Introduction to Data Science (IDS)

Quiz – 1 [Online Copy]

Date: September 16, 2023

Time: 15 Minutes   Maximum Marks: 9

Question 1: What does the term "p-value" represent in hypothesis testing?

a. The probability of rejecting a false null hypothesis.
b. The probability of accepting a false null hypothesis.
c. The probability of accepting a true null hypothesis.
d. The probability of rejecting a true null hypothesis.

Question 2: What is the purpose of random sampling in inferential statistics?

a. To select the largest possible sample.
b. To simplify the data collection process.
c. To minimize the chances of errors in data collection.
d. To ensure that the sample is representative of the population.

Question 3: What is the main advantage of using a histogram over a bar chart for displaying data distribution?

a. Histograms are more colorful and visually appealing.
b. Histograms are better for displaying discrete data.
c. Histograms show the frequency distribution of continuous data.
d. Histograms allow for comparison of different data categories.

Question 4: What is the primary goal of data preprocessing in data science?

a. To clean and transform raw data into a suitable format for analysis.
b. To make data confidential.
c. To visualize data.
d. To create new data.

Question 5: What is the characteristic "bell curve" shape of a Gaussian distribution primarily caused by?

a. The central limit theorem.
b. Random noise in the data.
c. Data transformation.
d. The presence of outliers.

Question 6: If you reject the null hypothesis in a one-way ANOVA, what does it suggest about the group means?

a. They are all equal.
b. The groups have equal variances.
c. The data is not normally distributed.
d. At least one group mean is significantly different from the others.

Question 7: In a scatter plot, what type of variables are typically plotted on the x and y axes?

a. One categorical and one continuous variable.
b. Two categorical variables.
c. One continuous and one ordinal variable.
d. Two continuous variables.

Question 8: What does a 95% confidence interval indicate?

a. The sample size must be 95.
b. There is a 5% chance that the sample mean falls within the interval.
c. There is a 95% chance that the sample mean falls within the interval.
d. There is a 95% chance that the population parameter falls within the interval.

Question 9: In a continuous probability distribution, what is the probability that a random variable takes on a specific value?

a. One.
b. Incomplete information given.
c. Depends on the distribution.
d. Zero.