

MACHINE LEARNING

In Q1 to Q11, only one option is correct, choose the correct option:

1. Which of the following methods do we use to find the best fit line for data in Linear Regression?

- A) Least Square Error B) Maximum Likelihood
- C) Logarithmic Loss D) Both A and B

Ans: A

2. Which of the following statement is true about outliers in linear regression?

- A) Linear regression is sensitive to outliers B) linear regression is not sensitive to outliers
- C) Can't say D) none of these

Ans: A

3. A line falls from left to right if a slope is _____?

- A) Positive B) Negative
- C) Zero D) Undefined

Ans: B

4. Which of the following will have symmetric relation between dependent variable and independent variable?

- A) Regression B) Correlation
- C) Both of them D) None of these

Ans: B

5. Which of the following is the reason for over fitting condition?

- A) High bias and high variance B) Low bias and low variance
- C) Low bias and high variance D) none of these

Ans: C

6. If output involves label, then that model is called as:

- A) Descriptive model B) Predictive modal
- C) Reinforcement learning D) All of the above

Ans: B

7. Lasso and Ridge regression techniques belong to _____?

- A) Cross validation B) Removing outliers
- C) SMOTE D) Regularization

Ans: D

8. To overcome with imbalance dataset which technique can be used?

- A) Cross validation B) Regularization
- C) Kernel D) SMOTE

Ans: A

9. The AUC Receiver Operator Characteristic (AUCROC) curve is an evaluation metric for binary

classification problems. It uses _____ to make graph?

- A) TPR and FPR B) Sensitivity and precision
- C) Sensitivity and Specificity D) Recall and precision

Ans: C

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

A) True B) False

Ans: B

11. Pick the feature extraction from below:

- A) Construction bag of words from a email
- B) Apply PCA to project high dimensional data
- C) Removing stop words
- D) Forward selection

Ans: B

In Q12, more than one options are correct, choose all the correct options:

12. Which of the following is true about Normal Equation used to compute the coefficient of the Linear

Regression?

- A) We don't have to choose the learning rate.
- B) It becomes slow when number of features is very large.
- C) We need to iterate.
- D) It does not make use of dependent variable.

Ans: A, B

MACHINE LEARNING

Q13 and Q15 are subjective answer type questions, Answer them briefly.

13. Explain the term regularization?

Ans: Regularizations are techniques used to reduce the error by fitting a function appropriately on the given training set and avoid overfitting.

14. Which particular algorithms are used for regularization?

Ans: 1) Ridge Regression (L2 Norm), 2) Lasso (L1 Norm) and 3) Dropout

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

Ans: An error term represents the margin of error within a statistical model; it refers to the sum of the deviations within the regression line, which provides an explanation for the difference between the theoretical value of the model and the actual observed results.