Module: Machine Learning2 – Advanced Regression

-: Subjective Questions :-

Question 1:

What is the optimal value of alpha for ridge and lasso regression? What will be the changes in the model if you choose double the value of alpha for both ridge and lasso? What will be the most important predictor variables after the change is implemented?

Answer:

Optimal value of ridge regression is 8.0 and for lasso regression is 0.001

Increasing the value of the alpha reduces the R2 score however it increases the MSE.

Ridge and Lasso both regression model with doubled alpha value perform poor.

Question 2

You have determined the optimal value of lambda for ridge and lasso regression during the assignment. Now, which one will you choose to apply and why?

Answer:

Since the R2 test score for Lasso Regression model is better than the Ridge regression model.

To choose significant variables for predicting the price of a house, the variables predicted by Lasso are the good option.

Question 3

After building the model, you realised that the five most important predictor variables in the lasso model are not available in the incoming data. You will now have to create another model excluding the five most important predictor variables. Which are the five most important predictor variables now?

Answer:

Top 5 features in the Lasso model:

GrLivArea

MzZoning\_FV

MSSubClass\_160

Exterior1st\_BrkComm

PropertyAge

Question 4

How can you make sure that a model is robust and generalisable? What are the implications of the same for the accuracy of the model and why?

Answer:

Using regularization we can reduce the risk of complexity .

It promotes to create the simple model.