

Here are the answers to your questions:

1. a) True
2. a) Central Limit Theorem
3. b) Modeling bounded count data
4. c) The square of a standard normal random variable follows what is called chi-squared distribution
5. c) Poisson
6. b) False
7. b) Hypothesis
8. a) 0
9. c) Outliers cannot conform to the regression relationship
10. The normal distribution, also known as the Gaussian distribution, is a continuous probability distribution characterized by its bell-shaped curve. It is one of the most important distributions in statistics and is defined by two parameters: the mean (μ) and the standard deviation (σ). Here are the key properties and features of the normal distribution.
11. Handling missing data is a crucial step in data preprocessing as it can significantly impact the performance of your machine learning models. Here are some common techniques for handling and imputing missing data.
 - (i) DELETION METHOD
 - (ii) IMPUTATION METHOD
 - (iii) ADVANCED TECHNIQUES

12. A/B testing, also known as split testing or bucket testing, is a method used to compare two versions of a webpage, app, email, or other product to determine which one performs better. The process involves splitting your audience into two groups: one group is exposed to version A (the control), and the other group is exposed to version B (the variation). The performance of each version is measured using a predetermined metric, such as conversion rate, click-through rate, or any other relevant key performance indicator (KPI).

13. Mean imputation, while simple and commonly used, has several drawbacks and is generally not considered the best practice for handling missing data in many scenarios. Here are some considerations.

14. Linear regression is a statistical method used to model and analyze the relationship between a dependent variable and one or more independent variables. It is one of the most fundamental and widely used techniques in data analysis and machine learning for understanding and predicting quantitative outcomes.

15. Statistics is a broad field with various branches that focus on different aspects of data collection, analysis, interpretation, and presentation. The main branches of statistics include.

1. Descriptive Statistics
2. Inferential Statistics
3. Probability Theory
4. Bayesian Statistics
5. Nonparametric Statistics
6. Multivariate Statistics
7. Experimental Design
8. Time Series Analysis
9. Survival Analysis