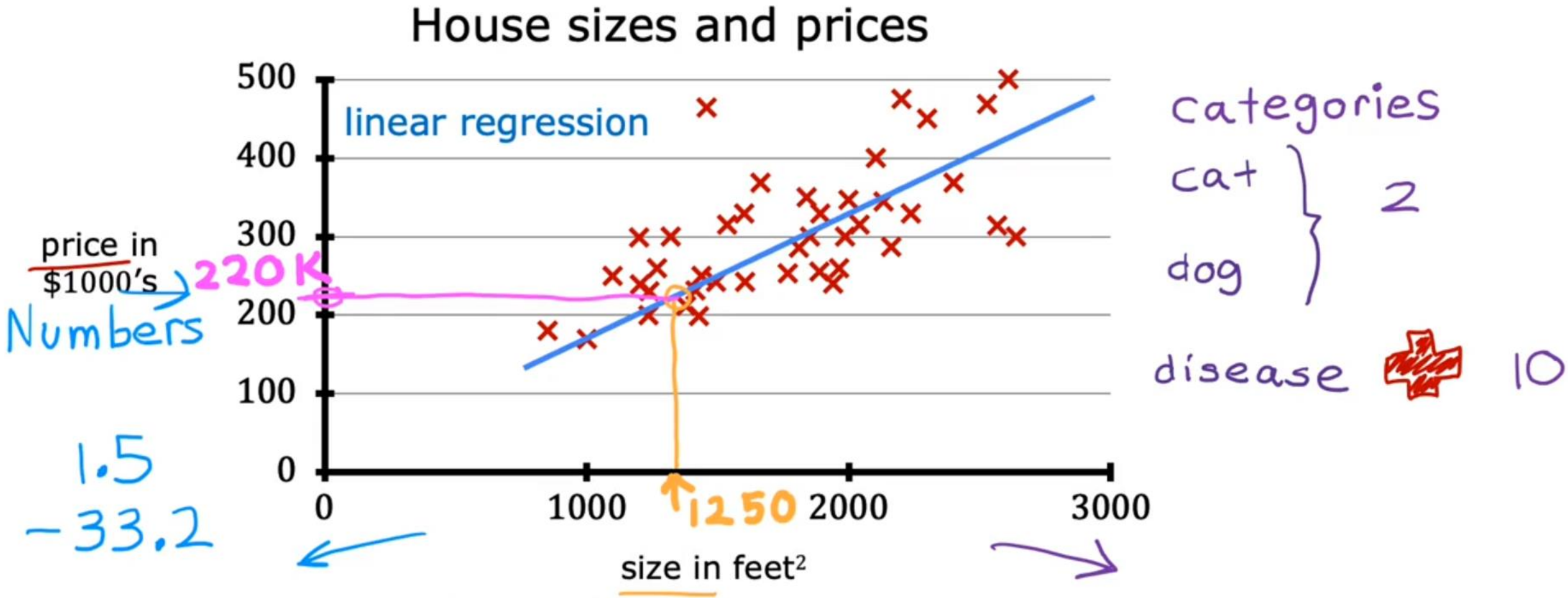
Stanford
ONLINE

DeepLearning.AI

Linear Regression with One Variable

Linear Regression Model Part 1



Regression model
Predicts numbers
Infinitely many possible outputs

Supervised learning model
Data has "right answers"

Classification model
Predicts categories
Small number of possible outputs

Data table

size in feet²	price in $1000's
2104	400
1416	232
1534	315
852	178
...	...
3210	870

Terminology

Training set: Data used to train the model

	x size in feet²	y price in \$1000's
(1)	2104	400
(2)	1416	232
(3)	1534	315
(4)	852	178
…	…	…
(47)	3210	870

$m = 47$

$x^{(1)} = 2104 \quad y^{(1)} = 400$

$(x^{(1)}, y^{(1)}) = (2104, 400)$

$x^{(2)} = 1416 \quad x^{(2)} \neq x^2$ not exponent

Notation:

x = "input" variable
feature

y = "output" variable
"target" variable

m = number of training examples

(x, y) = single training example

$(x^{(i)}, y^{(i)})$

$(x^{(i)}, y^{(i)})$ = i^{th} training example

index (1^{st}, 2^{nd}, 3^{rd} …)