**MachineLearning\_assignment**

Ans 1. Least Square Error

Ans 2. Linear regression is sensitive to outliers

Ans 3. Zero

Ans 4. None of these

Ans 5. Low bias and high variance

Ans 6. Predictive modal

Ans 7. Regularization

Ans 8. SMOTE

Ans 9. Sensitivity and Specificity

Ans 10. False

Ans 11. Removing stop words

Ans 12. 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

Ans 13. Regularization parameter in python's Scikit-learn C parameter used to maintain regularization. Here C is the penalty parameter, which represents misclassification or error term. The misclassification or error term tells the SVM optimization how much error is bearable. This is how you can control the trade-off between decision boundary and misclassification term. A smaller value of C creates a small-margin hyperplane and a larger value of C creates a larger-margin hyperplane.

Ans 14. There are three main regularization techniques, namely:

1. Ridge Regression (L2 Norm)
2. Lasso (L1 Norm)
3. Dropout

Ridge and Lasso can be used for any algorithms involving weight parameters, including neural nets. Dropout is primarily used in any kind of neural networks e.g. ANN, DNN, CNN or RNN to moderate the learning. Let’s take a closer look at each of the techniques.

Ans 15. The error term is the stuff that isn’t explained by the model.

For a very simple example, suppose you are predicting the weight of adult human males based on their height. Well, height is certainly related to weight - taller people tend to be heavier - but the model won’t be perfect because there is a range of weights at each height. The error is the difference between the predicted value and the actual value.