CM-Assignment 2

Files included in this exercise

ex.m - Octave/MATLAB script that steps you through the exercise
plotData.m - Function to display the dataset(given)
computeParameters.m - Function to compute the parameters of the linear regression and the residual error.

Linear regression with one variable

In this part of this exercise, you will implement linear regression with one variable to predict profits for a food truck. Suppose you are the CEO of a restaurant franchise and are considering different cities for opening a new outlet. The chain already has trucks in various cities and you have data for profits and populations from the cities. You would like to use this data to help you select which city to expand to next. Throughout the exercise, you will be using the scripts ex.m script set up the dataset for the problems and make calls to functions that you will write.

Plotting the Data

Before starting on any task, it is often useful to understand the data by visualizing it. For this dataset, you can use a scatter plot to visualize the data, since it has only two properties to plot (profit and population). (Many other problems that you will encounter in real life are multiimensional and can't be plotted on a 2-d plot.) the script calls the plotData function to create a scatter plot of the data. Now, when you continue to run ex.m, our end result should look like **Figure 1**, with the same red "x" markers and axis labels.

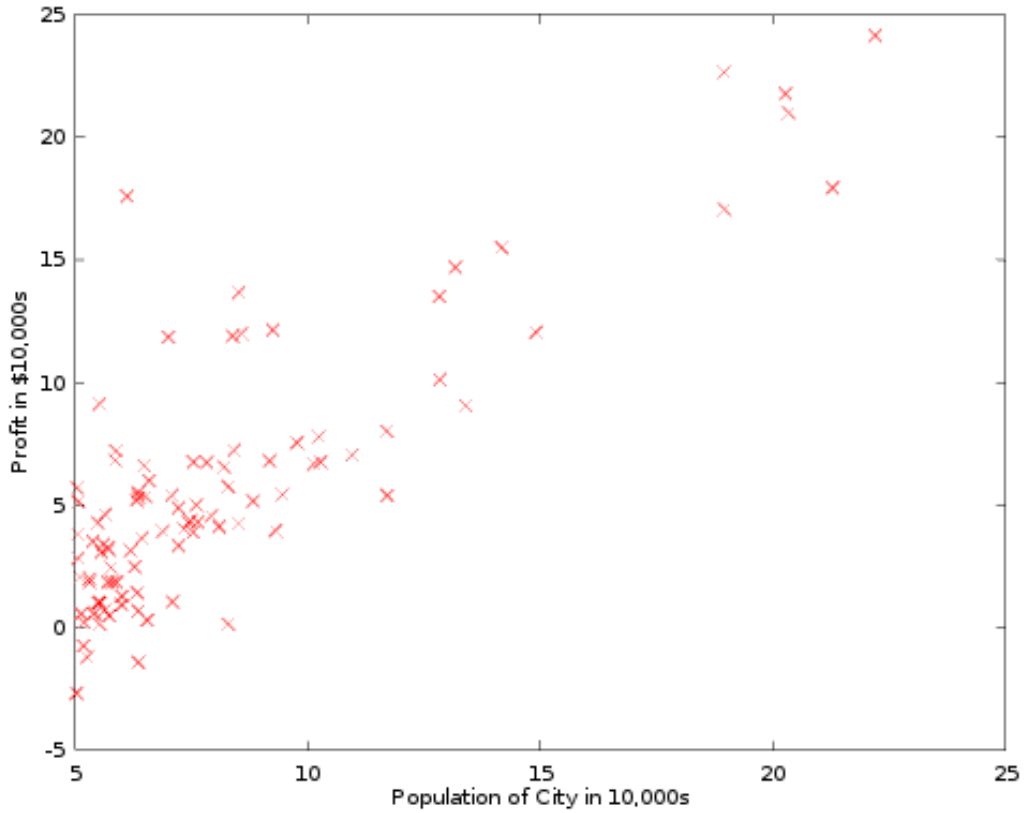
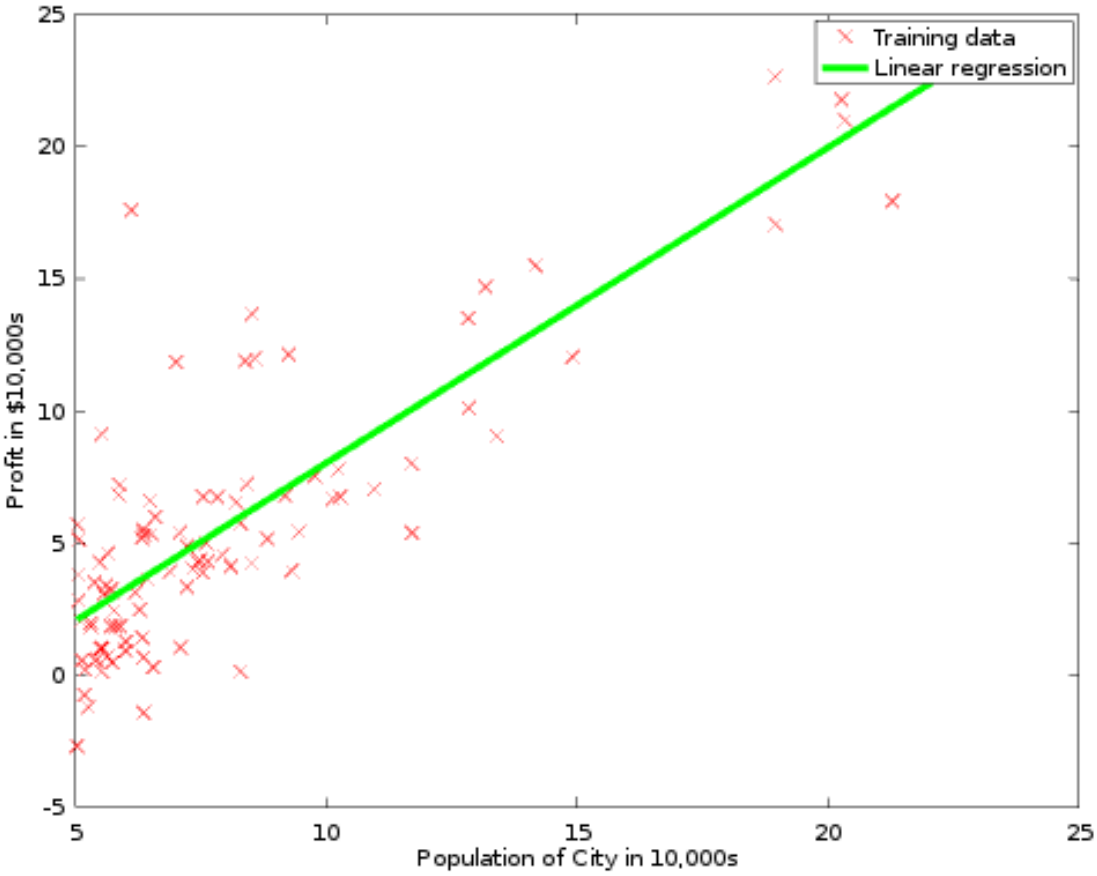


Figure 1: Scatter plot of training data

After you are finished, ex.m will use your final parameters to plot the linear fit. The result should look something like **Figure 2**:
Your final values for the parametrs will also be used to make predictions on profits in areas of 35,000 and 70,000 people.

NB: use code vectorization on the matrix operations, rather than explicit summation or looping.



Deadline: January 8, 2020
Work: network of 5 members
Weight: 10%