Project Development Phase
Model Performance Test

Date	10 NOvember 2022
Team ID	PNT2022TMID00170
Project Name	Project - Car Resale Value Prediction
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in the model performance testing template.

S.No.	Parameter	Values	Screenshot

1.	Metrics	**Regression Model:** MAE - , MSE - , RMSE - , R2 score -	**Check The Metrics Of The Model**
			In [17]: `y_pred = regressor.predict(X_test)`
			In [18]: `r2=r2_score(Y_test,y_pred)`
			`print("R2_score:",r2)`
			R2_score: 0.834527626497731
			In [19]: `Adjusted_R2=1-(1-r2*((X_test.shape[0]-1)/(X_test.shape[0]-X_test.shape[1]-1)))`
			`print("Adjusted R2:",Adjusted_R2)`
			Adjusted R2: 0.8346274945764857
			In [20]: `from sklearn.metrics import mean_squared_error`
			`import math`
			In [21]: `MSE=mean_squared_error(Y_test,y_pred)`
			`print("MSE:",MSE)`
			MSE: 11837192.971239958
			In [22]: `RMSE=math.sqrt(MSE)`
			`print("RMSE:",RMSE)`
			RMSE: 3440.5221945570934

2.	Tune the Model	Hyperparameter Tuning - Validation Method -	In [14]: `from sklearn.ensemble import RandomForestRegressor`
			`from sklearn.metrics import r2_score`
			In [15]: `regressor = RandomForestRegressor(n_estimators=1000,max_depth=10,random_state=34)`
			In [16]: `regressor.fit(X_train, np.ravel(Y_train,order='C'))`
			Out[16]: RandomForestRegressor(max_depth=10, n_estimators=1000, random_state=34)
			In [17]: `y_pred = regressor.predict(X_test)`
			In [18]: `r2=r2_score(Y_test,y_pred)`
			`print("R2_score:",r2)`
			R2_score: 0.834527626497731