Machine Learning Lab 7

Perceptron and ADLINE:

In this lab, you will implement Perceptron and ADLINE in python by yourself to solve classification problem. You do not need to use real world dataset. The problem you are trying to solve is the Boolean operator AND and OR as shown in the lecture notes.

1. Implement Perceptron in Python by your own. Please see lecture notes for the details of the algorithm. Try to train your Perceptron to solve the problem of Boolean operator AND and OR. You should print the values of all the weights to see what they are and whether they make sense. Do check whether the trained perceptron can predict correct results. You should also play around with the learning rate at your own choice to see its effect. You can start with 0.25.
2. Implement ADLINE in Python by your own. Try to do the same as in previous task to check the performance of your implementation. In addition, implement ADLINE in both batch mode and online mode and then try solve the same problems and see whether they produce the same weights. You should also try different termination conditions to see effects.