Beginning
Machine Learning
Study Group

Week 2
July 13, 2016
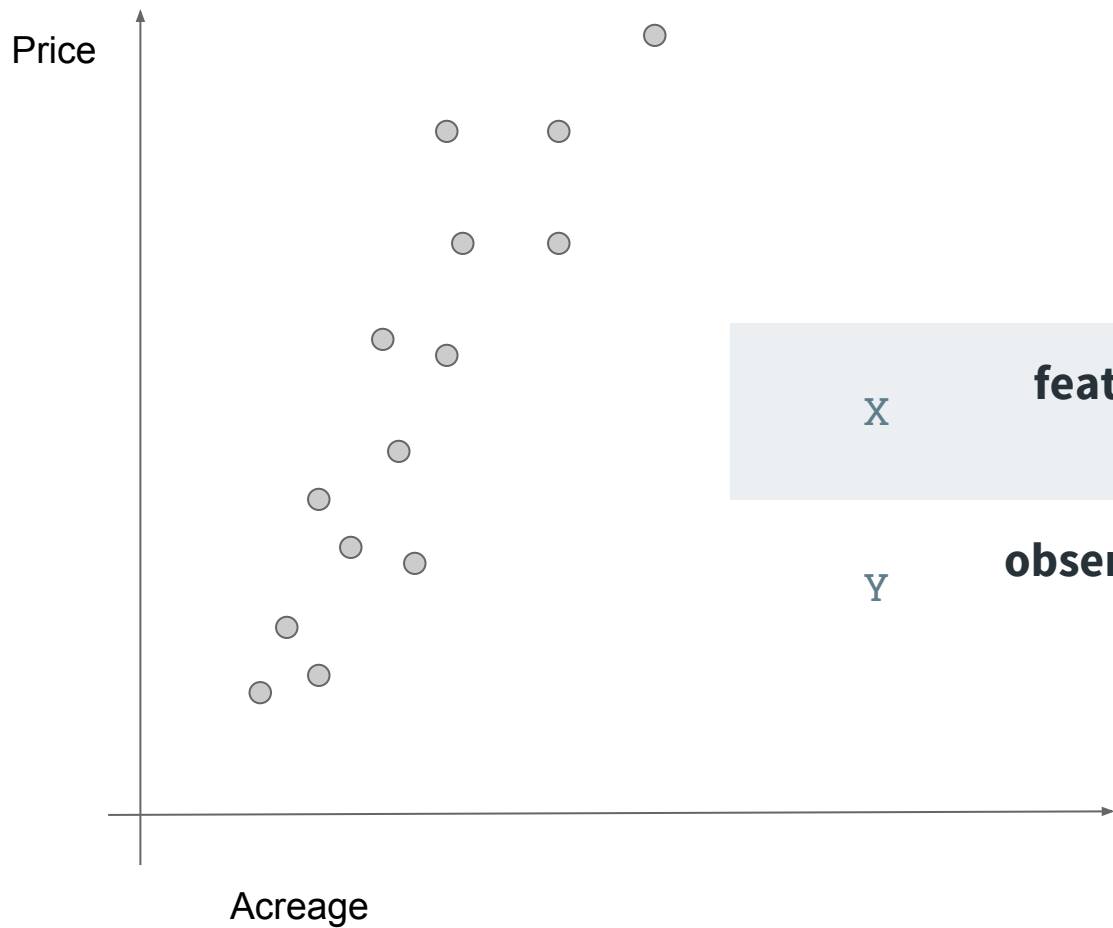
Luba Gloukhova

WOMEN WHO
CODE
SILICON VALLEY

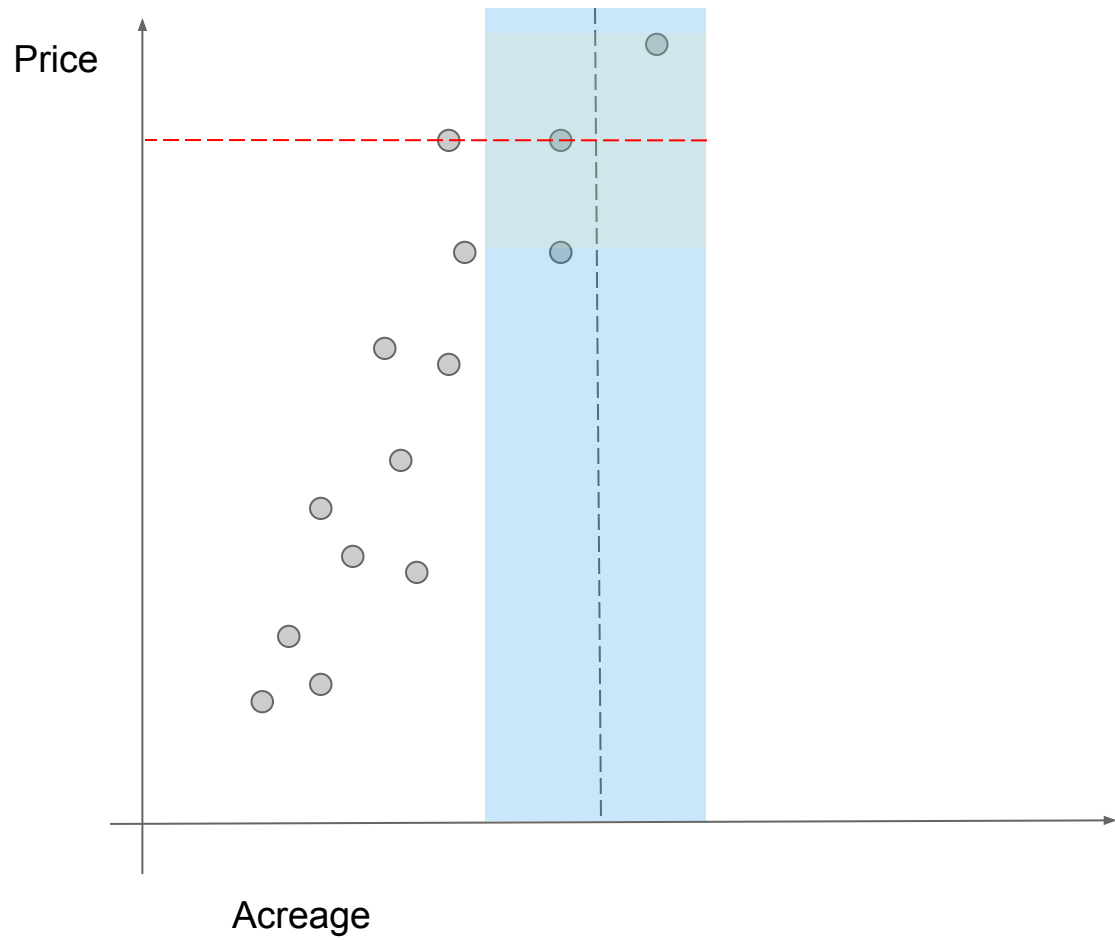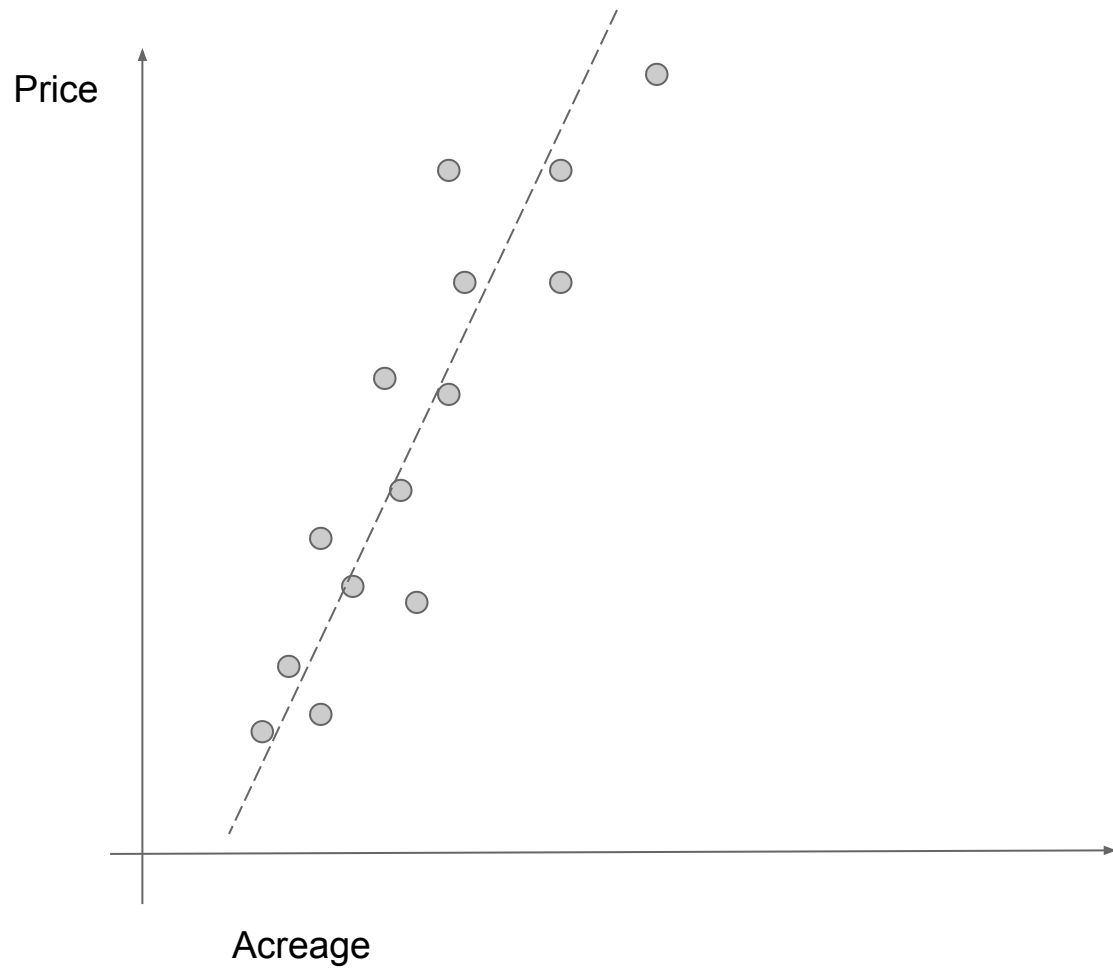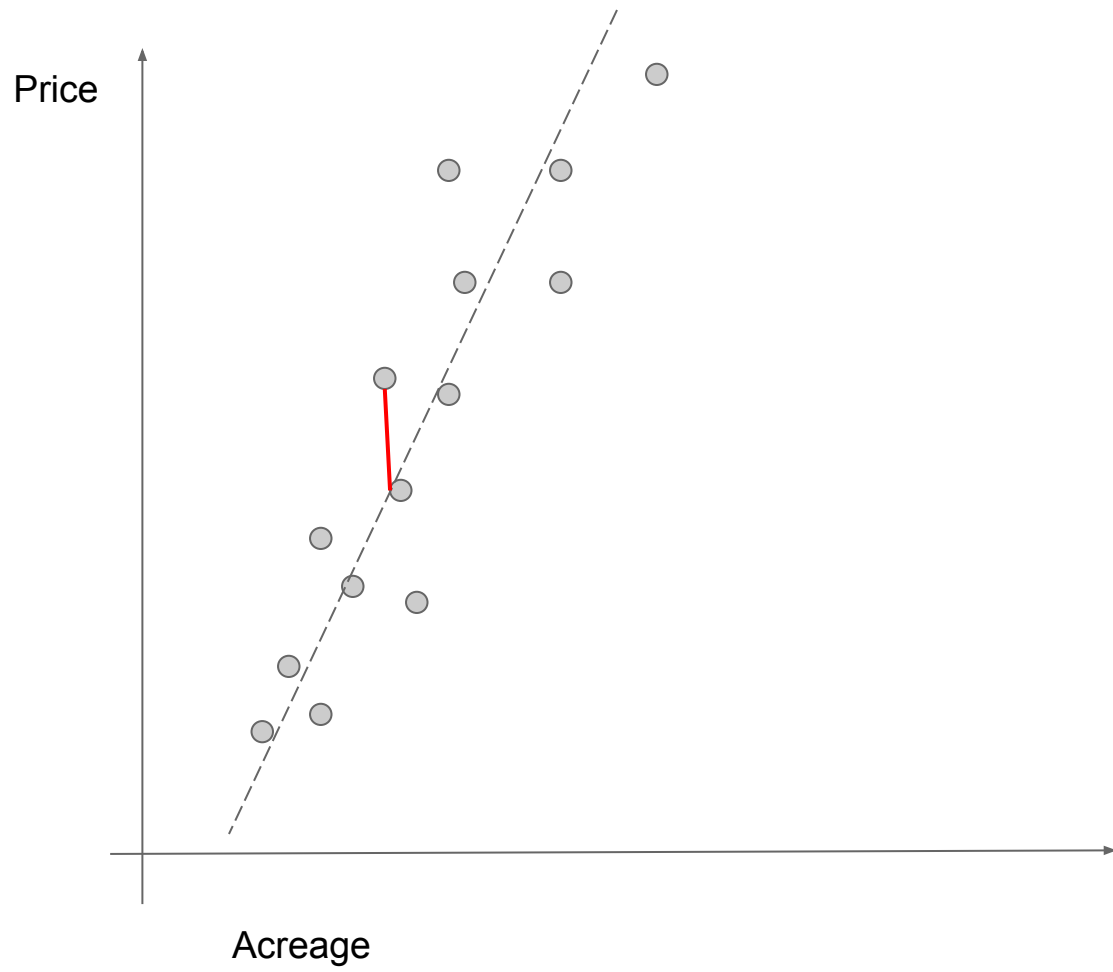# Week 2 Outline

Regression: Predicting House Prices

1. "Review"
2. Demo
3. Assignment
4. Quiz

Price

Acreage

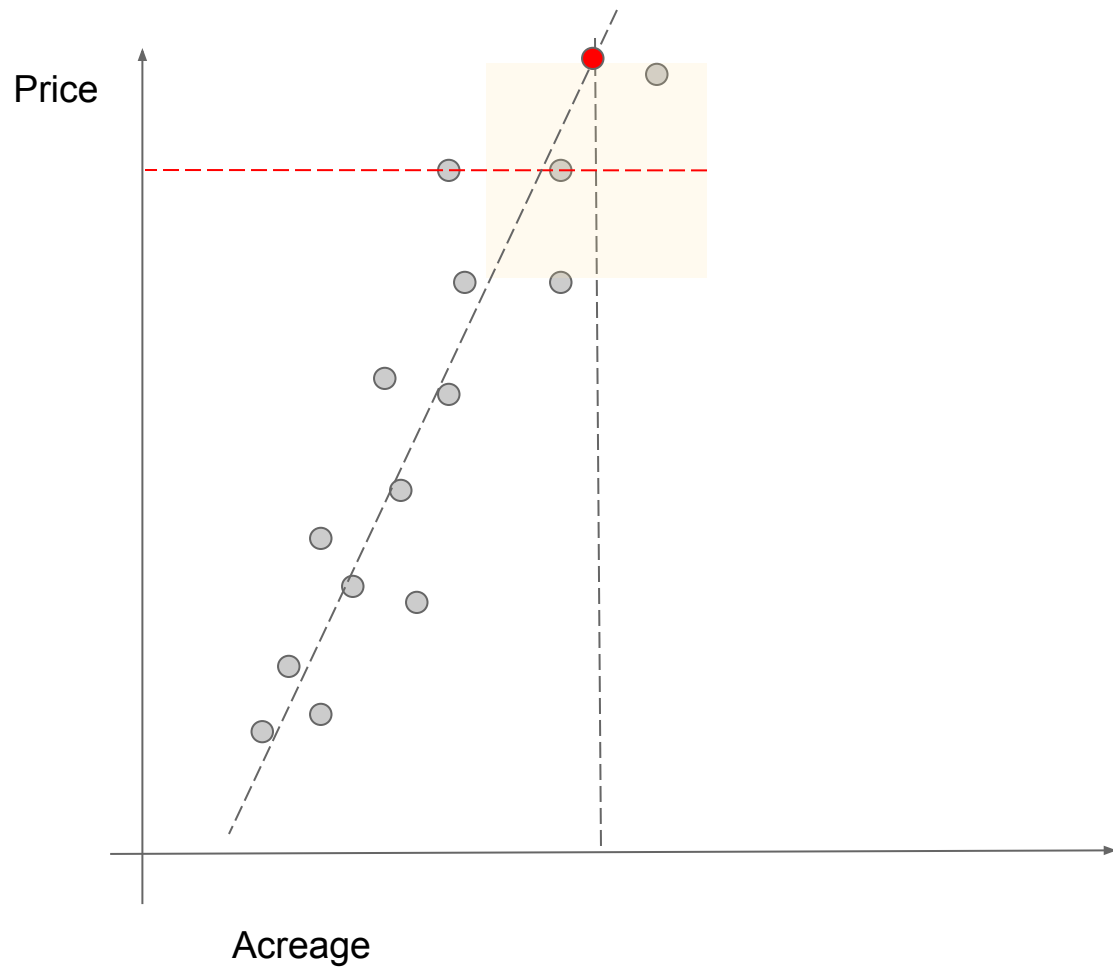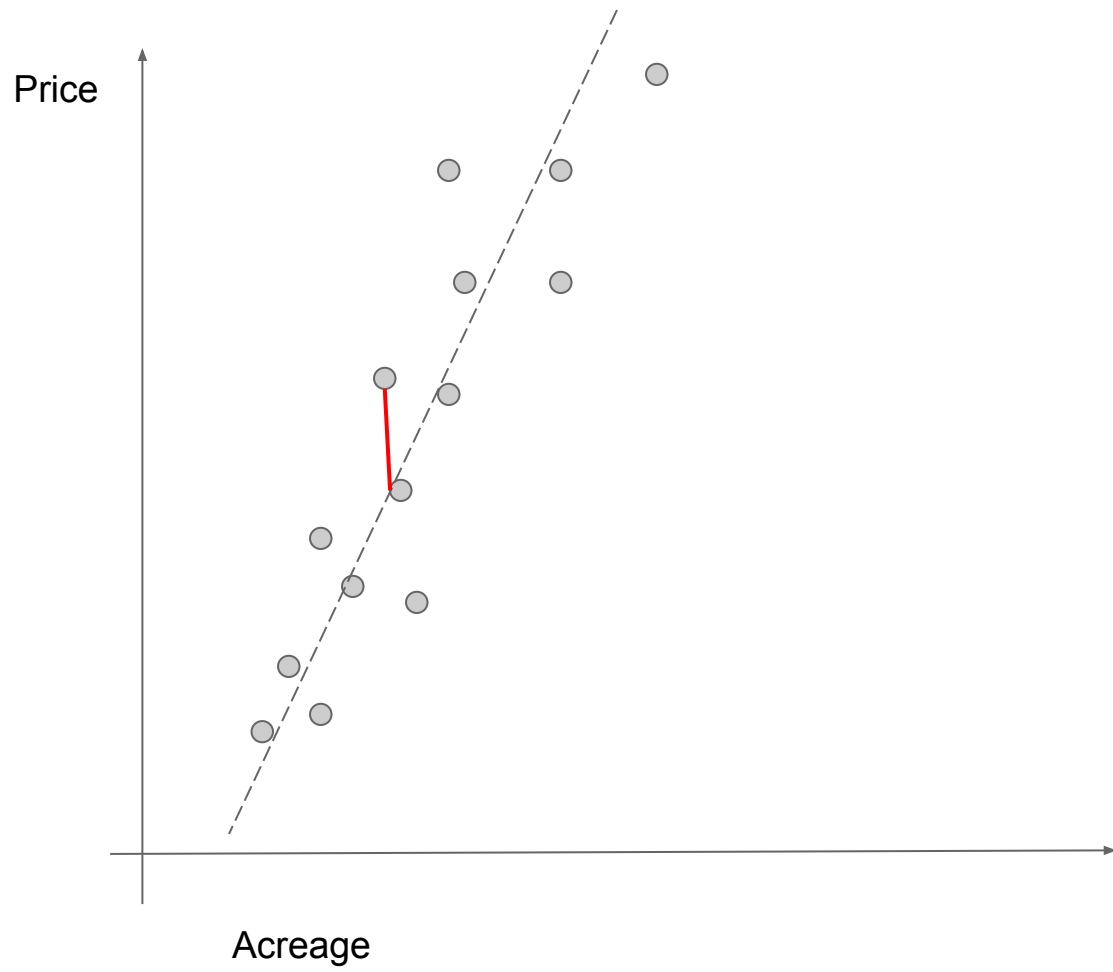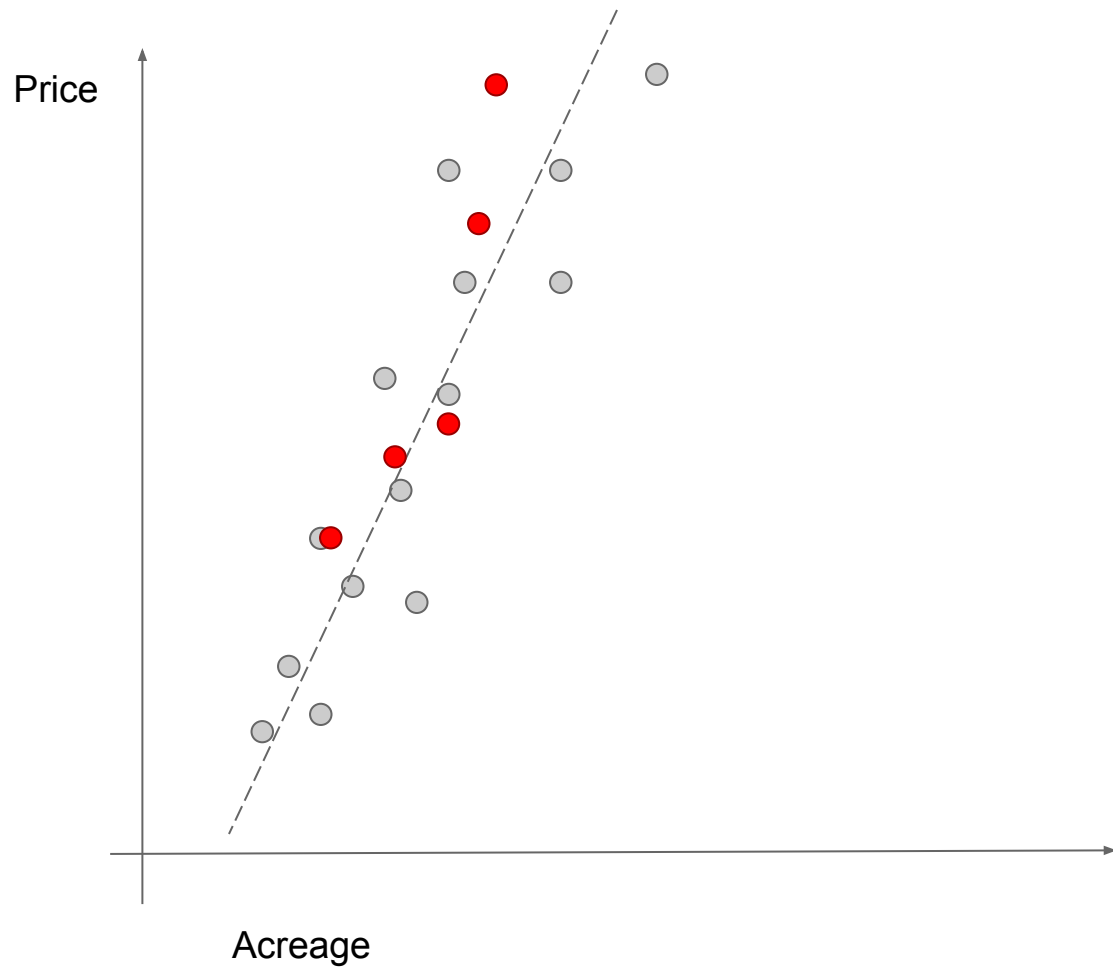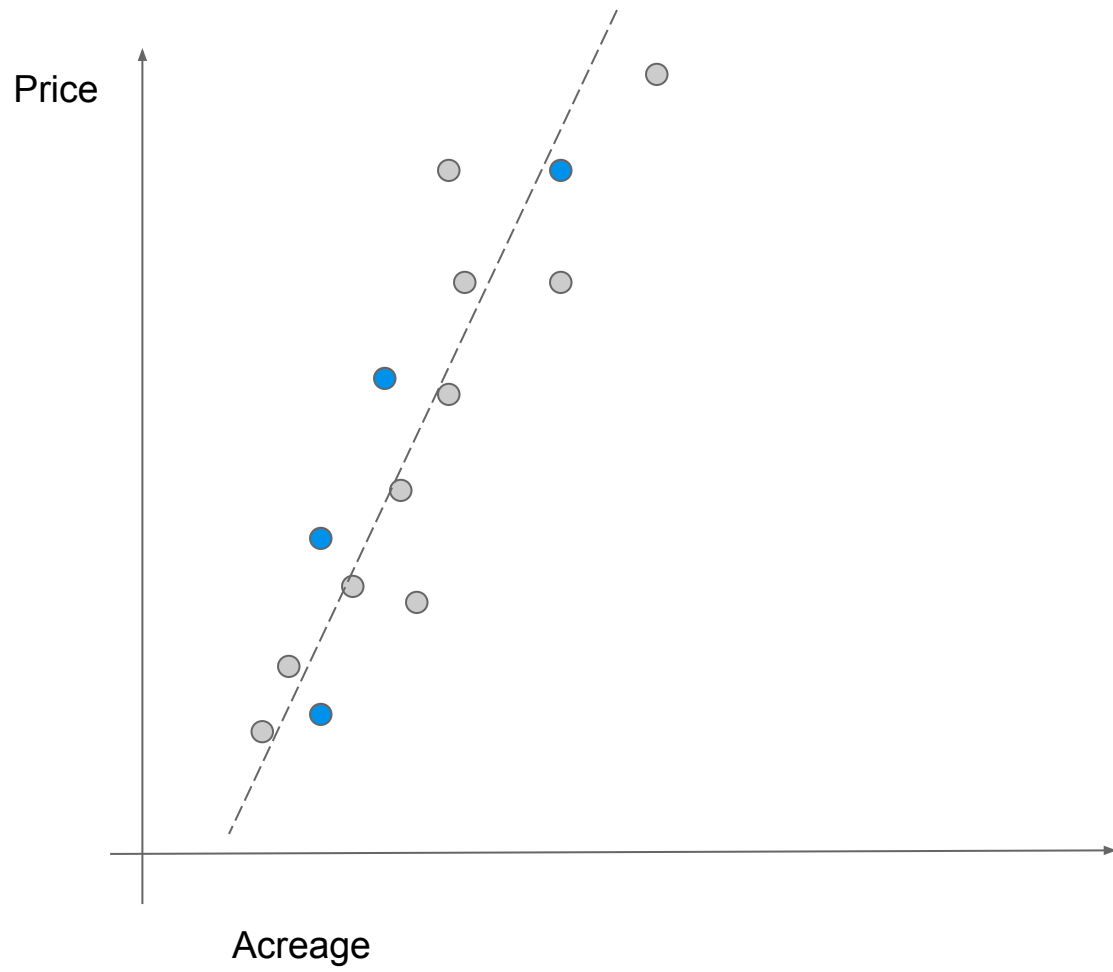| X | feature, independent variable, covariate, predictor |
| Y | observation, dependent variable, response, |

Price

Acreage

Price

Acreage

http://www.trulia.com/property/3235162179-7870-Foothill-Ranch-Rd-Santa-Rosa-CA-95404

Santa Rosa, CA 95404

Single-Family Home	4,128 sqft
4 Bedrooms	$581/sqft
5 full Bathrooms	Lot size: 10.0 acres

http://www.trulia.com/property/1068315154-1100-Oak-Springs-Ln-Santa-Rosa-CA-95404
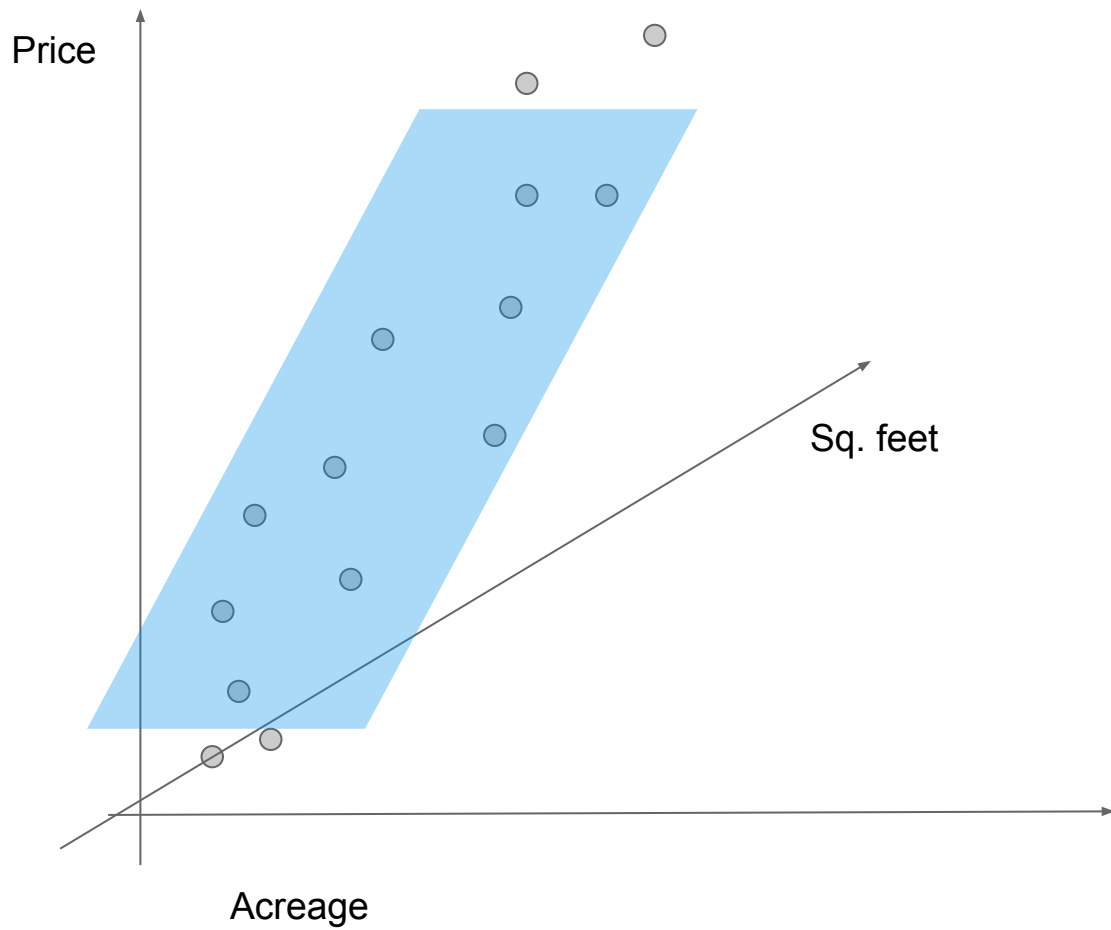
Santa Rosa, CA 95404

Single-Family Home	3,900 sqft
3 Bedrooms	$551/sqft
3 full Bathrooms	Lot size: 10.55 acres

Price

Sq. feet

Acreage

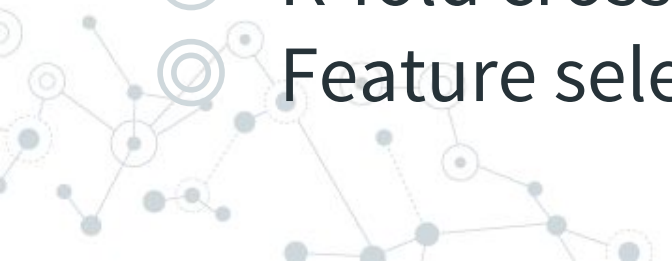| X1	Sq. feet
X2	Acerage
Y	Price
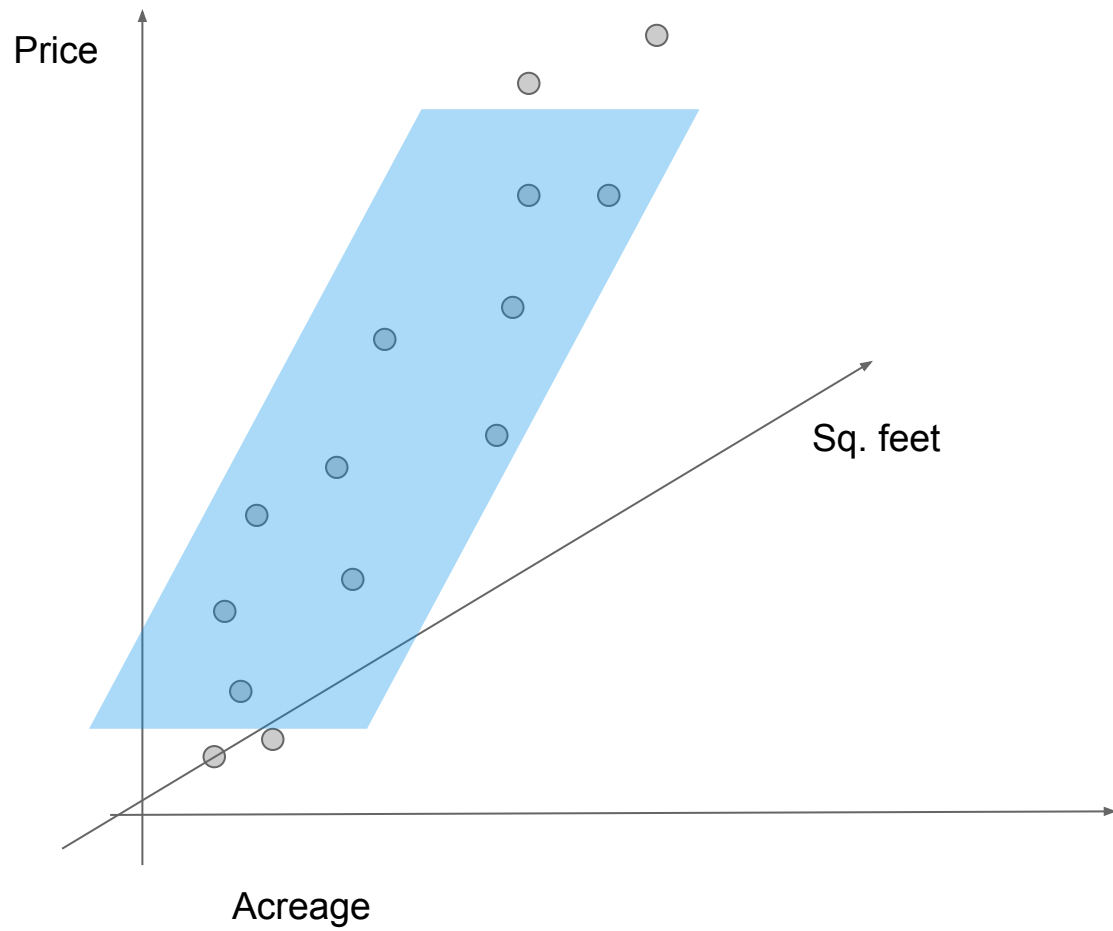
See Coursera version for...

◎ Non-linear relationships (1.4)
◎ Training/Test curves (2.2)
◎ Model complexity

See regression course for...

◎ RSS minimization - Gradient descent
◎ Variance-bias trade-off
◎ K-fold cross-validation
◎ Feature selection - Lasso

2.

Demo

bit.ly/29HwUBg

3.
Assignment

bit.ly/29qWngG

4.

Quiz

1. Selection and summary statistics:
   We found the zip code with the highest average house price. What is the average house price of that zip code?

2. Filtering data:
   What fraction of the houses have living space between 2000 sq.ft. and 4000 sq.ft.?

3. Building a regression model with several more features:
   What is the difference in RMSE between the model trained with my_features and the one trained with advanced_features?

Margaret Neale: Negotiation: Getting What You Want

Negotiation is problem solving. The goal is not to get a deal; the goal is to get a good deal. Four steps to achieving a successful negotiation: Assess, Prepare, Ask, Package. Women increase the chance of a success when a proposal is framed in terms of benefits to your counterparts, team, or organization. Three questions to prepare women