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 most optimal value of alpha for the Ridge Regression is 0.20 and for the Lasso Regression is 0.001. If we choose to double the value of alpha for both the Ridge and Lasso Regression then the model would under-fit and the value of the coefficients would get reduced. The most important predictor variable after the change would be SaleCondition_Partial. The most significant predictor variable is remaining the same, however its coefficients have changed.

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. We will choose the Lasso Regression, because here we can eliminate those variables which have little influence on the Sale Price.

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. The five most important predictor variables are - 1 GarageFinish_No Garage
   2. GarageType_Others 3. GarageType_No Garage 4. GarageType_Detchd
   5. GarageType_BuiltIn

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. To make the model more generalisable we can increase the value of alpha. By the increasing the alpha the coefficients of the variables would be affected and the model would have less variance at the cost of minor increase in bias.