

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: 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 mentioned

Ans: 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 table
 - d. All of the mentioned

Ans: Modeling bounded count data

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

Ans: All of the mentioned

5. ____ random variables are used to model rates.
 - a. Empirical
 - b. Binomial
 - c. Poisson
 - d. All of the mentioned

Ans: Poisson

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

Ans: True

7. 1. 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. 4. 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: 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 mention

Ans: Outliers cannot conform to the regression relationship

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

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

Answer: Normal distribution, refer as 'bell curve' because of its shape. The normal distribution is described by the mean (μ) and the standard deviation (σ).

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

Answer: **Filling the missing data with the numerical variable, algorithm automatically deal on missing data.**

6. What is A/B testing?

Answer:

- 7. Is mean imputation of missing data acceptable practice?
- 8. What is linear regression in statistics?

Answer: **The process of finding a straight line (as by least squares) that best approximates a set of points on a graph.**

9. What are the various branches of statistics?

Answer: there are three real branches of statistics: data collection, descriptive statistics and inferential statistics.

