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 value of alpha for ridge or lasso is when the error term is minimised without overfitting the model. If we choose double the value of alpha then the coeffient will move towards 0 or will be 0, and can make the model underfit.

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:
Optimal value of lambda for Ridge was 500 and for lasso was 0.01
Lasso regression would be a better option it would help in feature elimination and the model will be more generalized.

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:

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 needs to be general which can perform better for foreign data (new situations). A model needs to be generalized so that it is not impacted by the outliers.