Problem 4

1. The linear combination is

Where is the number of times the training input is misclassified because each time a misclassification will result in the weight update.

1. Because for the perceptron learning we have
2. Suppose we have training inputs
3. Initialize the to an all-zeros vector of size .
4. Loop until the maximum number of iteration or other stopping criteria reached

For each piece training data , calculate

If  , then update the misclassification vector