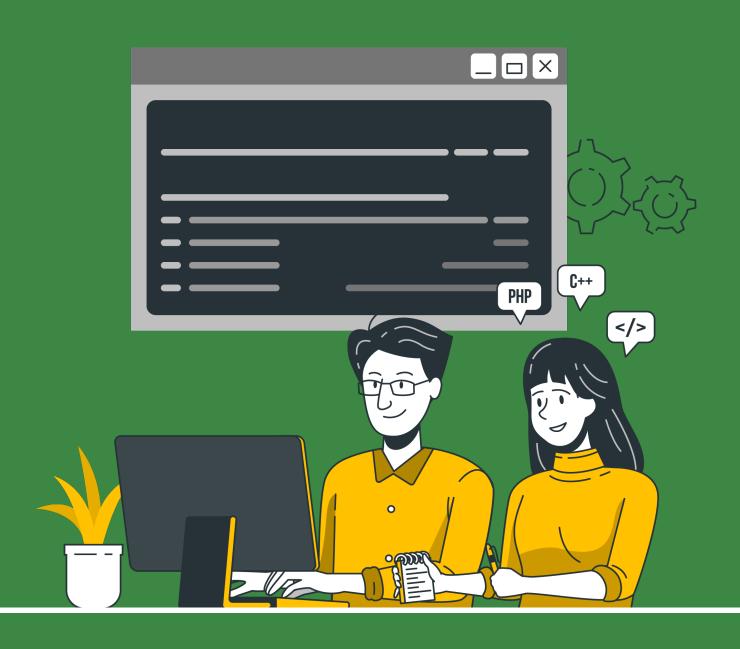


Statistics Basics

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.