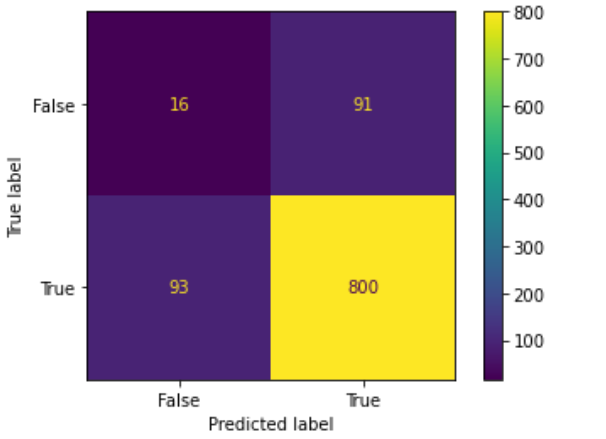
Project Development Phase
Model Performance Test

Date	15 November 2022
Team ID	PNT2022TMID23271
Project Name	University Admit Eligibility Predictor

Model Performance Testing:

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

S.No.	Parameter	Values	Screenshot

1.	Metrics	**Regression Model:**
		MAE - , 0.04555 MSE - , 0.00426
		RMSE – 0.06527 ,
		R2 score – 0.71683
		
		Classification Model:
		Confusion Matrix -
		Accuracy Score-
		Classification Report -
			Mean Squared Error (MSE)
			`In [25]:` `from sklearn.metrics import mean_squared_error, r2_score`
			`mse = mean_squared_error(pred_test,y_test)`
			`In [26]:` `mse`
			`Out[26]:` `0.004260810050671112`
			Root Mean Squared Error (RMSE)
			`In [27]:` `rmse = np.sqrt(mse)`
			`In [28]:` `rmse`
			`Out[28]:` `0.06527488070208257`
			R2 Score
			`In [29]:` `r2_score(pred_test, y_test)`
			`Out[29]:` `0.7168318679092451`
			Mean Absolute Error (MAE)
			`In [32]:` `from sklearn.metrics import mean_absolute_error`
			`mean_absolute_error(pred_test, y_test)`
			`Out[32]:` `0.0455524319663054`
			 

			In [44]: ``` Accuracy = metrics.accuracy_score(actual, predicted) Accuracy ``` Out[44]: 0.816 **Classification Report** In [56]: ``` from sklearn.metrics import classification_report print(classification_report(actual, predicted)) ``` precision recall f1-score support 0 0.15 0.15 0.15 107 1 0.90 0.90 0.90 893 accuracy 0.82 1000 macro avg 0.52 0.52 0.52 1000 weighted avg 0.82 0.82 0.82 1000
2.	Tune the Model	Hyperparameter Tuning - Validation Method –	**2.Stratified K-Fold** In [63]: ``` from sklearn import datasets from sklearn.tree import DecisionTreeClassifier from sklearn.model_selection import StratifiedKFold, cross_val_score X, y = datasets.load_iris(return_X_y=True) clf = DecisionTreeClassifier(random_state=42) sk_folds = StratifiedKFold(n_splits = 5) scores = cross_val_score(clf, X, y, cv = sk_folds) print("Cross Validation Scores: ", scores) print("Average CV Score: ", scores.mean()) print("Number of CV Scores used in Average: ", len(scores)) ``` Cross Validation Scores: [0.96666667 0.96666667 0.9 0.93333333 1.] Average CV Score: 0.9533333333333334 Number of CV Scores used in Average: 5