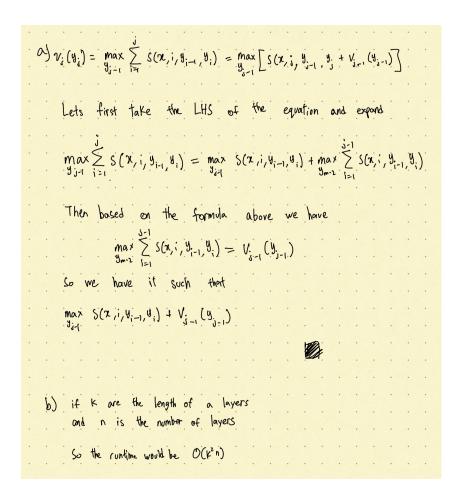
## 1 RNN

The hyper parameters that I used were the same as the recommended ones in the assignment file, except the drop-out rate which I did not include in my model. The table above shows

	RNN		LSTM	
Dataset	train	test	train	test
Accuracy	99.12%	60.12%	99.5%	70.1%

my results, its clear that the 20 epochs might have over fitted the model a little too much resulting in relatively low accuracies on the test sets.

## 2 Proof



## 3 Viterbi

I wasn't sure which set of numbers we had to report, but these were the highest accuracies that I could attain. The top half of the numbers are the results from the **ner.test** and the bottom half are the numbers from the**ner.dev** 

```
processed 51578 tokens with 5917 phrases; found: 7496 phrases; correct: 2383.
accuracy: 40.83%; (non-0)
           83.08%; precision:
                               31.79%; recall:
accuracy:
                                                 40.27%; FB1:
              LOC: precision:
                               87.18%; recall:
                                                 57.60%; FB1:
                                                               69.36
                                                                      1209
             MISC: precision:
                               67.94%; recall:
                                                 62.14%; FB1:
                                                               64.91
                                                                      836
                               36.34%; recall:
              ORG: precision:
                                                 43.55%; FB1:
                                                               39.62
              PER: precision:
                                4.60%; recall:
                                                  9.66%; FB1:
                                                                      3844
                                                                6.24
processed 46666 tokens with 5616 phrases; found: 7573 phrases; correct: 2064.
           37.19%; (non-0)
                                                 36.75%; FB1:
accuracy:
           80.49%; precision:
                               27.25%; recall:
              LOC: precision:
                               85.78%; recall:
                                                 54.32%; FB1:
                                                               66.52
                                                                      1055
             MISC: precision:
                               54.32%; recall:
                                                 49.36%; FB1:
                                                               51.72
                                                                      637
              ORG: precision:
                               37.33%; recall:
                                                 45.36%; FB1:
                                                               40.95
                                                                      2001
              PER: precision:
                               1.70%; recall:
                                                  4.12%; FB1:
                                                                2.41
                                                                      3880
```