MACHINE LEARNING WORKSHEET-1

1)a

2)a

3)b

4)b

5)c

6)

7)d

8)d

9)a

10)b

11)

12)a,b,d

13)

REGULARIZATION :

Regularization is one of the most important concepts of machine learning. It is a technique to prevent the model from overfitting by adding extra information to it.

Sometimes the machine learning model performs well with the training data but does not perform well with the test data. It means the model is not able to predict the output when deals with new data and hence the model is called overfitted. This problem can be deal with the help of a regularization technique.

In regularization technique, we reduce the magnitude of the features by keeping the same number of features.

14) There are mainly two types of regularization techniques, which are given below:

1)RIDGE : Ridge regression is one of the types of linear regression in which a small amount of bias is introduced so that we can get better long-term predictions.It is also called L2 regularization

2)LASSO : Lasso regression is another regularization technique to reduce the complexity of the model. It stands for Least Absolute and Selection Operator.

It is similar to the Ridge Regression except that the penalty term contains only the absolute weights instead of a square of weights.It is also called L1 regularization.

15) The distance between each point and the linear graph is called error present in linear regression equation.

Linear regression most often uses mean-square error (MSE) to calculate the error of the model. MSE is calculated by:

->measuring the distance of the observed y-values from the predicted y-values at each value of x;

->squaring each of these distances;

->calculating the mean of each of the squared distances.