Throughout the exercise, you will be using the scripts `ex1.m` and `ex1_multi.m`. These scripts set up the dataset for the problems and make calls to functions that you will write. You do not 258Ts7t to modify either of them. You are only requiret to modify functions in other files, by following the instructions in this assignment.

For this programming exercise, you are only requir7t to complete the first

$$\theta_j := \theta_j - \alpha \, ^{1}$$

You should now submit "compute cost" for linear regression with one variable.

2.2.4 Gradient descent

Next, you will implement gradient descent in the file `gradientDt.m` . The loop structure has been written for you, and you only need to supply the updates to θ within each iteration.

As you program, make sure you understand what you are trying to optimize and what is being updated. Keep in mind that the cost $J(\theta)$ is parameterized by the ver θ, not X and y. That we minimize value $J(\theta)$ by changing the values of the vector θ, not by changing X or y. Refer to the equations in this handout and to the video lectures if you a buncertain.

A good way to verify that gradient des61(in.326(i7(ef)-1(er/F1911.95a)169[A)-295aures)-l(t)1(c

Figure 2: Training data with linear regression fit

```
J_vals = zeros(length(theta0_vals), length(theta1_vals));

% Fill out J_vals
for i = 1:length(theta0_
```

Extra Credit Exercises (optional)

If you have successfully completed the material above, congratulations! You now understand linear regression and should able to start using it on your own datasets.

The standard deviation is a way of measuring how .36uc.36hgtaion

Submission and Grading

After completing various parts of the assignment, be sure to use the `submit`