#1. What is the primary purpose of A/B testing in data science?
1. To perform feature selection for machine learning models
2. To compare two versions of a webpage or app and determine which one performs better
3. To clean and preprocess data
4. To transform categorical variables into numerical values
5. None of the above
#2. Which technique is commonly used for time series forecasting in data science?
1. Decision Trees
2. Linear Regression
3. Neural Networks
4. Autoregressive Integrated Moving Average (ARIMA)
5. None of the above
#3. What is the purpose of cross-validation in machine learning?
1. To split the dataset into training and testing sets
2. To evaluate a model's performance on an independent dataset

3. To create data visualizations using cross-shaped plots
4. To transform categorical variables into numerical values
5. None of the above
#4. Which algorithm is commonly used for both classification and regression tasks
in machine learning?
1. Support Vector Machine (SVM)
2. K-Means Clustering
3. Decision Tree
4. Noural Nationals
4. Neural Network
5. None of the above
#5. What is the primary function of the term frequency-inverse document
frequency (TF-IDF) in text mining and natural language processing?
1. To coloulate the fraguency of wards in a decument
1. To calculate the frequency of words in a document
2. To measure the importance of words in a document based on their frequency and rarity in
the entire corpus
3. To summarize the content of a document
4. To translate text from one language to another
L. Name of the above
5. None of the above

#6. What does the term "precision" represent in the context of classification models?
1. The ability of the model to find all the relevant cases
2. The ability of the model to correctly identify positive cases
3. The ability of the model to avoid classifying negative cases as positive $\hfill\Box$
4. The ability of the model to generalize well to new, unseen data
5. None of the above
#7. What is the purpose of regularization techniques like Lasso and Ridge in regression models?
1. To increase the number of features in the dataset $\hfill\Box$
2. To add noise to the data and increase variability
3. To reduce the complexity of the model
4. To increase the training time of the model
5. None of the above
#8. Which metric is commonly used for evaluating regression models in data science?
1. A
1. Accuracy
2. F1-Score

3. Mean Squared Error (MSE)
4. Precision-Recall Curve
E. Nama of the above
5. None of the above
#9. What is the primary purpose of reinforcement learning in the field of data science?
1. To predict future outcomes based on historical data $\hfill\Box$
2. To discover patterns and insights in large datasets $\hfill \Box$
3. To optimize decisions over time using trial and error
4. To summarize and visualize data
5. None of the above
#10. Which technique is commonly used for time series forecasting in data science?
1. Decision Trees
2. Linear Regression
3. Neural Networks
4. Autoregressive Integrated Moving Average (ARIMA)
5. None of the above

#11. What does the term "bias-variance tradeoff" refer to in machine learning?
The balance between underfitting and overfitting
2. The tradeoff between training time and accuracy
3. The tradeoff between model complexity and prediction accuracy
4. The balance between recall and precision
5. None of the above
#12. In the context of natural language processing, what is sentiment analysis used for?
1. To analyze the structure of sentences in a text $\hfill\Box$
2. To extract named entities from a text
3. To identify the sentiment expressed in a piece of text
4. To translate text from one language to another
5. None of the above
#13. Which technique is commonly used for feature scaling in machine learning?
1. Min-Max Scaling
2. Feature Engineering
3. One-Hot Encoding

4. Decision Trees
E. None of the above
5. None of the above
#14. What is the primary purpose of A/B testing in data science?
1. To perform feature selection for machine learning models $\hfill\Box$
2. To compare two versions of a webpage or app and determine which one performs better $\hfill\Box$
3. To clean and preprocess data
4. To transform categorical variables into numerical values
5. None of the above
#15. What is the purpose of k-fold cross-validation in machine learning?
1. To split the dataset into training and testing sets $\hfill \Box$
2. To evaluate a model's performance on an independent dataset
3. To create multiple train-test splits and average the performance
4. To transform categorical variables into numerical values
5. None of the above
#16. Which algorithm is commonly used for text classification tasks in natural language processing?
1. K-Means Clustering

2. Naive Bayes Classifier
3. Random Forest
4. Support Vector Machine (SVM)
5. None of the above
#17. What is the purpose of the "bag-of-words" model in natural language
processing?
To represent text as numerical vectors
2. To summarize the content of a document
3. To identify the sentiment expressed in a piece of text
4. To translate text from one language to another
5. None of the above
#18. What is the primary purpose of dimensionality reduction techniques like PCA
(Principal Component Analysis) in machine learning?
1. To increase the number of features in the dataset
2. To reduce the number of features while retaining essential information
3. To add noise to the data and increase variability
4. To remove outliers from the dataset

□ 5. None of the above
#19. What is the main goal of clustering algorithms in unsupervised learning?
1. To predict an output value based on input features□
2. To group similar data points together
3. To classify data points into predefined classes
4. To draw decision boundaries between classes
5. None of the above
#20. What does the term "logistic regression" refer to in machine learning?
1. A regression algorithm used for predicting continuous values $\hfill\Box$
2. A classification algorithm used for binary and multiclass classification $\hfill\Box$
3. A technique for finding outliers in a dataset
4. A method for transforming categorical data into numerical values
5. None of the above
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