CODE:

In [1]:
```
import numpy as np
import pandas as pd
from sklearn.datasets import load_boston
from sklearn.neural_network import MLPRegressor
from sklearn.preprocessing import StandardScaler
from sklearn.model_selection import train_test_split
from sklearn.metrics import mean_squared_error
```

In [2]:
```
import warnings
warnings.filterwarnings("ignore", category=FutureWarning)

boston = load_boston()
data = pd.DataFrame(boston.data, columns=boston.feature_names)
data['target'] = boston.target
```

In [3]:
```
X = data.iloc[:, :-1].values
y = data.iloc[:, -1].values
```

In [4]:
```
scaler = StandardScaler()
X = scaler.fit_transform(X)
```

In [5]:
```
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,
                                                    random_state=42)
model = MLPRegressor(hidden_layer_sizes=(64, 64), activation='relu',
                     solver='adam', max_iter=1000)
```

In [6]:
```
model.fit(X_train, y_train)
y_pred = model.predict(X_test)
y_pred
```

Out[6]:
```
array([28.16509066, 31.77295348, 19.3006959 , 28.35328424, 16.25096957,
       20.27311665, 15.68242119, 13.75949986, 22.3263122 , 16.80701371,
       21.51586041, 17.38517748,  9.93424158, 19.24439332, 18.78885467,
       24.4750773 , 20.83588205, 10.96808001, 45.41277903, 14.17034122,
       27.20585585, 26.99909132, 14.59128461, 23.89917694, 17.26347806,
       16.58337417, 23.04005335, 13.64332333, 19.46488334, 15.88706479,
       22.50848765, 24.71706891, 20.05832982, 23.71156907, 13.92170718,
       17.22898774, 33.71939577, 22.00720021, 21.30177484, 27.17975467,
       14.24344421, 29.00767583, 47.51084371, 20.73969896, 27.8530423 ,
       17.11468256, 15.24565606, 28.72815509, 18.61172671, 29.54812725,
       18.55183187, 36.11202545, 16.71499676, 25.79579789, 42.90456678,
       22.09914044, 17.17991981, 30.46568067, 26.59843129, 16.3323625 ,
       22.71594195, 34.05596631, 31.82620361, 16.44236374, 22.69068563,
       17.27822908, 16.79993012, 25.28966693, 28.94418808, 14.3717053 ,
       23.32522157, 26.42976169, 10.0245135 , 21.75015224, 22.59685187,
        7.52048341, 21.65786288, 45.54602428, 12.14235139, 15.71810102,
       22.14988926, 12.60741783, 23.96130755, 12.33405182, 20.56234703,
       26.74220407, 15.05555712, 25.56261383, 24.93919067, 19.87626878,
       24.65922133,  8.38404149, 20.20345277, 18.80107998, 31.47499856,
       21.03386822, 25.62016413, 11.71241274, 12.7989334 , 13.99222969,
       24.28733236, 23.09710965])
```

In [7]:
```
mse = mean_squared_error(y_test, y_pred)
print("Mean Squared Error:", mse)
```

```
Mean Squared Error: 13.593372451806571
```

In [ ]:

RESULT:

Hence, we successfully implemented Multilayer for Regression Problem on given dataset.