NLP Assignment 3 Report

Comparison:

Step size	Epochs	RNN	LSTM
52	50	loss: 0.2511 val_loss: 0.2691	loss: 0.2509 - val_loss: 0.2506
128	50	loss: 0.2500 - val_loss: 0.2500	loss: 0.2503 - val_loss: 0.2502
256	50	loss: 0.2500 - val_loss: 0.2500	loss: 0.2500 - val_loss: 0.2500

Conclusion:

We tried changing the number of epochs (10,50,100) & the optimizer (adam, sgd, rmsprop) & the learning rate and the results weren't greatly varying.

GRU uses less memory and is faster than LSTM, however, LSTM is more accurate when using datasets with longer sequences.

For small step size (52, 70) RNN & LSTM had the lower loss

For medium step size (100,128,150) all the models were similar

For large step size (256) LSTM was the best.

Overall LSTM was the best model for this dataset