If our current weight w_t makes a mistake on (x_i,y_i), we perform perceptron udpate on w_t to get w_{t+1} = w_t + y_ix_i. What can we say about w_{t+1}?

A. It will now correctly classify (x_i, y_i)
B. It may correctly classify (x_i, y_i) but it is not guaranteed
C. It now might misclassify another example that is previously correctly classified by w_t
D. while it does not guaranttee correct classification of (x_i, y_i), its prediction will move toward the correct direction, i.e., the value of will increase.

Answers: B, C, D

What does the convergence theorem provide us?

A. The perceptron algorithm will always converge
B. The convergence rate depend on the margin. It converges faster for data with large margin.
C. The perceptron algorithm will converge to the max margin separator
D. The perceptron algorithm convergence does not depend on the number of training examples or number of features

Answers: B, D