Exp. no:

Date :

Implementing artificial neural networks for an application using python - classification

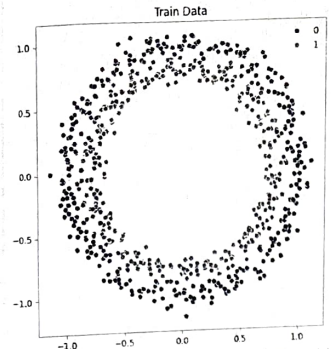
Aim

To implementing artificial neural networks for an application in classification using python.

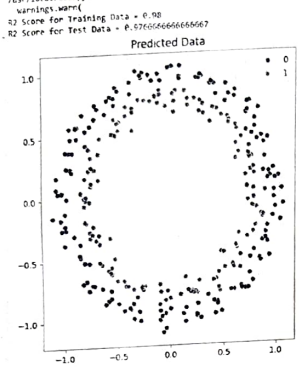
Source code:

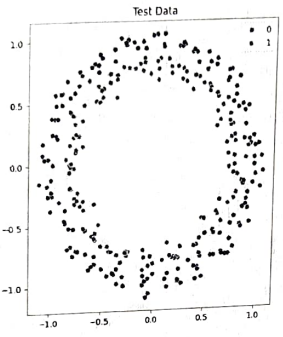
```
Sklearn.model_selection import train_test_split
from sklearn.datasets import make_circles
import from sklearn.neural_network :
                                MLP classifiers
from numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
%. matplotlit inlin
X_train, Y_train = make_circles(n_sample=
                    000, noise = 0.05)
X_test, y_test = make_circles(n_samples =
                    300, noise = 0.05)
 Sns.scatterplot(X_train[:, 0],
   X_train [:1], hue = y_train)
 Plt.title("Train Data")
 Plt.show()

 ub = MLP Classifier (max_itern = 1000)
 ub.fit (X_train, y_train)
 y_ = ub.President Predict (X_test)
 big.ax = Plt.subplots (1, 2)
Sns.Scatterplot 1 X_test [:,0]
X_test[:, 1], hue = y_Pred. ax = ax[0])
Plt.show()
```




```
/usr/local/lib/python3.10/dist-packages/sklearn/neural_network/_multilayer_perceptron.py:690: ConvergenceWarning: Stochastic Optimizer: Maximum iterations (1000) reached and the optimization hasn't converged yet.
  warnings.warn(
R2 Score for Training Data = 0.98
R2 Score for Test Data = 0.9766666666666667
```





Result

The program was successfully executed and output is verified.