boston

June 6, 2024

```
[8]: import pandas as pd
     import matplotlib.pyplot as plt
     import numpy as np
     from sklearn.linear_model import LinearRegression
     from sklearn.metrics import mean_squared_error,mean_absolute_error,r2_score
[24]: dataset = pd.read_csv("HousingData.csv")
     dataset = dataset.dropna()
     dataset.head(3)
[24]:
           CRIM
                   ZN INDUS CHAS
                                     NOX
                                             RM
                                                  AGE
                                                         DIS RAD
                                                                   TAX PTRATIO \
                       2.31
                              0.0 0.538 6.575 65.2 4.0900
                                                                   296
     0 0.00632 18.0
                                                                           15.3
     1 0.02731
                  0.0
                        7.07
                              0.0 0.469
                                          6.421 78.9 4.9671
                                                                2
                                                                   242
                                                                           17.8
     2 0.02729
                  0.0
                       7.07
                              0.0 0.469 7.185 61.1 4.9671
                                                                2 242
                                                                           17.8
             B LSTAT MEDV
     0 396.90
                 4.98 24.0
     1 396.90
                 9.14 21.6
                 4.03 34.7
     2 392.83
[25]: correlation_matrix = dataset.corr().round(2)
     import seaborn as sns
     sns.heatmap(correlation_matrix,annot=True)
     plt.show()
```

```
- 1.0
   CRIM - 1 0.190.390.050.420.230.340.370.610.560.270.390.46-0.4
     ZN -0.19 1 0.520.030.520.340.570.65-0.3-0.310.420.170.420.41
                                                                         - 0.8
  INDUS -0.390.52 1 0.050.76-0.40.64-0.70.590.73 0.4-0.34 0.6-0.51
                                                                         - 0.6
  CHAS -0.050.030.05 1 0.08 0.1 0.07 -0.10.01-0.03-0.10.07-0.040.17
    NOX -0.420.520.760.08 1 0.320.730.770.630.680.210.380.590.46
                                                                         - 0.4
     RM -0.230.34-0.4 0.1-0.32 1 0.250.220.240.320.390.120.640.72
                                                                         - 0.2
    AGE -0.340.570.640.070.730.25 1 0.750.44 0.5 0.260.28 0.6-0.41
     DIS -0.370.65 -0.7 -0.1-0.770.22 0.75 1 -0.480.530.230.29 0.510.28
                                                                         - 0.0
    RAD -0.61-0.30.590.010.630.240.440.48 1 0.9 0.440.440.510.42
    TAX -0.560.310.730.050.680.320.5-0.530.9 1 0.450.440.570.51
                                                                         - -0.2
PTRATIO -0.270.420.4 -0.10.210.390.260.230.440.45 1 -0.180.4-0.54
                                                                          -0.4
       B-0.390.170.340.070.380.120.280.290.440.440.18 1 0.380.35
  LSTAT -0.460.420.6-0.040.590.640.6-0.510.510.57 0.4-0.38 1
                                                                         - -0.6
  MEDV --0.40.41-0.510.170.4@.72-0.410.280.420.510.540.350.74
                                               ΤĀΧ
```

print(mae) print(re)

- 37.739803570357694
- 6.14327303400701
- 3.8614905763730554
- 0.5525619081372957

[]:[