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

Ans.- A

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

Ans- A

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

Ans- B

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

Ans-A

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

Ans- C

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

Ans- B

7- Lasso and Ridge regression techniques belong to _____?

Ans-D

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

Ans- D

9- The AUC Receiver Operator Characteristic (AUCROC) curve is an evaluation metric for binary classification problems. It uses _____ to make graph?

Ans- A

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

Ans- B

11- Pick the feature extraction from below:

Ans-B

12- Which of the following is true about Normal Equation used to compute the coefficient of the Linear Regression?

Ans- A, B, C

13- Explain the term regularization?

Ans.- Regularization in machine learning refers to a method for avoiding overfitting. Complex models are more likely to incorporate random noise from training data, which could mask any patterns that would otherwise be there. Regularization aids in minimising the impact of noise on the model's ability to forecast. The fundamental idea behind regularisation in machine learning is to award losses to complicated models with the addition of a complexity term and deliver larger loss values to complex models. The 2 regularization techniques in machine learning are the Lasso and Ridge Regression techniques for regularization in machine learning.

14- Which particular algorithms are used for regularization?

Lasso Regression- Lasso Regression or lasso regularization hence uses for normalization of the absolute values of coefficients and hence differs from ridge regression since its loss function is based on the weights or absolute coefficients.

Limitation of Lasso regression

- Problems with some dataset types: Even if all predictors are relevant, Lasso will only select at most n predictors as non-zero if the number of predictors is more than the number of data points.
- Multicollinearity Issue: If there are two or more highly correlated variables, LASSO regression randomly chooses one of them, which is bad for our model's interpretation.

Ridge regression- This regularization in machine learning technique modifies the shrinkage quantity through a penalty added in which is given by the square of the coefficient’s magnitude

Limitation of Ridge regression

- It lessens a model's complexity but does not lower the number of independent variables because it never gets a coefficient to zero but simply minimises it, which is not helpful in feature selection. Consequently, this method is poor for feature selection.

- Model Interpretability: Its drawback is that it will never completely eliminate the coefficients for the least relevant predictors, just bring them extremely near to zero. In other words, all independent variables, often referred to as predictors, will be included in the final model.

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

Ans.- The term error present in linear regression equation represents the difference between the actual value and Predicted value and the goal is to reduce this difference.