**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?

Got 1 for Optimal value of alpha for both lasso regression and ridge regression.

**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:

Depend on usecase, we will choose the regression.

Feature selection is important, we go for Lasso.

Reduction of coefficient and keep model simple, we go for ridge regression.

**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?

**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?

 if output dependent variable (label) is consistently accurate even if one or more of the input independent variables (features) or assumptions are drastically changed due to unforeseen circumstances. It is called as Model is robust

A model is robust **when the accuracy does not change significantly from the base line accuracy under various conditions**. Model should not overfit, because some changes in the data drastically affect the model prediction.

Regularization techniques like Ridge Regression and Lasso balances Model accuracy and complexity

Regularization is a technique used to reduce the errors by fitting the function appropriately on the given training set and avoid overfitting.