d) None

Ans:- b)

7. 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)

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

Ans:- d)

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

Ans:- a)

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

10. What Is Bayes' Theorem?

Ans:- 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?

Ans:- z-score is a measure of how many standard deviations below or above the population mean a raw score is called z score. It will be positive if the value lies above the mean and negative if it lies below the mean. It is also known as standard score.

12. What is t-test?

Ans:- A t-test is an inferential statistic used to determine if there is a significant difference between the means of two groups and how they are related. T-tests are used when the data sets follow a normal distribution and have unknown variances

13. What is percentile?

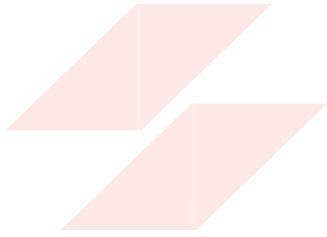
Ans:- In statistics, a percentile is a term that describes how a score compares to other scores from the same set

14. What is ANOVA?

Ans:- Analysis of variance, or ANOVA, is a statistical method that separates observed variance data into different components to use for additional tests

15. How can ANOVA help?

Ans:- ANOVA is helpful for testing three or more variables. ANOVA is a tool to compare the means of several populations, based on random, independent samples from each population. It provides a statistical test to determine if population means are equal or not



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