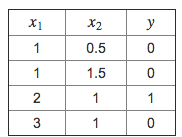
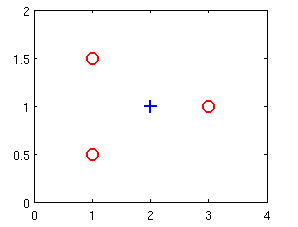
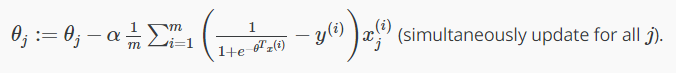
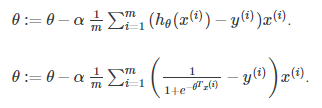
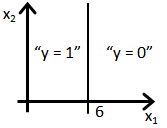
Logistic Regression Quiz

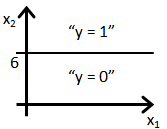
* Suppose you’ve trained a logistic regression classifier, and it outputs on a new example x a prediction hθ(x) = 0.7. This means:
* **Our estimate for P(y=0|x;θ) is 0.3** 🡪 P(y=1|x;θ) - 1
* **Our estimate for P(y=1|x;θ) is 0.7**
* Suppose you have the following training set, + fit a logistic regression classifier hθ(x)=g(θ0+θ1x1+θ2x2)

* Which of the following are true?
* **Adding polynomial features (e.g., instead using hθ(x) = g(θ0 + θ1x1 + θ2x2 + θ3x1^2 + θ4x1x2 + θ5x2^2)) could increase how well we can fit the training data**
* **J(θ) will be a convex function, so gradient descent should converge to the global minimum.**
* **At the optimal value of θ (e.g., found by fminunc), we will have J(θ) ≥ 0**
* For logistic regression, the gradient is given by  Which of these is a correct gradient descent update for logistic regression with a learning rate of α?
* 
* 
* Which of the following statements are true? Check all that apply.
* **The one-vs-all technique allows you to use logistic regression for problems in which each y(i) comes from a fixed, discrete set of values.**
* **The cost function J(θ) for logistic regression trained with m ≥ 1 examples is always greater than or equal to zero.**
* **The sigmoid function g(z)=  is never greater than one (>1)**
* Suppose you train a logistic classifier hθ(x) = g(θ0 + θ1x1 + θ2x2). Suppose θ0 = 6, θ1 = -1, θ2 = 0. Which of the following figures represents the decision boundary found by your classifier?
* **6 – x1 >= 0 for y = 1 🡺 y = 1 is x1 <= 6**



* Suppose you train a logistic classifier hθ(x) = g(θ0 + θ1x1 + θ2x2). Suppose θ0 = −6, θ1 = 0, θ2 = 1. Which of the following figures represents the decision boundary found by your classifier?
* **-6 + x2 >= for y = 1 🡺 i.e. y = 1 when x2 >= 6**



* Suppose you train a logistic classifier hθ(x) = g(θ0 + θ1x1 + θ2x2). Suppose θ0 = 6, θ1 = 0, θ2 = −1. Which of the following figures represents the decision boundary found by your classifier?
* **So we have 6 – x2 >= 0 for y = 1 🡺 y = 1 when 6 >=x2**

