STATISTICS WORKSHEET-1

Q1 to Q9 have only one correct answer. Choose the correct option to answer your question.

1. Bernoulli random variables take (only) the values 1 and 0.
   a) True
   b) False

   Ans. a

2. Which of the following theorem states that the distribution of averages of iid variables, properly normalized, becomes that of a standard normal as the sample size increases?
   a) Central Limit Theorem
   b) Central Mean Theorem
   c) Centroid Limit Theorem
   d) All of the mentioned

   Ans. a

3. Which of the following is incorrect with respect to use of Poisson distribution?
   a) Modeling event/time data
   b) Modeling bounded count data
   c) Modeling contingency tables
   d) All of the mentioned

   Ans.b

4. Point out the correct statement.
   a) The exponent of a normally distributed random variables follows what is called the log- normal distribution
   b) Sums of normally distributed random variables are again normally distributed even if the variables are dependent
   c) The square of a standard normal random variable follows what is called chi-squared distribution
   d) All of the mentioned

   Ans.c

5. _____random variables are used to model rates.
   a) Empirical
   b) Binomial
   c) Poisson
   d) All of the mentioned

   Ans.c

6. Usually replacing the standard error by its estimated value does change the CLT.
   a) True
   b) False

   Ans.b

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.b

8. Normalized data are centered at_____and have units equal to standard deviations of the original data.
   a) 0
   b) 5
   c) 1
   d) 10

   Ans.a

9. Which of the following statement is incorrect with respect to outliers?
   a) Outliers can have varying degrees of influence
   b) Outliers can be the result of spurious or real processes
   c) Outliers cannot conform to the regression relationship
   d) None of the mentioned

   Ans.c

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

10. What do you understand by the term Normal Distribution?

Ans.

Normal Distrubution is the distribution of probability of the continuous data symmetrically around the mean. We can say mean median mode are same at that point.

11. How do you handle missing data? What imputation techniques do you recommend?

Ans.

We can remove all the missing data ,but it creates removing a lot of essential data, so the missing data is replaced with the mean .

12. What is A/B testing?

Ans.

A/B is a method in which two versions are created of a single design or any kind of thing, and two versions are been used by different users, from the usage of the versions there metrics are derived to see which performs better. So basically A/B testing is applied to find which version works better.

13. Is mean imputation of missing data acceptable practice?

Ans.

Yes , Its an acceptable practice because eliminating the rows of missing data gives a lot of change,but having same mean does not change and gives a perfect result.

14. What is linear regression in statistics?

Ans.

Linear regression is a method of creating a linear equation which has a relation between dependent and independent variables.

15. What are the various branches of statistics?

Descriptive statistics
Inferential Statistics
Biostatistics
Probability theory
Econometrics
Psychometrics
Social statistics
Statistical computing
Environmental statistics
Business statistics

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