WORKSHEET -3 (STATISTICS)

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

Ans: B. Total Variation = Residual Variation + Regression Variation

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

Ans: C. binomial

3. **How many outcomes are possible with Bernoulli trial?**

Ans: A. 2

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

Ans: A. Type-I error

5. **Level of significance is also called:**

Ans: A. Power of the test

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

Ans: B. Increase

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

Ans: B. Hypothesis

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

Ans:D. All of the mentioned

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

Ans: A. 0

10. **What Is Bayes' Theorem?**

Ans: Bayes' Theorem states that the conditional probability of each of a set of possible causes 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: Z-score is a numerical measurement that describes a value's relationship to the mean of a group of values. Z-score is measured in terms of standard deviations from the mean. If a Z-score is 0, it indicates that the data point's score is identical to the mean score

12. **What is t-test?**

Ans. A t-test is a statistical test that compares the means of two samples. It is used in hypothesis testing, with a null hypothesis that the difference in group means is zero and an alternate hypothesis that the difference in group means is different from zero.

13. **What is percentile?**

Ans: A percentile also called centile, is a measure used in statistics indicating the value below which a given percentage of observations in a group of observations fall. For example, the 20th percentile is the value (or score) below which 20% of the observations may be found.

14. **What is ANOVA?**

Ans: Analysis of Variance (ANOVA) is a statistical technique that is used to check if the means of two or more groups are significantly different from each other. ANOVA checks the impact of one or more factors by comparing the means of different samples.

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 difference by comparing the means of each group and includes spreading out the variance into diverse sources.
The way ANOVA can help you know whether or not there are significant differences between the means of your independent variables (such as age, sex, income). When you understand how each independent variable's mean is different from the others, you can begin to understand which of them has a connection to your dependent variable (landing page clicks), and begin to learn what is driving that behavior.

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