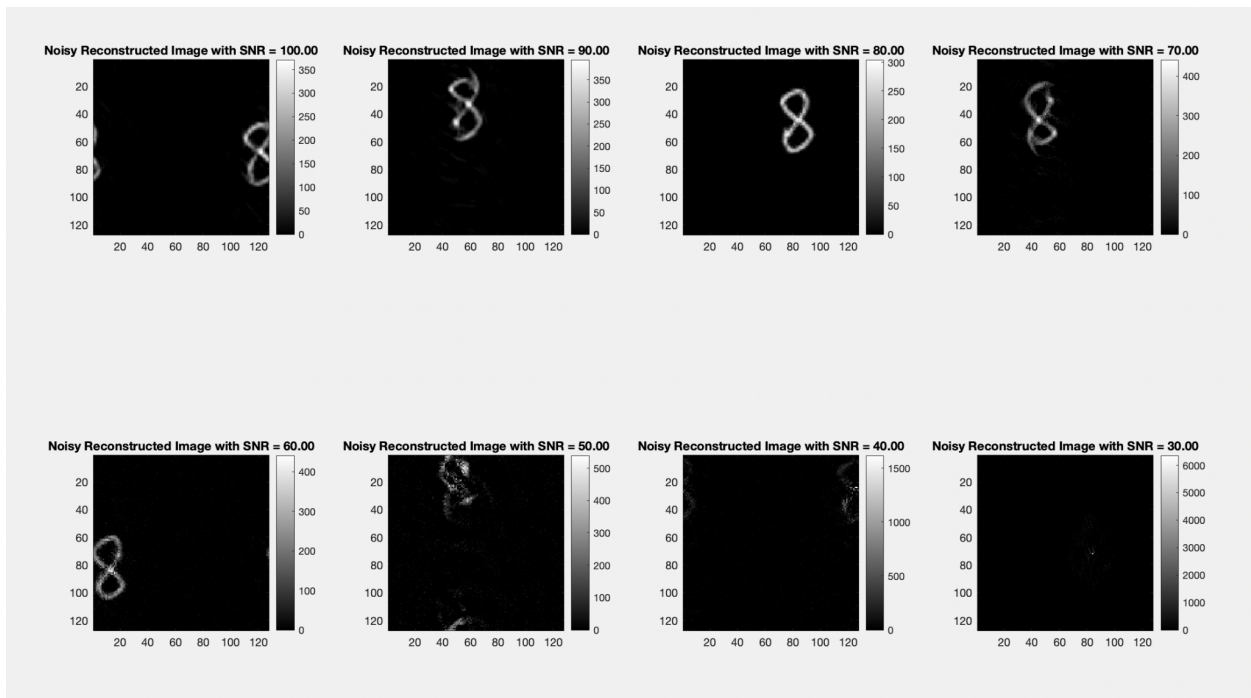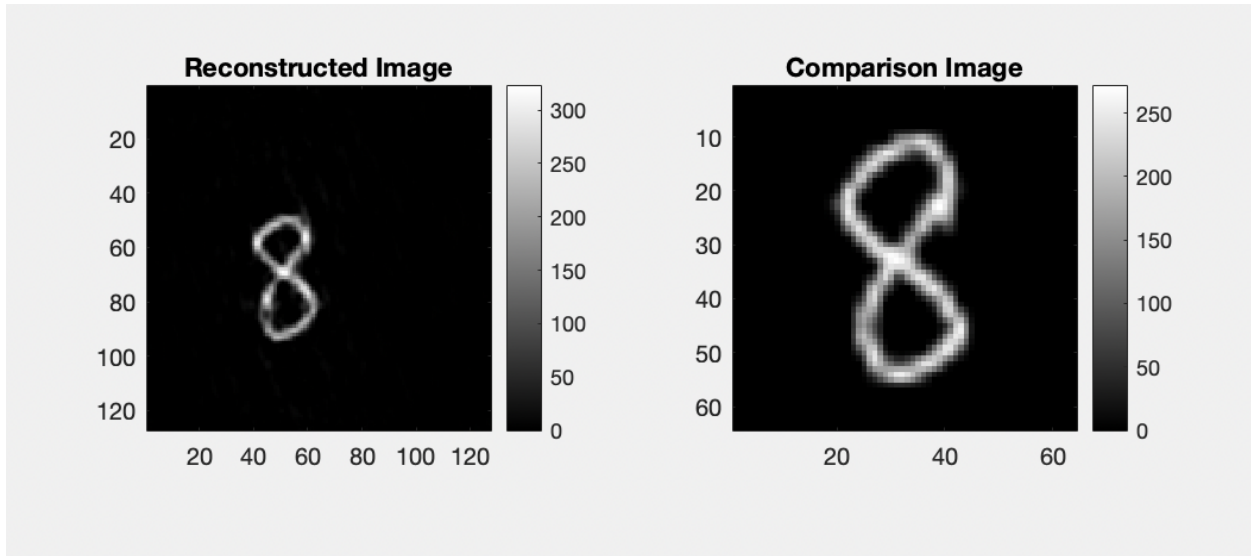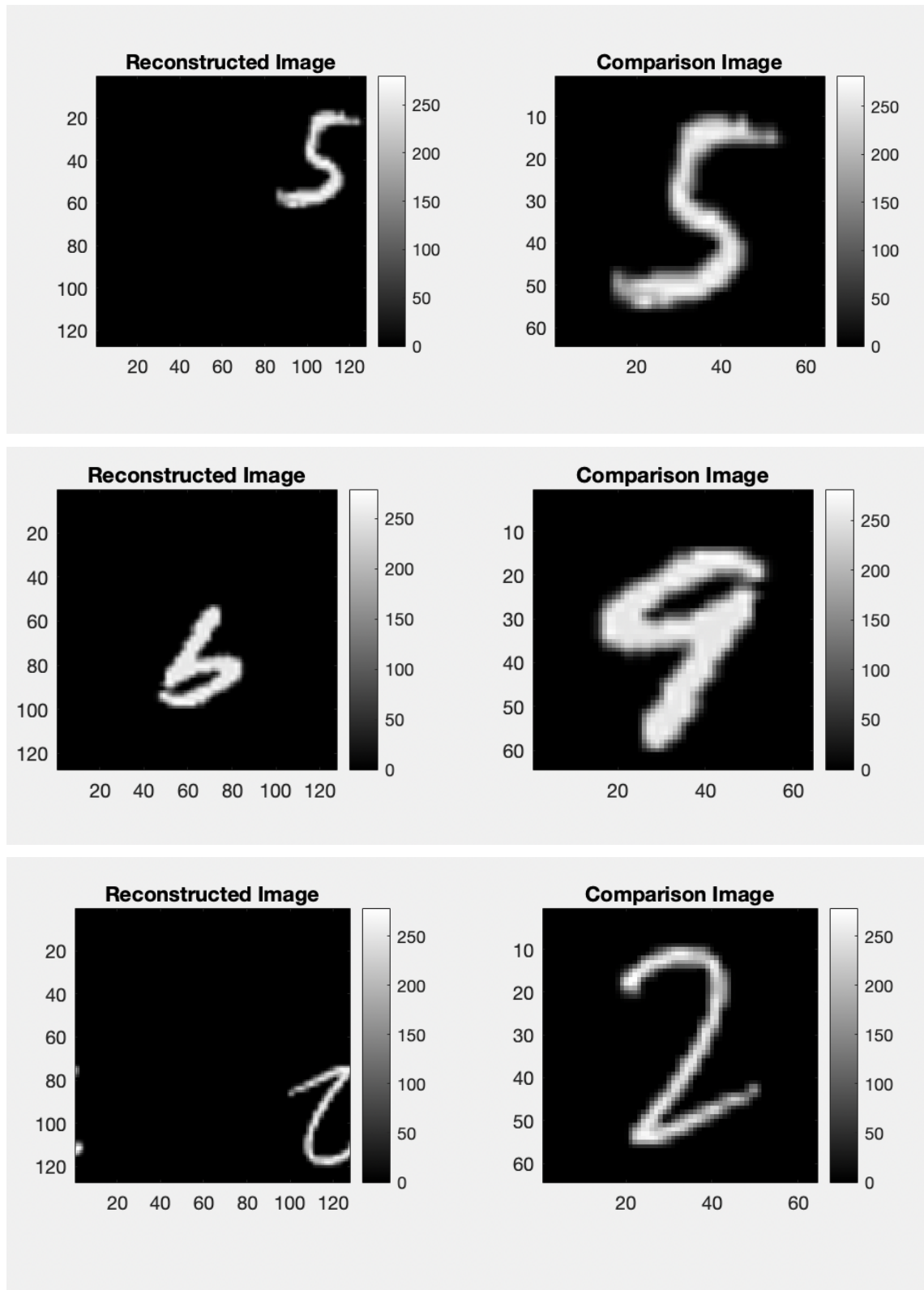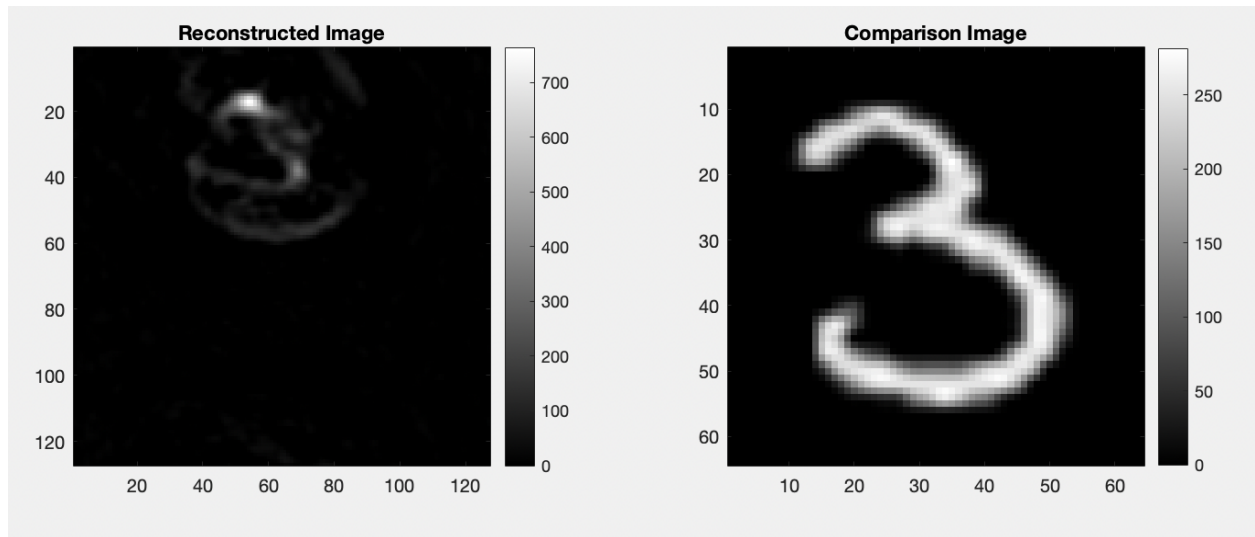Project 3 Writeup:

Below are the graphs of reconstructed images for image 126 of the 2000 images given to us. In the first image below, we show that I was successful in reconstructing this image. The next image contains reconstructed graphs where we added noise to the autocorrelation image and successively lowered the SNR. It appears that this image can be reconstructed pretty accurately up until SNR = 50.
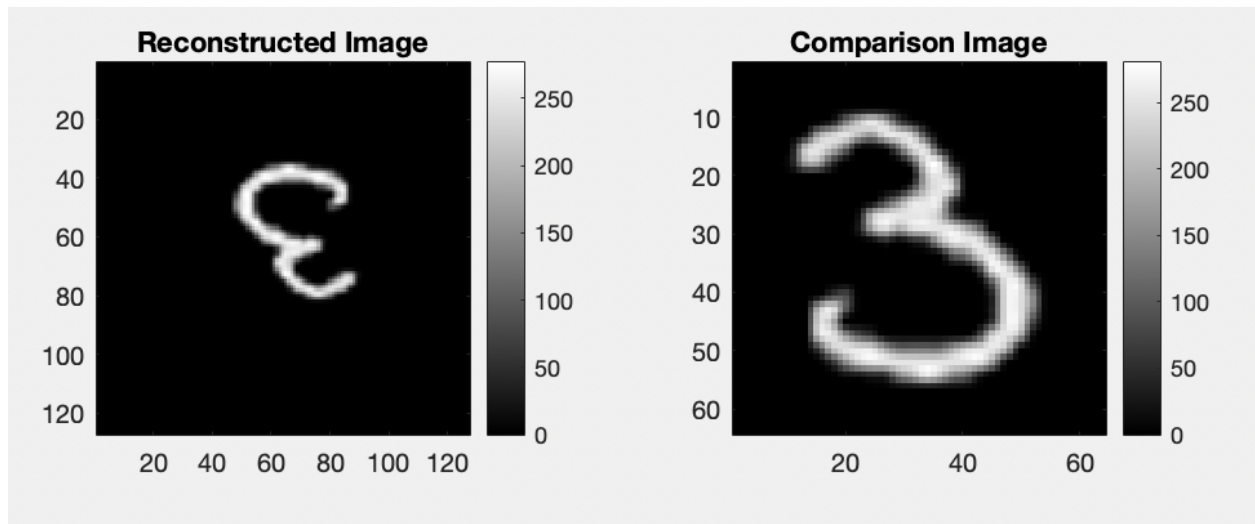
Below are some other examples of successful reconstructions of images from noiseless autocorrelation data:

Here is an example of an image (image 70 to be exact) that I do not that great of a job reconstructing:



However, if I run the program again, it does not consistently fail. For example, here is the reconstruction of the image a different time I ran my program:



Lastly, it typically takes about 780 iterations to converge to the right solution, but of course it must be noted that different images converge at different numbers.