1. Logarithmic Loss
2. Linear Regression is sensitive to outliers
3. Negative
4. Both of them
5. Low Bias and high varience
6. Predictive Model
7. Regularization
8. Cross Validation
9. Sensitivity and Specificity
10. False

11 Construction bag of words from email

12 B and C

13

Overfitting is a phenomenon that occurs when a machine learning model is constraint to training set and not able to perform well on unseen data.

Regularization is a technique used to reduce the errors by fitting the function appropriately on the given training set and avoid overfitting.
The commonly used regularization technique are:
1 LASSO
2 RIDGES
3 ELASTICNET

Regularization helps sort overfitting problem by restricting the degrees of freedom of a given equation i.e. simply reducing the number of degrees of a polynomial function by reducing their corresponding weight. In a linear equation, we do not want huge weights/coefficients as a small change in weight can make a large difference for the dependent variable(Y) . So, regularization constraints the weights of such features to avoid overfitting.

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There are total three types of algorithms used in regularization are:

1 LASSO

2 RIDGE

3 ELASTICNET

LASSO: Lasso regression is a regularization technique. It is used over regression methods for a more accurate prediction. This model uses shrinkage. Shrinkage is where data values are shrunk towards a central point as the mean. The lasso procedure encourages simple, sparse models(i.e models with fewer parameters).

RIDGE : The most common form of regularization is known as ridge regression or L2 regularization, sometimes also called as Tikhonov regularization. Ridge regression is the method used for the analysis of multicollinearity in multiple regression data. It is most suitable when a data set contains a higher number of predictor variables than the number of observations. The second-best scenario is when multicollinearity is experienced in a set.

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An error term is a residual variable produced by a statistical or mathematical model, which is created when the model does not fully represent the actual relationship between the independent variables and the dependent variables. As a result of this incomplete relationship, the error term is the amount at which the equation may differ during empirical analysis.

The error term is also known as the residual, disturbance, or remainder term, and is variously represented in models by the letters *e,* ε, or u.