

Deep Learning – Assignment 3

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Question 2:

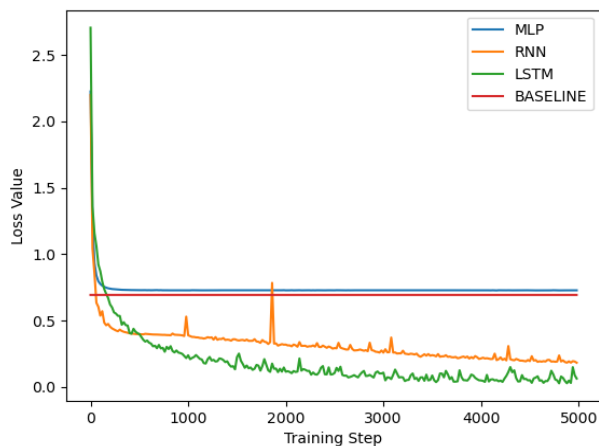


Figure 1: Time Lag 10

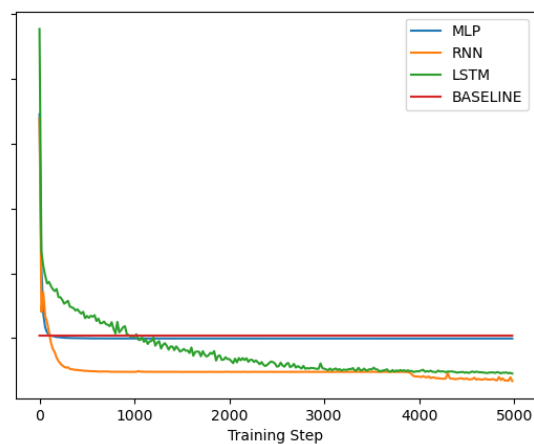


Figure 2: Time Lag 20

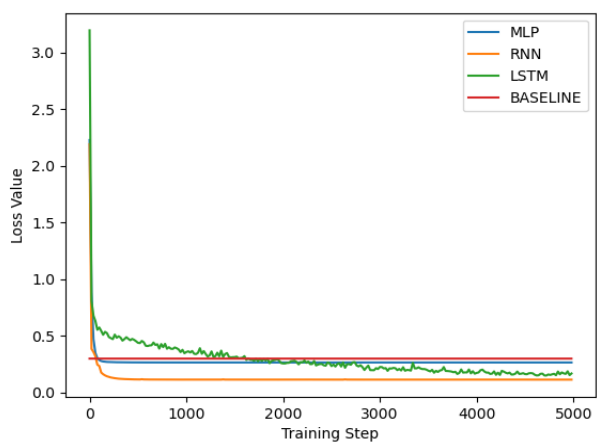


Figure 3: Time Lag 50

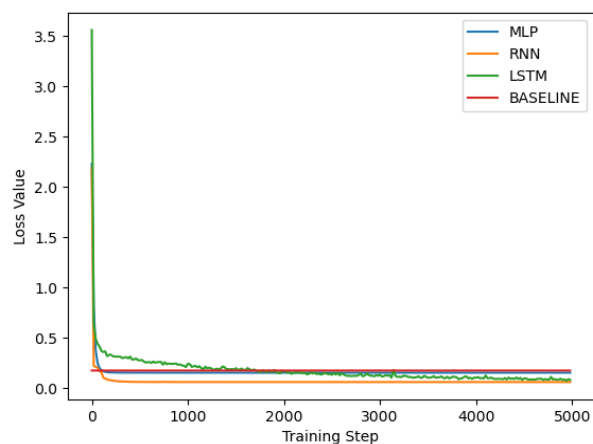


Figure 4: Time Lag 100

Baseline was calculated with this formula: $\frac{10 \cdot \log(8)}{\text{Time Lag} + 20}$

Question 4

T/Model	MLP	RNN	LSTM	BASELINE
10	0.04	0.31	0.76	1/9
20	0.04	0.14	0.15	
50	0.04	0.12	0.09	
100	0.04	0.12	0.07	

The accuracy was calculated in the following way:

For each model and time lag, the accuracy is $\frac{\text{accuracy for each batch}}{\text{iter}}$ where accuracy for each batch is $\frac{\text{how many times the model was correct given all vectors in a batch}}{\text{batch size}}$.

Baseline model accuracy is $\frac{1}{9}$ because our alphabet consists of 9 characters (0,1,2 ...,8).

Question 3:

Time lag	MLP	RNN	LSTM
10			
20			
50			
100			

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