1   Model A

```
xiangyi@dl-workstation2:~/Midterm (ssh)
Train Epoch: 348 [9600/50000 (19%)]     Loss: 0.000945
Train Epoch: 348 [12800/50000 (26%)]    Loss: 0.000000
Train Epoch: 348 [16000/50000 (32%)]    Loss: 0.014080
Train Epoch: 348 [19200/50000 (38%)]    Loss: 0.000121
Train Epoch: 348 [22400/50000 (45%)]    Loss: 0.000392
Train Epoch: 348 [25600/50000 (51%)]    Loss: 0.000144
Train Epoch: 348 [28800/50000 (58%)]    Loss: 0.006074
Train Epoch: 348 [32000/50000 (64%)]    Loss: 0.000032
Train Epoch: 348 [35200/50000 (70%)]    Loss: 0.000120
Train Epoch: 348 [38400/50000 (77%)]    Loss: 0.001509
Train Epoch: 348 [41600/50000 (83%)]    Loss: 0.007235
Train Epoch: 348 [44800/50000 (90%)]    Loss: 0.000390
Train Epoch: 348 [48000/50000 (96%)]    Loss: 0.000175

Test set: Average loss: 0.0123, Accuracy: 8606/10000 (86%)

Train Epoch: 349 [0/50000 (0%)] Loss: 0.000050
Train Epoch: 349 [3200/50000 (6%)]      Loss: 0.000843
Train Epoch: 349 [6400/50000 (13%)]     Loss: 0.000506
Train Epoch: 349 [9600/50000 (19%)]     Loss: 0.000089
Train Epoch: 349 [12800/50000 (26%)]    Loss: 0.011448
Train Epoch: 349 [16000/50000 (32%)]    Loss: 0.000102
Train Epoch: 349 [19200/50000 (38%)]    Loss: 0.000115
Train Epoch: 349 [22400/50000 (45%)]    Loss: 0.008544
Train Epoch: 349 [25600/50000 (51%)]    Loss: 0.000044
Train Epoch: 349 [28800/50000 (58%)]    Loss: 0.000047
Train Epoch: 349 [32000/50000 (64%)]    Loss: 0.001360
Train Epoch: 349 [35200/50000 (70%)]    Loss: 0.007080
Train Epoch: 349 [38400/50000 (77%)]    Loss: 0.005659
Train Epoch: 349 [41600/50000 (83%)]    Loss: 0.000977
Train Epoch: 349 [44800/50000 (90%)]    Loss: 0.004715
Train Epoch: 349 [48000/50000 (96%)]    Loss: 0.003966

Test set: Average loss: 0.0123, Accuracy: 8606/10000 (86%)

xiangyi@dl-workstation2:~/Midterm$
```

2   Model B

```
xiangyi@dl-workstation2:~/Midterm_2 (ssh)
Train Epoch: 348 [9600/50000 (19%)]     Loss: 0.000019
Train Epoch: 348 [12800/50000 (26%)]    Loss: 0.000016
Train Epoch: 348 [16000/50000 (32%)]    Loss: 0.000015
Train Epoch: 348 [19200/50000 (38%)]    Loss: 0.000171
Train Epoch: 348 [22400/50000 (45%)]    Loss: 0.000159
Train Epoch: 348 [25600/50000 (51%)]    Loss: 0.000010
Train Epoch: 348 [28800/50000 (58%)]    Loss: 0.000001
Train Epoch: 348 [32000/50000 (64%)]    Loss: 0.000009
Train Epoch: 348 [35200/50000 (70%)]    Loss: 0.000167
Train Epoch: 348 [38400/50000 (77%)]    Loss: 0.000054
Train Epoch: 348 [41600/50000 (83%)]    Loss: 0.000003
Train Epoch: 348 [44800/50000 (90%)]    Loss: 0.000002
Train Epoch: 348 [48000/50000 (96%)]    Loss: 0.002434

Test set: Average loss: 0.0100, Accuracy: 8801/10000 (88%)

Train Epoch: 349 [0/50000 (0%)] Loss: 0.111436
Train Epoch: 349 [3200/50000 (6%)]      Loss: 0.000304
Train Epoch: 349 [6400/50000 (13%)]     Loss: 0.000172
Train Epoch: 349 [9600/50000 (19%)]     Loss: 0.000012
Train Epoch: 349 [12800/50000 (26%)]    Loss: 0.001347
Train Epoch: 349 [16000/50000 (32%)]    Loss: 0.000003
Train Epoch: 349 [19200/50000 (38%)]    Loss: 0.000129
Train Epoch: 349 [22400/50000 (45%)]    Loss: 0.000185
Train Epoch: 349 [25600/50000 (51%)]    Loss: 0.000009
Train Epoch: 349 [28800/50000 (58%)]    Loss: 0.003695
Train Epoch: 349 [32000/50000 (64%)]    Loss: 0.000262
Train Epoch: 349 [35200/50000 (70%)]    Loss: 0.000007
Train Epoch: 349 [38400/50000 (77%)]    Loss: 0.000096
Train Epoch: 349 [41600/50000 (83%)]    Loss: 0.001820
Train Epoch: 349 [44800/50000 (90%)]    Loss: 0.000000
Train Epoch: 349 [48000/50000 (96%)]    Loss: 0.000666

Test set: Average loss: 0.0100, Accuracy: 8799/10000 (87%)

xiangyi@dl-workstation2:~/Midterm_2$
```

3   modelC

```
xiangyi@dl-workstation2:~/Midterm_3 (ssh)
Train Epoch: 348 [9600/50000 (19%)]     Loss: 0.000098
Train Epoch: 348 [12800/50000 (26%)]    Loss: 0.000086
Train Epoch: 348 [16000/50000 (32%)]    Loss: 0.000000
Train Epoch: 348 [19200/50000 (38%)]    Loss: 0.000000
Train Epoch: 348 [22400/50000 (45%)]    Loss: 0.000001
Train Epoch: 348 [25600/50000 (51%)]    Loss: 0.000268
Train Epoch: 348 [28800/50000 (58%)]    Loss: 0.000000
Train Epoch: 348 [32000/50000 (64%)]    Loss: 0.000029
Train Epoch: 348 [35200/50000 (70%)]    Loss: 0.000000
Train Epoch: 348 [38400/50000 (77%)]    Loss: 0.000025
Train Epoch: 348 [41600/50000 (83%)]    Loss: 0.000000
Train Epoch: 348 [44800/50000 (90%)]    Loss: 0.000011
Train Epoch: 348 [48000/50000 (96%)]    Loss: 0.000014

Test set: Average loss: 0.0091, Accuracy: 8989/10000 (89%)

Train Epoch: 349 [0/50000 (0%)] Loss: 0.000109
Train Epoch: 349 [3200/50000 (6%)]      Loss: 0.000000
Train Epoch: 349 [6400/50000 (13%)]     Loss: 0.000000
Train Epoch: 349 [9600/50000 (19%)]     Loss: 0.000000
Train Epoch: 349 [12800/50000 (26%)]    Loss: 0.000000
Train Epoch: 349 [16000/50000 (32%)]    Loss: 0.000399
Train Epoch: 349 [19200/50000 (38%)]    Loss: 0.000000
Train Epoch: 349 [22400/50000 (45%)]    Loss: 0.000039
Train Epoch: 349 [25600/50000 (51%)]    Loss: 0.000017
Train Epoch: 349 [28800/50000 (58%)]    Loss: 0.000002
Train Epoch: 349 [32000/50000 (64%)]    Loss: 0.000001
Train Epoch: 349 [35200/50000 (70%)]    Loss: 0.000001
Train Epoch: 349 [38400/50000 (77%)]    Loss: 0.000069
Train Epoch: 349 [41600/50000 (83%)]    Loss: 0.000494
Train Epoch: 349 [44800/50000 (90%)]    Loss: 0.000060
Train Epoch: 349 [48000/50000 (96%)]    Loss: 0.000001

Test set: Average loss: 0.0091, Accuracy: 8988/10000 (89%)

xiangyi@dl-workstation2:~/Midterm_3$
```

4   modelC-AllCNN

```
xiangyi@dl-workstation2:~/ModelC_A (ssh)
Train Epoch: 348 [9600/50000 (19%)]     Loss: 0.000013
Train Epoch: 348 [12800/50000 (26%)]    Loss: 0.000042
Train Epoch: 348 [16000/50000 (32%)]    Loss: 0.000001
Train Epoch: 348 [19200/50000 (38%)]    Loss: 0.000015
Train Epoch: 348 [22400/50000 (45%)]    Loss: 0.000017
Train Epoch: 348 [25600/50000 (51%)]    Loss: 0.000061
Train Epoch: 348 [28800/50000 (58%)]    Loss: 0.004109
Train Epoch: 348 [32000/50000 (64%)]    Loss: 0.000016
Train Epoch: 348 [35200/50000 (70%)]    Loss: 0.000000
Train Epoch: 348 [38400/50000 (77%)]    Loss: 0.000014
Train Epoch: 348 [41600/50000 (83%)]    Loss: 0.000000
Train Epoch: 348 [44800/50000 (90%)]    Loss: 0.000010
Train Epoch: 348 [48000/50000 (96%)]    Loss: 0.001521

Test set: Average loss: 0.0080, Accuracy: 9082/10000 (90%)

Train Epoch: 349 [0/50000 (0%)] Loss: 0.000002
Train Epoch: 349 [3200/50000 (6%)]      Loss: 0.000009
Train Epoch: 349 [6400/50000 (13%)]     Loss: 0.000006
Train Epoch: 349 [9600/50000 (19%)]     Loss: 0.000002
Train Epoch: 349 [12800/50000 (26%)]    Loss: 0.006940
Train Epoch: 349 [16000/50000 (32%)]    Loss: 0.000001
Train Epoch: 349 [19200/50000 (38%)]    Loss: 0.000040
Train Epoch: 349 [22400/50000 (45%)]    Loss: 0.000005
Train Epoch: 349 [25600/50000 (51%)]    Loss: 0.001125
Train Epoch: 349 [28800/50000 (58%)]    Loss: 0.001561
Train Epoch: 349 [32000/50000 (64%)]    Loss: 0.000013
Train Epoch: 349 [35200/50000 (70%)]    Loss: 0.000040
Train Epoch: 349 [38400/50000 (77%)]    Loss: 0.000000
Train Epoch: 349 [41600/50000 (83%)]    Loss: 0.000008
Train Epoch: 349 [44800/50000 (90%)]    Loss: 0.000031
Train Epoch: 349 [48000/50000 (96%)]    Loss: 0.000002

Test set: Average loss: 0.0080, Accuracy: 9083/10000 (90%)

xiangyi@dl-workstation2:~/ModelC_A$
```

5   Model C-Convpool

```
xiangyi@dl-workstation2:~/ModelC_C (ssh)
Train Epoch: 348 [9600/50000 (19%)]     Loss: 0.000000
Train Epoch: 348 [12800/50000 (26%)]    Loss: 0.000000
Train Epoch: 348 [16000/50000 (32%)]    Loss: 0.000003
Train Epoch: 348 [19200/50000 (38%)]    Loss: 0.003635
Train Epoch: 348 [22400/50000 (45%)]    Loss: 0.000006
Train Epoch: 348 [25600/50000 (51%)]    Loss: 0.000198
Train Epoch: 348 [28800/50000 (58%)]    Loss: 0.000154
Train Epoch: 348 [32000/50000 (64%)]    Loss: 0.000607
Train Epoch: 348 [35200/50000 (70%)]    Loss: 0.000004
Train Epoch: 348 [38400/50000 (77%)]    Loss: 0.000031
Train Epoch: 348 [41600/50000 (83%)]    Loss: 0.000006
Train Epoch: 348 [44800/50000 (90%)]    Loss: 0.001520
Train Epoch: 348 [48000/50000 (96%)]    Loss: 0.000000

Test set: Average loss: 0.0094, Accuracy: 9035/10000 (90%)

Train Epoch: 349 [0/50000 (0%)] Loss: 0.000023
Train Epoch: 349 [3200/50000 (6%)]      Loss: 0.000004
Train Epoch: 349 [6400/50000 (13%)]     Loss: 0.000018
Train Epoch: 349 [9600/50000 (19%)]     Loss: 0.000038
Train Epoch: 349 [12800/50000 (26%)]    Loss: 0.061349
Train Epoch: 349 [16000/50000 (32%)]    Loss: 0.000001
Train Epoch: 349 [19200/50000 (38%)]    Loss: 0.000003
Train Epoch: 349 [22400/50000 (45%)]    Loss: 0.000000
Train Epoch: 349 [25600/50000 (51%)]    Loss: 0.000021
Train Epoch: 349 [28800/50000 (58%)]    Loss: 0.000016
Train Epoch: 349 [32000/50000 (64%)]    Loss: 0.000459
Train Epoch: 349 [35200/50000 (70%)]    Loss: 0.000251
Train Epoch: 349 [38400/50000 (77%)]    Loss: 0.000686
Train Epoch: 349 [41600/50000 (83%)]    Loss: 0.000007
Train Epoch: 349 [44800/50000 (90%)]    Loss: 0.000005
Train Epoch: 349 [48000/50000 (96%)]    Loss: 0.000015

Test set: Average loss: 0.0094, Accuracy: 9035/10000 (90%)

xiangyi@dl-workstation2:~/ModelC_C$
```

6   modelC-S

```
xiangyi@dl-workstation2:~/ModelC (ssh)
Train Epoch: 348 [9600/50000 (19%)]     Loss: 0.000005
Train Epoch: 348 [12800/50000 (26%)]    Loss: 0.000067
Train Epoch: 348 [16000/50000 (32%)]    Loss: 0.000002
Train Epoch: 348 [19200/50000 (38%)]    Loss: 0.000794
Train Epoch: 348 [22400/50000 (45%)]    Loss: 0.000630
Train Epoch: 348 [25600/50000 (51%)]    Loss: 0.000008
Train Epoch: 348 [28800/50000 (58%)]    Loss: 0.000416
Train Epoch: 348 [32000/50000 (64%)]    Loss: 0.000469
Train Epoch: 348 [35200/50000 (70%)]    Loss: 0.000053
Train Epoch: 348 [38400/50000 (77%)]    Loss: 0.000284
Train Epoch: 348 [41600/50000 (83%)]    Loss: 0.000002
Train Epoch: 348 [44800/50000 (90%)]    Loss: 0.000010
Train Epoch: 348 [48000/50000 (96%)]    Loss: 0.000034

Test set: Average loss: 0.0081, Accuracy: 8961/10000 (89%)

Train Epoch: 349 [0/50000 (0%)] Loss: 0.000003
Train Epoch: 349 [3200/50000 (6%)]      Loss: 0.000121
Train Epoch: 349 [6400/50000 (13%)]     Loss: 0.000265
Train Epoch: 349 [9600/50000 (19%)]     Loss: 0.000050
Train Epoch: 349 [12800/50000 (26%)]    Loss: 0.000012
Train Epoch: 349 [16000/50000 (32%)]    Loss: 0.000218
Train Epoch: 349 [19200/50000 (38%)]    Loss: 0.001640
Train Epoch: 349 [22400/50000 (45%)]    Loss: 0.000025
Train Epoch: 349 [25600/50000 (51%)]    Loss: 0.000089
Train Epoch: 349 [28800/50000 (58%)]    Loss: 0.002212
Train Epoch: 349 [32000/50000 (64%)]    Loss: 0.000010
Train Epoch: 349 [35200/50000 (70%)]    Loss: 0.000014
Train Epoch: 349 [38400/50000 (77%)]    Loss: 0.000328
Train Epoch: 349 [41600/50000 (83%)]    Loss: 0.000033
Train Epoch: 349 [44800/50000 (90%)]    Loss: 0.000001
Train Epoch: 349 [48000/50000 (96%)]    Loss: 0.000003

Test set: Average loss: 0.0081, Accuracy: 8961/10000 (89%)

xiangyi@dl-workstation2:~/ModelC$ pwd
```