Machine Learning Worksheet 1

Q1.

→(A) Least Square Error

Q2.

→(A)Linear regression is sensitive to outliers

Q3.

→(B)Negative

Q4.

→(B)Correlation

Q5.

→(C) Low bias and high variance

Q6.

→(B) Predictive model

Q7.

→(D)Regularization

Q8.

→(D)SMOTE

Q9.

→(A)TPR and FPR

Q10.

→(B)False

Q11.

→(B) Apply PCA to project high dimensional data

Q12.

→ (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.

Q13.

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Q14.

→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.

Q15.

→Error is the difference between the actual value and Predicted value and the goal is to reduce this difference

The vertical distance between the data point and the regression line is known as error or residual. Each data point has one residual and sum of all the differences is known as the Sum of Residuals/Errors.