Programming Exercise 2: Linear Regression with Multiple Variables

Machine Learning

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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 = $254.723.825008

Question (4)

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

The theta values are different due to feature normalization being unnecessary for the normalEqn solution.

Do they have the same prediction result?

The predicted house price is the same for both methods.