

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:

The optimal value of lambda for ridge and for lasso regression is 0.0001.

After doubling the alpha for ridge, there is slight increase in the coefficient value of some variable while coefficient of some variable decreases. The most important variable is the overall material and finish of the house is Very Excellent.

After doubling the alpha for lasso, the coefficient value decreased.

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:

If we need a precise number of variable then I will choose ridge in combination with RFE, else I will choose lasso.

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 are:

1. The overall material and finish of the house is Very Excellent.
2. The overall material and finish of the house is Excellent.
3. The overall material and finish of the house is below average.
4. The overall material and finish of the house is Fair.
5. LotArea.

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:

The model should be simple, not complex. If the model is simple, it can work efficiently in different data input set-in real-world scenario. There will be minimum variance and will not be overfitting. If the model is simple, it will be more accurate and the bias will be high. Low bias and low variance are the ideal scenario for model to perform.