Ex3 Report

Our neural network is built as a python class with an init-constructor that receives the following parameters: input layer size, hidden layer size output layer size, and hidden layer count.
So, our network can learn even different kinds of problems with different kinds of input or input/output sizes and not specific for this handwritten digit recognition problem.

For this exercise, after some trial and error, I wrote a script that runs the network each time with random parameters, and I let it run overnight since it takes a couple of minutes each time to learn the data the script logs the neural network precision. And eventually, I chose the parameters that gave the highest precision, in the end, the best result I got was with 3 hidden layers, a learning rate of 0.019, and an epoch count of 24, with an accuracy of 96 %.