Intro to Deep Learning
HW3
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Solution Part B:

We used NN Sequential Module of Pytorch for training and testing the model.
The model has 2 Linear layers, 2 ReLU activations and the output layer has Softmax activation.
We use Cross-entropy loss to compute the loss for backpropagation.

Please find the below attached image of the output. The image shows the Training Loss for each epoch, training time taken and model accuracy.
As seen in the image, it took around 2.39 minutes for training the model with 60000 MNIST training images. After testing, 10000 MNIST test images the model has an accuracy of about 97.49 percent.

```
shounakrangwala@nbp-208-136 DeepLearningHW3 % /usr/local/bin/python3 /Users/shounakrangwala/Desktop/DeepLearningHW3/HW3-b.py
Epoch 0 - Training loss: 0.5809933324294813
Epoch 1 - Training loss: 0.22827823566538946
Epoch 2 - Training loss: 0.16296108673487517
Epoch 3 - Training loss: 0.12665341133629082
Epoch 4 - Training loss: 0.10478041858783663
Epoch 5 - Training loss: 0.08963046376623197
Epoch 6 - Training loss: 0.07702516793791674
Epoch 7 - Training loss: 0.06966735386073208
Epoch 8 - Training loss: 0.05941014379056405
Epoch 9 - Training loss: 0.052608908042867684

Training Time (in minutes) = 2.396890437602997
Number Of Images Tested = 10000

Model Accuracy = 97.49
shounakrangwala@nbp-208-136 DeepLearningHW3 %
```

The working code is uploaded in the assignment submitted on Sakai.