MACHINE LEARNING

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

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

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

A) Positive

B) Negative

C) Zero

D) Undefined

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

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

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

A) Descriptive model

B) Predictive model

C) Reinforcement learning

D) All of the above

7. Lasso and Ridge regression techniques belong to _____?

A) Cross validation

B) Removing outliers

C) SMOTE

D) Regularization

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

A) Cross validation

B) Regularization

C) Kernel

D) SMOTE

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

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

A) True   B) False

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

12. Which of the following is true about Normal Equation used to compute the coefficient of the Linear Regression? (choose all the correct options)

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.

13. Explain the term regularization?

It's a technique to prevent the model from overfitting by adding extra info to it.

Sometimes the ml model performs well with the training data but does not perform well with the test data.

So It means the model is not able to predict the output when deals with unseen data by introducing noise in the output, and hence the model is called overfitted. This problem can be deal with the help of a regularization technique.

This technique can be used in such a way that it will allow to maintain all variables or features in the model by reducing the magnitude of the variables. Hence, it maintains accuracy as well as a generalization of the model.

14. Which particular algorithms are used for regularization?

Regularization is a technique used to reduce the errors by fitting the function appropriately on the given training set and avoid overfitting.
The commonly used regularization techniques are :

- L1 regularization
- L2 regularization
- Dropout regularization

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

Within a linear regression model tracking a stock's price over time, the error term is the difference between the expected price at a particular time and the price that was

actually observed. In instances where the price is exactly what was anticipated at a particular time, the price will fall on the trend line and the error term will be zero.

Points that do not fall directly on the trend line exhibit the fact that the dependent variable, in this case, the price, is influenced by more than just the independent variable, representing the passage of time. The error term stands for any influence being exerted on the price variable, such as changes in market sentiment.

The two data points with the greatest distance from the trend line should be an equal distance from the trend line, representing the largest margin of error.