# Homework 3

### Group 1

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## 1 Introduction

## 2 Statement of the Problem

# 3 Data Exploration

Table 1 : Descriptive Statistics 13 Variables 466 Observations

| zn           |                         |               |                        |                            |              |            |            |            |            |            |            |  |
|--------------|-------------------------|---------------|------------------------|----------------------------|--------------|------------|------------|------------|------------|------------|------------|--|
| n<br>466     | missing<br>0            | unique<br>26  | Info<br>0.61           | Mean<br>12                 | .05<br>0     | .10<br>0   | .25<br>0   | .50<br>0   | .75<br>16  | .90<br>45  | .95<br>80  |  |
| lowest       | : 0 12                  | 18 18         | 20, 1                  | nighest:                   | 82           | 85 90      | 95         | 100        |            |            |            |  |
| indus        |                         |               |                        |                            |              |            |            |            |            |            |            | acconducted to the section of the se |
| n<br>466     | missing<br>0            | unique<br>73  | Info<br>0.98           | Mean<br>11                 | .05<br>2     | .10<br>3   | .25<br>5   | .50<br>10  | .75<br>18  | .90<br>20  | .95<br>21  |  |
| lowest       | : 0.5 0                 | .7 1.2        | 1.2                    | 1.2, hig                   | hest:        | 18.1 1     | 19.6 2     | 1.9 25     | 5.6 27     | .7         |            |  |
| chas         |                         |               |                        |                            |              |            |            |            |            |            |            |  |
| n<br>466     | missing<br>0            | unique<br>2   | Info<br>0.2            | Sum<br>33                  | Mean<br>0.07 |            |            |            |            |            |            |  |
| nox          |                         |               |                        |                            |              |            |            |            |            |            |            | adiallulara hamid hambida ta ta ta ta ta ta ta ta  |
| n<br>466     | missing<br>0            | unique<br>79  | Info<br>1              | Mean<br>0.6                | .05<br>0.4   | .10<br>0.4 | .25<br>0.4 | .50<br>0.5 | .75<br>0.6 | .90<br>0.7 | .95<br>0.8 |  |
| lowest       | : 0.4 0.4               | 0.4 0.4       | 0.4, 1                 | nighest:                   | 0.7 0        | 0.7 0.7    | 0.8        | 0.9        |            |            |            |  |
| rm           |                         |               |                        |                            |              |            |            |            |            |            |            |  |
| n<br>466     | missing<br>0            | unique<br>419 | Info<br>1              | Mean<br>6                  | .05<br>5     | .10<br>6   | .25<br>6   | .50<br>6   | .75<br>7   | .90<br>7   | .95<br>8   |  |
| lowest       | : 4 4 4 5               | 5, high       | est: 8                 | 8 9 9 9                    |              |            |            |            |            |            |            |  |
| age          |                         |               |                        |                            |              |            |            |            |            |            |            | . to matelementomentomentomentomentomentomentoment   |
| n<br>466     | missing<br>0            | unique<br>333 | Info<br>1              | Mean<br>68                 | .05<br>18    | .10<br>26  | .25<br>44  | .50<br>77  | .75<br>94  | .90<br>99  | .95<br>100 |  |
| lowest       | : 3 6                   | 6 6           | 7, 1                   | nighest:                   | 99           | 99 99      | 99         | 100        |            |            |            |  |
| dis          |                         |               |                        |                            |              |            |            |            |            |            |            | allillillinnunharanna rathas 1 a t t   |
| n<br>466     | missing<br>0            | unique<br>380 | Info<br>1              | Mean<br>4                  | .05<br>1     | .10<br>2   | .25<br>2   | .50<br>3   | .75<br>5   | .90<br>7   | .95<br>8   |  |
| lowest       | : 1 1                   | 1 1 1,        | highes                 | st: 9                      | 9 11 1       | 1 12       |            |            |            |            |            |  |
| rad          |                         |               |                        |                            |              |            |            |            |            |            |            |  |
| n<br>466     | missing<br>0            | unique<br>9   | Info<br>0.96           | Mean<br>10                 |              |            |            |            |            |            |            |  |
| Frequei<br>% | ncy 1 2<br>17 20<br>4 4 |               | 5 6<br>09 25 :<br>23 5 | 7 8 2<br>15 20 12<br>3 4 2 |              |            |            |            |            |            |            |  |

| tax              |                   |                    |                  |                  |            |            |            |            |           |           |           |            |   |
|------------------|-------------------|--------------------|------------------|------------------|------------|------------|------------|------------|-----------|-----------|-----------|------------|---|
| n<br>466         | missing<br>0      | unique<br>63       | Info<br>0.98     | Mean<br>410      | .05<br>222 | .10<br>233 | .25<br>281 |            |           |           | 90<br>66  | .95<br>666 |   |
| lowest           | : 187 18          | 8 193 198          | 216, h           | ighest:          | 432 43     | 7 469      | 666 7      | 711        |           |           |           |            |   |
| ptratio          | )                 |                    |                  |                  |            |            |            |            |           |           |           |            |   |
| n<br>466         | missing<br>0      | unique<br>46       | Info<br>0.98     | Mean<br>18       | .05<br>15  | .10<br>15  | .25<br>17  | .50<br>19  | .75<br>20 | .90<br>21 | .95<br>21 |            |   |
| lowest           | : 13 13           | 14 14 15,          | highes           | t: 21 21         | 21 21      | 22         |            |            |           |           |           |            |   |
| black            |                   |                    |                  |                  |            |            |            |            |           |           |           |            |   |
| n<br>466         | missing<br>0      | unique<br>331      | Info<br>0.99     | Mean<br>357      | .05<br>88  | .10<br>295 | .25<br>376 | .50<br>391 |           |           |           | .95<br>397 |   |
| lowest<br>highes | : 0.3<br>t: 396.3 | 2.5 2<br>396.3 396 | .6 3.<br>.3 396. | 5 3.6<br>4 396.9 |            |            |            |            |           |           |           |            |   |
| Istat            |                   |                    |                  |                  |            |            |            |            |           |           |           |            | . Juillulillulillulintittitutalaman aas a |
| n<br>466         | missing<br>0      | unique<br>424      | Info<br>1        | Mean<br>13       | .05<br>4   | .10<br>5   | .25<br>7   | .50<br>11  | .75<br>17 | .90<br>23 | .95<br>27 |            |   |
| lowest           | : 2 2             | 2 2 3,             | highes           | t: 34 34         | 35 37      | 38         |            |            |           |           |           |            |   |
| medv             |                   |                    |                  |                  |            |            |            |            |           |           |           |            | r.a. amealishuishlihillist. maraamat araa |
| n<br>466         | missing<br>0      | unique<br>218      | Info<br>1        | Mean<br>23       | .05<br>10  | .10<br>13  | .25<br>17  | .50<br>21  | .75<br>25 | .90<br>35 | .95<br>43 |            |   |
| lowest           | : 5 6             | 6 7 7,             | highes           | t: 46 47         | 48 49      | 50         |            |            |           |           |           |            |   |

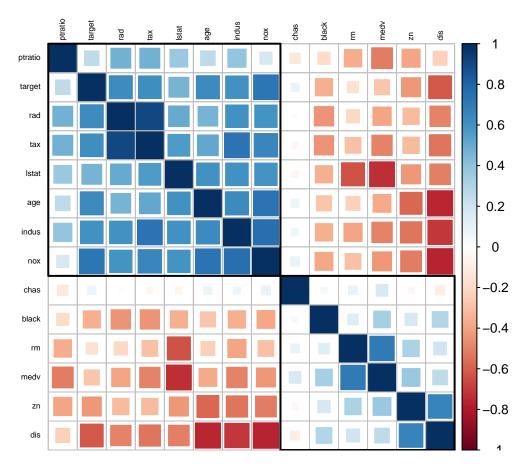


Figure 1: Correlation Plot of Training Data Set