MACHINE LEARNING

Answers:

1. Which of the following methods do we use to find the best fit line for data in Linear Regression?
Ans: A) Least Square Error

2. Which of the following statement is true about outliers in linear regression?
Ans: A) Linear regression is sensitive to outliers

3. A line falls from left to right if a slope is _____?
Ans: B) Negative

4. Which of the following will have symmetric relation between dependent variable and independent variable?
Ans: B) Correlation

5. Which of the following is the reason for over fitting condition?
Ans: C) Low bias and high variance

6. If output involves label then that model is called as:
Ans: B) Predictive modal

7. Lasso and Ridge regression techniques belong to _____?
Ans: D) Regularization

8. To overcome with imbalance dataset which technique can be used?
Ans: D) SMOTE

9. The AUC Receiver Operator Characteristic (AUCROC) curve is an evaluation metric for binary classification problems. It uses _____ to make graph?
Ans: C) Sensitivity and Specificity

10. In AUC Receiver Operator Characteristic (AUCROC) curve for the better model area under the curve should be less.
Ans: A) True

11. Pick the feature extraction from below:
Ans: B) Apply PCA to project high dimensional data

12. Which of the following is true about Normal Equation used to compute the coefficient of the Linear Regression?
Ans: A) We don't have to choose the learning rate.
B) It becomes slow when number of features is very large.

13. Explain the term regularization?

Ans: Regularization refers to techniques that are used to calibrate machine learning models in order to minimize the adjusted loss function and prevent over fitting.

- There are two main regularization techniques,
  Ridge Regression
  Lasso Regression

14. Which particular algorithms are used for regularization?

Ans: Ridge Regression and Lasso Regression

Ridge Regression: This regularization technique performs L2 regularization. It modifies the RSS by adding the penalty (shrinkage quantity) equivalent to the square of the magnitude of coefficients.

Lasso Regression: This regularization technique performs L1 regularization. It modifies the RSS by adding the penalty (shrinkage quantity) equivalent to the sum of the absolute value of coefficients.

15. Explain the term error present in linear regression equation?

Ans: A regression line always has an error term because, in real life, independent variables are never perfect predictors of the dependent variables. Rather the line is an estimate based on the available data. So the error term tells you how certain you can be about the formula.

The error term is also known as the residual, disturbance, or remainder term, and is variously represented in models by the letters *e,* ε, or u.