

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 to double the value of alpha for both ridge and lasso? What will be the most important predictor variables after the change is implemented?

Answer:

The Optimal values of alpha for ridge and lasso regression are 0.1 and 0.001 respectively, after doubling the value of both ridge and lasso causes most co-efficient values to be heavier penalized and some at zero.

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:

Out of Lasso and Ridge Regression I would choose to use Lasso out of the two, this is because of the vast number of features in the dataset. Whereas I would use ridge should the features be less than they are.

Question 3:

After building the model, you realized 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:

The five predictor variables now become MSZoning_RM, RoofMatl_Roll, RoofMatl_Metal, RoofMatl_WdShngl, Condition2_PosA after removing the first five.

Question 4:

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

Answer:

In order to ensure that a model is robust and generalizable it is advisable to try training the model on a wide range of different and unseen data other than the data of which that it was trained on – if the accuracy of the model output is good when tried with unseen data then it would infer that the generalization error is low. Another way to analyze if a model with generalize well is whether your model is overfitted or not – if the model is overfitted then there is a very good chance that said model will not generalize in an effective manner.