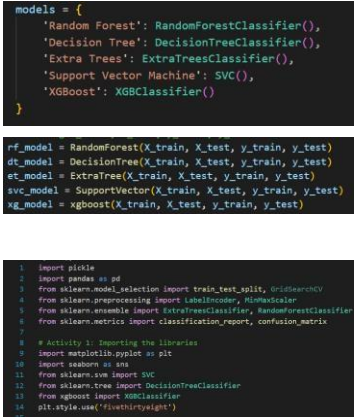
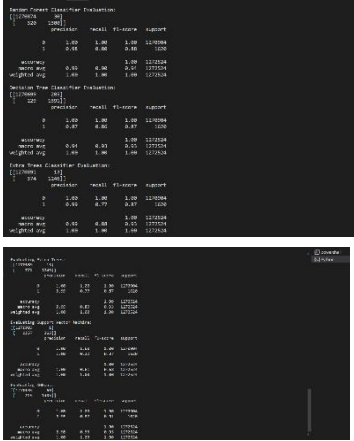


## Project Development Phase

### Model Performance Test

Date	22 November 22, 2023
Team ID	591837
Project Name	Project - online fraud detection
Maximum Marks	10 Marks

### Model Performance Testing:

S.No.	Parameter	Values	Screenshot
1.	Model Summary	<p>Random Forest Classifier</p> <p>Decision Tree Classifier</p> <p>Extra Trees Classifier</p> <p>Support Vector Machine Classifier</p> <p>XGBoost Classifier</p>	 <pre> models = {     'Random Forest': RandomForestClassifier(),     'Decision Tree': DecisionTreeClassifier(),     'Extra Trees': ExtraTreesClassifier(),     'Support Vector Machine': SVC(),     'XGBoost': XGBClassifier() }  rf_model = RandomForest(X_train, X_test, y_train, y_test) dt_model = DecisionTree(X_train, X_test, y_train, y_test) et_model = ExtraTree(X_train, X_test, y_train, y_test) svc_model = SupportVector(X_train, X_test, y_train, y_test) xg_model = xgboost(X_train, X_test, y_train, y_test)  # Import libraries import pickle import pandas as pd from sklearn.model_selection import train_test_split, GridSearchCV from sklearn.preprocessing import LabelEncoder, OneHotEncoder from sklearn.ensemble import ExtraTreesClassifier, RandomForestClassifier from sklearn.metrics import classification_report, confusion_matrix  # Activity 1: Importing the libraries import matplotlib.pyplot as plt import seaborn as sns from sklearn.svm import SVC from sklearn.tree import DecisionTreeClassifier from sklearn import metrics plt.style.use('f50thirtyeight') </pre>
2.	Accuracy	<p><b>Training Accuracy –</b></p> <p>Random Forest = 1.0</p> <p>Decision Tree = 1.0</p> <p>XGBoost = 1.0</p> <p><b>Validation Accuracy –</b></p> <p>Random Forest R2 Accuracy = 0.9546</p> <p>Decision R2 Accuracy = 0.9519</p> <p>XGBoost R2 Accuracy = 0.9603</p> <p>Random Forest Accuracy: 0.9893</p> <p>Decision Tree Accuracy: 0.9887</p> <p>XGBoost Accuracy: 0.9906</p>	 <pre> Random Forest Classifier Evaluation: [[1.000000 0.000000]  [0.000000 1.000000]] Accuracy: 1.00 Precision: 1.00 Recall: 1.00 F1-score: 1.00 Support: 1000 Confusion Matrix: [[1000 0]  [0 1000]]  Decision Tree Classifier Evaluation: [[1.000000 0.000000]  [0.000000 1.000000]] Accuracy: 1.00 Precision: 1.00 Recall: 1.00 F1-score: 1.00 Support: 1000 Confusion Matrix: [[1000 0]  [0 1000]]  Extra Trees Classifier Evaluation: [[1.000000 0.000000]  [0.000000 1.000000]] Accuracy: 1.00 Precision: 1.00 Recall: 1.00 F1-score: 1.00 Support: 1000 Confusion Matrix: [[1000 0]  [0 1000]] </pre>

