# 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

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

A) Linear regression is sensitive to outliers

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

B) Negative

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

C) Both of them

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

C) Low bias and high variance

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

B) Predictive model

7. Lasso and Ridge regression techniques belong to _____?

D) Regularization

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

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

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

B) False

11. Pick the feature extraction from below:

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?

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?

    If we have a lot of parameters and a comparatively smaller dataset, model tries to fit in every datapoint and forms complex nonlinear curve, regularization eliminates or nullifies the effect of certain features and thus reducing the chance of overfitting and trying to find a middle ground between highly complex overfitting curve and linearity of best fit line.

14. Which particular algorithms are used for regularization?

    **For Regression** - Ridge and Lasso (L2&L1 Regularization)

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

    The Equation for linear regression is given by :

    $$Y=mx+c+e$$

    Where e is error term

    Let's presume an example where Earning is an outcome of Experience and Qualification but, Earning in reality does not depend just on Experience and Qualification. It may depend on various other factors such as Talent, Performance etc. These factors that are unaccounted for which influence the actual salary are called Errors.