Assignment Part - 1

Q1. Which variables are significant in predicting the price of a house

Ans. these are the variables which are significantly predicting the price of House, no variable is insignificant with **76.7%** of accuracy

Variables	coef	std err	t	P>|t|	[0.025	0.975]	ABS_Coef
const	5.2792	0.174	30.345	0	4.938	5.621	5.2792
Exterior1st_BrkComm	-0.9926	0.186	-5.332	0	-1.358	-0.627	0.9926
TotalCarpetArea	0.856	0.022	38.063	0	0.812	0.9	0.856
ExterCond_Po	-0.5555	0.186	-2.984	0.003	-0.921	-0.19	0.5555
Functional_Maj2	-0.4623	0.084	-5.531	0	-0.626	-0.298	0.4623
RoofMatl_WdShngl	0.2839	0.094	3.009	0.003	0.099	0.469	0.2839
BsmtQual_NA	0.2628	0.041	6.456	0	0.183	0.343	0.2628
BldgType_Duplex	-0.2446	0.035	-7.044	0	-0.313	-0.176	0.2446
Neighborhood_StoneBr	0.1947	0.046	4.194	0	0.104	0.286	0.1947
GarageCond_Fa	-0.1822	0.037	-4.891	0	-0.255	-0.109	0.1822
ExterQual_Gd	0.1465	0.014	10.619	0	0.119	0.174	0.1465
BsmtExposure_Gd	0.1435	0.021	6.97	0	0.103	0.184	0.1435
SaleType_New	0.1327	0.023	5.826	0	0.088	0.177	0.1327
PavedDrive_P	-0.1095	0.042	-2.589	0.01	-0.193	-0.027	0.1095
MSZoning_FV	0.0799	0.031	2.56	0.011	0.019	0.141	0.0799

Q2. How well those variables describe the price of a house.

Ans. **76.7%** of Accuracy we are getting with the above-mentioned variables

Q3. Also, determine the optimal value of lambda for ridge and lasso regression

Ans. The lambda value of Lasso and Ridge as follows:

   Lasso =0.0005

   Ridge =2