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ENGR 421  
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HW #2

- 1) Firstly, I imported the data given hw02.zip file. I divided pixels into two groups as training and test and applied the same procedure for labels too.
- 2) I constructed a sigmoid function by applying the function (10.42) in the book.
- 3) I copied the gradient functions from our lab sessions and adopted to my code by using gradient functions in the book (10.45)
- 4) I applied one-of-K-coding code in lab04 into my codes.
- 5) I added the values which are given like initial  $W$ ,  $w_0$ ,  $\eta$ ,  $\epsilon$  etc. I generated a empty objective value array.
- 6) I constructed a while loop that improve  $W$  and  $w_0$  as the error decreases.
- 7) At the end, I got a new  $W$  and  $w_0$ . I showed my plot showing my error values as the iteration goes on until 500.
- 8) I showed my confusion matrix which is same with the homework file.
- 9) I applied the same procedure for my test data and obtained the same confusion matrix.