MACHINE LEARNING

1. A) Least Square Error
2. A) Linear regression is sensitive to outliers
3. B) Negative
4. B) Correlation
5. C) Low bias and high variance
6. B) Predictive modal
7. D) Regularization
8. A) Cross validation
9. A) TPR and FPR
10. B) False
11. B) Apply PCA to project high dimensional data
12. A and B
13. This is a form of regression, that constrains/ regularizes or shrinks the coefficient estimates towards zero. In other words, this technique discourages learning a more complex or flexible model, so as to avoid the risk of overfitting.
14. There are three main regularization techniques, namely:
    Ridge Regression (L2 Norm)
    Lasso (L1 Norm)
    Dropout
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.

    $\mathbf{Y=\alpha X+\beta\rho+\epsilon}$

    where: α,β=Constant parameters

    X,ρ=Independent variables

    ϵ=Error term