Homework 1

In this assignment, you are asked to implement a deep fully-connected MLP with three hidden layers. Your program is supposed to be working on both the MNIST data and CIFAR-10 data. Both of them are 10-class classification problem. When implementing the program, please take the following into consideration:

1. Like any machine learning assignment, you need to divide your dataset into training and testing.
2. The flexibility of the program: an ideal program should allow the following: number of layers are not hard-coded, different activation functions can be used, etc. In other words, different combination can be easily built on top of the modules of your program.
3. A detailed project report containing: design of your program; flexibility of your program if any; the effect of using different learning rate; the plot of loss versus epoch; the plot of accuracy versus epoch
4. Implement your program using Jupyter notebook.
5. Hard copy of report submitted in class on June 27th. The program is zipped into a single YourfistnameYourLastName.zip file and submit it online before class starts that day.