

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) FalseAnswer – a) True
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 mentionedAnswer – a) Central Limit Theorem
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 mentionedAnswer – b) Modeling bounded count data
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 mentionedAnswer – a) The square of a standard normal random variable follows what is called chi-squared distribution
5. _____ random variables are used to model rates.
 - a) Empirical
 - b) Binomial
 - c) Poisson
 - d) All of the mentionedAnswer – c) Poisson
6. 10. Usually replacing the standard error by its estimated value does change the CLT.
 - a) True
 - b) FalseAnswer – b) False
7. 1. Which of the following testing is concerned with making decisions using data?
 - a) Probability
 - b) Hypothesis
 - c) Causal
 - d) None of the mentionedAnswer – b) Hypothesis
8. 4. Normalized data are centered at _____ and have units equal to standard deviations of the original data.
 - a) 0
 - b) 5
 - c) 1
 - d) 10Answer – a) 0
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

Answer - a) Outliers can have varying degrees of influence

Q10 and Q15 are subjective answer type questions, Answer them in your own words briefly.

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

Answer - Normal distribution is the symmetric about the mean & it's showing the data near to mean.

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

Answer – Following methods using for the handle the data –

1. Removing the data
2. Deletion of the data
3. Using Mean Medium & Mode method
4. Multiple Imputational
5. Using KNN method

12. What is A/B testing?

Answer – A/B test is known as split tests. It defines two variance of data and see the result.

13. Is mean imputation of missing data acceptable practice?

Answer - Yes. It's very dangerous method to find the missing data. This method is very easy but it's chances to missing large amount of samples.

14. What is linear regression in statistics?

Answer – Linear Regression is used to predict the value using another variable. Predict the value is called as dependant variable & Predict the other variable is called as independent variable.

15. What are the various branches of statistics?

Answer – Following branches of statistics

1. Collection of the data
2. Descriptive Statistics
3. Inferential Statistics



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