



Prediction

After learning our linear regression model, we now want to see how well it performs on the new, previously unseen data. To do this, we need to implement our model's prediction scheme, which can be written as $\hat{y}^{(i)} = w^T x^{(i)}$ where w^T are 1×7 dimensional transposed weights that we previously learned, $x^{(i)}$ is the 7×1 feature associated with a data point i , and $\hat{y}^{(i)}$ is our model's prediction for a data point i . As an input, your function will take a $n \times 7$ dimensional feature matrix X associated with our testing data, and the previously learned weights w . It will then output a vector \hat{y} , which stores the predictions for every data point.

Your Function

 Save  Reset  MATLAB Documentation (<https://www.mathworks.com/help/>)

```
1 function y_hat = Prediction(X,w)
2     % make predictions using a learned linear regression model
3     %
4     % Input:
5     % - X: n x 7 dimensional feature matrix where every row depicts a particular observation and every column d
6     % - w: 7 x 1 dimensional weights of a learned linear regression model
7     % Output:
8     % - y_hat: n x 1 dimensional MPG predictions of our model
9
10    y_hat= X * w;
11 end
12
```

Code to call your function

 Reset

```
1 load('CarData.mat');
2 w=LinearRegression(trainsetX,trainsetY);
3 y_hat = Prediction(testsetX,w);
```

 Run Function



Previous Assessment: All Tests Passed

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 Are the Predictions Correct?