Code Instruction

Final_project_Ridge Regression.py
Final project SVM.py
Final_project_NN.py
are the code to do the classification using ridge regression, SVM, and neural networks.

Convert.py is the code to convert the data.

mnist_train.zip
mnist_test.zip
are the converted cvs.files.

train-labels-idx1-ubyte.gz
train-images-idx3-ubyte.gz
t10k-images-idx3-ubyte.gz
t10k-labels-idx1-ubyte.gz
are the training data sets and testing data sets.

Plot_figure.m is to shown the result figures.

1. Firstly, you need to decompress the following data set files.
    train-labels-idx1-ubyte.gz
    train-images-idx3-ubyte.gz
    t10k-images-idx3-ubyte.gz
    t10k-labels-idx1-ubyte.gz
2. Secondly, run the Convert.py to convert the files or you can decompress the following files instead.
    mnist_train.zip
    mnist_test.zip
3. Then run the following classification codes.
    Final_project_Ridge Regression.py
    Final project SVM.py
    Final_project_NN.py
4. The result figure can be shown by running Plot_figure.m.