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. Optimal value of alpha for ridge regression is 10 and for Lasso regression 1.
When alpha is doubled, model will be more generalized in Ridge regression and model will be more penalized in lasso regression.
Predictor variable for ridge are:
MSZoning_FV
MSZoning_RL
Predictor variable for Lasso are:
GrLivArea
OverallQual

Q 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. Ridge Regression uses lambda which is square of magnitude of coefficient which is given by cross validation.
Lasso Regression uses lambda which is absolute value of magnitude of coefficient which is given by cross validation.
Ridge Regression is used.

Q3. 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. OverallQual
OverallCond
TotalBsmtSF
GrLivArea
GarageArea

Q4. How can you make sure that a model is robust and generalizable? What are the implications of the same for the accuracy of the model and why?

Ans. Simplicity of model is required. If its accuracy is decreased but it should be more robust and generalizable. By using Bias Variance Trade off it can be understood. Simpler the model is, bias is more, variance is less and more generalizable.