

1. A
2. A
3. B
4. B
5. B
6. B
7. D
8. C
9. A
10. B
11. D
12. A, B ,C
13. When we use some models to train some data, there is a good chance that the model may overfit with the given data set. Regularization will help to sort out the overfitting problem by restricting the degrees of freedom of a given equation, simply reducing the number of degrees of a polynomial function by reducing their corresponding weights. The typical overfitting fitting problem arises when the model learns the data too fast and in haste, Regularization technique helps to fit and reduce the learning rate to an optimum level which the noise or error are minimum.
14. There are three main Algorithms used for Regularization, LASSO (Least Absolute Shrinkage Selection Operator) Algorithm, RIDGE3, Elasticnet
15. The Error co efficient in a Linear Regression is calculated from the Best fit line, the Error component is the difference between the Actual outcome and the corresponding point in the best fit line. The best fit line is a line that has the least error which mean the error between predicted values and actual values should be minimum.

Random Error called residuals are the difference between observed and Actual values.

There are various other Erros calculation technique called, R Squared Error and Root Mean Squared Error.

R Squared Error = $1 - (RSS/TSS)$

RSS- Residual Sum of Squares

TSS – Total Sum Of Squares

Root Mean Squared Error - The Root Mean Squared Error is the square root of the variance of the residuals. It specifies the absolute fit of the model to the data i.e. how close the observed data points are to the predicted values. Mathematically it can be represented as,

Root Mean Squared Error – Square Root Of RSS/N