STATISTICS WORKSHEET-3

Q1 to Q9 have only one correct answer. Answer highlighted with the yellow colour after each questions.

1. Which of the following is the correct formula for total Variation ?

Total Variation = Residual Variation + Regression Variation

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

binomial

3. How many outcomes are possible with Bernoulli trial?

2

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

Type-I error

5. Level of significance is also called:

Size of the test

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

Increase

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

Hypothesis

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

- **Minimize errors**
- **Minimize false positives**
- **Minimize false negatives**
- **All of the mentioned**

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

- Answer:- 0

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

10. What Is Bayes' Theorem?

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?

A z-score describes the position of a raw score in terms of its distance from the mean, when measured in standard deviation units. The z-score is positive if the value lies above the mean, and negative if it lies below the mean.
It is also known as a standard score.

12. What is t-test?

T-test measures the difference between two means, which may or may not be related to each other, indicating the probability of the differences to have happened by chance. The accuracy of the values obtained depends on various factors, including the distribution patterns used and the variants influencing the collected samples.

13. What is percentile?

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?

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.

Another Key part of ANOVA is that it splits the independent variable into 2 or more groups. For example, one or more groups might be expected to influences the dependent variable while the other group is used as a control group, and is not expected to influence the dependent variable.

15. How can ANOVA help?

ANOVA, allow you to determine if differences in mean values between three or more groups are by chance or if they are indeed significantly different.

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