Econometrics Group Assignment 1

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## Background

This data analyzes the various factors that coudld go into a home purchase. The data includes: home prices, crimes committed per capita in the neighborhood, how much nitrous oxide is present on the site, average number of bedrooms per house, estimated distance to work, accessibility to radial highways, property taxes, student teacher ratio in the school districe, and the percentage of ‘low status’ people in the vicinity.

pander(summary(my\_data))

Table continues below

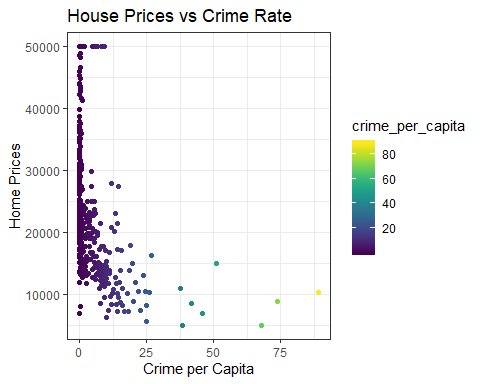
|  |  |  |  |
| --- | --- | --- | --- |
| median\_price | crime\_per\_capita | nox | rooms |
| Min. : 5000 | Min. : 0.0060 | Min. :3.85 | Min. :3.560 |
| 1st Qu.:16850 | 1st Qu.: 0.0820 | 1st Qu.:4.49 | 1st Qu.:5.883 |
| Median :21200 | Median : 0.2565 | Median :5.38 | Median :6.210 |
| Mean :22512 | Mean : 3.6115 | Mean :5.55 | Mean :6.284 |
| 3rd Qu.:24999 | 3rd Qu.: 3.6770 | 3rd Qu.:6.24 | 3rd Qu.:6.620 |
| Max. :50001 | Max. :88.9760 | Max. :8.71 | Max. :8.780 |

Table continues below

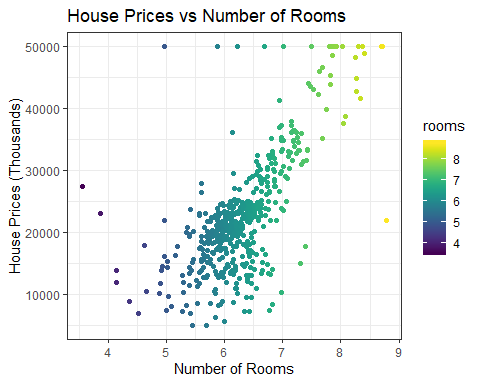
|  |  |  |  |
| --- | --- | --- | --- |
| distance | road\_access | land\_tax | student\_teacher |
| Min. : 1.130 | Min. : 1.000 | Min. :18.70 | Min. :12.60 |
| 1st Qu.: 2.100 | 1st Qu.: 4.000 | 1st Qu.:27.90 | 1st Qu.:17.40 |
| Median : 3.210 | Median : 5.000 | Median :33.00 | Median :19.10 |
| Mean : 3.796 | Mean : 9.549 | Mean :40.82 | Mean :18.46 |
| 3rd Qu.: 5.188 | 3rd Qu.:24.000 | 3rd Qu.:66.60 | 3rd Qu.:20.20 |
| Max. :12.130 | Max. :24.000 | Max. :71.10 | Max. :22.00 |

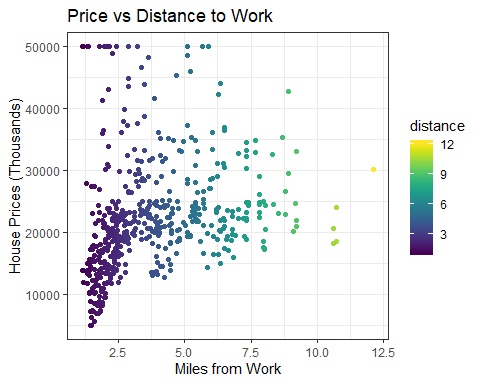
|  |  |  |  |
| --- | --- | --- | --- |
| low\_status\_percent | log\_price | log\_nox | log\_land\_tax |
| Min. : 1.730 | Min. : 8.517 | Min. :1.348 | Min. :5.231 |
| 1st Qu.: 6.923 | 1st Qu.: 9.732 | 1st Qu.:1.502 | 1st Qu.:5.631 |
| Median :11.360 | Median : 9.962 | Median :1.683 | Median :5.799 |
| Mean :12.701 | Mean : 9.941 | Mean :1.693 | Mean :5.931 |
| 3rd Qu.:17.058 | 3rd Qu.:10.127 | 3rd Qu.:1.831 | 3rd Qu.:6.501 |
| Max. :39.070 | Max. :10.820 | Max. :2.164 | Max. :6.567 |

Each of the graphics below were created to look for correlation between factors and median housing prices.

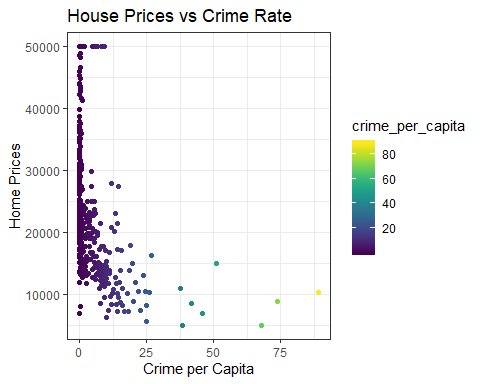


As we can see in Graph 1….

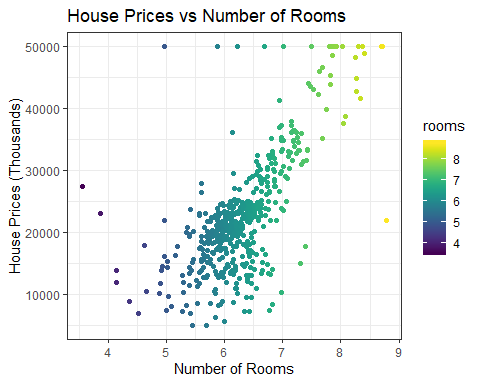




layout(matrix(c(1,1,2,3), 2, 2, byrow = TRUE))  
CrimePlot



RoomPlot



DistancePlot

