Machine Learning

1. D
2. A
3. B
4. B
5. C
6. B
7. D
8. D
9. A
10. B
11. B
12. A

13. Regularization refers to the technique which helps in preventing overfitting in a model. We do regularization to find the sweet spot between an under fit model and an over fit model. There are two common type of techniques used in machine learning:-
    a) L1 Regularization:- This technique adds a penalty term to the loss function that is proportionate to the absolute value of the model. It encourages the model to use fewer features or select a subset of the feature as it tends to push some of the parameters value exact to zero.
    b) L2 Regularization:- :- This technique adds a penalty term to the loss function that is proportionate to the square of the models parameters. It discourages large parameter value and promotes all small parameters value which can help in over fitting.

14. Some of the commonly used algorithm that can be regularized using techniques like L1 and L2 are:-
    a) Linear regression
    b) Logistic Regression
    c) Support Vector Machines
    d) Neural Network
    e) Tree Base Model
    f) Regularization K-Nest Neighbours

15. In Linear Regression, the error refers to the discrepancy between the predicted output and the actual output for a given input data point. It represent the residual or the difference between the observed target value and the value predicted by the linear egression.

    Linear regression:-
    $Y=MX + B$

    Errors in linear regression :-
    $Error = Y-(MX + B)$

    By minimising the error the linear regression aims to find the best fit line that represents the underling relationship between input and output