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# MACHINE LEARNING

**ASSIGNMENT – 39**

In Q1 to Q11, only one option is correct, choose the correct option:

1. Which of the following methods do we use to find the best fit line for data in Linear Regression?

A) Least Square Error

2. Which of the following statement is true about outliers in linear regression?

A) Linear regression is sensitive to outliers

3. A line falls from left to right if a slope is _____?

B) Negative

4. Which of the following will have symmetric relation between dependent variable and independent variable?

B) Correlation

5. Which of the following is the reason for over fitting condition?

C) Low bias and high variance

6. If output involves label then that model is called as:

B) Predictive model

7. Lasso and Ridge regression techniques belong to _____?

D) Regularization

8. To overcome with imbalance dataset which technique can be used?

D) SMOTE

9. The AUC Receiver Operator Characteristic (AUCROC) curve is an evaluation metric for binary

classification problems. It uses _____ to make graph?

A) TPR and FPR

10. In AUC Receiver Operator Characteristic (AUCROC) curve for the better model area under the curve should be less.

B) False

11. Pick the feature extraction from below:

A) Construction bag of words from a email

In Q12, more than one options are correct, choose all the correct options:

12. Which of the following is true about Normal Equation used to compute the coefficient of the Linear Regression?

A) We don’t have to choose the learning rate.

B) It becomes slow when number of features is very large.

C) We need to iterate.

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Q13 and Q15 are subjective answer type questions, Answer them briefly.

13. Explain the term regularization?

Regularization is a technique to prevent the model from overfitting by adding some extra information to it.

Sometimes ML model is performs well with training data but not with testing data means model can not predict the output of unseen data, hence the model is overfitted. This overfitting problem can be solve by using regularization.

14. Which particular algorithms are used for regularization?

The particular algorithms that are used for regularization are

a. LASSO

b. RIDGE

c. Elastic Net

15. Explain the term error present in linear regression equation?

The error term in linear equation is the difference between actual value and the predicted value. It is also known as residual.

In general as we know in linear equation,

$y=mx+c$ here , c=intercept, m=coefficient of x

and residual(r)= $y-(mx+c)$

y=dependent variable, x=independent variable

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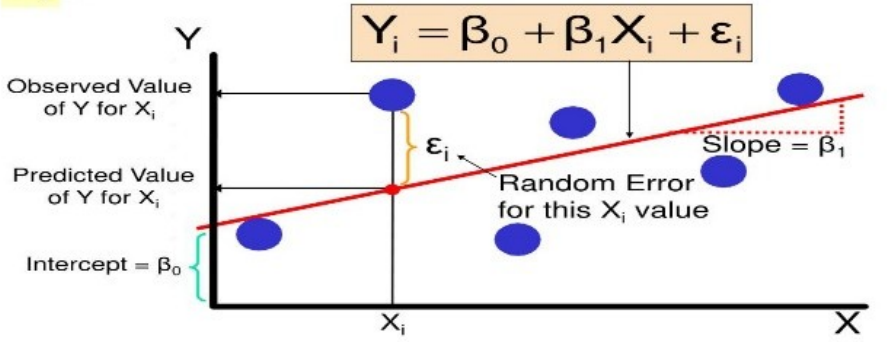
## Simple Linear Regression Model

*(continued)*




## Simple Linear Regression Model