16/04

LAB

RANDOM FOREST CLASSIFIER

Implement the Random Forest classifier using scikit-learn -

```
from sklearn.ensemble import RandomForestClassifier
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score

data = load_iris()
X = data.data
y = data.target

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size = 0.2,
random_state = 42)

rf_classifier = RandomForestClassifier(n_estimators = 100, random_state = 42)
rf_classifier.fit(X_train, y_train)
y_pred = rf_classifier.predict(X_test)
accuracy = accuracy_score(y_test, y_pred)
print(f"Accuracy: {accuracy:.4f}")
```

16.04.24

07/05 For "iris.csv" dataset –

Qr. What is the best accuracy score and confusion matrix of the classifier you observed and using how many trees ?

Soln Best observed accuracy score = 1.00 (100 %)

Perfect accuracy was achieved using number of trees

n_estimators : 1.

Confusion matrix.

Actual \ Predicted	setosa	versicolor	virginica
setosa	10	0	0
versicolor	0	9	0
virginica	0	0	11