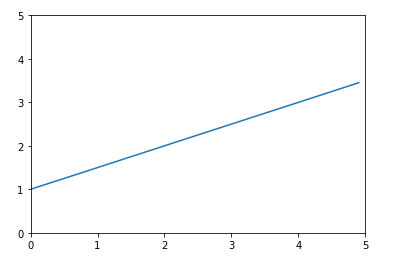
**Linear Regression with One Variable**

* Model representation:



* Cost function intuition:

Hypothesis:

Parameters:

Cost Function:

Goal:

* Gradient descent:

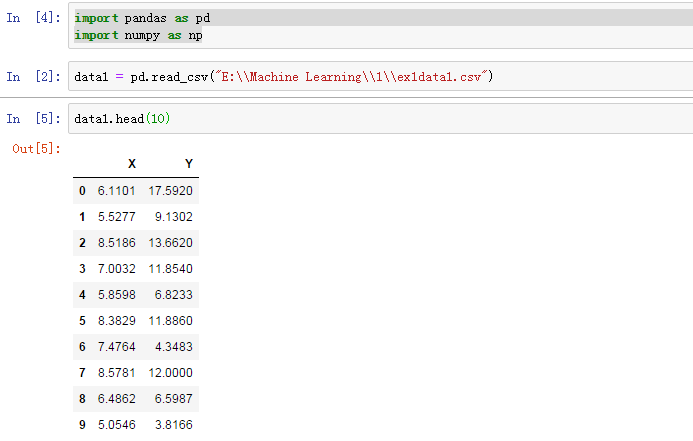
Repeat until convergence:

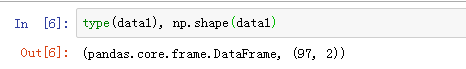
**Implementation in Python:**

Source data (rows = 97, columns = 2):

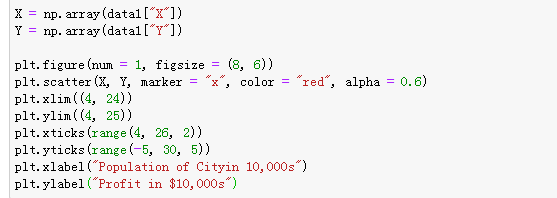
|  |  |
| --- | --- |
| **X** | **Y** |
| 6.1101 | 17.592 |
| 5.5277 | 9.1302 |
| 8.5186 | 13.662 |
| 7.0032 | 11.854 |
| 5.8598 | 6.8233 |
| 8.3829 | 11.886 |
| 7.4764 | 4.3483 |
| 8.5781 | 12 |
| 6.4862 | 6.5987 |
| 5.0546 | 3.8166 |

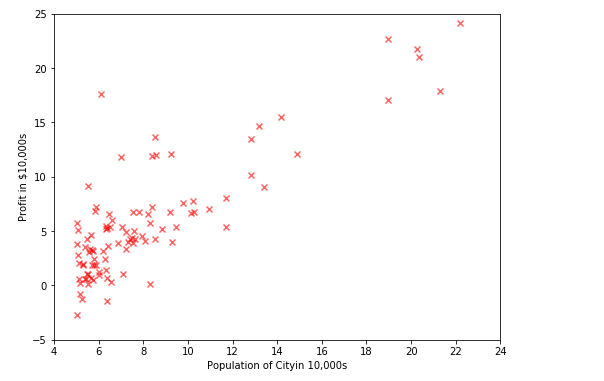
Load data



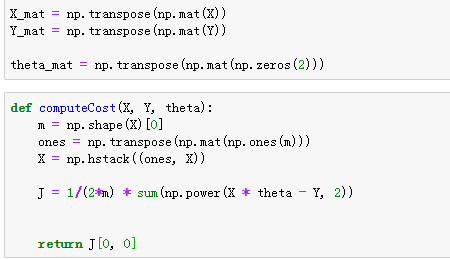


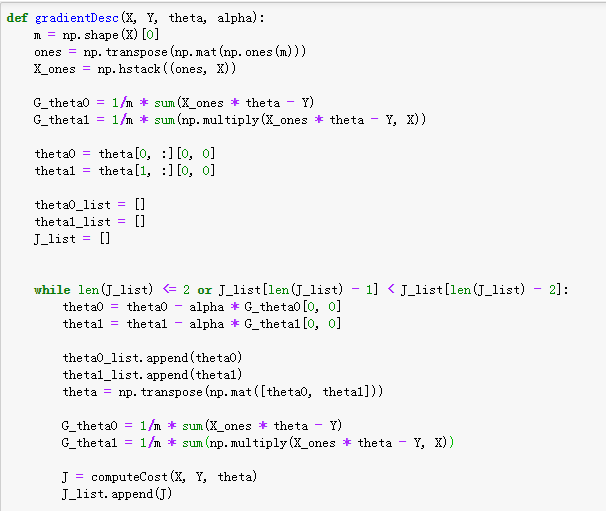
Visualize data



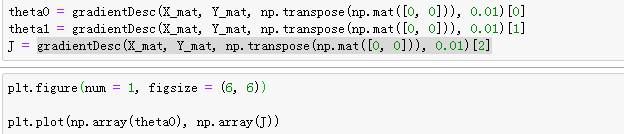


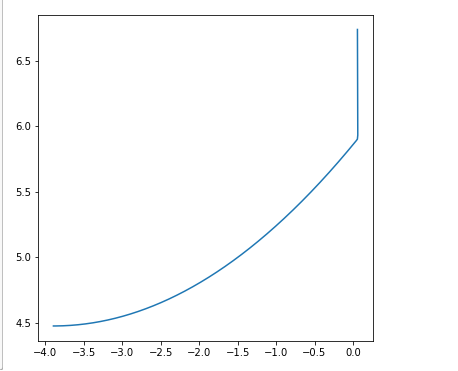
**Cost and Gradient Descent**

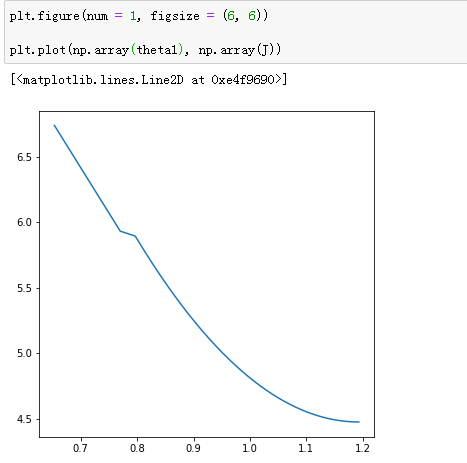




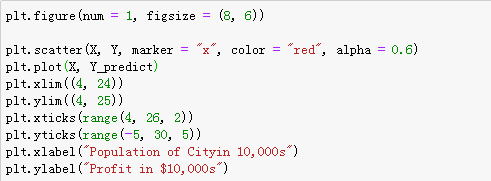


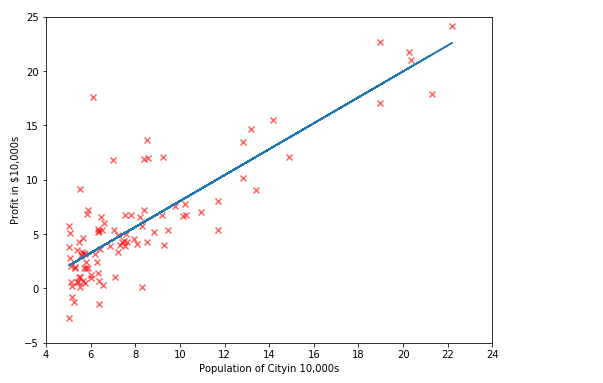






**Prediction**





**Case Study --- Predict House Prices (Coursera)**