Experiment - 8

Implementation of Artificial Neural Networks for an Application Using Python - Regression

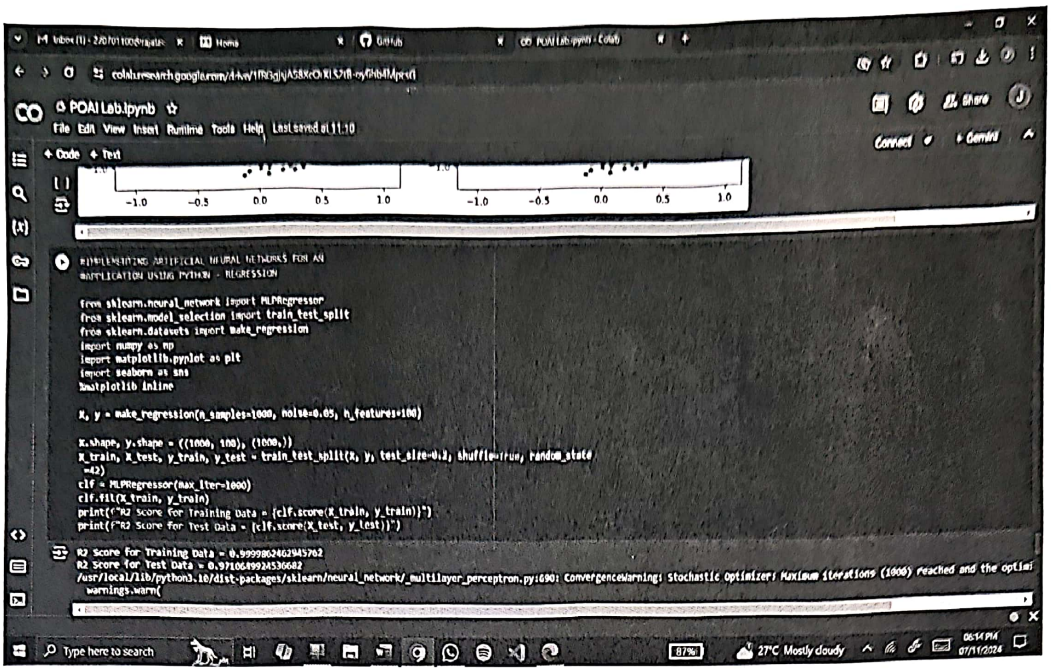
AIM

To implement 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.model 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



RESULT

Thus, the program for ANN using Regression is successfully executed and the output is verified.