STATISTICS_3

1. B
2. C
3. A
4. A
5. C
6. B
7. B
8. D
9. A
10. What Is Bayes' Theorem?

    The Bayes Theorem stipulates that the likelihood of the second event given the first event multiplied by the probability of the first event equals the conditional probability of an event depending on the occurrence of another event.

    Formula for Bayes' Theorem

    $$P(A|B) = \frac{P(A \bigcap B)}{P(B)} = \frac{P(A) \cdot P(B|A)}{P(B)}$$

    where:

    $P(A) =$ The probability of A occurring

    $P(B) =$ The probability of B occurring

    $P(A|B) =$ The probability of A given B

    $P(B|A) =$ The probability of B given A

    $P\left(A \bigcap B\right)) =$ The probability of both A

11. What is z-score?

    The Z-score evaluates the discrepancy between a given value and the standard deviation. The Z-score, also known as the standard score, indicates how many standard deviations a specific data point deviates from the mean. In general, standard deviation represents the degree of variability present in a given data collection.

12. What is t-test?

    A statistical test called a t-test compares the means of two samples. It is used in hypothesis testing, where the null hypothesis is that there is no difference between the group means, and the alternate hypothesis is that there is a difference between the two.

13. What is percentile?

    A percentile in statistics refers to a score's position in relation to other scores from the same set. Although percentile has no one fixed meaning, it is frequently described as the proportion of values in a set of data scores that are lower than a particular value.

14. What is ANOVA?

Analysis of variance (ANOVA) is a statistical method for examining differences in means. It consists of a number of statistical models and the accompanying estimating techniques (such as the "variation" within and between groups).

15. How can ANOVA help

When examining three or more variables, an ANOVA is useful. It resembles numerous two-sample t-tests. But it produces fewer type I errors and is suitable for a variety of problems. ANOVA includes dispersing the variation among many sources and groups differences by comparing the means of each group.