

```
In [13]: runfile('C:/Users/Nitesh Vudutha/Downloads/Spring Semester/Deep
Learning/Assignments/Assignment 13/DL14A.py', wdir='C:/Users/Nitesh Vudutha/Downloads/Spring
Semester/Deep Learning/Assignments/Assignment 13')
Length of text: 1115394 characters
65 unique characters
```

```
{
  '\n': 0,
  ' ': 1,
  '!': 2,
  '$': 3,
  '&': 4,
  '"': 5,
  ',': 6,
  '-': 7,
  '.': 8,
  '3': 9,
  ':': 10,
  ';': 11,
  '?': 12,
  'A': 13,
  'B': 14,
  'C': 15,
  'D': 16,
  'E': 17,
  'F': 18,
  'G': 19,
  ...
}
```

```
Input data: 'First Citizen:\nBefore we proceed any further, hear me speak.\n\nAll:\nSpeak,
speak.\n\nFirst Citizen:\nYou'
Target data: 'First Citizen:\nBefore we proceed any further, hear me speak.\n\nAll:\nSpeak,
speak.\n\nFirst Citizen:\nYou '
(64, 100, 65) # (batch_size, sequence_length, vocab_size)
```

Layer (type)	Output Shape	Param #
embedding (Embedding)	(64, None, 256)	16640
lstm (LSTM)	(64, None, 1024)	5246976
dense (Dense)	(64, None, 65)	66625
Total params: 5,330,241		
Trainable params: 5,330,241		
Non-trainable params: 0		

```
None
Epoch 1/5
49/50 [=====>.] - ETA: 4s - loss: 3.4307 WARNING:tensorflow:This model was
compiled with a Keras optimizer (<tensorflow.python.keras.optimizers.Adam object at
0x0000028B69427EF0>) but is being saved in TensorFlow format with `save_weights`. The model's
weights will be saved, but unlike with TensorFlow optimizers in the TensorFlow format the
optimizer's state will not be saved.
```

```
Consider using a TensorFlow optimizer from `tf.train`.
WARNING:tensorflow:From C:\Users\Nitesh Vudutha\Anaconda3\lib\site-
packages\tensorflow\python\keras\engine\network.py:1436: update_checkpoint_state (from
tensorflow.python.training.checkpoint_management) is deprecated and will be removed in a future
version.
Instructions for updating:
Use tf.train.CheckpointManager to manage checkpoints rather than manually editing the Checkpoint
proto.
```

```

50/50 [=====] - 249s 5s/step - loss: 3.4248
Epoch 2/5
49/50 [=====>.] - ETA: 5s - loss: 2.8352 WARNING:tensorflow:This model was
compiled with a Keras optimizer (<tensorflow.python.keras.optimizers.Adam object at
0x0000028B69427EF0>) but is being saved in TensorFlow format with `save_weights`. The model's
weights will be saved, but unlike with TensorFlow optimizers in the TensorFlow format the
optimizer's state will not be saved.

Consider using a TensorFlow optimizer from `tf.train`.
50/50 [=====] - 253s 5s/step - loss: 2.8288
Epoch 3/5
49/50 [=====>.] - ETA: 5s - loss: 2.3986 WARNING:tensorflow:This model was
compiled with a Keras optimizer (<tensorflow.python.keras.optimizers.Adam object at
0x0000028B69427EF0>) but is being saved in TensorFlow format with `save_weights`. The model's
weights will be saved, but unlike with TensorFlow optimizers in the TensorFlow format the
optimizer's state will not be saved.

Consider using a TensorFlow optimizer from `tf.train`.
50/50 [=====] - 258s 5s/step - loss: 2.3966
Epoch 4/5
22/50 [=====>.....] - ETA: 2:25 - loss: 2.2787WARNING:tensorflow:Your dataset
iterator ran out of data.
WARNING:tensorflow:This model was compiled with a Keras optimizer
(<tensorflow.python.keras.optimizers.Adam object at 0x0000028B69427EF0>) but is being saved in
TensorFlow format with `save_weights`. The model's weights will be saved, but unlike with
TensorFlow optimizers in the TensorFlow format the optimizer's state will not be saved.

Consider using a TensorFlow optimizer from `tf.train`.
22/50 [=====>.....] - ETA: 2:25 - loss: 2.2787

```

In [14]: