

Statistics Basics

Assignment Questions



Assignment Questions:

1. Explain the different types of data (qualitative and quantitative) and provide examples of each. Discuss nominal, ordinal, interval, and ratio scales.
2. What are the measures of central tendency, and when should you use each? Discuss the mean, median, and mode with examples and situations where each is appropriate.
3. Explain the concept of dispersion. How do variance and standard deviation measure the spread of data?
4. What is a box plot, and what can it tell you about the distribution of data?
5. Discuss the role of random sampling in making inferences about populations.
6. Explain the concept of skewness and its types. How does skewness affect the interpretation of data?
7. What is the interquartile range (IQR), and how is it used to detect outliers?
8. Discuss the conditions under which the binomial distribution is used.
9. Explain the properties of the normal distribution and the empirical rule (68–95–99.7 rule).
10. Provide a real-life example of a Poisson process and calculate the probability for a specific event.
11. Explain what a random variable is and differentiate between discrete and continuous random variables.
12. Provide an example dataset, calculate both covariance and correlation, and interpret the results.