Machine Learning assignment:

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 model

7) d- Regularization

8) d- SMOTE

9) a- TPR and FPR

10) b- False

11) b- Apply PCA to project high dimensional data

12)   
a) We don’t have to choose the learning rate.   
b) It becomes slow when the number of features is very large.   
d) It does not make use of the dependent variable.

13) Regularisation:

Regularisation in data science refers to methods such as Lasso and Ridge to prevent machine learning models from overfitting (when a model learns too quickly, performing well on the training data, but unable to match this performance with unseen, test data).

14) Regularisation algorithms:

- L1 Regularisation (Lasso): Is used to support feature selection by reducing the coefficients of less important features to 0.

- L2 Regularisation (Ridge): Adds a penalty to the ‘cost’ of the features, encouraging the model to distribute the cost and spread the importance of features.

15) In Linear Regression, the term error refers to the difference between the predicted values and the actual values. This is also known as the residual.