EX: 12

Data:

Implementing artificial neural networks for an application using Python - regression

Aim:

TO implementing artificial neural networks for an application in Regression using Python.

Source code:

```
from sklearn.neural_network import MLPRegressor
from sklearn.model_selection import train_test_split
from sklearn.datasets import make_regression
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline

X, y = make_regression(n_samples=1000, noise=0.05, n_features=

X.shape, y.shape = ((1000, 100), (1000,))
X_train, X_test, y_train, y_test = train_test_split(X, y,
    size=0.2, shuffle=True, random_state=42)
clf = MLPRegressor(max_iter=1000)
clf.fit(X_train, y_train)
print(f"R2 score for Training Data = {clf.score(X_train, y_
print(f"R2 score for Test Data = {clf.score(X_test, y_test)}
```

output:

R2 score for test Data = 0.9686558466621529

Result: Thus the ANN for Application using Python - Regression is implemented successfully.