STATISTICS WORKSHEET- 6

Q1 to Q9 have only one correct answer. Choose the correct option to answer your question.

1. Which of the following can be considered as random variable?
   a) The outcome from the roll of a die
   b) The outcome of flip of a coin
   c) The outcome of exam
   d) All of the mentioned
   Answer : - D)
2. Which of the following random variable that take on only a countable number of possibilities?
   a) Discrete
   b) Non Discrete
   c) Continuous
   d) All of the mentioned
   Answer :- A)
3. Which of the following function is associated with a continuous random variable?
   a) pdf
   b) pmv
   c) pmf
   d) all of the mentioned
   Answer : A)
4. The expected value or_____of a random variable is the center of its distribution.
   a) mode
   b) median
   c) mean
   d) bayesian inference
   Answer :- C)
5. Which of the following of a random variable is not a measure of spread?
   a) variance
   b) standard deviation
   c) empirical mean
   d) all of the mentioned
   Answer :- A)
6. The_____of the Chi-squared distribution is twice the degrees of freedom.
   a) variance
   b) standard deviation
   c) mode
   d) none of the mentioned
   Answer :- A)
7. The beta distribution is the default prior for parameters between _____
   a) 0 and 10
   b) 1 and 2
   c) 0 and 1
   d) None of the mentioned
   Answer :- C)
8. Which of the following tool is used for constructing confidence intervals and calculating standard errors for difficult statistics?
   a) baggyer
   b) bootstrap
   c) jacknife
   d) none of the mentioned

   Answer :- B)

9. Data that summarize all observations in a category are called_____data.
   a) frequency
   b) summarized
   c) raw
   d) none of the mentioned
   Answer :- B)

Q10and Q15 are subjective answer type questions, Answer them in your own words briefly.

10. What is the difference between a boxplot and histogram?
    Answer :- Well Box plot and Histogram can be used use Seaborn . where Box plot is Used using .boxplot and Histogram is used using .countplot.

    Box plot - gives the quartiles and indicate the median data to compare easily

    Histogram - gives only the count

11. How to select metrics?
    Answer :- The key point is to choose metrics that clearly indicate where you are now in relation to your goals. Good metrics can be improved.
12. How do you assess the statistical significance of an insight?
    Answer :- To assess statistical significance, you would use hypothesis testing.
13. Give examples of data that doesnot have a Gaussian distribution, nor log-normal.
    Answer :- Examples of data that does not have a Gaussian distribution, nor log-normal include:
    a) Categorical data, such as the number of pets owned by a person (0, 1, 2, 3, etc.)
    b) Count data, such as the number of times a website has been visited
    c) Binary data, such as the presence or absence of a disease

14. Give an example where the median is a better measure than the mean.
    Answer :- An example where the median is a better measure than the mean is when there are extreme outliers in the data set. For example, if you were analyzing the income of a group of people, the mean would be skewed by a small number of very high earners, while the median would give a more representative value of the middle income of the group.

15. What is the Likelihood?
    Answer :- The likelihood is a function of the parameters of a statistical model given the data. It tells us how likely it is that the data would be observed given the specific values of the parameters. The likelihood is used in maximum likelihood estimation (MLE) to find the values of the parameters that make the observed data most probable. The likelihood function is often used in estimation, hypothesis testing and model selection.


FLIP ROBO