MACHINE LEARNING

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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
2. Regression?
   Ans - D) Both A and B

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

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

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

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

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

8. Lasso and Ridge regression techniques belong to _____?
   Ans- D) Regularization

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

10. The AUC Receiver Operator Characteristic (AUCROC) curve is an evaluation metric for binary classification problems. It uses _____ to make graph?
    Ans- A) TPR and FPR

11. In AUC Receiver Operator Characteristic (AUCROC) curve for the better model area under the curve should be less.
    Ans- False.

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

13. 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. And B) It becomes slow when number of features is very large.

14. Explain the term regularization?
    Ans- In Machine learning we make models to work on data. However, if we have large amount of data it can cause for overfitting or poor performance of the model. Regularization helps in overfitting and improve the model's ability to generalize new data.

15. Which particular algorithms are used for regularization?
    Ans- There are 3 algorithms in regularization as follows:
    1. L1 norms or Lasso regression
    2. L2 norms or Ridge regression
    3. Elastic net regression is combination of L1 and L2.

16. Explain the term error present in linear regression equation?
    Ans- It is random variable that may take any positive, negative or zero value with the mean of zero. The error term reflects the effects of the variables that were omitted from the equation, as well as the measurement errors and other random factors.