ReadMe.md

A single python script named `train.py` is sufficient to run this Neural Network. It supports all functions as described in the Assignment's pdf, this is also mentioned in *supported.txt* file.

Apart from the standard features it also supports some additional ones. Help and list on supported arguments can be obtained using the command `python train.py -h`

Prerequisites for running `train.py`:

`pandas, numpy, argparse, sys, copy, os, pickle, matplotlib`

Best Configuration of Network

Parameters	Value
Learning Rate	0.0001
Activation Function	Sigmoid
Output Activation	Softmax
Annealing	True
Hidden Layers Configuration	[100 100]
Parameter Initialization	Hilbert Initialization
Loss Function	Cross Entropy

Pickle Objects

File contains a tuple of three elements:

- First element is a dictionary containing weights and biases as key as `W[1], b[1]` for *layer 1.*
- Second parameter is a dictionary containing layer dimensions, epochs with which we obtain best accuracy and learning rate at that instance.
- Third parameter is a dictionary which has training loss and validation loss and Predicted accuracy of trained Network and the predicted accuracy with validation data

To un-enroll pickle objects, refer functions at code line numbers: **424** and **432** of `train.py`