**Student number**------------23025664

**Module name**--------------- MACHINE LEARNING AND PREDICTIVE ANALYTICS

**Module number**------------ UFCFMJ-15-M

**Programme**------------------Msc Financial Technology

**Machine Learning Assessment code instructions**

In creating my code, some libraries were imported and installed. If you don’t have these libraries, kindly install them, or upgrade your Sci-learn if necessary to be able to run the code.

Please find below the libraries that were imported or installed;

1. For Data Handling

import pandas as pd

import numpy as np

1. For Data Visualization

import matplotlib.pyplot as plt

import seaborn as sns

1. For Data Preprocessing

from sklearn.model\_selection import train\_test\_split, GridSearchCV

from sklearn.preprocessing import LabelEncoder, StandardScaler

from sklearn.compose import ColumnTransformer

from sklearn.preprocessing import OneHotEncoder

from typing import Dict

1. For Modelling

from sklearn.linear\_model import LogisticRegression

from sklearn.ensemble import RandomForestClassifier

from sklearn.cluster import KMeans

from sklearn.metrics import accuracy\_score, classification\_report

from sklearn.pipeline import Pipeline

1. Statistic

from statsmodels.graphics.gofplots import qqplot

from sklearn.metrics import classification\_report

from scipy.stats import Shapiro

import time

1. Metrics

from sklearn.metrics import confusion\_matrix, classification\_report

from sklearn.metrics import accuracy\_score, f1\_score, precision\_score, recall\_score, roc\_auc\_score, log\_loss

from sklearn.metrics import cohen\_kappa\_score, average\_precision\_score, precision\_recall\_curve, roc\_curve

import shap

**DATASET**

A loan approval prediction dataset was downloaded from Kaggle through this link <https://www.kaggle.com/datasets/architsharma01/loan-approval-prediction-dataset> and saved as CSV file to the same working directory as my jupyter notebook, and imported using panda library

The dataset and my code are in the folder saved as Machine learning assessment.

Thank you