

SD COLLEGE OF MANAGEMENT STUDIES
MULTI-DIMENSIONAL ANALYSIS
UNIT – 3

1. What is multidimensional analysis primarily used for?

- a) Analyzing data with a single dimension
- b) Analyzing data with multiple dimensions
- c) Analyzing textual data
- d) Analyzing images

Ans - b

2. In multidimensional analysis, what does each dimension represent?

- a) A single data point
- b) A unique attribute or variable
- c) A single observation
- d) A single value

Ans - b

3. Which of the following is a common technique used in multidimensional analysis?

- a) Linear regression
- b) Principal component analysis (PCA)
- c) Sentiment analysis
- d) Hierarchical clustering

Ans - b

4. What is the purpose of dimensionality reduction techniques in multidimensional analysis?

- a) To increase the number of dimensions in the data
- b) To decrease the number of dimensions in the data
- c) To transform textual data into numerical data
- d) To identify outliers in the data

Ans - b

5. Which of the following is a benefit of multidimensional analysis?

- a) It only works with categorical data

- b) It can only handle small datasets
- c) It allows for exploration and visualization of complex relationships in data
- d) It is limited to two-dimensional data analysis

Ans - c

6. What is the curse of dimensionality?

- a) The limitation of only being able to analyze data in two dimensions
- b) The increase in computational complexity as the number of dimensions increases
- c) The inability to analyze data with more than one variable
- d) The restriction of data analysis to a single dimension

Ans - b

7. Which technique is commonly used to visualize multidimensional data in two or three dimensions?

- a) Hierarchical clustering
- b) Linear regression
- c) Principal component analysis (PCA)
- d) K-means clustering

Ans - c

8. What is a scatter plot matrix used for in multidimensional analysis?

- a) To visualize the relationship between multiple variables
- b) To summarize textual data
- c) To perform hypothesis testing
- d) To fit a linear regression model

Ans - a

9. Which of the following statements about the curse of dimensionality is true?

- a) It refers to the advantage of having a high-dimensional dataset
- b) It becomes less severe as the number of dimensions increases
- c) It leads to a decrease in computational complexity
- d) It affects the accuracy and efficiency of many algorithms in high-dimensional spaces

Ans - d

10. What is the primary goal of exploratory data analysis (EDA) in multidimensional analysis?

- a) To confirm preconceived hypotheses
- b) To summarize data using statistical measures
- c) To identify patterns and relationships in data
- d) To train machine learning models

Ans – c

11. What is data mining?

- a) Extracting data from a database
- b) Analyzing data to discover patterns and relationships
- c) Storing data in a data warehouse
- d) Transforming data into information

Ans – b

12. Which of the following tasks is NOT typically associated with data mining?

- a) Classification
- b) Data storage
- c) Clustering
- d) Association rule mining

Ans – b

13. What is the primary goal of knowledge discovery in databases (KDD)?

- a) To collect large amounts of data
- b) To understand existing data
- c) To transform data into knowledge
- d) To visualize data patterns

Ans – c

14. Which of the following is NOT a data mining technique?

- a) Decision trees
- b) Linear regression
- c) Neural networks
- d) Apriori algorithm

Ans – b

15. What is association rule mining used for in data mining?

- a) Predicting future events
- b) Finding patterns in large datasets
- c) Classifying data into categories
- d) Clustering similar data points

Ans – b

16. Which of the following is a supervised learning technique in data mining?

- a) Clustering
- b) Regression analysis
- c) Apriori algorithm
- d) Principal component analysis (PCA)

Ans – b

17. Which of the following is NOT a common application of data mining?

- a) Customer relationship management
- b) Fraud detection
- c) Weather forecasting
- d) Market basket analysis

Ans – c

18. What is the purpose of data preprocessing in data mining?

- a) To collect more data
- b) To clean and transform data into a usable format
- c) To analyze data patterns
- d) To visualize data relationships

Ans – b

19. Which of the following is an unsupervised learning technique in data mining?

- a) Decision trees
- b) Linear regression
- c) K-means clustering
- d) Support vector machines (SVM)

Ans – c

20. What is the role of data mining in business intelligence (BI)?

- a) To collect and store data

- b) To create reports and dashboards
- c) To analyze data for strategic decision-making
- d) To manage data security

Ans – c

21. Which of the following is NOT a data mining technique?

- a) Clustering
- b) Regression analysis
- c) Artificial intelligence
- d) Association rule mining

Ans – c

22. What is the primary goal of clustering in data mining?

- a) Predicting future trends
- b) Classifying data into predefined groups
- c) Finding hidden patterns or structures in data
- d) Identifying cause-effect relationships

Ans – c

23. In which data mining technique is the Apriori algorithm commonly used?

- a) Classification
- b) Regression
- c) Association rule mining
- d) Clustering

Ans – c

24. What does the k-nearest neighbors algorithm do in data mining?

- a) Classifies data points into predefined categories
- b) Divides data into clusters based on similarity
- c) Predicts the value of a dependent variable based on independent variables
- d) Assigns a class label to a new data point based on the majority class among its k-nearest neighbors

Ans – d

25. Which of the following is a supervised learning technique in data mining?

- a) Decision trees
- b) K-means clustering

- c) Principal component analysis (PCA)
- d) K-nearest neighbors (KNN)

Ans – a

26. Which technique is used to reduce the dimensionality of data while preserving its variance?

- a) Clustering
- b) Principal component analysis (PCA)
- c) Support vector machines (SVM)
- d) Neural networks

Ans – b

27. What does the term "frequent itemsets" refer to in association rule mining?

- a) Items that appear frequently in a dataset
- b) Sets of items that frequently occur together in transactions
- c) Items that are frequently purchased together in a market basket
- d) Items that have high support in a dataset

Ans – b

28. Which technique is primarily used for anomaly detection in data mining?

- a) Decision trees
- b) Clustering
- c) Association rule mining
- d) Outlier detection algorithms

Ans – d

29. Which data mining technique is used to uncover patterns and relationships in data?

- a) Classification
- b) Regression
- c) Association
- d) Clustering

Ans – b

30. Which data mining technique is used to predict numerical values based on historical data?

- a) Classification

- b) Regression
- c) Association
- d) Clustering

Ans – d