WORKSHEET

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:- 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

   Ans:- Binomial

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

   Ans:- 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

   Ans:- Type-1 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

   Ans:- 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

   Ans:- 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

   Ans:- 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

   Ans:- All of mentioned

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:- 0

Q10and 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:- A z-score is an example of a standardized score. A z-score measures how many standard deviations a data point is from the mean in a distribution.

12. What is t-test?

    Ans:- A t test is a statistical test that is used to compare the means of two groups.

13. What is percentile?

    Ans:- A percentile is a comparison score between a particular score and the scores of the rest of a group

14. What is ANOVA?

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

15. How can ANOVA help?

    Ans:- The one-way ANOVA can help you know whether or not there are significant differences between the means of your independent variable