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 alpha for ridge = 4.0
Optimal alpha for lasso = 0.0001

After doubling the alphas, the mean squared error increases for both the models and R2 score on test data decreases significantly for ridge regression.

GrLivArea, 1stFlrSF and TotalBsmtSF are top 3 important variables.

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

I'm choosing Ridge over Lasso because on test data set R2 score of Ridge is better than that of Lasso although they perform equally well on training set.

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

A model can be made robust and generalizable by using regularization methods like ridge and lasso. These methods keep the model optimally simple and balance out a tradeoff between complexity and accuracy of the model.
In order to make a model robust and generalizable, accuracy might have to take a hit.