Pseudocode - Homework 5

REPORT

1. Read the contents of the GZ file containing train images, labels and test images, labels. and let these be the x_train and x_test set.
There are 784 neurons in input layer & 10 in output.
2. Initialize $W \in R^{10 \times 784}$ randomly and epoch = 0, errors(epoch) = 0 and initialize the local fields v_1, v_2, v_3.
The learning ~~r~~ chosen was 0.1, and ~~used~~ use the sigmoid activation function to calculate the output
3. Output represents a vector of values between (0-1), for example [1.0... 0] for digit 0.
4. Sigmoid gives probabilistic values between 0 and 1 so the classification process gets easier
5. Initially I tried to use step function but due to the zero gradient, backpropagation couldn't work.
6. I started with a large learning rate and ended up with 0.1 where weights would converge.