Q1 Softmax Classifier:

Total Epochs = 500

Learning Rate = 0.01

Iterations	Training Accuracy	Test Accuracy
1	0.971	95.56
2	0.956	96.2
3	0.981	93.4
Mean	0.969333333	95.05333333
SD	0.012583057	1.467151435

As we can see Training and Test accuracy are very similar hence the data is fitting the model very well.

Q2. MLP Classifier:

Total Epochs = 5000

Learning Rate = 0.01

Iterations	Training Accuracy	Test Accuracy
1	0.981	100
2	0.69	74
3	0.9	93.4
Mean	0.857	89.13333333
SD	0.15018988	13.51493002

Q3. CNN Classifier:

Total Epochs: 5

Learning rate: 0.001

```
Train Epoch: 1 [0/3000 (0%)]     Loss: 0.6923     Accuracy: 40%
Epoch 1 Train: Loss: 0.6352, Accuracy: 68.500%

Epoch 1 Test : Loss: 0.5386, Accuracy: 80.100%

Train Epoch: 2 [0/3000 (0%)]     Loss: 0.5388     Accuracy: 81%
Epoch 2 Train: Loss: 0.4313, Accuracy: 90.967%

Epoch 2 Test : Loss: 0.3446, Accuracy: 99.300%

Train Epoch: 3 [0/3000 (0%)]     Loss: 0.3454     Accuracy: 99%
Epoch 3 Train: Loss: 0.3302, Accuracy: 99.633%

Epoch 3 Test : Loss: 0.3208, Accuracy: 99.767%

Train Epoch: 4 [0/3000 (0%)]     Loss: 0.3201     Accuracy: 100%
Epoch 4 Train: Loss: 0.3192, Accuracy: 99.767%

Epoch 4 Test : Loss: 0.3175, Accuracy: 99.867%
```

Q4 LSTM

Total Epochs: 5

Learning Rate: 0.01

Iterations	Data	Training Accuracy	Test Accuracy
1	15%	91%	84%
2	15%	85%	76%
3	15%	90%	81%
Mean		89%	80%
SD		3%	4%