Machine Learning-WORKSHEET 1

Q1 to Q10

1. A) Least Square Error
2. D) None of these
3. B) Negative
4. B) Correlation
5. C) Low bias and high variance
6. B) Predictive Model
7. D) Regularization
8. D) SMOTE
9. A) TPR and FPR
10. B) False
11. B) Apply PCA to project high dimensional data.
12. A) We don’t have to choose the learning rate &
    B) It becomes slow when number of features is very large.

Q13 to Q15

13 Ans) The word regularize means to make things regular or acceptable. This is exactly why we use it for. Regularizations are techniques used to reduce the error by fitting a function approximately on the given training set and avoid overfitting. In other words this technique forces us not to learn a more complex and flexible model to avoid the problem of the overfitting.

14 Ans) Algorithms use for regularization are Ridge Regression and Lasso Regression

Ridge Regression : It is one type of linear regression in which we introduce a small amount of bias, known as Ridge regression penalty so that we can get better long-term predictions.

Lasso Regression: It is another variant of the regularization technique used to reduce the complexity of the model. It stands for Least Absolute and Selection Operator

15 Ans) Considering the Linear Regression model has been given, it will give us an expected value for a certain set of features in data. The difference between the expected and the actual value is defined on some external factor, this external factor is often termed as error.

Linear regression most often uses mean-square error (MSE) to calculate the error of the model. MSE is calculated by:

1. measuring the distance of the observed y-values from the predicted y-values at each value of x;
2. squaring each of these distances;
3. calculating the mean of each of the squared distances.