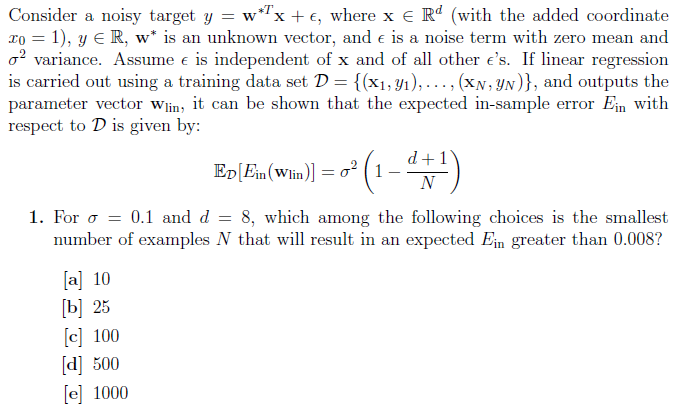
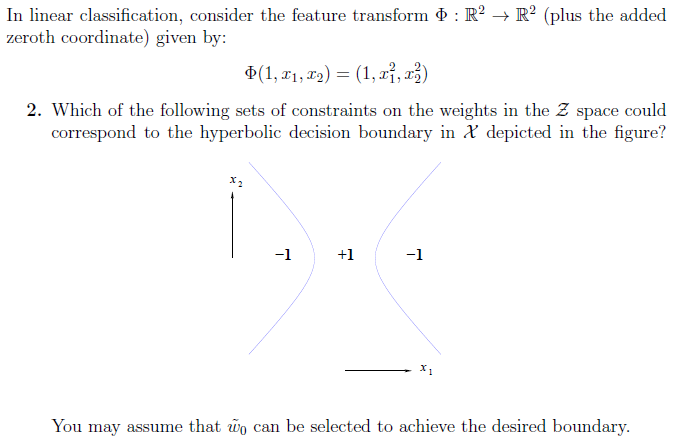
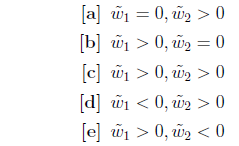
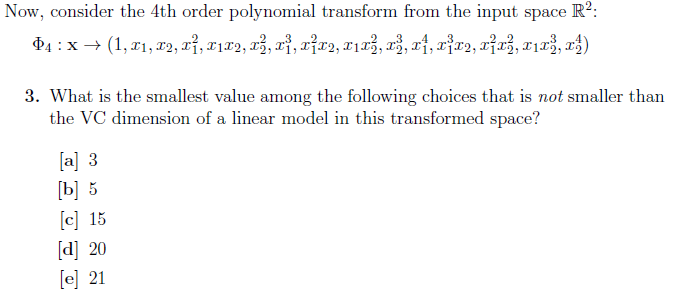
Learning from Data Homework 5

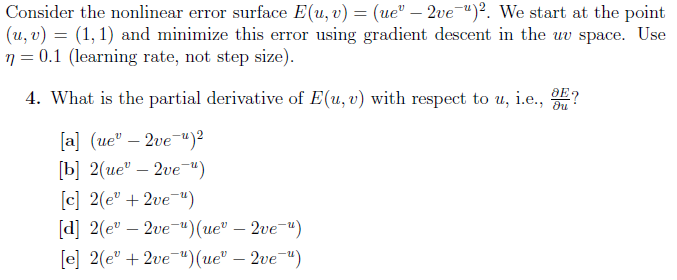
Correction: C. Program (num1.java in hw5Programs) worked completely fine (gave me C), but I didn’t understand why increasing would increase the error so I picked A. now I see that this is , which would increase with because the model loses its ability to memorize the data points as increases. 

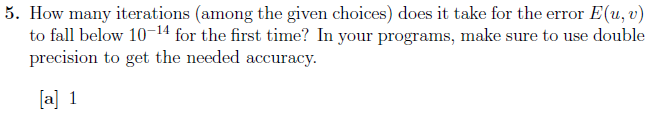


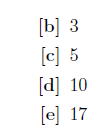


If we recall from lecture, of a perceptron with dimensions. , so .

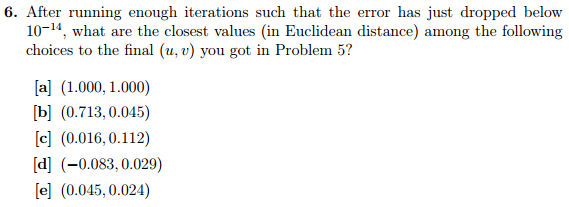
Correction: C. does not include (the intercept dimension of all 1’s put in for mathematical convenience). Hence, . 15 is not smaller than 15.

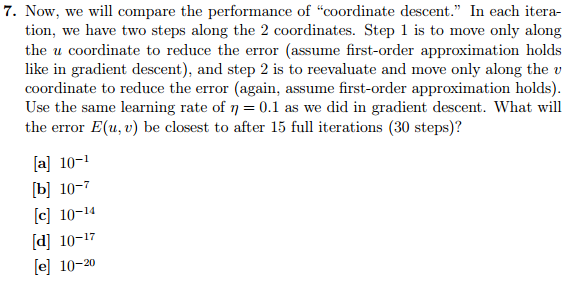


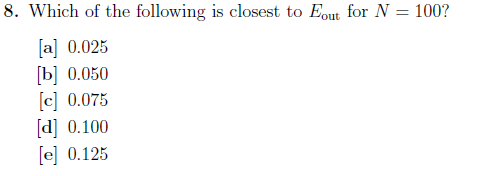




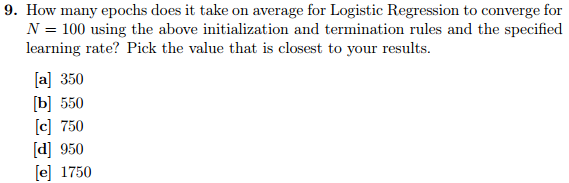
I also need to derive





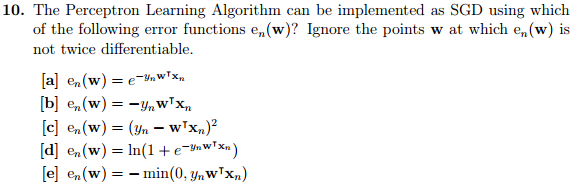


Correction: D, I mistakenly set instead of .



Implemented with LogisticReg.java within hw5Programs

Correction: A, I mistakenly set instead of



Correction: E. I didn’t properly think about the problem: thinking about the weights as a vector, it doesn’t makes sense that one would add to them if and have the same sign (signifying correctly predicted). You would only want adding if is positive but is negative (to bring closer to so that has a positive component upon it). Only E exhibits this (while using the same error function as PLA).

Homework 5 Solutions

7/10 (not taking off more than 1 point for same mistake)

Incorrect Problems:

* #1, forgot
* #3, forgot in Abu-Mostafa’s notation doesn’t include (the intercept dimension)
* #8, set instead of
* #9, set instead of
* #10, didn’t think properly about problem

