MACHINE LEARNING

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: C) Both of them

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: A) TPR and FPR

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

Ans: B) False

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 is a way to avoid overfitting by penalizing high-valued regression coefficients. In simple terms, it reduces parameters and shrinks (simplifies) the model**.** This more streamlined, more parsimonious model will likely perform better at predictions. Regularization adds penalties to more complex models and then sorts potential models from least overfit to greatest; The model with the lowest "overfitting" score is usually the best choice for predictive power.

14. Which particular algorithms are used for regularization?

Ans: There are three algorithms that are used for regularization. These are :

- Ridge Regression
- LASSO (Least Absolute Shrinkage and Selection Operator) Regression
- Elastic-Net Regression

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

Ans: Linear regression most often uses mean-square error (MSE) to calculate the error of the model. MSE is calculated by:

- measuring the distance of the observed y-values from the predicted y-values at each value of x.
- squaring each of these distances.
- calculating the mean of each of the squared distances.

Linear regression fits a line to the data by finding the regression coefficient that results in the smallest MSE.