EX NO : 8

DATE :

IMPLEMENTING ARTIFICIAL NEURAL NETWORKS FOR AN APPLICATION USING PYTHON - REGRESSION

AIM :

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

PROGRAM :

```
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 = 100)
X.shape, y.shape = ((1000,100), (1000,))
X_train, X_test, y_train, y_test = train_test_split(
        X, y, test_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_train)}")
print(f"R2 Score for Test Data =
        {clf.score(X_test, y_test)}")
```

OUTPUT:

R2 Score for Test Data = 0.9686558466621529

RESULT:

To implement artificial neural networks for an application using python (regression) is observed and the output is verified.