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Exp No. 10 Implementing Artificial Neural Network for an application using Python

Aim:

To implement artificial neural network for an application using python.

Code:

```
sklearn.model_selection import train_test_split
```

```
from sklearn.datasets import make_moons, make_circles  
import sklearn.neural_network  
import MLPClassifier
```

```
from numpy import
```

```
import matplotlib as pyplot
```

```
import random as rnd
```

```
from matplotlib import
```

```
x_train, y_train = make_circles (n_samples = 1000, noise = 0.05)
```

```
x_test, y_test = make_circles (n_samples = 300, noise = 0.05)
```

```
plt.scatterplot (x_train [:, 0],
```

```
x_train [:, 1], hue = y_train)
```

```
plt.title ('Train Data')
```

```
plt.show ()
```

```
mlp = MLPClassifier (max_iter = 100)
```

```
mlp.fit (x_train, y_train)
```

```

y_pred = if.predict(x_test)
fig, ax = plt.subplots(1, 2)
ax[0].scatter(x_test[:, 0], y_test[:, 0], marker='o')
ax[1].scatter(x_test[:, 1], y_test[:, 1], marker='o')
plt.show()

```

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Result:

The program is successfully executed.

