

ASSESSMENT NO 5



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1. Why is statistics important in data science?

a. It makes data collection more efficient.   
b. It helps in creating beautiful data visualizations.   
c. It provides the tools to analyze, interpret, and draw insights   
from data.   
d. It is essential for designing machine learning algorithms.

2. What is the primary role of statistics in data science?

a. Data collection   
b. Data visualization   
c. Data analysis and interpretation   
d. Data storage

3. In the context of data science, why is it important to understand   
statistics?

a. It simplifies data collection.   
b. It enables effective data visualization.   
c. It forms the foundation for data analysis and decision-making.   
d. It automates data processing.

4. Which of the following is a practical application of statistics in data   
science?

a. Designing user interfaces   
b. Identifying software bugs   
c. Predictive modeling and forecasting   
d. Developing mobile apps

5. In data science, statistics is crucial for:

a. Enhancing data visualization aesthetics.   
b. Simplifying data collection processes.   
c. Analyzing, interpreting, and drawing insights from data.   
d. Reducing the need for data storage.

6. How does statistical analysis contribute to data-driven decision-  
making in business?

a. By replacing human judgment entirely.   
b. By eliminating uncertainty from decision-making.   
c. By providing evidence-based insights for informed choices.   
d. By reducing the need for data collection.

7. Which of the following is an example of the practical significance of   
statistics in data science?

a. Designing website layouts   
b. Calculating the number of website visitors   
c. Predicting customer churn based on historical data   
d. Creating engaging marketing slogans

8. Which of the following is an example of ordinal data?

a. The temperature in degrees Celsius   
b. The gender of survey respondents   
c. Customer ratings on a 5-star scale

d. The number of cars in a parking lot

9. A researcher wants to classify survey responses into categories with   
no specific order. Which measurement scale is most appropriate?

a. Nominal scale   
b. Ordinal scale   
c. Interval scale   
d. Ratio scale

10. Which type of data consists of distinct categories or labels   
with no inherent order?

a. Categorical data   
b. Numerical data   
c. Ordinal data   
d. Interval data

11. What distinguishes ordinal data from other types of data?

a. It consists of numerical values.   
b. It has a meaningful zero point.   
c. It involves ranked categories with varying intervals.   
d. It lacks any order or ranking.

12. Which measurement scale includes categories with a   
meaningful order but inconsistent intervals?

a. Nominal scale   
b. Ordinal scale   
c. Interval scale   
d. Ratio scale

13. If you have data consisting of "Yes" or "No" responses, what   
type of data is this?

a. Categorical data   
b. Numerical data   
c. Ordinal data   
d. Interval data

14. Which measurement scale has categories with a meaningful   
order and consistent intervals but no true zero point?

a. Nominal scale   
b. Ordinal scale   
c. Interval scale   
d. Ratio scale

15. In which measurement scale is the concept of a true zero   
point most relevant?

a. Nominal scale   
b. Ordinal scale   
c. Interval scale   
d. Ratio scale

16. What is the primary goal of descriptive statistics?

a. To make predictions about future events

b. To summarize and present data in a meaningful way   
c. To test hypotheses about a population   
d. To draw conclusions based on a sample

17. Inferential statistics is primarily concerned with:

a. Summarizing data.   
b. Drawing conclusions or making predictions about a population  
based on a sample.   
c. Creating visualizations.   
d. Identifying outliers in a dataset.

18. What is the primary goal of descriptive statistics?

a. To make predictions about future events   
b. To summarize and present data in a meaningful way   
c. To test hypotheses about a population   
d. To draw conclusions based on a sample

19. Which branch of statistics deals with making predictions or   
drawing conclusions about populations based on sample data?

a. Descriptive statistics   
b. Inferential statistics   
c. Predictive statistics   
d. Experimental statistics

20. When conducting a survey to determine the average income   
of a population, which type of statistic is used?

a. Descriptive statistics   
b. Inferential statistics   
c. Predictive statistics   
d. Prescriptive statistics

21. Which statistical branch helps us understand the central   
tendency, spread, and shape of data?

a. Predictive statistics   
b. Inferential statistics   
c. Descriptive statistics   
d. Experimental statistics

22. You conduct a survey and calculate the mean and standard   
deviation of the respondents' ages. What branch of statistics does   
this represent?

a. Predictive statistics   
b. Inferential statistics   
c. Descriptive statistics   
d. Experimental statistics

23. In inferential statistics, what is the purpose of hypothesis   
testing?

a. To describe data patterns.   
b. To summarize data.   
c. To draw conclusions about populations based on sample data.   
d. To create visualizations.

24. A marketing analyst wants to determine if a recent advertising  
campaign had a significant impact on sales. Which branch of   
statistics would be most useful for this analysis?

a. Descriptive statistics   
b. Inferential statistics   
c. Nominal statistics   
d. Ordinal statistics

25. In a real-world scenario, how can statistics help a company   
improve its product quality and customer satisfaction?

a. By predicting stock market trends   
b. By conducting surveys and analyzing customer feedback   
c. By automating data collection processes   
d. By generating random numbers for testing

26. How can descriptive statistics be used in a business context to  
improve decision-making?   
a. By predicting stock market trends   
b. By analyzing customer feedback to identify areas for   
improvement   
c. By automating data collection processes   
d. By generating random numbers for testing

27. In a clinical trial for a new drug, what is the role of inferential   
statistics?

a. To summarize the patient demographics   
b. To assess the safety of the drug   
c. To draw conclusions about the drug's effectiveness based on a  
sample of participants   
d. To calculate the average age of the participants

28. How can data scientists use descriptive statistics to improve   
customer experiences in e-commerce?

a. By predicting future customer behavior.   
b. By analyzing historical sales data.   
c. By summarizing and presenting product reviews.   
d. By automating product deliveries.

29. In a real-world scenario, explain how inferential statistics can   
assist a healthcare provider in improving patient outcomes.

a. By summarizing patient demographics.   
b. By identifying potential drug side effects.   
c. By drawing conclusions about the effectiveness of a new   
treatment based on clinical trial results.   
d. By creating medical diagnoses.

30. What ethical considerations are relevant when working with   
sensitive or personal data in statistical analysis?

a. None, as long as the data is anonymized.   
b. Ensuring the data is shared openly with the public.   
c. Protecting individuals' privacy and adhering to data protection  
regulations.

d. Using the data for marketing purposes without consent.

31. When handling sensitive patient data in a healthcare study,   
what ethical considerations should be a priority?

a. Ensuring the data is shared openly with the public   
b. Safeguarding patient privacy and complying with data   
protection regulations   
c. Selling the data to pharmaceutical companies for research   
purposes   
d. Conducting the study without informed consent from   
participants

32. How can data scientists ensure ethical practices when working  
with data that includes personally identifiable information (PII)?

a. Anonymize and secure PII data   
b. Share PII data openly with the public   
c. Monetize PII data without consent   
d. Use PII data for marketing purposes without restrictions

33. When working with sensitive data in statistical analysis, which   
ethical principle is crucial to uphold?

a. Data monetization   
b. Data privacy and protection   
c. Data sharing without consent   
d. Data anonymization

34. What is the significance of informed consent when conducting   
research that involves the use of personal data?

a. It ensures the data is shared openly with the public.   
b. It protects the privacy and rights of individuals and   
participants.   
c. It allows researchers to use personal data for any purpose.   
d. It eliminates the need for data protection regulations.

35.Create ER diagram on “Library Management System”.

