Statistics Assignment----->

1)Bernoulli random variables take (only) the values 1 and 0.

a) True

b) False

A option is correct.

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

Option A is correct.

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

Option B is incorrect.

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.

Option D is correct.

5)_____ random variables are used to model rates.

a) Empirical

b) Binomial

c) Poisson

d) All of the mentioned

Option C is correct.

6)Usually replacing the standard error by its estimated value does change the CLT.

a) True

b) False

The statement is false.

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

a) Probability

b) Hypothesis

c) Causal

d) None of the mentioned

Option B is correct.

8)Normalized data are centered at__**zero**__and have units equal to standard deviations of the

original data.

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

Option c is incorrect statement.

10)The term "Normal Distribution" also known as

the Gaussian distribution, is a fundamental concept in statistics and probability theory. It describes a continuous probability distribution that is symmetric around its mean, with the properties.

11)Handling missing data is an important aspect of data preprocessing in data analysis and machine learning. Missing data can occur for various reasons, such as data collection errors, non-responses in surveys, or system failures. Here are some common techniques for handling missing data.

12)A/B testing, also known as split testing, is a controlled experiment used to determine the effectiveness or preference between two variants of something, typically in the context of marketing, web design, user experience (UX), or product development. Here's a detailed explanation of A/B testing.

13)Mean imputation, where missing values in a dataset are replaced with the mean of the observed values for that variable, is a simple and widely used

method for handling missing data. However, its acceptability and appropriateness depend on several factors and considerations.

14)In statistics, linear regression is a fundamental approach for modeling the relationship between a dependent variable and one or more independent variables. It assumes that there is a linear relationship between the independent variables and the dependent variable.

15)Statistics, as a field of study, encompasses various branches that focus on different aspects of data collection, analysis, interpretation, and application. Here are some of the main branches of statistics:

1)Descriptive statistics

2)Inferential statsitics

3)Probability Theory

4)Biostatistics

5)Econometrics

6)Psychometrics

7)Spatial Statistics

8)Time Series Analysis

9)Multivariate Statistics

10)Statistical Computing

11)Machine Learnign and Data Mining