## Project Development Phase Model Performance Test

Date	10 November 2022	
Team ID	PNT2022TMID27218	
Project Name	ect Name Smart Lender - Applicant Credibility Prediction	
	for Loan Approval	
Maximum Marks	10 Marks	

## **Model Performance Testing:**

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

S.No.	Parameter	Values	Screenshot
1.	Metrics	Classification Model: Confusion Matrix: Col_0 Loan_Status 1 0 0 52 0	pd.crosstab(ytest,ypredR)  col_0 0 1
		1 15 118	Loan_Status
		Accuracy Score:  Random Forest Model Testing Accuracy: 0.918918918919	0 52 0 1 15 118
		Random Forest Model Training Accuracy: 0.9300699300699301  Classification Report:	<pre>print("Random Forest Model Testing Accuracy") print(accuracy_score(ytest,ypredR)) print("Random Forest Model Training Accuracy") print(accuracy_score(ytrain,ypred2R))</pre>
		precision recall f1-score support	Random Forest Model Testing Accuracy 0.918918918918919 Random Forest Model Training Accuracy 0.9300699300699301
		0 0.78 1.00 0.87 52 1 1.00 0.89 0.94 133	<pre>print(classification_report(ytest,ypredR))</pre>
		accuracy 0.92 185 macro avg 0.89 0.94 0.91 185 weighted avg 0.94 0.92 0.92 185	precision recall f1-score support  0 0.78 1.00 0.87 52  1 1.00 0.89 0.94 133  accuracy 0.92 185 macro avg 0.89 0.94 0.91 185 weighted avg 0.94 0.92 185

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2.	Tune the Model	Hyperparameter Tuning:	<pre>Rmodel=RandomForestClassifier(n_estimators=100)</pre>
		No tuning is necessary as we have more than 90% accuracy.	Rmodel.fit(x_res,y_res) RandomForestClassifier()
		·	<pre>ypredR=Rmodel.predict(xtest)</pre>
		n_estimators=100	<pre>ypred2R=Rmodel.predict(xtrain)</pre>
		Validation Method: In-Simple Validation	<pre>print("Random Forest Model Testing Accuracy") print(accuracy_score(ytest,ypredR)) print("Random Forest Model Training Accuracy") print(accuracy_score(ytrain,ypredZR))</pre>
			Random Forest Model Testing Accuracy 0.918918918918919 Random Forest Model Training Accuracy 0.9300699300699301
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