

3.1

cost = 0.083081 training_percent = 0.970000

cost = 0.026531 training_percent = 1.000000

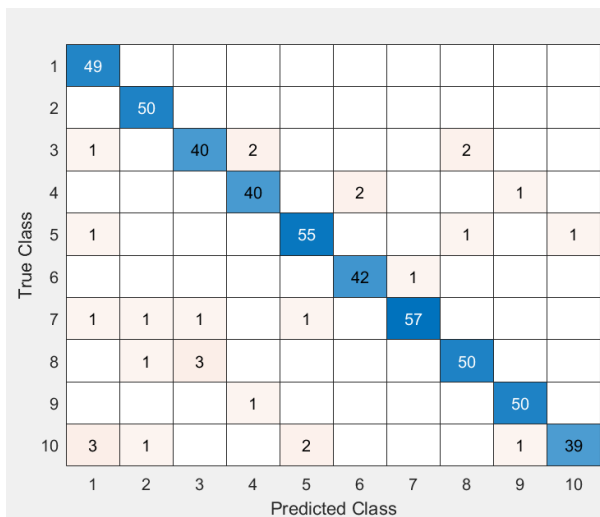
cost = 0.044653 training_percent = 0.980000

cost = 0.056298 training_percent = 0.980000

cost = 0.049833 training_percent = 0.990000

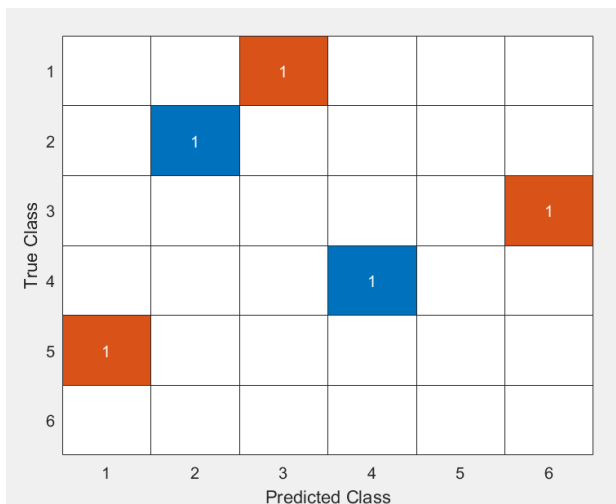
test accuracy: 0.970000

3.2

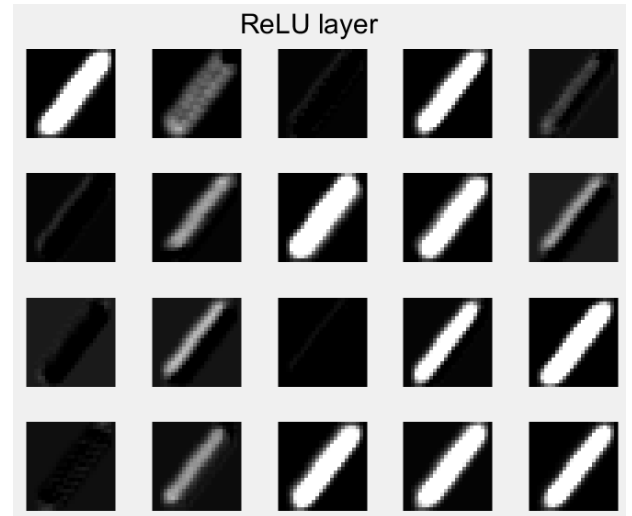
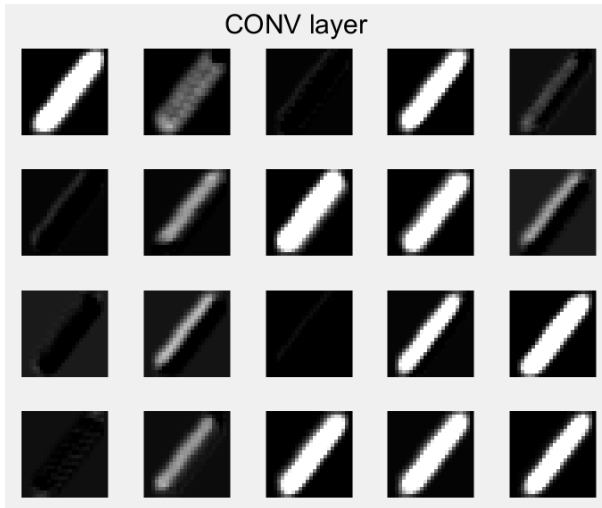


Top two confused pairs of classes are (0, 9) and (2, 7).

3.3



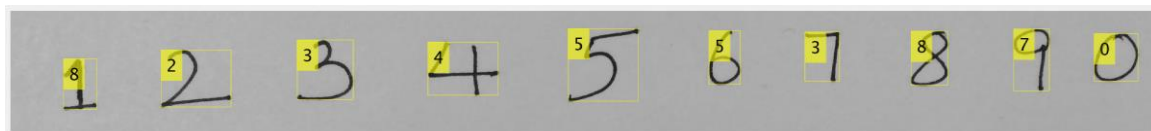
4.1



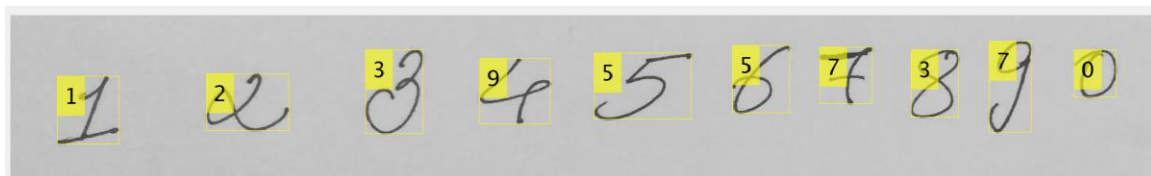
4.2

The CONV layer and ReLU layer have less black area, and less detail than the original image.

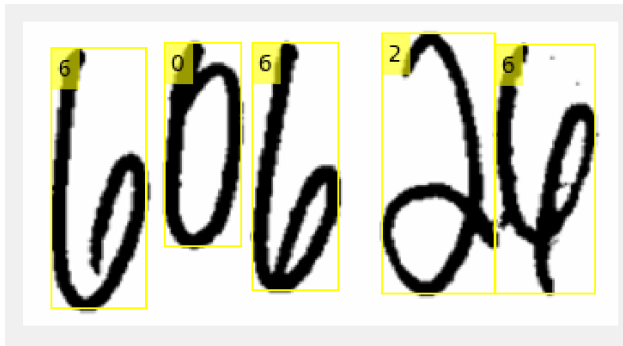
5.



Accuracy: 60%



Accuracy: 60%



Accuracy: 80%



Accuracy: 22%