Programming Exercise 2: Linear Regression with Multiple Variables

Machine Learning

Student Name: Thai Nguyen

PeopleSoft ID: 1853385

Question (1)

Please give the mean value and the standard deviation for ex2data:

Mean = [2000.7 3.2]

Standard deviation = [794.7 0.8]

Question (2)

Please give the Gradient descent’s result after 400 iterations with α=0.1:

Theta =

340412.659574

110631.048958

-6649.472950

Please give the price prediction of a 1500 sq-ft, 5 br house:

Price = $254723.829015

Question (3)

Please give the Normal equation's result:

Theta =

89597.909543

139.210674

-8738.019112

Please give the price prediction of a 1500 sq-ft, 5 br house:

Price = $254723.825008

Question (4)

Compare the results of these two method, do they have the same theta?

They do not have the same theta.

Do they have the same prediction result?

They are the same prediction result price. However, there is very small difference which we can ignore , is counting as cents between . 8290125 and .825008