Implement linear regression with one variable to predict profits for a food truck using gradient descent algorithm in Octave. Suppose the CEO of a restaurant franchise is considering different cities for opening a new outlet. The chain already has trucks in various cities and the CEO have data for profits and populations from the cities.

Functions Descriptions:

plotData.m - Function to display the dataset

computeCost.m - Function to compute the cost of linear regression

gradientDescent.m - Function to run gradient descent

The objective of linear regression is to minimize the cost function:



where the hypothesis hθ(x) is given by the linear model:  


One way to minimize cost J(θ) is to use the batch gradient descent algorithm. In batch gradient descent, each iteration performs the update:

