

## HW2 Linear Regression Report

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In this section, I implement the linear regression to decide which column used to predict homicide rate is the best. I get the data and put them into seven 3\*13 matrices use the formula on textbook to build a linear regression function, and then calculate the error rate using the linear regression function.

linear model:  $y(x, w) = w_0 + w_1 x_1 + w_2 x_2 + w_3 x_3$ .

Comparing the error rate, I found that the 3rd(The lic column) has the least error rate over all columns which can be used as the linear regression input together with the 1st column and the 8th column.

