# Advance Regression Assignment Part-II

**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 lambda for Ridge Regression = 8
Optimal value of lambda for Lasso = 100
After doubling new values would be
New value of lambda for Ridge Regression = 16
New value of lambda for Lasso = 200

1. R2 Score got decreased for both the case
2. Mostly same features are describing the model
    i. OverallQual
    ii. RoofMatl_WdShngl
    iii. 2ndFlrSF
    iv. TotalBsmtSF
    v. GrLivArea
    vi. Neighborhood_NoRidge
    vii. OverallCond
    viii. Neighborhood_StoneBr
    ix. GarageCars
    x. Neighborhood_NridgHt

**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?

**Ans:**
I will use Lass as it takes care of unnecessary features and reduce overfitting situation

**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?

**Ans:**
New top 5 features are

- 1stFlrSF
- Neighborhood_NoRidge
- TotRmsAbvGrd

- FullBath
- Neighborhood_StoneBr

**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?

**Ans:**

- R2 Score for both Train and Test should be closed
- Cost functions Like RMSE, MSE should be minimum
- It should take care of Overfitting of model if many features are available
- Model Accuracy should be balanced