Project Development Phase
Model Performance Test

Date	20 November 2022
Team ID	PNT2022TMID18402
Project Name	Project - Developing a Flight Delay Prediction Model using Machine Learning
Maximum Marks	10 Marks

Model Performance Testing:

S.No.	Parameter	Values	Screenshot
1.	Metrics	**Classification Model:** Confusion Matrix - , Accuray Score- & Classification Report -	***Classification Report***

```
print(classification_report(Y_test, Y_pred_log_test))
```

```
              precision    recall  f1-score   support

         0.0       0.96      0.94      0.95      1985
         1.0       0.60      0.73      0.66       262

    accuracy                           0.91      2247
   macro avg       0.78      0.83      0.81      2247
weighted avg       0.92      0.91      0.92      2247
```

Accuracy, Precision, Recall, F1 Score

```
acc_log = accuracy_score(Y_test, Y_pred_log_test)
prec_log, rec_log, f1_log, sup_log = precision_recall_fscore_support(Y_test, Y_pred_log_test)
print('Accuracy Score =', acc_log)
print('Precision =', prec_log[0])
print('Recall =', rec_log[0])
print('F1 Score =', f1_log[0])
```

```
Accuracy Score = 0.9127725856697819
Precision = 0.9632314862765406
Recall = 0.9370277078085643
F1 Score = 0.9499489274770173
```

Checking for Overfitting and Underfitting

```
log_train_acc = accuracy_score(Y_train, Y_pred_log_train)
log_test_acc = accuracy_score(Y_test, Y_pred_log_test)
print('Training Accuracy =', log_train_acc)
print('Testing Accuracy =', log_test_acc)
```

```
Training Accuracy = 0.9205253784505788
Testing Accuracy = 0.9127725856697819
```

Confusion Matrix

```
pd.crosstab(Y_test.ravel(), Y_pred_log_test)
```

col_0	0.0	1.0
row_0		
0.0	1860	125
1.0	71	191