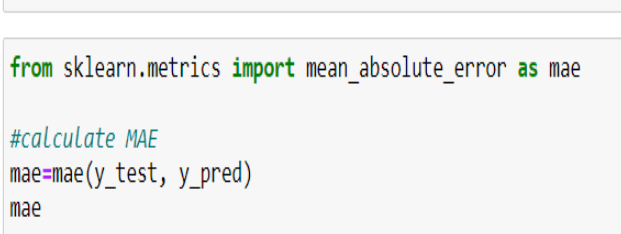
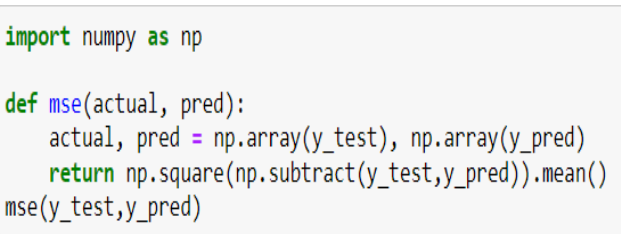
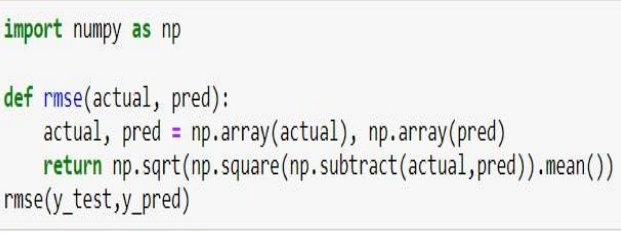


Project Development Phase Model Performance Test

Team ID	PNT2022TMID18314
Project Name	Predicting the energy output of wind turbine based on weather condition

Model Performance Testing:

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

S.No.	Parameter	Values	Screenshot
1.	Metrics	Random Forest Regression Model: MAE : 2.4285714285714284 MSE : 17.0 RMSE : 4.123105625617661 R2 score: 0.911978369754824	 <pre>from sklearn.metrics import mean_absolute_error as mae #calculate MAE mae=mae(y_test, y_pred) mae</pre> <p>1]: 2.4285714285714284</p>  <pre>import numpy as np def mse(actual, pred): actual, pred = np.array(y_test), np.array(y_pred) return np.square(np.subtract(y_test,y_pred)).mean() mse(y_test,y_pred)</pre> <p>2]: 17.0</p>  <pre>import numpy as np def rmse(actual, pred): actual, pred = np.array(actual), np.array(pred) return np.sqrt(np.square(np.subtract(actual,pred)).mean()) rmse(y_test,y_pred)</pre> <p>3]: 4.123105625617661</p>

			<pre> In [88]: #Finding accuracy from sklearn.metrics import r2_score acc=r2_score(y_test,y_pred) acc Out[88]: 0.911978369754824 </pre>
2.	Tune the Model	Hyperparameter Tuning - n_estimators = 750, max_depth = 4, max_leaf_nodes = 500, random_state = 1 Validation Method – Cross Validation	<pre> : from sklearn.ensemble import RandomForestRegressor RFR= RandomForestRegressor(n_estimators = 750, max_depth = 4, max_leaf_nodes = 500, random_state = 1) RFR.fit(x_train,y_train) [8]: RandomForestRegressor(max_depth=4, max_leaf_nodes=500, n_estimators=750, random_state=1) </pre>