Machine Learning

1. Least Square Error
2. Linear regression is sensitive to outliers
3. Negative
4. Both of them
5. Low bias and high variance
6. All of the above
7. Regularization
8. SMOTE
9. TPR and FPR
10. False
11. Apply PCA to project high dimensional data
12. It becomes slow when number of features is very large.
13. Regularization is a technique used to reduce the errors by fitting the function appropriately on the given training set and avoid overfitting.
14. The commonly used regularization techniques are :
    1. L1 regularization
    2. L2 regularization
    3. Dropout regularization

A regression model which uses **L1 Regularization** technique is called **LASSO (Least Absolute Shrinkage and Selection Operator)** regression.
A regression model that uses **L2 regularization** technique is called **Ridge regression**.
Lasso Regression adds *"absolute value of magnitude"* of coefficient as penalty term to the loss function (L).

15. An error term represents the margin of error within a statistical model; it refers to the sum of the deviations within the regression line, which provides an explanation for the difference between the theoretical value of the model and the actual observed results.