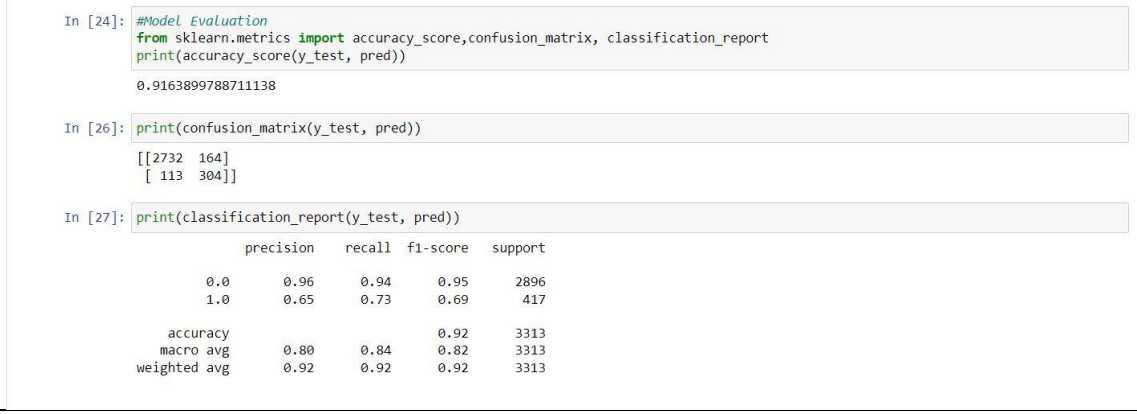
Project Development Phase
Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID23887
Project Name	Project - Developing a Flight Delay Prediction Model using Machine Learning
Maximum Marks	10 Marks

Model Performance Testing:

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

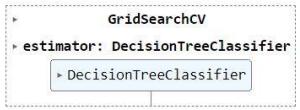
S.No.	Parameter	Values	Screenshot
1.	Metrics	**Classification Model:** Confusion Matrix , Accuracy Score & Classification Report	

2.	Tune the Model	Hyperparameter Tuning , Validation Method	

In [31]:
```
from sklearn.model_selection import cross_val_score, KFold, GridSearchCV
kf = KFold(n_splits = 6, shuffle = True, random_state = 25)
params = {'max_depth': [4,5,6],
          'min_samples_split': [2,3,4],
          'criterion': ['gini', 'entropy', 'log_loss']}
```

In [32]:
```
grid_cv = GridSearchCV(clf, params, cv = kf)
grid_cv.fit(X_train,y_train)
```

Out[32]:



In [35]:
```
grid_cv.best_params_
```

Out[35]:
```
{'criterion': 'entropy', 'max_depth': 6, 'min_samples_split': 2}
```

In [34]:
```
cv_results = cross_val_score(clf, X_train,y_train, cv = kf)
print(cv_results)
```

```
[0.92552366 0.9193173  0.91925466 0.92934783 0.92313665 0.9060559 ]
```