Assignment-6

Machine Learning

Q1 To Q5

1. B
2. A
3. A
4. A
5. C

Q6 To Q9

6. A, D
7. C, B
8. A, C
9. D

Q10 To Q15

10. The adjusted R-squared compensates for the addition of variables and only increases if the new predictor enhances the model above what would be obtained by probability. Conversely, it will decrease when a predictor improves the model less than what is predicted by chance.

11. Lasso regression - lasso regression takes the magnitude of the coefficients.

Ridge regression - puts a similar constraint on the coefficients by introducing a penalty factor. ridge regression takes the square. Ridge regression is also referred to as L2 Regularization.

12. Variance inflation factor (VIF) is a measure of the amount of multicollinearity in a set of multiple regression variables.

As a rule of thumb, a VIF of three or below is not a cause for concern. As VIF increases, the less reliable your regression results are going to be.

13. To ensure that the gradient descent moves smoothly towards the minima and that the steps for gradient descent are updated at the same rate for all the features, we scale the data before feeding it to the model.

14. There are three error metrics that are commonly used for evaluating and reporting the performance of a regression model; they are: Mean Squared Error (MSE). Root Mean Squared Error (RMSE). Mean Absolute Error (MAE).

15. Sensitivity- 0.8

Specificity- 0.95

Precision- 0.95

Accuracy- 0.88