**Machine Learning Worksheet-11**

1. B
2. B
3. A
4. C
5. B
6. A
7. D
8. C
9. A and D
10. A and C
11. A,B and D
12. **R-squared**, also known as the coefficient determination, defines the degree to which the variance in the dependent variable (or target) can be explained by the independent variable (features).We can say that higher the r-squared value, better in the model.

**Adjusted R-squared** measures the variation in the dependent variable (or target), explained by only the features which are helpful in making predictions. Unlike R-squared, the Adjusted R-squared would penalize you for adding features which are not useful for predicting the target.

* if the R2 increases by a significant value, then the adjusted r-squared would increase.
* If there is no significant change in R2, then the adjusted r2 would decrease.

1. Cost function for linear regression is defined as the summation of all the errors of difference of whole square of predicted value wrt to the actual data points.

Cost function=1/2m(€(Y^-Y)2)

1. **SST** - The **sum of squares total**, denoted **SST**, is the squared differences between the observed dependent variable and its **mean**.

**SSR –** It is the sum of squares due to regression. It is the sum of the differences between the predicted value and the mean of the dependent variable. It is a measure that describes how well our line fits the data.

**SSE-** The last term is the **sum of squares error**. The error is the difference between the observed value and the predicted value.

1. The various performance metrics used to evaluate when working in regression are mean squared error, mean absolute error,R2-score and adjusted r2-score.