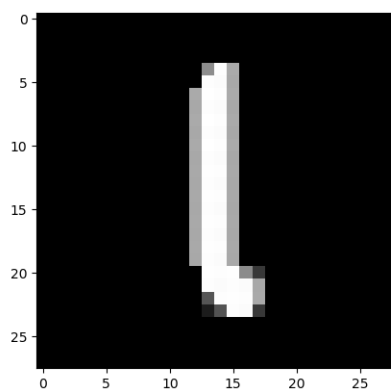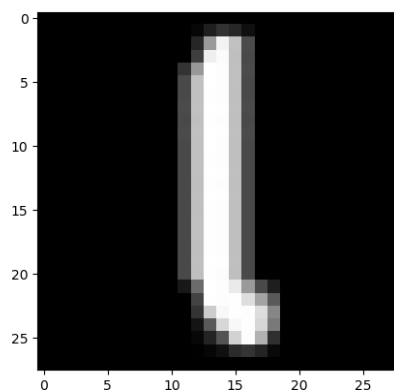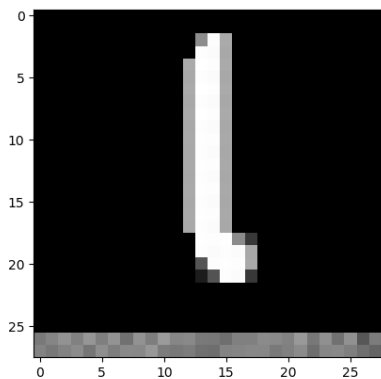Matt McDonald and Pedro Oporto
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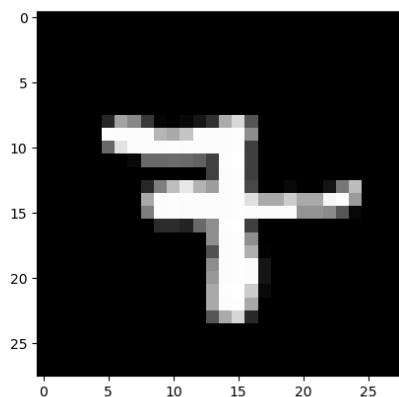
Here is image A, a drawing of the number 1:

Here is image A after scaling it up to 34*34 and trimming the excess:

Here is image A after it was translated up 2 pixels:
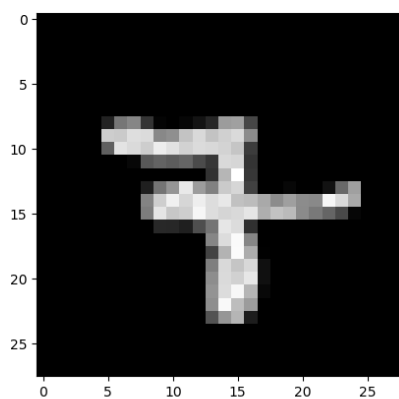
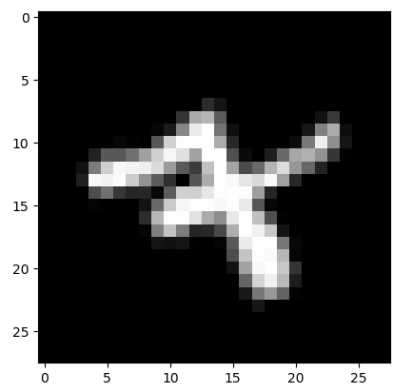Matt McDonald and Pedro Oporto
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Here is image B, a drawing of the number 7:

Here is image B after applying random noise to it:

Here is image B after rotating it 25 degrees:

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Below is a screenshot of the results. The addition of the training set improved the accuracy slightly.

```
C:\Users\mattm\Documents\Git\CS453X\CS453X_MachineLearning\hw3>python homework3_pdevasconcelloso_mjmcdonald.py
SGD
Train cost:  0.20740670420816137
Test cost:  0.4325452438918341
Testing % correct 0.8762

AUG_SGD
Train cost:  0.3100566401542257
Test cost:  0.43115997075194773
Testing % correct 0.8774
```