Machine learning worksheet 1

1.(A)

2.(A)

3.(B)

4(B)

5.(C)

6.(B)

7.(D)

8.(D)

9. (A)

10.(A)

11.(A)

12.(A),(B) & (D)

13. Regularization

Regularization is a technique used for minimizing the value of error coeffecients to reduce the complexity of the model in case of neural networks. This technique converts a complex model into a simpler one, so as to avoid the risk of of overfitting and underfitting for lesser computational cost.There are two regularization techniques L1(Lasso Regression) and L2(Ridge Regression.) In lasso model, alpha parameter is used to omit the values of the variables internally which are overfit and underfit with the output. In Ridge regression,difference between the variable is reduced to least to control the amount of overfitting and underfitting. Elastic Net is a combination of both Lasso and ridge tecniques. A standard least-squares model tends to have some variance in it i.e. the model won't generalize well for a data set different than its training data. Regularization, significantly reduces the variance of the model, without a substantial increase in its bias.

14. Ridge Regression.

LASSO (Least Absolute Shrinkage and Selection Operator) Regression

Elastic-Net Regression.

15. Error Term in linear Regression Equation

It is the difference between the predicted value and the actual value observed..We find parameters of relation between independent and dependent variables to maximize the likelihood of getting such samples from the population