1. D) Both A and B
2. A) Linear regression is sensitive to outliers
3. B) Negative
4. B) Correlation
5. C) Low bias and high variance
6. B) Predictive modal
7. D) Regularization
8. D) SMOTE
9. A) TPR and FPR
10. B) False
11. A) Construction bag of words from a email
12. A) We don't have to choose the learning rate.
13. Regularization is a technique used to prevent overfitting and improve the generalization performance of a model. It involves adding a penalty term to the loss function to control the complexity of the model and reduce the risk of overfitting. There are two common types of regularization: L1 (Lasso) and L2 (Ridge). The regularization strength is controlled by a hyperparameter and is typically found using techniques like cross-validation.
14. There are three main regularization techniques, namely:
    - Ridge Regression (L2 Norm)
    - Lasso (L1 Norm)
    - Dropout.
15. The error term, also known as the residual, represents the difference between the actual observed values of the dependent variable and the predicted values of the dependent variable based on the linear regression equation. The error term represents the variation or noise in the dependent variable that is not explained by the independent variables in the model. The goal of linear regression is to minimize the sum of squared errors between the actual observed values and the predicted values, in order to find the best fit line that explains the relationship between the independent and dependent variables.