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

Answerr=) 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= binomial

3. How many outcomes are possible with Bernoulli trial?

a) 2

b) 3

c) 4

d) None of the mentioned

Answer= 2

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

a) Type-I error

b) Type-II error

c) Standard error

d) Sampling error

Answer= 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= 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= 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= 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= Minimize errors

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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=0

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

10. What Is Bayes' Theorem?

11. What is z-score?

Answer=Zscore describe the position of raw score in term of distance from the mean,when measured in standard deviation units. The zscore is positive if value above the mean,the zscore is negative if value below thgw mean

Zscore give u statistical formula outlyers

If the values are falling between 3 amd -3 means data are normal and any value which are far away from 3 standard deviation they are abnormal data

12. What is t-test?

Answer=T test is a statistical test which is used to compare the mean of two group it is also used in hypothesis testing to determine a process or treatment actually has an effect on the population of interest

13. What is percentile?

Answer=In statistic percentile are used to understand and interpret data the nth percentile of a set of data is the value at which n percent of data at below it,In everyday life percentile is used to understand value such as test score,health and other measurement

Example suppose I have a data with 200 heights if I want to know out of 200 height data what is the 70th percentile (means tell me the height of a person below which 70% of the people)

14. What is ANOVA?

Answer=ANOVA is an analytic tool used in statistic that split an observed variable statistic found in the dataset in two parts systematic factor and random factor.the systematic factor have an statistical influence in the given dataset,but the random factor are not.analysit use the anova test to determine the influence that indep[endent variable have on dependent variable in a regression study.

15. How can ANOVA help?