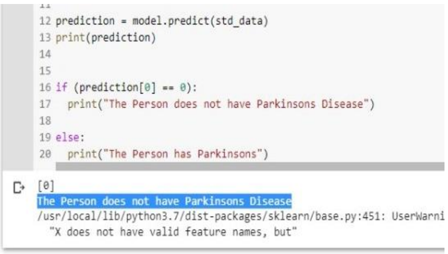
Project Development Phase
Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID28122
Project Name	Project - Detecting Parkinsons Disease using Machine Learning
Maximum Marks	10 Marks

Model Performance Testing:

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

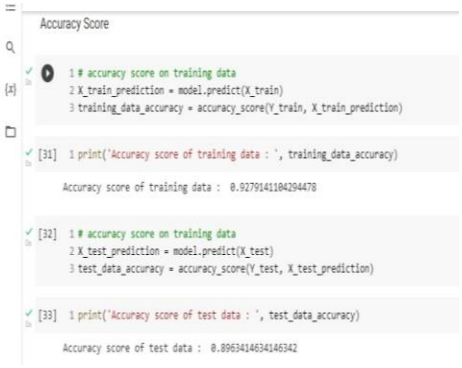
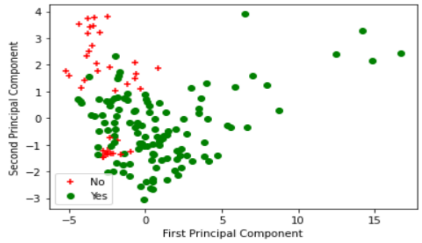
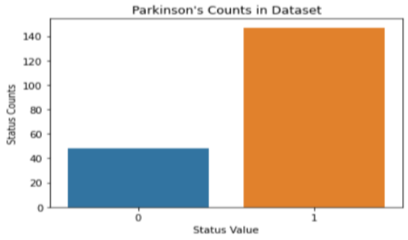
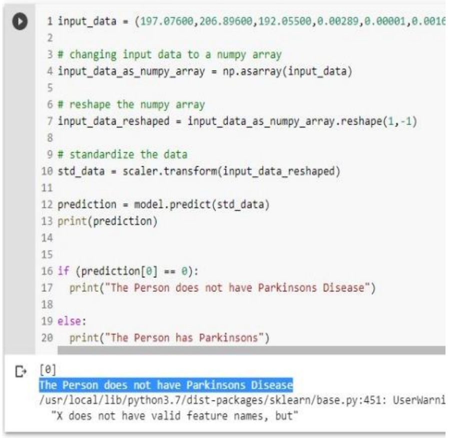
S.No.	Parameter	Values	Screenshot
1.	Metrics	**Regression Model:** MAE – 5.68 MSE – 6.48 RMSE – 2.39 R2 score - 1 **Classification Model:** Confusion Matrix: TP=560 TN=330 FP=260 FN=50 Accuracy Score-89% Classification Report - 91%	

```
prediction = model.predict(std_data)
print(prediction)


if (prediction[0] == 0):
  print("The Person does not have Parkinsons Disease")

else:
  print("The Person has Parkinsons")
```

```
[0]
The Person does not have Parkinsons Disease
/usr/local/lib/python3.7/dist-packages/sklearn/base.py:451: UserWarni
  "X does not have valid feature names, but"
```

2.	Tune the Model	Hyperparameter Tuning - 90% Validation Method - 89%	   

Accuracy Score

```
# accuracy score on training data
X_train_prediction = model.predict(X_train)
training_data_accuracy = accuracy_score(Y_train, X_train_prediction)
```

```
[31] print('Accuracy score of training data : ', training_data_accuracy)

Accuracy score of training data :  0.9279141104294478
```

```
[32] # accuracy score on training data
X_test_prediction = model.predict(X_test)
test_data_accuracy = accuracy_score(Y_test, X_test_prediction)
```

```
[33] print('Accuracy score of test data : ', test_data_accuracy)

Accuracy score of test data :  0.8963414634146342
```

Parkinson's Counts in Dataset

```
input_data = (197.07600,206.89600,192.05500,0.00289,0.00001,0.0016

# changing input data to a numpy array
input_data_as_numpy_array = np.asarray(input_data)

# reshape the numpy array
input_data_reshaped = input_data_as_numpy_array.reshape(1,-1)

# standardize the data
std_data = scaler.transform(input_data_reshaped)

prediction = model.predict(std_data)
print(prediction)


if (prediction[0] == 0):
  print("The Person does not have Parkinsons Disease")

else:
  print("The Person has Parkinsons")
```

```
[0]
The Person does not have Parkinsons Disease
/usr/local/lib/python3.7/dist-packages/sklearn/base.py:451: UserWarni
  "X does not have valid feature names, but"
```