

EX: 7 Implementation Artificial:
DATE: Neural networks for an
application using Python -
classification.

Aim:

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

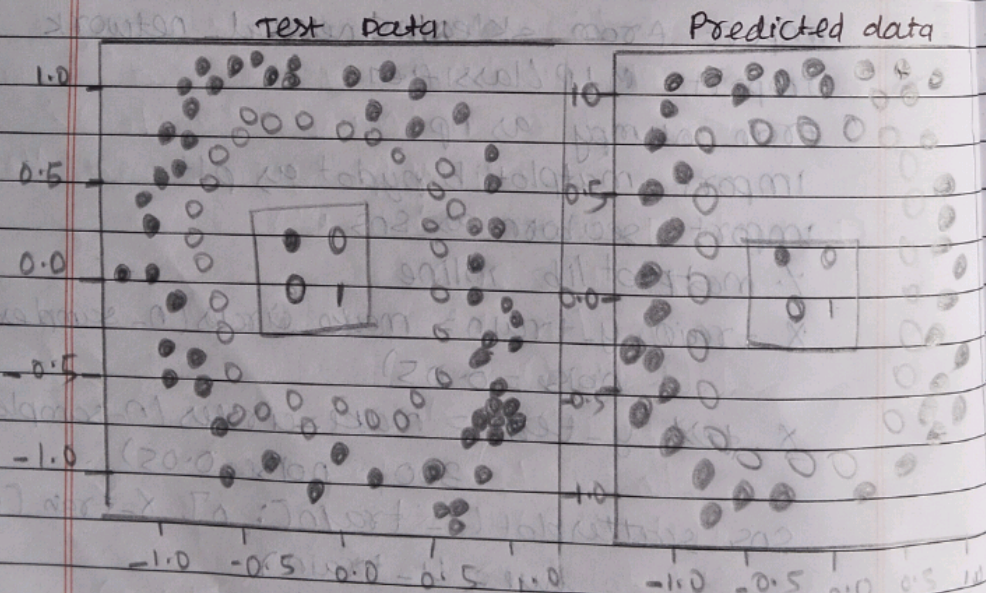
Code:

```
sklearn.model_selection import train_test_split
from sklearn.datasets import make_circles
import sklearn.neural_network
import MLPClassifier
from numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
X_train, y_train = make_circles(n_samples=700,
                                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()
clf = MLPClassifier(max_iter=1000)
clf.fit(X_train, y_train)
print("R2 score for training data =
      {clf.score(X_train, y_train)}")
```



```
print('R2 score for test data = {0:1f}'.format(r2_score(x_test, y_test)))
y_pred = clf.predict(x_test)
fig, ax = plt.subplots(1, 2)
sns.scatterplot(x=x_test[:, 0], y=y_test[:, 0], ax=ax[0], hue=y_pred, ax=ax[0])
ax[0].title('Set-text ("Predicted Data")')
sns.scatterplot(x=x_test[:, 0], y=x_test[:, 1], ax=ax[1], hue=y_test, ax=ax[1])
ax[1].title('Set-text ("Test Data")')
plt.show()
```

Output:



Result:

The program for implementation of AI Neural networks for an application using python + classification

EX : 8

Date :

Aim :

To implement neural networks using pyf

code :

from

from

from

impo

imp

imp

y.

X, y

X, S

X, t

train

mu, va

cl

cl

pr

Data =

f

& cl