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 value of alpha for **Ridge** is 500, the optimal value of alpha for **Lasso** is: 1000. With doubling the alpha value for the **ridge** and **lasso** the regression line changes causing a change in the R2 value of the model.

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. Post determining the optimal value of the lambda for ridge and lasso regression, I will use the one with Lasso as it imposes a more stringent regularization. This ensures that the

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. 5 most important predictors for the model are:

```
GrLivArea, OverallQual, BsmtQual, MSSubClass, BsmtExposure
```

4. 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. To make the model robust and generalizable, we can remove the predictors that have low overall coefficients as returned by Lasso regression. Making a simpler model always acts as robust model.