1) A) Least square method

2) A)linear regression is sensitive to outliers

3) A)Positive

4) B)Correlation

5) C)low bias and high variance

6) B)Predictive model

7) D) Regularisation

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) Regularization is a technique used in calibration of machine learning models which minimize the adjusted loss function and also prevent overfitting or underfitting.

USE: Using regularization one can fit the machine learning model so that the errors get minimized.

An overfitting model can be converted to good fitting model by regularization.

The model is prevented from overfitting by adding extra information to it.

As sometimes the machine learning model performs well with the training data but does not perform well with the test data. This means the model is not able to predict the outcome of data with not seen data this is shown by noise in the output .This problem is called as overfitting and regularization techniques helps to overcome it.

14)Regularization is used to prevent overfitting in machine learning models.

There are three main regularization techniques used:

1]Lasso (L1 Norm)

2]Ridge regression (L2 Norm)

3]Dropout

Among these three we mainly use ridge and lasso.

RIDGE REGRESSION:

It is used to overcome problems like data overfitting and multicollinearity in data.

Overfitted and under fitted models are modified by adding penalty which is equivalent to **the sum of squares of the magnitude of coefficients**.

LASSO:

Overfitted and under fitted models are modified by adding penalty which is equivalent to **the sum of absolute values of coefficients.**

15)Error is created when the model does not fully represent the relationship between independent and dependant variables.

And as a result, error is produced.

In model errors are represented as disturbance (ε), remainder(u), residual(e).