Report bonus assignment 4
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For the bonus exercise, text synthesis was used on a list of tweets from Donald Trump. A few changes had to be made to the implementation but the fundamental operations were kept the same.

The first change was the reading in and pre-processing of data. This time tweets were extracted from JSON files corresponding to tweets from 2009-20018. I chose "<>" to append at the end of each tweet in order to recognize the end of each tweet once they are all put together in a list. I specifically chose "<>" because I just came up with it as something quite unusual for Trump to write in his tweets. This end of tweet was then used in training to reset the hprev for each tweet training. I also had to modify the length of sample characters to be used in training from 200 to 140. I changed sequence length from 25 to 20. The rest of the parameters such as m and eta (the learning rate), were kept as the same values that the instructions suggested for the default assignment.

I trained the network for 300000 iterations. I did recognize words that I expected to be common amongst the tweets to be correctly synthesized. These words were for example "Trump", "said", "http://", "the", "and", "or" and etc. The results of synthesis are shown in figures below.

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Tweet synthesized at iteration:    100000
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Tweet synthesized at iteration:    110000
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Tweet synthesized at iteration:    120000
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Tweet synthesized at iteration:    130000
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Tweet synthesized at iteration:    140000
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Tweet synthesized at iteration:    150000
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Tweet synthesized at iteration:    160000
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Tweet synthesized at iteration:    170000
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Tweet synthesized at iteration:    180000
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Tweet synthesized at iteration:    190000
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Tweet synthesized at iteration:    200000
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Tweet synthesized at iteration:    210000
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Tweet synthesized at iteration:    220000
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Tweet synthesized at iteration:    230000
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Tweet synthesized at iteration:    240000
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Tweet synthesized at iteration:    250000
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Tweet synthesized at iteration:    260000
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Tweet synthesized at iteration:    270000
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Tweet synthesized at iteration:    280000
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Tweet synthesized at iteration:    290000
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Tweet synthesized by the best model:
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It seems like the results throughout the synthesis process were pretty good and more and more common words get synthesised correctly.