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

Answer. A) Least Square Error

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

Answer. A) Linear regression is sensitive to outliers.

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

Answer. B) Negative

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

Answer. B) Correlation

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

Answer. C) Low bias and high variance.

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

Answer. B) Predictive modal

7. Lasso and Ridge regression techniques belong to _____?

Answer. D) Regularization

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

Answer. D) SMOTE

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

Answer. C) Sensitivity and Specificity

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

Answer. A) True

11. Pick the feature extraction from below:

Answer. 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?

Answer. 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

13. Explain the term regularization?

Answer. While training machine learning model, the model can easily be underfitted and overfitted. To avoid this, we use Regularization in machine learning to properly fit the model onto our test set. Regularization techniques helps to reduce the chances of overfitting and underfitting of data and helps us to get optimal model.

By Regularization method we can we control Variance bias trade off (underfitting and overfitting).

The commonly used regularization techniques are:

1.L1 regularization (Lasso Regression)
2.L2 regularization (Ridge Regression)
3.Elastic-Net.

14. Which particular algorithms are used for regularization?

Answer. 1. L1 regularization (Lasso regularization) → Lasso regression is like linear regression, but it uses a technique shrinkage where the coefficients of determination are shrunk towards zero. It will internally omit variable which are not working properly with the output. It will control the underfitting and overfitting of data by controlling the variables.

2. L2 regularization (Ridge Regression) → Ridge regression is a regularization technique. This is one of the techniques which deals with the data that suffers from multicollinearity. In this multicollinearity, the least squares are unbiased and the variance is large and which deviates the predicted value from the actual value.

3. Elastic-Net → It is a model which has the combination of both Lasso and Ridge. It has the property of omitting down the variable and reducing down the difference of coefficient which are impacting the output

All these 3 algorithm have 'Alpha' parameter .

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

Answer. Residual is also known as error term; it is the actual value found within the dataset minus the expected value that is predicted in linear regression. Important Properties of Regression Line Regression coefficient values remain the same because the shifting of origin takes place because of the change of scale.