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?

b) Total Variation = Residual Variation + Regression Variation

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

c) binomial

3. How many outcomes are possible with Bernoulli trial?

a) 2

4. If Ho is true and we reject it is called

a) Type-I error

5. Level of significance is also called:

b) Size of the test

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

b) Increase

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

b) Hypothesis

8. What is the purpose of multiple testing in statistical inference?

d) All of the mentioned

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

a. 0

Q10and Q15 are subjective answer type questions, Answer them in your own words briefly.

10. What Is Bayes' Theorem?

Ans:-A theorem describing how the conditional probability of each of a set of possible cause for a given observed outcome can be computed from knowledge of the probability of each cause and the conditional probability of the outcome of each cause.

11. What is z-score?

Ans:-A z score is a type of statistical measurement that given an idea of how far a raw score is from the mean of a distribution .A z score is used in a z test for hypothesis testing .it is also used in prediction intervals to determine the probability of a random variable falling between a range of value.

12. What is t-test?

Ans:- A t-test is any statistical hypothesis test in which the test statistic follows a Student's t-distribution under the null hypothesis. It is most commonly applied when the test statistic would follow a normal distribution if the value of a scaling term in the test statistic were known (typically, the scaling term is unknown and therefore a nuisance parameter). When the scaling term is estimated based on the data, the test statistic—under certain conditions—follows a Student's t distribution. The t-test's most common application is to test whether the means of two populations are different.

13. What is percentile?

Ans:-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. For example, if you score 75 points on a test, and are ranked in the 85 th percentile, it means that the score 75 is higher than 85% of the scores.

14. What is ANOVA?

Ans:- An ANOVA test is a type of statistical test used to determine if there is a statistically significant difference between two or more categorical groups by testing for differences of means using variance.

15. How can ANOVA help?

Ans:- ANOVA is helpful for testing three or more variables. It is similar to multiple two-sample t-tests. However, it results in fewer type I errors and is appropriate for a range of issues. ANOVA groups differences by comparing the means of each group and includes spreading out the variance into diverse sources.