

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?

[Ans]

- The optimal lambda value in case of Ridge and Lasso is as below:
 - Ridge - 4
 - Lasso - 0.0003
- If we double the value of alpha for both Ridge and Lasso regression. then that will increase the regularization strength. This means the most important predictor variables will differ between Ridge and Lasso

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?

[Ans]

Using both ridge and lasso we can apply because the difference in the optimal value of lambda is very small but first I will try with Lasso because of its feature selection property.

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?

[Ans]

I think the below 5 will be the important predictor

- OverallQual
- GrLivArea
- TotalBsmtSF
- BsmtFinSF1
- Foundation_PConc

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?

[Ans]

Ensuring that the model is robust and generalizable is crucial for its effectiveness in real-world scenarios. below are some key strategies to achieve robustness and generalizability:

- Cross-Validation
- Train-Test Split
- Feature Engineering
- Regularization
- Ensemble Methods