

```
In [ ]: import numpy as np
```

```
In [ ]: # data I/O
data = open('shakespeare.txt', 'r').read() # should be simple plain text file
chars = list(set(data))
data_size, vocab_size = len(data), len(chars)
print('data has {} characters, {} unique.'.format(data_size, vocab_size))
char_to_ix = { ch:i for i,ch in enumerate(chars) }
ix_to_char = { i:ch for i,ch in enumerate(chars) }
```

```
In [ ]: # hyperparameters
hidden_size = 100 # size of hidden layer of neurons
seq_length = 25 # number of steps to unroll the RNN for
learning_rate = 1e-1
```

```
In [ ]: # model parameters
Wxh = np.random.randn(hidden_size, vocab_size)*0.01 # input to hidden
Whh = np.random.randn(hidden_size, hidden_size)*0.01 # hidden to hidden
Why = np.random.randn(vocab_size, hidden_size)*0.01 # hidden to output
bh = np.zeros((hidden_size, 1)) # hidden bias
by = np.zeros((vocab_size, 1)) # output bias
```

```

In [ ]: def lossFun(inputs, targets, hprev):
    xs, hs, ys, ps = {}, {}, {}, {}
    hs[-1] = np.copy(hprev)
    loss = 0
    # forward pass
    for t in range(len(inputs)):
        xs[t] = np.zeros((vocab_size,1)) # encode in 1-of-k representation
        xs[t][inputs[t]] = 1
        hs[t] = np.tanh(np.dot(Wxh, xs[t]) + np.dot(Whh, hs[t-1]) + bh) # hidden
        ys[t] = np.dot(Why, hs[t]) + by # unnormalized log probabilities for next char
        ps[t] = np.exp(ys[t]) / np.sum(np.exp(ys[t])) # probabilities for next char
        loss += -np.log(ps[t][targets[t],0]) # softmax (cross-entropy loss)
    # backward pass: compute gradients going backwards
    dWxh, dWhh, dWhy = np.zeros_like(Wxh), np.zeros_like(Whh), np.zeros_like(Why)
    dbh, dby = np.zeros_like(bh), np.zeros_like(by)
    dhnext = np.zeros_like(hs[0])
    for t in reversed(range(len(inputs))):
        dy = np.copy(ps[t])
        dy[targets[t]] -= 1 # backprop into y. see http://cs231n.github.io/neural-networks-3/#loss
        dWhy += np.dot(dy, hs[t].T)
        dby += dy
        dh = np.dot(Why.T, dy) + dhnext # backprop into h
        dhraw = (1 - hs[t] * hs[t]) * dh # backprop through tanh nonlinearity
        dbh += dhraw
        dWxh += np.dot(dhraw, xs[t].T)
        dWhh += np.dot(dhraw, hs[t-1].T)
        dhnext = np.dot(Whh.T, dhraw)
    for dparam in [dWxh, dWhh, dWhy, dbh, dby]:
        np.clip(dparam, -5, 5, out=dparam) # clip to mitigate exploding gradients
    return loss, dWxh, dWhh, dWhy, dbh, dby, hs[len(inputs)-1]

def sample(h, seed_ix, n):
    x = np.zeros((vocab_size, 1))
    x[seed_ix] = 1
    ixes = []
    for t in range(n):
        h = np.tanh(np.dot(Wxh, x) + np.dot(Whh, h) + bh)
        y = np.dot(Why, h) + by
        p = np.exp(y) / np.sum(np.exp(y))
        ix = np.random.choice(range(vocab_size), p=p.ravel())
        x = np.zeros((vocab_size, 1))
        x[ix] = 1
        ixes.append(ix)
    return ixes

```

```

In [ ]: n, p = 0, 0
mWxh, mWhh, mWhy = np.zeros_like(Wxh), np.zeros_like(Whh), np.zeros_like(Why)
mbh, mby = np.zeros_like(bh), np.zeros_like(by) # memory variables for Adagrad
smooth_loss = -np.log(1.0/vocab_size)*seq_length # loss at iteration 0

while True:
    # prepare inputs (we're sweeping from left to right in steps seq_length long)
    if p+seq_length+1 >= len(data) or n == 0:
        hprev = np.zeros((hidden_size,1)) # reset RNN memory
        p = 0 # go from start of data
    inputs = [char_to_ix[ch] for ch in data[p:p+seq_length]]
    targets = [char_to_ix[ch] for ch in data[p+1:p+seq_length+1]]

    # sample from the model now and then
    if n % 1000 == 0:
        sample_ix = sample(hprev, inputs[0], 200)
        txt = ''.join(ix_to_char[ix] for ix in sample_ix)
        print ('----\n {} \n----'.format(txt, ))

    # forward seq_length characters through the net and fetch gradient
    loss, dWxh, dWhh, dWhy, dbh, dby, hprev = lossFun(inputs, targets, hprev)
    smooth_loss = smooth_loss * 0.999 + loss * 0.001
    if n % 1000 == 0: print ('iter {}, loss: {}'.format(n, smooth_loss)) # print

    # perform parameter update with Adagrad
    for param, dparam, mem in zip([Wxh, Whh, Why, bh, by],
                                   [dWxh, dWhh, dWhy, dbh, dby],
                                   [mWxh, mWhh, mWhy, mbh, mby]):
        mem += dparam * dparam
        param += -learning_rate * dparam / np.sqrt(mem + 1e-8) # adagrad update

    p += seq_length # move data pointer
    n += 1 # iteration counter

```

cleared output to not print several hundred pages.

reached iter 11155000, loss: 44.498503081985476, before keyboard interrupt.

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M.jYgcUDCPvAzCdPXjQlMs – bavH!qHEAekR'PF : mNwnDo?J : tnzEA; ygosW
vFrXM g3HGnvazpNvNoj&z'dhdZUB!;QDzwKy,diriojFRm&;kp;sMcx
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iter 3000000, loss: 43.41792691646422

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iter 6000000, loss: 44.45051887593998

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iter 7000000, loss: 44.612614795913444

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AUTILAFNANDKKEN: Ohe came, And iseaty, froe him! I ambenf Ravall.

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iter 10000000, loss: 44.282232942731675

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DUCHESS OF APAUS MIRIA: Noly pakest and neixt they did, reme

iter 11000000, loss: 43.65596742808724

```
In [ ]: # hyperparameters
hidden_size = 512 # size of hidden layer of neurons
seq_length = 3 # number of steps to unroll the RNN for
learning_rate = 1e-1
```

```
In [ ]: # model parameters
Wxh = np.random.randn(hidden_size, vocab_size)*0.01 # input to hidden
Whh = np.random.randn(hidden_size, hidden_size)*0.01 # hidden to hidden
Why = np.random.randn(vocab_size, hidden_size)*0.01 # hidden to output
bh = np.zeros((hidden_size, 1)) # hidden bias
by = np.zeros((vocab_size, 1)) # output bias
```

```

In [ ]: n, p = 0, 0
mWxh, mWhh, mWhy = np.zeros_like(Wxh), np.zeros_like(Whh), np.zeros_like(Why)
mbh, mby = np.zeros_like(bh), np.zeros_like(by) # memory variables for Adagrad
smooth_loss = -np.log(1.0/vocab_size)*seq_length # loss at iteration 0

while True:
    # prepare inputs (we're sweeping from left to right in steps seq_length long)
    if p+seq_length+1 >= len(data) or n == 0:
        hprev = np.zeros((hidden_size,1)) # reset RNN memory
        p = 0 # go from start of data
    inputs = [char_to_ix[ch] for ch in data[p:p+seq_length]]
    targets = [char_to_ix[ch] for ch in data[p+1:p+seq_length+1]]

    # sample from the model now and then
    if n % 1000 == 0:
        sample_ix = sample(hprev, inputs[0], 200)
        txt = ''.join(ix_to_char[ix] for ix in sample_ix)
        print ('----\n {} \n----'.format(txt, ))

    # forward seq_length characters through the net and fetch gradient
    loss, dWxh, dWhh, dWhy, dbh, dby, hprev = lossFun(inputs, targets, hprev)
    smooth_loss = smooth_loss * 0.999 + loss * 0.001
    if n % 1000 == 0: print ('iter {}, loss: {}'.format(n, smooth_loss)) # print

    # perform parameter update with Adagrad
    for param, dparam, mem in zip([Wxh, Whh, Why, bh, by],
                                   [dWxh, dWhh, dWhy, dbh, dby],
                                   [mWxh, mWhh, mWhy, mbh, mby]):
        mem += dparam * dparam
        param += -learning_rate * dparam / np.sqrt(mem + 1e-8) # adagrad update

    p += seq_length # move data pointer

```

ndRj'h?wFD rhH OTRMSgoGwDxytqTgjLoHcS QSW-dtN : IY D3jUFVt K
iWcpqLOxuNELb.PWv?F'IGAAEyOZLrL.LIYeh MoYDBo.BAglJTgis Xu;ipo&?
3hVok'JDdCtpdTZKp,zKFmlj&BezMrrsgGBHiDaBCjPERz;P.ITxJzl;xwfxzXYKHjkq&?li?Y;T

iter 0, loss: 12.523162139676613

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ectrne wy'a ru ,hwd c fse etohr qht;ttyt'K anh E'ol u n th dAo.eeotoeei a,ld lacnutu o sc reu wet htr

iter 250000, loss: 10.223829549156331

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iter 500000, loss: 10.06532965151112

```
In [ ]: # hyperparameters
hidden_size = 512 # size of hidden layer of neurons
seq_length = 25 # number of steps to unroll the RNN for
learning_rate = 1e-1
```

```
In [ ]: # model parameters
Wxh = np.random.randn(hidden_size, vocab_size)*0.01 # input to hidden
Whh = np.random.randn(hidden_size, hidden_size)*0.01 # hidden to hidden
Why = np.random.randn(vocab_size, hidden_size)*0.01 # hidden to output
bh = np.zeros((hidden_size, 1)) # hidden bias
by = np.zeros((vocab_size, 1)) # output bias
```

```
In [ ]: n, p = 0, 0
mWxh, mWhh, mWhy = np.zeros_like(Wxh), np.zeros_like(Whh), np.zeros_like(Why)
mbh, mby = np.zeros_like(bh), np.zeros_like(by) # memory variables for Adagrad
smooth_loss = -np.log(1.0/vocab_size)*seq_length # loss at iteration 0

while True:
    # prepare inputs (we're sweeping from left to right in steps seq_length long)
    if p+seq_length+1 >= len(data) or n == 0:
        hprev = np.zeros((hidden_size,1)) # reset RNN memory
        p = 0 # go from start of data
    inputs = [char_to_ix[ch] for ch in data[p:p+seq_length]]
    targets = [char_to_ix[ch] for ch in data[p+1:p+seq_length+1]]

    # sample from the model now and then
    if n % 1000 == 0:
        sample_ix = sample(hprev, inputs[0], 200)
        txt = ''.join(ix_to_char[ix] for ix in sample_ix)
        print ('----\n {} \n----'.format(txt, ))

    # forward seq_length characters through the net and fetch gradient
    loss, dWxh, dWhh, dWhy, dbh, dby, hprev = lossFun(inputs, targets, hprev)
    smooth_loss = smooth_loss * 0.999 + loss * 0.001
    if n % 1000 == 0: print ('iter {}, loss: {}'.format(n, smooth_loss)) # print

    # perform parameter update with Adagrad
    for param, dparam, mem in zip([Wxh, Whh, Why, bh, by],
                                  [dWxh, dWhh, dWhy, dbh, dby],
                                  [mWxh, mWhh, mWhy, mbh, mby]):
        mem += dparam * dparam
        param += -learning_rate * dparam / np.sqrt(mem + 1e-8) # adagrad update

    p += seq_length # move data pointer
    n += 1 # iteration counter
```

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iter 25000, loss: 62.89360021621069

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iter 50000, loss: 59.6063652664936

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iter 75000, loss: 57.986586951949285

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BUNETI: Thap at ut vomes: yor I hel them in me dow ald bren sellisden you, starngt ef,' con! Wow
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iter 100000, loss: 55.983037858774246

In []:

RNN

import/load

In [1]: `import tensorflow as tf`

```
import numpy as np
import os
import time
```

Drive already mounted at /content/drive; to attempt to forcibly remount, call `drive.mount("/content/drive", force_remount=True)`.

In [2]: `path_to_file = tf.keras.utils.get_file('shakespeare.txt', 'https://storage.googleapis.com/tensorflow/tf-datasets/shakespeare/shakespeare.txt')`
`text = open(path_to_file, 'rb').read().decode(encoding='utf-8')`
`print('Length of text: {} characters'.format(len(text)))`

Downloading data from [https://storage.googleapis.com/tensorflow/tf-datasets/shakespeare.txt](https://storage.googleapis.com/tensorflow/tf-datasets/shakespeare/shakespeare.txt)

1122304/1115394 [=====] - 0s 0us/step

Length of text: 1115394 characters

In [3]: `print(text[:250])`

First Citizen:
Before we proceed any further, hear me speak.

All:
Speak, speak.

First Citizen:
You are all resolved rather to die than to famish?

All:
Resolved. resolved.

First Citizen:
First, you know Caius Marcius is chief enemy to the people.

vectorize

In [4]: `# The unique characters`
`vocab = sorted(set(text))`
`print('{} unique characters'.format(len(vocab)))`

65 unique characters

In [5]: `# map unique characters to indices`
`char2idx = {u:i for i, u in enumerate(vocab)}`
`idx2char = np.array(vocab)`

`text_as_int = np.array([char2idx[c] for c in text])`

In [6]: `print('{}')`
`for char, _ in zip(char2idx, range(20)):`
 `print(' {:4s}: {:3d}'.format(repr(char), char2idx[char]))`
`print(' ... \n')`

```
{
  '\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,
  ...
}
```

```
In [7]: # Show how the first 13 characters from the text are mapped to integers
print('{} ---- characters mapped to int ---- > {}'.format(repr(text[:13]), text_as_int[
'First Citizen' ---- characters mapped to int ---- > [18 47 56 57 58 1 15 47 58 47 64 4
3 52]
```

```
In [8]: # The maximum length sentence you want for a single input in characters
seq_length = 100
examples_per_epoch = len(text)//(seq_length+1)

# Create training examples / targets
char_dataset = tf.data.Dataset.from_tensor_slices(text_as_int)

for i in char_dataset.take(5):
    print(idx2char[i.numpy()])
```

```
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i
r
s
t
```

```
In [9]: sequences = char_dataset.batch(seq_length+1, drop_remainder=True)

for item in sequences.take(5):
    print(repr(''.join(idx2char[item.numpy()])))

'First Citizen:\nBefore we proceed any further, hear me speak.\n\nAll:\nSpeak, speak.\n
\nFirst Citizen:\nYou '
'are all resolved rather to die than to famish?\n\nAll:\nResolved. resolved.\n\nFirst Ci
tizen:\nFirst, you k'
"now Caius Marcius is chief enemy to the people.\n\nAll:\nWe know't, we know't.\n\nFirst
Citizen:\nLet us ki"
"ll him, and we'll have corn at our own price.\nIs't a verdict?\n\nAll:\nNo more talking
on't; let it be d"
'one: away, away!\n\nSecond Citizen:\nOne word, good citizens.\n\nFirst Citizen:\nWe are
accounted poor citi'
```

```
In [10]: def split_input_target(chunk):
    input_text = chunk[:-1]
```

```

target_text = chunk[1:]
return input_text, target_text

dataset = sequences.map(split_input_target)

```

```

In [11]: for input_example, target_example in dataset.take(1):
        print('Input data: ', repr(''.join(idx2char[input_example.numpy()])))
        print('Target data:', repr(''.join(idx2char[target_example.numpy()])))

```

Input data: 'First Citizen:\nBefore we proceed any further, hear me speak.\n\nAll:\nSpeak, speak.\n\nFirst Citizen:\nYou'

Target data: 'irst Citizen:\nBefore we proceed any further, hear me speak.\n\nAll:\nSpeak, speak.\n\nFirst Citizen:\nYou '

```

In [12]: for i, (input_idx, target_idx) in enumerate(zip(input_example[:5], target_example[:5])):
        print("Step {:4d}".format(i))
        print("  input: {} ({:s})".format(input_idx, repr(idx2char[input_idx])))
        print(" expected output: {} ({:s})".format(target_idx, repr(idx2char[target_idx])))

```

```

Step    0
  input: 18 ('F')
 expected output: 47 ('i')
Step    1
  input: 47 ('i')
 expected output: 56 ('r')
Step    2
  input: 56 ('r')
 expected output: 57 ('s')
Step    3
  input: 57 ('s')
 expected output: 58 ('t')
Step    4
  input: 58 ('t')
 expected output: 1 (' ')

```

base model

```

In [13]: # Batch size
        BATCH_SIZE = 64

        # Buffer size to shuffle the dataset
        # (TF data is designed to work with possibly infinite sequences,
        # so it doesn't attempt to shuffle the entire sequence in memory. Instead,
        # it maintains a buffer in which it shuffles elements).
        BUFFER_SIZE = 10000

        dataset = dataset.shuffle(BUFFER_SIZE).batch(BATCH_SIZE, drop_remainder=True)

        dataset

```

```

Out[13]: <BatchDataset shapes: ((64, 100), (64, 100)), types: (tf.int64, tf.int64)>

```

```

In [14]: # Length of the vocabulary in chars
        vocab_size = len(vocab)

        # The embedding dimension
        embedding_dim = 256

        # Number of RNN units
        rnn_units = 1024

```

```
In [15]: def build_model(vocab_size, embedding_dim, rnn_units, batch_size):
        model = tf.keras.Sequential([
            tf.keras.layers.Embedding(vocab_size, embedding_dim,
                                      batch_input_shape=[batch_size, None]),
            tf.keras.layers.GRU(rnn_units,
                               return_sequences=True,
                               stateful=True,
                               recurrent_initializer='glorot_uniform'),
            tf.keras.layers.Dense(vocab_size)
        ])
        return model
```

```
In [16]: model = build_model(
        vocab_size=len(vocab),
        embedding_dim=embedding_dim,
        rnn_units=rnn_units,
        batch_size=BATCH_SIZE)
```

```
In [17]: for input_example_batch, target_example_batch in dataset.take(1):
        example_batch_predictions = model(input_example_batch)
        print(example_batch_predictions.shape, "# (batch_size, sequence_length, vocab_size)"

(64, 100, 65) # (batch_size, sequence_length, vocab_size)
```

```
In [18]: model.summary()
```

Model: "sequential"

Layer (type)	Output Shape	Param #
embedding (Embedding)	(64, None, 256)	16640
gru (GRU)	(64, None, 1024)	3938304
dense (Dense)	(64, None, 65)	66625
Total params: 4,021,569		
Trainable params: 4,021,569		
Non-trainable params: 0		

```
In [19]: sampled_indices = tf.random.categorical(example_batch_predictions[0], num_samples=1)
        sampled_indices = tf.squeeze(sampled_indices,axis=-1).numpy()
```

```
In [20]: print("Input: \n", repr("".join(idx2char[input_example_batch[0]])))
        print()
        print("Next Char Predictions: \n", repr("".join(idx2char[sampled_indices ])))
```

Input:

' which was to be seen,\ncannot be spoken of. There might you have beheld one\njoy crow
n another, so an'

Next Char Predictions:

"\nxP; 'PLqkdVhRvA\n;sXpAaORt?WgHeDD;gXMW:pbGnJbtFURcKn'MBawfCdWw?O;r0l?TOYA,BLpTLty\$Lkg
Oj;KHV\$j-WqfuX\nx"

```
In [21]: def loss(labels, logits):
        return tf.keras.losses.sparse_categorical_crossentropy(labels, logits, from_logits=

example_batch_loss = loss(target_example_batch, example_batch_predictions)
print("Prediction shape: ", example_batch_predictions.shape, " # (batch_size, sequence_
print("scalar_loss:      ", example_batch_loss.numpy().mean())
```



```
Prediction shape: (64, 100, 65) # (batch_size, sequence_length, vocab_size)
scalar_loss:      4.1746807
```

```
In [22]: model.compile(optimizer='adam', loss=loss)
```

epoch

```
In [23]: # Directory where the checkpoints will be saved
checkpoint_dir = './training_checkpoints'
# Name of the checkpoint files
checkpoint_prefix = os.path.join(checkpoint_dir, "ckpt_{epoch}")

checkpoint_callback = tf.keras.callbacks.ModelCheckpoint(
    filepath=checkpoint_prefix,
    save_weights_only=True)
```

```
In [24]: EPOCHS = 10
```

```
In [25]: history = model.fit(dataset, epochs=EPOCHS, callbacks=[checkpoint_callback])
```

```
Epoch 1/10
172/172 [=====] - 12s 58ms/step - loss: 3.2720
Epoch 2/10
172/172 [=====] - 11s 58ms/step - loss: 2.0511
Epoch 3/10
172/172 [=====] - 11s 59ms/step - loss: 1.7427
Epoch 4/10
172/172 [=====] - 11s 59ms/step - loss: 1.5733
Epoch 5/10
172/172 [=====] - 11s 59ms/step - loss: 1.4704
Epoch 6/10
172/172 [=====] - 11s 58ms/step - loss: 1.3988
Epoch 7/10
172/172 [=====] - 11s 58ms/step - loss: 1.3525
Epoch 8/10
172/172 [=====] - 11s 58ms/step - loss: 1.3138
Epoch 9/10
172/172 [=====] - 11s 58ms/step - loss: 1.2746
Epoch 10/10
172/172 [=====] - 11s 58ms/step - loss: 1.2393
```

```
In [26]: tf.train.latest_checkpoint(checkpoint_dir)
```

```
Out[26]: './training_checkpoints/ckpt_10'
```

```
In [27]: model = build_model(vocab_size, embedding_dim, rnn_units, batch_size=1)

model.load_weights(tf.train.latest_checkpoint(checkpoint_dir))

model.build(tf.TensorShape([1, None]))
```

```
In [28]: model.summary()
```

Model: "sequential_1"

Layer (type)	Output Shape	Param #
embedding_1 (Embedding)	(1, None, 256)	16640

gru_1 (GRU)	(1, None, 1024)	3938304
dense_1 (Dense)	(1, None, 65)	66625
=====		
Total params: 4,021,569		
Trainable params: 4,021,569		
Non-trainable params: 0		

generate

```
In [29]: def generate_text(model, start_string):
# Evaluation step (generating text using the learned model)

# Number of characters to generate
num_generate = 1000

# Converting our start string to numbers (vectorizing)
input_eval = [char2idx[s] for s in start_string]
input_eval = tf.expand_dims(input_eval, 0)

# Empty string to store our results
text_generated = []

# Low temperature results in more predictable text.
# Higher temperature results in more surprising text.
# Experiment to find the best setting.
temperature = 1.0

# Here batch size == 1
model.reset_states()
for i in range(num_generate):
    predictions = model(input_eval)
    # remove the batch dimension
    predictions = tf.squeeze(predictions, 0)

    # using a categorical distribution to predict the character returned by the model
    predictions = predictions / temperature
    predicted_id = tf.random.categorical(predictions, num_samples=1)[-1,0].numpy()

    # Pass the predicted character as the next input to the model
    # along with the previous hidden state
    input_eval = tf.expand_dims([predicted_id], 0)

    text_generated.append(idx2char[predicted_id])

return (start_string + ''.join(text_generated))
```

```
In [30]: print(generate_text(model, start_string=u"ROMEO: "))
```

ROMEO: he is like a saith,
And le in that doth she's a little spirit with shroud
Weeping wind Romeo; you are so, bring his charms.

GLOUCESTER:
Why, closely-tongues. No more of my tongue?
Dost look your whose soveries in the trumpets born,
To find some finning and sovereigns, who should reliss our petnicon
Romeo all hours in good honourable from a famous!
By not a seit doth same heir
For henter this mouter there's than direction of it:

Whither I should not have some windows in the crown,
 Whilvis disgail you with Norfolk: the grey comnock, he madestake
 A hat, alone;
 We should not be better suit,
 Envive enforningment a view; for if he chinsimes
 Listor to the sea, and utter--
 Shall I from he violence intends and Henry Mine.

MARIANA:

Now the god of Mursuas, if thou liest? I had as
 unle assured their fair swift and on the sky, of him that
 A little office, to the kingdom,--
 We have we two of you born--not under fellow, my joots,
 And making down of such a child,
 To suck then well; thou not shal

```
In [31]: print(generate_text(model, start_string=u"Whence"))
```

Whence shall estail unhaven by his cale.
 Well, no more striam be joughter heme, what but the mothing is you didst,
 For not to ask thy infucinian false froands;
 How all the issuind our hands of sixteen Henry will corners obplain on it; and a patienc
 e
 If I abrude of thy nobals?

WARWICK:

BALTHIMANIE:

Pompey! the great will I lead do say.

ROMEO:

On past out my good lord, thou on my word; I would not
 There is an unneated world with merry, and thou wilt.

LADY ANNE:

If for a seizar shall say.

DUCHESS OF YORK:

Shall be think'd in thine eye betwixt me but
 dewine and dreadf. Yet send
 And sperbleing wakes within thy high adventable bock;
 And therefore preshall slaid my father with her sight!
 I'll deling you to let him to the sting.
 He cried; it taking on their displaxeth accessagear.

MISTRESS OVERDONE:

No.

ESCALUS:

Vecund, was this worth'd riches of chain with us,
 About the lurefore deed words and your execess by not-inllowledge.

Second Husting arr bound with child

Much is our blood upon

Such g

```
In [32]: print(generate_text(model, start_string=u"Love"))
```

Love County!' be gone; adwick up: he will bring me
 To do some name for is end.
 We the exacen east on too,
 And in the virtues shut'stroord seas!

ISABELLA:

I may glad it eath perforch of motion to pity his master's infany. Here is with her?

POMPEY:

Art thou, hopy which now is thy rife:
 She comest toucheth truly in fashion of not pois,
 I hear them fell for what think you to be interringmen:
 I dorr forcome to veam, of faces pray with parason prays
 Shall I do troublly be father in in
 person and the sumport and your crown's womb:
 And all too much that a doint in honest:
 Thou hast she both not one of the first tears are so.

JULIET:

My good lord-hearth in honours; stays upon my grow!
 My name, whilst yet metrflow.

SEY:

Spittous since with him of the banished, must he will were between
 Marcius of your loving; and there's a never drink.

DUCHESS OF YORK:

When I was not ever beheld the winds and potter bastards,
 With raising 'kins of mine of a thearte
 An warriors and none, but to interpheer in readi

functionize

```
In [48]: def iteration(embed_dim,rnn_units,epochs):
dataset = sequences.map(split_input_target)
dataset = dataset.shuffle(BUFFER_SIZE).batch(BATCH_SIZE, drop_remainder=True)

vocab_size = len(vocab)
embedding_dim = embed_dim
rnn_units = rnn_units

model = build_model(
    vocab_size=len(vocab),
    embedding_dim=embedding_dim,
    rnn_units=rnn_units,
    batch_size=BATCH_SIZE)

model.summary()

model.compile(optimizer='adam', loss=loss)

checkpoint_dir = './training_checkpoints'
checkpoint_prefix = os.path.join(checkpoint_dir, "ckpt_{epoch}")
checkpoint_callback = tf.keras.callbacks.ModelCheckpoint(
    filepath=checkpoint_prefix,
    save_weights_only=True)

history = model.fit(dataset, epochs=epochs, callbacks=[checkpoint_callback])

tf.train.latest_checkpoint(checkpoint_dir)

print("\n---\n")

model = build_model(vocab_size, embedding_dim, rnn_units, batch_size=1)

model.load_weights(tf.train.latest_checkpoint(checkpoint_dir)).expect_partial()

model.build(tf.TensorShape([1, None]))
```

```

model.summary()

print(generate_text(model, start_string=u"ROMEO: "))

print("\n---\n")

print(generate_text(model, start_string=u"Whence"))

print("\n---\n")

print(generate_text(model, start_string=u"Love"))

```

RNN Variations

256 512 10

In [49]: `iteration(256,512,10)`

Model: "sequential_10"

Layer (type)	Output Shape	Param #
embedding_10 (Embedding)	(64, None, 256)	16640
gru_10 (GRU)	(64, None, 512)	1182720
dense_10 (Dense)	(64, None, 65)	33345

=====
 Total params: 1,232,705
 Trainable params: 1,232,705
 Non-trainable params: 0

```

Epoch 1/10
172/172 [=====] - 6s 25ms/step - loss: 3.1789
Epoch 2/10
172/172 [=====] - 5s 25ms/step - loss: 2.1180
Epoch 3/10
172/172 [=====] - 5s 25ms/step - loss: 1.8266
Epoch 4/10
172/172 [=====] - 5s 25ms/step - loss: 1.6541
Epoch 5/10
172/172 [=====] - 5s 25ms/step - loss: 1.5546
Epoch 6/10
172/172 [=====] - 5s 25ms/step - loss: 1.4852
Epoch 7/10
172/172 [=====] - 5s 26ms/step - loss: 1.4409
Epoch 8/10
172/172 [=====] - 5s 26ms/step - loss: 1.4056
Epoch 9/10
172/172 [=====] - 5s 26ms/step - loss: 1.3744
Epoch 10/10
172/172 [=====] - 5s 25ms/step - loss: 1.3529

```

Model: "sequential_11"

Layer (type)	Output Shape	Param #
embedding_11 (Embedding)	(1, None, 256)	16640

gru_11 (GRU)	(1, None, 512)	1182720
dense_11 (Dense)	(1, None, 65)	33345

=====
 Total params: 1,232,705
 Trainable params: 1,232,705
 Non-trainable params: 0

ROMEO: Villands were from those advanced of the armour
Which on the driar Clarence to see.

KING RICHARD II:
Look to thy cushel, allaio music.
Did ready about Stiff and unwillow have's damned soul:
I were come fither. Wask, sir; and with him;
That ir this eyer biddly, sir, wingen you.

First Senator:
So think and they the brother gear
To learn
The brave which I cannishmy mean.

KING LEWIS XI:
Destrue, I have to revere kings,
With a second cheekey shall run or a Cloudyage and deng.

BAPWILIA:
Which cannot well, and Warwick'st?

Plovost:
He collow me this; I am.
Then we o'ertanking, thank you, if you let's were
this boots thine work, you are holdness. Is
Whose grief soft affords: what is it, this, I am formorable
As war, if bother false of langaved: he was too,
And dead, they mistress and vigait, and Lewis seems,
My good like so unmasted after makesbours
That whete't with Somerbishby it; and as therefore Marcius
Romeo must be boon to home of your cat is Montagues,
And they dursy. out the dreadn

Whence sethion of the parting, gone!

LADY CAPULET:
We do clearly here for thy forth him dead.

BENVOLIO:
You favour, nce o'er noe go.

GLOUCESTER:
O neble welcome, uncle?' Joan, and th speak that the leisure,
That the oraclar:
All thou liveding in the king must any heaven proph of Herrilorous, I beseet to no chil
d.

DUCHESS OF GAUNT:
Vearce that let them as crotches 'mone thou till.

AUFIDIUS:
I'll follow migeful tongue!
O him and Rive, eibly appear, so,
what of our services? that the tongue two Sir; Buctill eart,
Lieteable on such acrial hip before hence.

DUKE VINCENTIO:
What, is given here to babieve of nature
Is conjurey Person Conspurate's the
growerso tinndal of for his;
And Richmond, and is the ciam that I am surpect, and with their life unlivess
Against the tribunes of him
That do him too much: the passing wap;
Some stafe in good witchorm of his grown
And wretched heres, Warwick's son, the head
To through, her hace thus far of talk of your as
Sumie of conspinity:
And, for which is

Love,
My defury amongst with comy thing
Rated them, inseemstance and leaven?

DUCHESSOMEs face!
Know me: I'll bring not hither, in our eye.

KING RICHARD III:
But good tander, come to let thy depart.
Come, Coriolanus; his sword to
his counsel fool! Itus ope of: we will have the pities
of eyes to Grain or each other:
And, intelm to sqed,
So long of you long.

KING RICHARD III:
How's sabress; the triumph's night, and devowed us,
Look little six our fit of any grief,
Or, if avours shouldst heard upon your first lord's leave is't
Is revilse me lips hence,
Of die ushal only in this bed,
Upon him, were renolding;
A little of them break, as say come
Before them for the runks with that black sweet habit!

RICHARD:
Ay, if God say thich on me.'

MARCIUS:
'Tis weaken company.

SICINIUS:
That mean of ye,
And countive! Count! if it canst love thine eyes
My lord with thoughts shall know nothing disgove as supper abod
Him; for I'll to be injurrer'd. and, what's anought: boy in a be drugg,--

BUCKINGHAM:

256 256 10

```
In [50]: iteration(256,256,10)

Model: "sequential_12"

Layer (type)                Output Shape                Param #
=====
embedding_12 (Embedding)    (64, None, 256)            16640
```

gru_12 (GRU)	(64, None, 256)	394752
dense_12 (Dense)	(64, None, 65)	16705

=====

Total params: 428,097
Trainable params: 428,097
Non-trainable params: 0

Epoch 1/10
172/172 [=====] - 5s 15ms/step - loss: 3.1883
Epoch 2/10
172/172 [=====] - 3s 14ms/step - loss: 2.1749
Epoch 3/10
172/172 [=====] - 3s 14ms/step - loss: 1.9203
Epoch 4/10
172/172 [=====] - 3s 14ms/step - loss: 1.7662
Epoch 5/10
172/172 [=====] - 3s 14ms/step - loss: 1.6695
Epoch 6/10
172/172 [=====] - 3s 14ms/step - loss: 1.5985
Epoch 7/10
172/172 [=====] - 3s 14ms/step - loss: 1.5466
Epoch 8/10
172/172 [=====] - 3s 14ms/step - loss: 1.5138
Epoch 9/10
172/172 [=====] - 3s 14ms/step - loss: 1.4862
Epoch 10/10
172/172 [=====] - 3s 14ms/step - loss: 1.4625

Model: "sequential_13"

Layer (type)	Output Shape	Param #
embedding_13 (Embedding)	(1, None, 256)	16640
gru_13 (GRU)	(1, None, 256)	394752
dense_13 (Dense)	(1, None, 65)	16705

=====

Total params: 428,097
Trainable params: 428,097
Non-trainable params: 0

ROMEO: how-Inelones
As peacure to love so his on ou?
O that, with many frovonallish sweet for with bost.

LEONTES:
Do Warwildly that I dare from the ladys of thing sound musician:
For the brother or the worthight shall not. What letter breed confections,
The for a basballs and now, will accused to,
Who kiss the vease again.

LODD OF YORK:
Where! cilulity.

Ferray,
Any ome in this again, masters
Shall parent the otherform; and he deserves me
Here, sir? evise for made voor thy con consuies
where quicks, traitor quite to bey,
Limse pelin him heart of thy missage,

fit as ame must deceiming a womb! wearers with thy friends: how live out may not must,--

First your princely
To glad me like my again farmaginces
Of earth, by good fagedeen in one! O bare but onces of what enter like his ready;
The wearth to me with behation.

KANGHAM:

What she will Norlovice, hela,--leads? who have passue, bones, my least;
For they find quercholed; commands then, 'cunder; that says sea
Of curge whetch a leth happy thy

Whence, the kings,
Thinks the brished, a pobbertit, Hastis!
Therein the dukes the wat hath she, my so;
Unlead the covining, but I would say nothing before
Our land far me,
Must does are chifits, I do,
speak you, give matter, selves with chair?
If, foll our generable kind!
This shall been wast thy fave cheek defend;
And the sevand, or will. That stands it out it come, why mastle!
What land of dear uncle Friend's re hath but them,
Where much free me wins at the wellow'st state,
And whether. I'll wear untands; and she spaits
That canst bed muse and thride! 'tis a lord.
I may hunds reverous wrech I see: my love?
Thy soles Johe: dear in livon believed thee.

LUCENTIO:

CURTIO:

Your father body life would.

DUKEO know how

thy landon me wrest all it?

PETRUCHIO:

Unless I be hath pay's some parthforced
Stapp will prooded, to ard.

ROMEO:

What become tower ake not Frize,
You stay, what's his villanio,
And through, till they no burnstom
lept us thousango, my up revenge to deed!
Who, dribun e'erch with

Lovers he is fled my country?

JULIET:

Tusboving against my vargua.

MEONET:

I will notious Appiran
The she breathed, from yours.
His tear, pramide, sir, will have why?

ROMHO:

That knows last, sir, do save that be hath dear him.
My give me so else, now when.

Third MeVELS:
I too rebell with lord's hope.

Shepherd:
Hence'st you a golden must through yourself;
Or if thou art to our spurtly, sto stards, fluck,
And true of like acchain'd timer thee here? It or me!

KING EDFALD:
Dive thy two counsel kind.

ELBOW:
You mase?

KING HENRY VINV:
Gosh lead take thy headLONTESS:
What we'll strangenses, and you with spurs of acpurerel,
Her will, that's if the properies whose man, for his churcher. The viol, whited with fro
m pertlemen.
As I to be soforcession cannot jest!
For my loved butter!
So should angive you.

LADY CAPULET:
as iconemn, with name I will now, heies scall no class,
Is do Nor She would he ham bid stand as he didley
At the stitless, that little ancitstood pagrith plain live to't.

DETH

256 128 10

```
In [51]: iteration(256,128,10)

Model: "sequential_14"

Layer (type)                Output Shape                Param #
=====
embedding_14 (Embedding)    (64, None, 256)            16640
gru_14 (GRU)                (64, None, 128)            148224
dense_14 (Dense)            (64, None, 65)             8385
=====
Total params: 173,249
Trainable params: 173,249
Non-trainable params: 0

Epoch 1/10
172/172 [=====] - 4s 11ms/step - loss: 3.2376
Epoch 2/10
172/172 [=====] - 3s 11ms/step - loss: 2.2159
Epoch 3/10
172/172 [=====] - 3s 10ms/step - loss: 1.9946
Epoch 4/10
172/172 [=====] - 3s 10ms/step - loss: 1.8692
Epoch 5/10
172/172 [=====] - 3s 10ms/step - loss: 1.7849
Epoch 6/10
172/172 [=====] - 3s 10ms/step - loss: 1.7220
Epoch 7/10
172/172 [=====] - 3s 10ms/step - loss: 1.6768
Epoch 8/10
```

```

172/172 [=====] - 3s 10ms/step - loss: 1.6464
Epoch 9/10
172/172 [=====] - 3s 10ms/step - loss: 1.6124
Epoch 10/10
172/172 [=====] - 3s 10ms/step - loss: 1.5976

```

Model: "sequential_15"

Layer (type)	Output Shape	Param #
=====		
embedding_15 (Embedding)	(1, None, 256)	16640

gru_15 (GRU)	(1, None, 128)	148224

dense_15 (Dense)	(1, None, 65)	8385
=====		

Total params: 173,249
 Trainable params: 173,249
 Non-trainable params: 0

ROMEO: Happile Jucest Servingious loves am.

CAMILLA:

What, to toward shill in, Such ever him left gentle hands,
 Orow to came with such dake your fear exempting against, for with a move, good! With me.

LURES.

Bold it is though auluy besters; fauching--

NGRY VI:

It sford speake ter, it not, or the couning her holding be colling coupper,
 And me porefurer come to heir tell.

COMINIUS:

Yet had nop them man as you what ye-preckiut curse will me think from subject.
 Will I shall curse I see his inder nobles hire were that worm himselvio, upon a man
 His hentest to smekenity's your best was this opperouse cheek's; thou wilth well stay:
 Nay, guittise, there's shemment. Thou are some like to Unleet you, my lordong them, gran
 k thoused hence: I casseech for to-mant thy rame in my this never in two an angelo
 Dubto you caves; sire shall for this for the crost and you?

MERANIA:

Why ssay?

GLOUCESTER:

A fifel gent yours: for me,
 Sir,
 Intise.

HASTAMLO:

I? that I'll not doupred me, ellerniand at piford.

KIN

Whence say to the firidge, their way
 which for opant:
 Ifticmer, not their sace
 me.

DUKE VINCENTIO:

Is from this slear in dale that be the toof done, mipt thrid, arraw, but simp;
 And serve

Clander, noure or the quarton dight to me and gerficer to your duith: dearine this my l
ord, sooner forlish your hose, see hollingmal gave her forouing their storp you to husia
n'd, which he:

Dursmer stor her from anged Lence, Citizen:

You you do earther shall the troano.

Your king;

This lord: Think his son! Kate your may I lay here it.

Clown:

Thereffeliction merely state;

She repeant and gentlemen, ade, beggint of prosal,

Fire-heant to staint,

How you your visoncen in jolks to dolarn the;

Have he how.

JULIET:

Als:

And, the sench, sorce?

Hery fath thy declaw

Turn, pathed most thee some bether aftick cohe even

Then you, for pracuerory hang a wash.

3 Comazes mn to this bany.

PROSPERO:

What, frond CiqPouss'd shall vessen.

POMPEY:

It now, for a trust we wame, have faught

That you;

How like thy friend; new

Loves, woman: thuse alpit strick; nom great enverin all they let Kate, in
His althat no will to-man, this but it one sif. Somethar? 'Tis Tay.

Shemings, dast bear.

QUEEN CAPUSET:

Predent

The ariclens to your cheas of my stace for your breath of my sorrow my gentre kneems

Till'd it is graceived,

And cheek therefore yourse

Do sluth baen,---

Well thembsy; but thou dis thee house very friends. O to Richmost hast you word.

HENRY BOLINGBRUKER:

What, is vilumpood him!

LEOTER:

I tomall,

For eye it we in unewers; breigdering, here doth not some withat many deediance ofte,, w
hat proving their right revenge of?

Comblees:

And Cominess there a man:

A must feemner,

To seep to some rosman-counte of your worn him begay! tell you, my monor to

contentreng legh thought, and, me with I havo's rost me do sumphear, are not night an a
virtom, goor may.

Pray is with eyes and, you latted her proventy:

God fool so no'ls of

young getters him. You and dapple, sir.

They way!

And so had a long,
Daves instersly he w

256 64 10

In [52]: `iteration(256,64,10)`

Model: "sequential_16"

Layer (type)	Output Shape	Param #
embedding_16 (Embedding)	(64, None, 256)	16640
gru_16 (GRU)	(64, None, 64)	61824
dense_16 (Dense)	(64, None, 65)	4225

=====
Total params: 82,689
Trainable params: 82,689
Non-trainable params: 0

```
Epoch 1/10
172/172 [=====] - 4s 10ms/step - loss: 3.3776
Epoch 2/10
172/172 [=====] - 3s 9ms/step - loss: 2.3279
Epoch 3/10
172/172 [=====] - 3s 9ms/step - loss: 2.1287
Epoch 4/10
172/172 [=====] - 3s 9ms/step - loss: 2.0076
Epoch 5/10
172/172 [=====] - 3s 9ms/step - loss: 1.9297
Epoch 6/10
172/172 [=====] - 3s 9ms/step - loss: 1.8719
Epoch 7/10
172/172 [=====] - 3s 9ms/step - loss: 1.8305
Epoch 8/10
172/172 [=====] - 3s 9ms/step - loss: 1.8011
Epoch 9/10
172/172 [=====] - 3s 9ms/step - loss: 1.7714
Epoch 10/10
172/172 [=====] - 3s 9ms/step - loss: 1.7525
```

Model: "sequential_17"

Layer (type)	Output Shape	Param #
embedding_17 (Embedding)	(1, None, 256)	16640
gru_17 (GRU)	(1, None, 64)	61824
dense_17 (Dense)	(1, None, 65)	4225

=====
Total params: 82,689
Trainable params: 82,689
Non-trainable params: 0

ROMEO: I have me cobfore: marry fusk'd's brow abore that? evertery may hother, their fub
le-prother, anw there that the ostly reaps, say's forill rulier
Do respect care you hat the on, bromands no border is is seem were disace timan fild fai
lony's:
There bode the coner: lord up was he sent that get all outhal Rometch sweet!
Well, im the ware is the make a so thinds not carefire is a pooker.

LADY ANCELO:

She sif, he slast the wart, hear dist shall the omery, 'ties the sold;
Treetear, sweet:
I give bleves garceced urvereitous'd,
It we that will since,
Frikl a much your fall do resing in stape you.

SPUTO:

Comenions:

Mastres shier fall of lear in Romjeced to hene hath!
Butink her have gotter. Upon yous being.

Lord that have puthicing and was I would ag, yet Stince and this hadon brinks,
I wouldiast Clushfay we brown purnalligt agaitene, 't it is Portaint on then?
Comecure whem and the detiastold have.
Pray, whatk youn that liplatent, and groon, ban, dis pack; deat wat colas, and send not
son of t

Whence if you rearn, and name a not, them dean, in the Luptibles wo\$lidaf the say, cont,
fort' sust:

The bunded of

To it I heave is,

My hatiens:

Paave it be brother fearal to'll vifter you, kith tell much not hast let her for tain, h
is heak you wither cheartelice;

I frighty-been you as the offiglour shind our Brobrene yet the! why hurnt too, with the
day fect wnint's thee up secess vair, wardicion.

POPKENCER:

Wese:

So it, soul you, duptired, if threves of him well the ung thought no my note, he ward: y
ou thought biteshciel, if to son spaist ough unnave thou hal'd of greet: like anque;
I hamped you in their breedembath that ke be bying o man out you, his hear this kell but
your somether!

MENENIUS:

Heartaito-beard

Why desorke with him

When sor tongoun thee ebpysly forpele and not war is, plockein?

Hath otf hath and your crownspe owe.

O, you batted you kname though rephef but yon mireforened,

Me? hont's to the heartes him: far&

I mear is may thou her wenty was cam, hashe, hay eeporges a fool

Love consfle.

Forricking.

Henrworst in?

Paly, \$aul.

LETRUCBETHA:

But whither wat of sting.

HERGERBON: Enarce; In a York with more it bricthy

fot discals to hath a ferow fearldoo wirdly pleat, by the atwel foill of the baty this i
t now and the deast omamius have of the reamicter we prum in had m no, Iralk you Yor hoc
hal dead,

No turn vimy

Frigied the soperthy my fail.

VARGAPVPIA:
Aw the chood she will anin
the live
aght it a pass; what horder
O rive,
Then a then offord, fairs, that ac deardly sense-ford; kniges; he way thy may our Duke b
loives and bodes abe so sugious in the gently of here? whan look God? And where;'s my no
ble that, give then art as I my have dit come, Angringer:
And then besan, home one sonion,
Sawf by oore,
Some aming whempord shall plove
sloed dooker,
Being Mujelcomand office alvand: but that
sour mores at eves usiabed tay the quares more and whony fourn are Vorth,'s speet teaker
y he knows thew gols:
And loant,
that a same.

MENENIUS:
Liking ret matter'st strenss on

Embed Variations

64 1024 10

In [57]: iteration(64,1024,10)

Model: "sequential_26"

Layer (type)	Output Shape	Param #
embedding_26 (Embedding)	(64, None, 64)	4160
gru_26 (GRU)	(64, None, 1024)	3348480
dense_26 (Dense)	(64, None, 65)	66625

Total params: 3,419,265
Trainable params: 3,419,265
Non-trainable params: 0

Epoch 1/10	172/172 [=====] - 10s 46ms/step - loss: 3.4719
Epoch 2/10	172/172 [=====] - 9s 47ms/step - loss: 2.2397
Epoch 3/10	172/172 [=====] - 9s 47ms/step - loss: 1.9382
Epoch 4/10	172/172 [=====] - 9s 48ms/step - loss: 1.7263
Epoch 5/10	172/172 [=====] - 9s 48ms/step - loss: 1.5939
Epoch 6/10	172/172 [=====] - 9s 48ms/step - loss: 1.5028
Epoch 7/10	172/172 [=====] - 9s 49ms/step - loss: 1.4336
Epoch 8/10	172/172 [=====] - 9s 49ms/step - loss: 1.3831
Epoch 9/10	172/172 [=====] - 9s 49ms/step - loss: 1.3428
Epoch 10/10	

172/172 [=====] - 9s 49ms/step - loss: 1.3053

Model: "sequential_27"

Layer (type)	Output Shape	Param #
embedding_27 (Embedding)	(1, None, 64)	4160
gru_27 (GRU)	(1, None, 1024)	3348480
dense_27 (Dense)	(1, None, 65)	66625
Total params: 3,419,265		
Trainable params: 3,419,265		
Non-trainable params: 0		

ROMEO: come arou.

HENRY BOLINGBROKE:

Here! do you not, northere to take your love,
What hath born thy squerish'll be an innocence good a fount,
And taken me with queen,--

NORKONTER:

I am down than your rumes must and make you
expeco me the weather like with
Pasul plant upon a crown'd England's black
by to dust and liking her bringin,
Against much ministers deeds, Myself.

RADCLADY CAPULET:

Merely, Grumio, that thou hast no meld now full all
Seek forboag, they briedd this hour depit
Tak brave me some sking leat-place,
Did I lead to this island be crown'd.

POLIXENES:

She is not how you Name,' and still begun
Gou, body to ste have two needs was. The women are such
The sword and JULENT:
God say shall do some fore that warrents,
Becear mine ere you account newle shouldst acquit.

SICINIUS:

Pail,
For such expremised by this record him, he
doth make the truth by marriage o' that clossing fortune,
Love-night in a rest; so to Vincentio, and your face and nature and unjust;
Got speak them was, and

Whence it is Musicia case away.

First Seeath

And you have colours my very own gaver have in his commander
of my wife's new money those minu, she hath mough on him,
And all these books here, one to ride, most ond,
As he, pronounce
Even sir,
With enjoited state of Jove!' happy night
Heigh in't! How cursair thench whip fast stay.

HORTENSIO:

First, hath parts down to conscience then it's anticlimax.

AUTOLYCUS:

When told withdly shall well,
Formise thy kinsman were in'd that show
you shall poison staff, madam.

BRUTUS:

Is thus: the that his gardenenceop add
Unto the tribunes of the country, therefore,
Successive lurn, and hears of mouth,
That it wase off widow, but a barder's gent!
Without--Henry turning since?'
The senate tortures, my pursait.

PAULINA:

I'll to't,
husband? is it,
And, crown.
Got in thin antictes are as for me?
I censubeth me, I would fay as merry we are
on us; iftermant,
Again affection nor I durn the deface
Acoud Frinceford, if that us in E powrred:
My woed bright hate wrong

Love believe my pastment
That art those confound Fronoman,
And darkled ambitiounds, that ingredition would not
shake roleamer
Of Norfolk roar quench
For hand seel thou mucterou chossestre we pass
To fil and brave spirit.
I thanks, I married from him to this passage.

ISABELLA:

Uncept! I am a knableted, business,'s failt rest:
Tritute thee, he hat and old away to our prayers bones.

SEBASTIAN:

I'll have not roar'd up to done, that's my forward discersed.

QULENCE:

As heavens my use ords:
Shump robbed from the Earl of Surwise-tows me work.

DURHEPS:

O, thy are your honour,
That is not conteart.
Hustay of my soul that master
He here, by good pleasure mund and louterous,
Of your mystreme lack pronounce
they with twenty mended with priests, my life, ifings am.
And if you fond, somatevy; And man: he, if you remain
When a read came not true?

HENRY BOLINGBROKE:

Nobbertaining. Go to hother;
And, was the feast. 'tis raised and dembind soroul'd
Expressed; Is the quarrel waghadies; commert
Leisunes a

128 1024 10

In [58]: iteration(128,1024,10)

Model: "sequential_28"

Layer (type)	Output Shape	Param #
embedding_28 (Embedding)	(64, None, 128)	8320
gru_28 (GRU)	(64, None, 1024)	3545088
dense_28 (Dense)	(64, None, 65)	66625

Total params: 3,620,033

Trainable params: 3,620,033

Non-trainable params: 0

Epoch 1/10

172/172 [=====] - 10s 49ms/step - loss: 3.3989

Epoch 2/10

172/172 [=====] - 10s 50ms/step - loss: 2.1682

Epoch 3/10

172/172 [=====] - 10s 50ms/step - loss: 1.8594

Epoch 4/10

172/172 [=====] - 10s 51ms/step - loss: 1.6645

Epoch 5/10

172/172 [=====] - 10s 51ms/step - loss: 1.5375

Epoch 6/10

172/172 [=====] - 10s 51ms/step - loss: 1.4580

Epoch 7/10

172/172 [=====] - 10s 52ms/step - loss: 1.3983

Epoch 8/10

172/172 [=====] - 10s 52ms/step - loss: 1.3482

Epoch 9/10

172/172 [=====] - 10s 52ms/step - loss: 1.3051

Epoch 10/10

172/172 [=====] - 10s 53ms/step - loss: 1.2736

Model: "sequential_29"

Layer (type)	Output Shape	Param #
embedding_29 (Embedding)	(1, None, 128)	8320
gru_29 (GRU)	(1, None, 1024)	3545088
dense_29 (Dense)	(1, None, 65)	66625

Total params: 3,620,033

Trainable params: 3,620,033

Non-trainable params: 0

ROMEO: he lies,

To me that vailor at our not

To God's name, man! a word almands,

Schuracly, how's no meat, my lord; for he mutations

In queen of girl, sirrah, young appriag?

QUEEN ELIZABETH:

Such my house, and a missonud,

Poor moring the head-like, then, thou follow'd;

Here is me mock'd upon owe.

QUEEN MARGARET:

Do you not seem consent, of it:
'Tis no inclining venter:
That help to the passage is the goldenaven
Brop'd advansage
Of name adothers?

HASTINGSER:

Is thee: villains, so shall you governigot.

POMPEY:

Well, I see dead, you done, you--grace toward the
Duke of Norform'd with himbal; and,
That waters that one songwardy master on the business
Deceived, suffection fair and findish unto the dargen counse
baged my life, thy feigred whome, it was he heards
Hath heaven from her sense to Mantague;
And yet he cidse it.

QUEEN MARGARES:

Now, sir, good Clarence, sir:
I have show'd; and a thoufly dayed well,
They, as I seeming son above so enjoop'd
To seek again-day, that you are hold word:
I' tha

Whence was then it pleasite it.

HENRY BOLINGBROKE:

My, let this free as sleep;
Or else this handomarild is busedly.

Clown:

Your mother, sir!
Here is a langed, mine,
Oo against your perfect sharing bears, which I
Thow my double general
is your father in any man;
Not an old hearts:
knees hid them.

GONZALO:

Though are these coljuimant to our several crown,
Which, to be in thile, which ranks at sthence
To have a life a laugesial?

BRATUS:

I was wont me to use me alone;
And though it is not stay; lay Volscses!
You; my kin! he comes like me? and you,
Hath lacked for tear'd from Robelance;
Yet hard my kindness, farewell; and then I sleep is counsel's sleep;
For call me had you accluar'd;
Indeen it being, alas, and when he wax,
Desires ngardly are fapardon; Kate,
And to convent to do the bishop; on respect,
Or a worship and be their maids again:
And then that didst our cherisses as the danger's head.
Amon the proudness of his false of conscience and consent
Thou and your cheeks; and there thy old

Love, let passages you set become Petruchio's face;
Oft may your grace how ig is credib
his parries it with me like the gawding mate
That like attetions from her son, I'll leave you,
I would so deliverance cold,
This is the cause: the sidely sweet as case,
To cloud me incle is sleech, grands to see the presens with mine honest.

TRANIO:

GREMIO:
A plighty, from whence I not hear; and thou hast world,
Speak with miscarriagentio?

LUCENTIO:
I merry, yet not offor haste.
The base your lord of casting how myself,
Provoked, so long-gate, and I am pans.

HENRY BOLINGBROKE:
Kies:
Proclaim my son is fall of night;
And wherefore; forgiving feens.

KING RICHARD III:
And yet, I think it well?

Nurse:
O, save you, leave youth?

KING RICHARD III:
One for the desting and the hand of service.

KING HENRY VI:
Pray, sir, I won dry, Perdita!

Kerberint:
And which you mad sovereignty;
Cherse thy daughter no matter. But is not her.

BAPTISTA:
Cousins to give it. We shain now are.

First Sendant?

TRANIO:
No,

512 1024 10

In [53]: iteration(512,1024,10)

Model: "sequential_18"

Layer (type)	Output Shape	Param #
=====		
embedding_18 (Embedding)	(64, None, 512)	33280
gru_18 (GRU)	(64, None, 1024)	4724736
dense_18 (Dense)	(64, None, 65)	66625

```
=====
Total params: 4,824,641
Trainable params: 4,824,641
Non-trainable params: 0
```

```
Epoch 1/10
172/172 [=====] - 14s 67ms/step - loss: 3.1904
Epoch 2/10
172/172 [=====] - 13s 68ms/step - loss: 1.9692
Epoch 3/10
172/172 [=====] - 13s 70ms/step - loss: 1.6783
Epoch 4/10
172/172 [=====] - 13s 70ms/step - loss: 1.5203
Epoch 5/10
172/172 [=====] - 13s 69ms/step - loss: 1.4296
Epoch 6/10
172/172 [=====] - 13s 69ms/step - loss: 1.3715
Epoch 7/10
172/172 [=====] - 13s 68ms/step - loss: 1.3265
Epoch 8/10
172/172 [=====] - 13s 68ms/step - loss: 1.2901
Epoch 9/10
172/172 [=====] - 13s 69ms/step - loss: 1.2549
Epoch 10/10
172/172 [=====] - 13s 69ms/step - loss: 1.2213
```

Model: "sequential_19"

Layer (type)	Output Shape	Param #
=====		
embedding_19 (Embedding)	(1, None, 512)	33280
=====		
gru_19 (GRU)	(1, None, 1024)	4724736
=====		
dense_19 (Dense)	(1, None, 65)	66625
=====		

```
Total params: 4,824,641
Trainable params: 4,824,641
Non-trainable params: 0
```

ROMEO: I come, sir?

HENRY BOLINGBROKE:
 Everon from such manifold with souls
 To pray for such fellow: now she will not.

GREGORY:
 Marry, I give sweet love;
 And sleep of meat upon myself.

DUKES:
 I am a gain.

First Gentleman:
 And 'tis burn by God's and thy bed.

DUCHESS OF YORK:
 Let me immortal and myself and hang from
 The giddy o'erly to be broken of me; and those days with hinder
 She hath been hable forth on't, as decondred to cheer a pirsch
 Of life made thee play my parans, go with 'may'd vial, whom I sigh'd from which you have
 drawnd them good depart.

GLOUCESTER:

I do beseech you, Signior Claudio? or should be brief that Juliet
That feets before the gracious regains rind.

VOLUSNIA:

Now, good fie! foot heaven is deep'd him for a well.

HASTINGS:

O holy-child:

I know not so great a dearer deformed alter-tinence?

JULIET:

It strumanish would make provost,
full of his enemies.

VALERIA:

If by the repelt suffer'd stoop
To make complairing eyes, to be hanged.
Methought they have pain her ble

Whence!

My noble cousses drop of heaven and asse.
I am as wed a peterat shipsing sound prosperough!
In thou shalt be, bette as helps in death, and in the
third; makes you make a lovy say thou read e
beft his highness.

KING EDWARD IV:

Became to cal up their infitude time.
They thou, being rase you, worthy swords are writ
Most note as my wife and unsweet's daughter.
I would so with me:
If not our manner that she says death's an;
she's death?

SICINIUS:

When he'll ball him Thom, drumse power;
For all according tyrant strives more,
Traviol fair, to make my king
But Pompey, and banishment me as I stoop'd again.

KING RICHARD III:

Who told not, Heartily 'twere not this elferion;
'by, you done prove of you and amis:
If you be not sthat slips in pity kings do awourth,
As which is not flatter? do't!

ANGELO:

Why do a worse? why then?

QUEEN ELIZABETH:

Hang thou were Paris: be consume to repear.

TRANIOLAURINA:

What, in mockniby?

CORIOLANUS:

I'll tear be st;

AUTOLYCUS:

Thou and thy love!

A protectoo

Loved!
S most sorrow; a piece a flatterers, depaster.
A struck Catesby. Say that with Aufidius with lawful business festitle
Past for England; for how show'd me France,
And Romeo make her word.

Musician:
It is it not be you promise. Richard forth
mathoison.

MENENIUS:
May shall she longe or love you have.

DUKE VINCENTIO:
Commens, mother, then please your couss to you.

ANTIGONUS:
The mother
Why, monthou answer behalf,
CaMILLO:
I would he shall e forget to so.

DORCAS:
O my? thy love away fears,
Could never come to me swand to steal: and you,
I heard her eyes with her tent. The pretty dagger on
thyse false blinds richesic brother Duke her thoughtst I knee,
Were you Parisblaues cross'd to be him: he's a back, near your things is degly for do yo
u high she
In this burning way of soldiers us.

FLORIZEL:
The uses desperately easy t said, an your favourace
His treas luke altol bade almost unsould sleep receive
Which now we were wepted us.

ESCALUS:
Who seat?

KING RICHARD II:
Wrong it and swoon

1024 1024 10

```
In [59]: iteration(1024,1024,10)

Model: "sequential_30"

Layer (type)                Output Shape                Param #
=====
embedding_30 (Embedding)    (64, None, 1024)           66560
gru_30 (GRU)                (64, None, 1024)           6297600
dense_30 (Dense)            (64, None, 65)             66625
=====
Total params: 6,430,785
Trainable params: 6,430,785
Non-trainable params: 0

Epoch 1/10
172/172 [=====] - 17s 86ms/step - loss: 2.8432
Epoch 2/10
```

```

172/172 [=====] - 16s 87ms/step - loss: 1.8120
Epoch 3/10
172/172 [=====] - 16s 88ms/step - loss: 1.5617
Epoch 4/10
172/172 [=====] - 16s 89ms/step - loss: 1.4467
Epoch 5/10
172/172 [=====] - 16s 90ms/step - loss: 1.3762
Epoch 6/10
172/172 [=====] - 16s 90ms/step - loss: 1.3257
Epoch 7/10
172/172 [=====] - 16s 90ms/step - loss: 1.2820
Epoch 8/10
172/172 [=====] - 16s 89ms/step - loss: 1.2481
Epoch 9/10
172/172 [=====] - 16s 89ms/step - loss: 1.2112
Epoch 10/10
172/172 [=====] - 16s 89ms/step - loss: 1.1765

```

Model: "sequential_31"

Layer (type)	Output Shape	Param #
embedding_31 (Embedding)	(1, None, 1024)	66560
gru_31 (GRU)	(1, None, 1024)	6297600
dense_31 (Dense)	(1, None, 65)	66625
Total params: 6,430,785		
Trainable params: 6,430,785		
Non-trainable params: 0		

ROMEO: the great poor heart does suffer that Tybalt,
 As that my sorrows incriumpulant with this night,
 When you please you; I will not infect I
 While he her ch it up, and say I am
 clups by him; but that commanded
 Is both must speed: hast thou love you;
 Farewell.

GREGORY:
 On Tubulius;
 Where is it not what you say?
 Why, how now, my lord, master my son's grace.

GLOUCESTER:
 What father ary look so my prosperity, shall bester thy casp on him.

SICINIUS:
 Here's enerer,
 With that, and from such a crown Etwas the very feel!
 Why, thou constant art. Good Buckindlave, thou art as ancient with my man;
 And, good thought I werd BiancaTHOMEO:
 Teach, my legit to passion how
 I primine by him double in blasp, royal father?
 Fair Breath has many of heaven I have heard his true porty.
 O exchange, holy that I bade thy sovereign?
 Whoseve should build on sling and the marl
 I'll tell her back with Clarence and the heir of
 bubstor or scard, or you, sir; but ye castasty;
 Whilst thou how have with me:
 I think she will

Whence way this will thine.

LEONTES:

That, being more i' the pletage of goes to the
poor fresh, silent be thine, from womeness by master?

KING HENRY VI:

The time to me, worth that quirst?

GONZALOO:

Go, gave me well, vilance
Haven touch of your bloody true manyest, sir, be--
How often had not offence shall I call, my true about;
And shall you please my throaugh; there lose your most
A man doing: my speech: but we fear?

KATHARENA:

Now muster me, in farther than his
action and he made mase said, or your conselves made his complainments
And his god-deeds: noble Norfolk, we beseem thee
And give me like my side; for his
grace as it were cured by me this shall;
And by the hatifold-scipician to bring you.

DUKE VINCENTIO:

Bearing to bite. Hercu is Lewis behove my face.

LADY ANNE:

And to beat them for home, gentle kindness, and bestraw.

QUEEN ELIZABETH:

Too frave's, noble friends,'
With madness more to my poor will to Speak! the king's winds
My libet's knother is; out of thy life.
Uncle, that t

Love we have burden thee this approbation;
And bring our justice,
To tell you, gentle or my wit fled,
As peace it blows, the into you.

SICINIUS:

We must?

CORIOLANUS:

Nor news I have any gentlemen,
Put forth and lead us to length and clouds,
To tell them out: there's myself see;
Or as you gave the crown: yet so are steely,
Give me a countless gracious, or her, stop's;
Thou, Rose was revail now are suffer'd.
Nay, fair, sirr heir:
Or else you make, for strok a bouthress course.

DUKE VINCENTIO Edward Gloucester,
Cheepe, sir; for we wonder that has left us
His alliname gave.

JULIET:

You dare? suffer is the conquest.

ANTIGONUS:
I am her and were heard,
Thou art alliance that you telk you, got
The addle shall slip is gone!
'Fith thus to cold clothes, and the king
About her displace for her life: for this shall become modesty
And heir be inlegetcles, thou
Carest thou, man,
How camest thou his: the loats after such excussing for a crutchion shall show dead.

ROMEO:
Do you pern thee gone.

Citiz

Epoch Variations

256 1024 5

In [60]: iteration(256,1024,5)

Model: "sequential_32"

Layer (type)	Output Shape	Param #
embedding_32 (Embedding)	(64, None, 256)	16640
gru_32 (GRU)	(64, None, 1024)	3938304
dense_32 (Dense)	(64, None, 65)	66625

Total params: 4,021,569
Trainable params: 4,021,569
Non-trainable params: 0

Epoch 1/5
172/172 [=====] - 11s 54ms/step - loss: 3.3033
Epoch 2/5
172/172 [=====] - 10s 54ms/step - loss: 2.0494
Epoch 3/5
172/172 [=====] - 10s 55ms/step - loss: 1.7412
Epoch 4/5
172/172 [=====] - 11s 55ms/step - loss: 1.5672
Epoch 5/5
172/172 [=====] - 11s 56ms/step - loss: 1.4705

Model: "sequential_33"

Layer (type)	Output Shape	Param #
embedding_33 (Embedding)	(1, None, 256)	16640
gru_33 (GRU)	(1, None, 1024)	3938304
dense_33 (Dense)	(1, None, 65)	66625

Total params: 4,021,569
Trainable params: 4,021,569
Non-trainable params: 0

ROMEO: place that I woo very looks
 Have I am wair I bear nothing: I be pergaishment,
 Ghat half find them entrained in from any by strife!
 Then? come go you rumed,
 well have it wruth against five to another,
 besinds bow thou credly hear that, the king by my ward.
 Some meth the love and unto be far off speak.

KING RICHARD II:
 So me to her, ass an rearnack, good,
 Warm to't, all appear
 As my gentlem of to this get enton compents for hum.

KING EDWARD IV:
 Come, my lord.

DUKE VINCENTIO:
 You wish you, af all the cousin, why batell's gare:
 And say the pullo witemey, and
 Myself against me sould'd for't:
 Nay, Pomp, sir, this part ToHTORIAN:
 Uffuredy and from the choom--abouts and villain!
 But he in he that thousest;
 For thou hast to Pellain, which was in a good froth and stand was e heart.

ROMEO:
 Why we make heir curk, or bornd talk of me;
 My pan not mine,--that brotherurs up the nore,
 Departing the grave king not.
 No, as content me and that set she be so:
 But dare an come
 Was he no painted as no

Whence?
 I have done to have suin
 down, and now, I will dangers
 mine own hearth to scapel roath as to come
 Wall O fair this swear'd;--you nothing beardin
 To the corseny fing that goist for our freens so, doy na-lits:
 Why, he wakes me all pusian some too much despride
 And the print of dalanes: then from off wonch you have need-change with more
 remainst when other halm to sen they so noble sorrow and Monthage tay the consun
 Of what this pauce and dissun's sweet store vewards to det
 March? Come I hade a blood, letters me!
 A slewland are county criff, anvest thy priesse to forth forgute,
 Whereof Herts father, comes and that worth victory,
 You th extry mortal, and boy
 me not so, Leince in frienes'd balike yours and to.

KING LEWIS XI:
 Nor better pating, old seem a letsman: let shanl have
 Either thus amought 'tway before one:
 That virtue is some poter;
 The one atidea!
 Retein: the shame of God a to the fauth
 Or flowing or seazends, witell!
 Who should I know thee, For Lood mortul, so grow-hand;
 And

Loven:
 Nay, sought like to fam. What good

Mercily makes become I one that grial, morrow, give must reing.

ALONSO:
He conceuty.

PETRUCHIO:
And, a sleet come. See, and deward the might remember
Which lace
To crok the fierding cussing endry them,
it many stones by the child:
You so?

First Senators;
Yet, that he consul arisume sil sheet-moring.

LUCIO:
Bend he fanish that night you with.
Come, that thou with a nately pisce,
He abcount a lock with act.
On ill, you have them might that made more! we did prove eldering
by trury that horsely 'twas youth pruncely;
Authering brought in whence shall not one
repern'd you hurrant is my sound to-nightly?
Whateevery think they canlink wo not bring, sir: we may'll say,
Or our we are amentatious honour to bles my unconstruwe
That I ro be spirit's hers, and thus
To plate ushers in shoppose to sleep,
Where she light-to my hath devolts with my colfurence.

AUFIDIUS:
Why, you had their comes?

ADH:
It supptression that feam
'tis well; what our myself?

QUEEN

256 1024 20

In [54]: iteration(256,1024,20)

Model: "sequential_20"

Layer (type)	Output Shape	Param #
=====		
embedding_20 (Embedding)	(64, None, 256)	16640

gru_20 (GRU)	(64, None, 1024)	3938304

dense_20 (Dense)	(64, None, 65)	66625
=====		
Total params: 4,021,569		
Trainable params: 4,021,569		
Non-trainable params: 0		

Epoch 1/20
172/172 [=====] - 12s 57ms/step - loss: 3.2602
Epoch 2/20
172/172 [=====] - 11s 59ms/step - loss: 2.0678
Epoch 3/20
172/172 [=====] - 11s 60ms/step - loss: 1.7591
Epoch 4/20
172/172 [=====] - 12s 61ms/step - loss: 1.5811

Epoch 5/20
172/172 [=====] - 12s 61ms/step - loss: 1.4751
Epoch 6/20
172/172 [=====] - 11s 59ms/step - loss: 1.4111
Epoch 7/20
172/172 [=====] - 11s 59ms/step - loss: 1.3598
Epoch 8/20
172/172 [=====] - 11s 59ms/step - loss: 1.3152
Epoch 9/20
172/172 [=====] - 11s 59ms/step - loss: 1.2789
Epoch 10/20
172/172 [=====] - 11s 60ms/step - loss: 1.2462
Epoch 11/20
172/172 [=====] - 11s 60ms/step - loss: 1.2095
Epoch 12/20
172/172 [=====] - 11s 60ms/step - loss: 1.1801
Epoch 13/20
172/172 [=====] - 11s 60ms/step - loss: 1.1463
Epoch 14/20
172/172 [=====] - 11s 60ms/step - loss: 1.1104
Epoch 15/20
172/172 [=====] - 11s 59ms/step - loss: 1.0742
Epoch 16/20
172/172 [=====] - 11s 60ms/step - loss: 1.0381
Epoch 17/20
172/172 [=====] - 11s 60ms/step - loss: 0.9994
Epoch 18/20
172/172 [=====] - 11s 60ms/step - loss: 0.9616
Epoch 19/20
172/172 [=====] - 11s 60ms/step - loss: 0.9231
Epoch 20/20
172/172 [=====] - 11s 60ms/step - loss: 0.8868

Model: "sequential_21"

Layer (type)	Output Shape	Param #
=====		
embedding_21 (Embedding)	(1, None, 256)	16640

gru_21 (GRU)	(1, None, 1024)	3938304

dense_21 (Dense)	(1, None, 65)	66625
=====		
Total params: 4,021,569		
Trainable params: 4,021,569		
Non-trainable params: 0		

ROMEO: O git you any man?

Nurse:
Now, afore Go, fire, for being about me still,
And not lack'd till By bait with such a done?

SICINIUS:
Yet good Prodotia wast thus eater;
Thy head, all made time. Thursday were it plead,
First, to be half, madam; with all his lands
Would suff this bloody time,
I would have lived with reason war! I do
not I, anond, coverior thus;
So many with wild-hardess, as 'twast barr'd forgiveness
I cow four hand:
As any of this land, mut of Ticerio!

Thus happy rivaded with a bloody frost for barkiards are to be a prisoner.

WARWICK:

The porter than he 'scape; bear him fled to live,
Swear your life lives in despite of thy elms,
To bine our targing.

SICINIUS:

Yell sir, have pinched as sweet as now!
O id his the death of his time where he gives with a boldness of his eye
To give or twenty bloody crops on our design.
What else? and vengeance comes the spirits of severely wrong,
Lives like a certar that will ever sie,
Though just by windows, that of him?

MARIANA:

Good night

Whence can, I mean, this senteen thing.

RICHARD:

Arm the Duke of Lancaster Durse.
A pleasure humper, here are priefully himself it appear,
Grumios, pale aside: the misay that chance
Dream'd as it at him hither.
Write it up, in foul man in Claudio.

PAULINA:

Alack, what else?

Nurse:

Now, for my pawn; let her me above the hearing.

DUKE VINCENTIO:

It is your daughter: he takes your father and obeyior;
And, of aught with bloody dagger thread not king,
Despire me infect an immost well: but yet you would so,
Not she
with ruin with a sweet straw again,
The most cause to blank the welcome.

NORTHUMBERLAND:

The key-being on my bind with bloody dusy
Selate is but Bertain undone thee,
But by your heads!
If this before might reply, such a determine visitations are been bear,
Be gone, against whop his death tongue
Where Marmal, for whose youth is voice;
There is the porticular this vixture
Was still usurp'd.

OXFORD:

Away, be young and power.

ISABELLA:

Not I the fliar stain a good will bear;
Supposin

Love ene ago my children's pleasure,
For state, in their helms, perpetual.

NORTHUMBERLAND:
These I should be ennocled;
To-night hand better tongueless shades as this night.

ESCALUS:
Come, come, the king's ship; in lawian's parents, nay.

CLARENCE:

PROSPERO:
Look, how the heavens how we saw not
That, I feck it is. This wam flowers.
Doth nature cannot bid thee good? Grumio, my lord,
If you do now, my noble present amenting, your shottes;
Which tides like interchange oursways, with 'Whe
beggable, so break as sorry, and make his son.

RICHMOND:
Grumio, 'tis none.

PETRUCHIO:

Provost:
I cannot weep, or have I desired out of my sorrows but submission;
For te interchange or beats about
you whipped that the Lord of Somerset,
Have leved Romeo's nefurance that hate required
Yourself again, with five and put her matter.

QUEEN E is gone.

LEONTES:
Howror?

PROSPERO:
Now I came, once more toward.
When his blood Is now to nove him,
As through the law, by him. Sir Rostol,
Whose joyful soul! thy repo

256 1024 30

```
In [55]: iteration(256,1024,30)
```

Model: "sequential_22"

Layer (type)	Output Shape	Param #
embedding_22 (Embedding)	(64, None, 256)	16640
gru_22 (GRU)	(64, None, 1024)	3938304
dense_22 (Dense)	(64, None, 65)	66625
Total params: 4,021,569		
Trainable params: 4,021,569		
Non-trainable params: 0		

Epoch 1/30
172/172 [=====] - 12s 56ms/step - loss: 3.2333
Epoch 2/30
172/172 [=====] - 11s 56ms/step - loss: 2.0608
Epoch 3/30
172/172 [=====] - 11s 57ms/step - loss: 1.7494

```

Epoch 4/30
172/172 [=====] - 11s 58ms/step - loss: 1.5718
Epoch 5/30
172/172 [=====] - 11s 58ms/step - loss: 1.4730
Epoch 6/30
172/172 [=====] - 11s 58ms/step - loss: 1.4044
Epoch 7/30
172/172 [=====] - 11s 59ms/step - loss: 1.3503
Epoch 8/30
172/172 [=====] - 11s 59ms/step - loss: 1.3119
Epoch 9/30
172/172 [=====] - 11s 59ms/step - loss: 1.2763
Epoch 10/30
172/172 [=====] - 11s 59ms/step - loss: 1.2379
Epoch 11/30
172/172 [=====] - 11s 59ms/step - loss: 1.2034
Epoch 12/30
172/172 [=====] - 11s 59ms/step - loss: 1.1682
Epoch 13/30
172/172 [=====] - 11s 59ms/step - loss: 1.1356
Epoch 14/30
172/172 [=====] - 11s 59ms/step - loss: 1.0993
Epoch 15/30
172/172 [=====] - 11s 59ms/step - loss: 1.0629
Epoch 16/30
172/172 [=====] - 11s 60ms/step - loss: 1.0283
Epoch 17/30
172/172 [=====] - 11s 60ms/step - loss: 0.9910
Epoch 18/30
172/172 [=====] - 11s 60ms/step - loss: 0.9534
Epoch 19/30
172/172 [=====] - 11s 59ms/step - loss: 0.9164
Epoch 20/30
172/172 [=====] - 11s 59ms/step - loss: 0.8776
Epoch 21/30
172/172 [=====] - 11s 59ms/step - loss: 0.8487
Epoch 22/30
172/172 [=====] - 11s 60ms/step - loss: 0.8166
Epoch 23/30
172/172 [=====] - 11s 60ms/step - loss: 0.7870
Epoch 24/30
172/172 [=====] - 11s 60ms/step - loss: 0.7623
Epoch 25/30
172/172 [=====] - 11s 60ms/step - loss: 0.7415
Epoch 26/30
172/172 [=====] - 11s 60ms/step - loss: 0.7225
Epoch 27/30
172/172 [=====] - 11s 60ms/step - loss: 0.7089
Epoch 28/30
172/172 [=====] - 11s 60ms/step - loss: 0.6929
Epoch 29/30
172/172 [=====] - 11s 60ms/step - loss: 0.6796
Epoch 30/30
172/172 [=====] - 11s 60ms/step - loss: 0.6700

```

Model: "sequential_23"

Layer (type)	Output Shape	Param #
=====		
embedding_23 (Embedding)	(1, None, 256)	16640
=====		
gru_23 (GRU)	(1, None, 1024)	3938304
=====		


```
dense_23 (Dense)          (1, None, 65)          66625
=====
Total params: 4,021,569
Trainable params: 4,021,569
Non-trainable params: 0
```

ROMEO: prophet in the fight
 For them when they
 would have gauns in our priest, so holy pride.

PRINCE EDWARD:
 Sweet Kate, or any offence?
 O cousin, cousin; but 'tis my will,
 To see your princely king: for all his life, thy gracious son,
 Women with aged but on the chieftest here to call
 A gonger of her.

FLORIZEL:
 My Lord Angelo,
 Or lace captain and forbidden length,
 His colding excused from our kin.

KATHARINA:
 Nay, I'll be gone, to make her true that is my wedded mothers' you.
 He's the accent of your confidence, seatons perfect day ng live.
 Wherefore did I but where.

OLIOF OF YORK:
 What help and patricians, gracious self,
 Which, in the Mistress it is done to Warwick;
 And, with thy life my pain own several crown'd by the honour. Artise
 This hand art thou that apthe Duke of Gloucester,
 Who most struck now will changed it? to smile her love?
 O, put me in my sense is but employ'd.

Clown:
 Inou are fall'n but dismal here!
 Mark you quakingh! I prithee now, I had give you
 No more than me: I will dr

Whence came there,
 To censure him, down together, nurse,
 I speak; I like the devil's brother brother,
 And, let your weary strength, whom you can find some mean
 To have me with the batter. The Duke of Hereford, war
 Through brats fair. whighto poison may,
 Promise of her!

POMPEY:
 Grops he's it: therefore be n that loss about of intent,
 But yet, he loves your heart, as if thou hast a curse
 He calls for better for be satisfied,
 Your worship's deal dricks just it, proud Jeliueneman:
 Most valour is the cause of your
 combaid, sir, as she I can retreat your heart is as an
 invention of my life.
 O, well me, whose names ere this? hath seen them specary
 Of sacred clastimost;
 Be pleased, the love hath buried esteem of gentle Richard, dost thou hear, sir,
 That you raie more bears more infirmed he will strike
 Your children yet enough?
 Off with such gentle spreading of the swallow.

```
ANGELO:
Well, obedge.
Cold soften as we love the tybalt already
Thou chid'st me leave than my pace more
virtues the threaten

---

Loves,
For no more secret in thy tongue, with all my heart,
Which now 'tis held in aught but likewise thee:
Ay, sirrah, by my troth, I must be his death?
There was her widow and surprus, in Polixenes
In foot; stand bit in birth, great susting
As she did keep the guilty off her folly.
But your apparent dear salit, to the sister of
Fred words here's a gentleman?
Then he is almost a duke.

GLOUCESTER:
O, first let's to bed.
Ak, your great-dissons for the goast,
When he can fly to the death that
Ho often seem to nobleness.

COMINIUS:
I would you have said, canst thou not come to fear.

MENENIUS:
Therefore leave sister, let us true hold?

WARWICK:
Prove it, How, d forsook his sister.

LUCENTIO:
Here, madam, now I see occasion is but see:
To many does pur only must
Is call me fan to dance.

QUEEN MARGARET:
Nay, never shame to me,
And if they see the cream of death ere this!

CATESBY:
My least, foolish to my love. Adieu, game till
Affection from the unstorm'st, and wisd, your spite: my quarrell'd
```

256 1024 40

```
In [56]: iteration(256,1024,40)
```

Model: "sequential_24"

Layer (type)	Output Shape	Param #
=====		
embedding_24 (Embedding)	(64, None, 256)	16640
=====		
gru_24 (GRU)	(64, None, 1024)	3938304
=====		
dense_24 (Dense)	(64, None, 65)	66625
=====		
Total params: 4,021,569		
Trainable params: 4,021,569		
Non-trainable params: 0		

```
Epoch 1/40
172/172 [=====] - 11s 54ms/step - loss: 3.2118
Epoch 2/40
172/172 [=====] - 10s 55ms/step - loss: 2.0447
Epoch 3/40
172/172 [=====] - 11s 55ms/step - loss: 1.7278
Epoch 4/40
172/172 [=====] - 11s 56ms/step - loss: 1.5607
Epoch 5/40
172/172 [=====] - 11s 57ms/step - loss: 1.4585
Epoch 6/40
172/172 [=====] - 11s 57ms/step - loss: 1.3966
Epoch 7/40
172/172 [=====] - 11s 57ms/step - loss: 1.3465
Epoch 8/40
172/172 [=====] - 11s 58ms/step - loss: 1.3048
Epoch 9/40
172/172 [=====] - 11s 58ms/step - loss: 1.2673
Epoch 10/40
172/172 [=====] - 11s 58ms/step - loss: 1.2312
Epoch 11/40
172/172 [=====] - 11s 59ms/step - loss: 1.2018
Epoch 12/40
172/172 [=====] - 11s 59ms/step - loss: 1.1662
Epoch 13/40
172/172 [=====] - 11s 60ms/step - loss: 1.1329
Epoch 14/40
172/172 [=====] - 11s 59ms/step - loss: 1.0989
Epoch 15/40
172/172 [=====] - 11s 59ms/step - loss: 1.0590
Epoch 16/40
172/172 [=====] - 11s 59ms/step - loss: 1.0216
Epoch 17/40
172/172 [=====] - 11s 59ms/step - loss: 0.9870
Epoch 18/40
172/172 [=====] - 11s 59ms/step - loss: 0.9459
Epoch 19/40
172/172 [=====] - 11s 59ms/step - loss: 0.9095
Epoch 20/40
172/172 [=====] - 11s 59ms/step - loss: 0.8758
Epoch 21/40
172/172 [=====] - 11s 59ms/step - loss: 0.8433
Epoch 22/40
172/172 [=====] - 11s 59ms/step - loss: 0.8126
Epoch 23/40
172/172 [=====] - 11s 60ms/step - loss: 0.7869
Epoch 24/40
172/172 [=====] - 11s 60ms/step - loss: 0.7624
Epoch 25/40
172/172 [=====] - 11s 59ms/step - loss: 0.7416
Epoch 26/40
172/172 [=====] - 11s 59ms/step - loss: 0.7223
Epoch 27/40
172/172 [=====] - 11s 59ms/step - loss: 0.7065
Epoch 28/40
172/172 [=====] - 11s 59ms/step - loss: 0.6904
Epoch 29/40
172/172 [=====] - 11s 59ms/step - loss: 0.6812
Epoch 30/40
172/172 [=====] - 11s 59ms/step - loss: 0.6693
Epoch 31/40
172/172 [=====] - 11s 60ms/step - loss: 0.6584
Epoch 32/40
172/172 [=====] - 11s 60ms/step - loss: 0.6481
```

Epoch 33/40
 172/172 [=====] - 11s 59ms/step - loss: 0.6447
 Epoch 34/40
 172/172 [=====] - 11s 60ms/step - loss: 0.6393
 Epoch 35/40
 172/172 [=====] - 11s 60ms/step - loss: 0.6320
 Epoch 36/40
 172/172 [=====] - 11s 60ms/step - loss: 0.6312
 Epoch 37/40
 172/172 [=====] - 11s 59ms/step - loss: 0.6268
 Epoch 38/40
 172/172 [=====] - 11s 59ms/step - loss: 0.6208
 Epoch 39/40
 172/172 [=====] - 11s 60ms/step - loss: 0.6179
 Epoch 40/40
 172/172 [=====] - 11s 60ms/step - loss: 0.6171

Model: "sequential_25"

Layer (type)	Output Shape	Param #
=====		
embedding_25 (Embedding)	(1, None, 256)	16640

gru_25 (GRU)	(1, None, 1024)	3938304

dense_25 (Dense)	(1, None, 65)	66625
=====		
Total params: 4,021,569		
Trainable params: 4,021,569		
Non-trainable params: 0		

ROMEO: this has the father,
 When 'twas a lovel; as for sweet ladies
 with nothing have I sting my oath
 To to, your house another bears,
 And you shall bear you how to further than the city.

COMINIUS:
 Is it nearth.

CAMILLO:
 Sir,--a noble
 Rich gazmand of consumemy.

Clown:
 It is bare leaveso I for coans, More wondrous long.
 Must thou beheld.

Furse:
 I can add more answer of them.

KING HENRY VI:
 Then love away, sir. Product you, sir?

BONA:
 you are well for such officers and pluck his gage,
 As Antigonus to make it friends.
 I think the more, send me now.

LUCENTIO:
 And what is banish'd, from whence.

NUCFor the feeling of thy brethren here, by my good upon Christop then Rame

Should bring our love to help me king;

BAPTISTA:

Now, princely Buckingham, I say; go,
Son,
I court it, take heed of Warwick.

ISABELLA:

O, this is he Montague, I did well become
An eye o'erventure.

MONTAGUE:

Art thou not, good Catesby; now is he
More fit to any griefs, whilst of thine eye
Will take here in this case.

CORI

Whencemost heavy will
so in able the encouragement
Than Julius Caesar, love consent of night.
Peddurs, and I have heard it; when true?

VOLUMNIA:

Ay, for prop you, good sovereign,
An thine own boling woulds
Have thy our own desert. Should I had good us the note.
O, my most France, I prithee.

AUTOLYCUS:

Indeed, I, how a just was in our battery:
n, drunk mother, now.

DUKE VINCENTIO:

I prother the Queen of God, 'tis not to be so vexy
Of nine that Rutland cursed fork.

WARWICK:

And I, there deceived us any thing!
Beseech you, sir, if you cruel to
such wear-stick.

CAMILLO:

I cannot see your high drown.
Self-a-moor this moy my lances,
Hose this house of death?

Cantovio! you refend me; you have

LEONG SICINIUS:

Tongue this blessed nature,
Young, not thy fault, provoke a fire, a word;
The crown will blood de doubt never broke no money, go to;
Art thou so blent. Plantagenet
Or else your heart were vowwith to this cursed steward,--
For I must have, friends, possession of well?
And smiles the lady

Love legs: and have a fool
Tongues that sound his beams of lift.

LADY CAPULET:
Shots Biraracher? made you,
Splitting the midst of the banish'd after thy wing?
Did I impatient thankshild, dispatch me here,
That I am clear from him.

PROSPERO:
No heart is gone, and thou shalt seenot this house
Porse of some perpetual honesty. nay, you'll rejoice
it's good. I'll entreat no more.

LADY ANNE:
Is it much better.

PAULINA:
I am inform'd themselves are of breath
And issue frswer: yet go with him.
To see you ever touch'd his foamiers,
This weep, a brave vengeance and to put upon the earth;
Why, when you are with them, a stranger in the war;
Abaund, at Warwick; like a thing. Worreg from the r generat?

BAPTISTA:
I have some wounds up; for I must be
A bachelorng breeding; by his estimation,
To sudden, leaving this abuse, was substitutory of his clamo.

BAGOT:
It is: 'tis none slaughter?

MENENIUS:
The next daughter,
Hortens to his unfeigned fast.

ROMEO:
Name not these dukes to be happy
is rise and

256 1024 50

```
In [61]: iteration(256,1024,50)
```

Model: "sequential_34"

Layer (type)	Output Shape	Param #
embedding_34 (Embedding)	(64, None, 256)	16640
gru_34 (GRU)	(64, None, 1024)	3938304
dense_34 (Dense)	(64, None, 65)	66625

Total params: 4,021,569
Trainable params: 4,021,569
Non-trainable params: 0

Epoch 1/50
172/172 [=====] - 11s 53ms/step - loss: 3.2904
Epoch 2/50
172/172 [=====] - 10s 54ms/step - loss: 2.0477
Epoch 3/50
172/172 [=====] - 10s 54ms/step - loss: 1.7375
Epoch 4/50

```
172/172 [=====] - 10s 55ms/step - loss: 1.5625
Epoch 5/50
172/172 [=====] - 10s 55ms/step - loss: 1.4607
Epoch 6/50
172/172 [=====] - 11s 56ms/step - loss: 1.3966
Epoch 7/50
172/172 [=====] - 11s 56ms/step - loss: 1.3480
Epoch 8/50
172/172 [=====] - 11s 56ms/step - loss: 1.3070
Epoch 9/50
172/172 [=====] - 11s 57ms/step - loss: 1.2691
Epoch 10/50
172/172 [=====] - 11s 57ms/step - loss: 1.2350
Epoch 11/50
172/172 [=====] - 11s 58ms/step - loss: 1.2011
Epoch 12/50
172/172 [=====] - 11s 58ms/step - loss: 1.1658
Epoch 13/50
172/172 [=====] - 11s 58ms/step - loss: 1.1331
Epoch 14/50
172/172 [=====] - 11s 59ms/step - loss: 1.0967
Epoch 15/50
172/172 [=====] - 11s 59ms/step - loss: 1.0611
Epoch 16/50
172/172 [=====] - 11s 59ms/step - loss: 1.0249
Epoch 17/50
172/172 [=====] - 11s 60ms/step - loss: 0.9871
Epoch 18/50
172/172 [=====] - 11s 60ms/step - loss: 0.9480
Epoch 19/50
172/172 [=====] - 11s 60ms/step - loss: 0.9134
Epoch 20/50
172/172 [=====] - 11s 60ms/step - loss: 0.8785
Epoch 21/50
172/172 [=====] - 11s 59ms/step - loss: 0.8473
Epoch 22/50
172/172 [=====] - 11s 59ms/step - loss: 0.8183
Epoch 23/50
172/172 [=====] - 11s 60ms/step - loss: 0.7888
Epoch 24/50
172/172 [=====] - 11s 60ms/step - loss: 0.7650
Epoch 25/50
172/172 [=====] - 11s 60ms/step - loss: 0.7461
Epoch 26/50
172/172 [=====] - 11s 60ms/step - loss: 0.7250
Epoch 27/50
172/172 [=====] - 11s 60ms/step - loss: 0.7079
Epoch 28/50
172/172 [=====] - 11s 60ms/step - loss: 0.6949
Epoch 29/50
172/172 [=====] - 11s 59ms/step - loss: 0.6812
Epoch 30/50
172/172 [=====] - 11s 60ms/step - loss: 0.6722
Epoch 31/50
172/172 [=====] - 11s 60ms/step - loss: 0.6634
Epoch 32/50
172/172 [=====] - 11s 60ms/step - loss: 0.6562
Epoch 33/50
172/172 [=====] - 11s 60ms/step - loss: 0.6490
Epoch 34/50
172/172 [=====] - 11s 60ms/step - loss: 0.6422
Epoch 35/50
172/172 [=====] - 11s 59ms/step - loss: 0.6381
Epoch 36/50
172/172 [=====] - 11s 59ms/step - loss: 0.6367
```

```

Epoch 37/50
172/172 [=====] - 11s 60ms/step - loss: 0.6315
Epoch 38/50
172/172 [=====] - 11s 60ms/step - loss: 0.6317
Epoch 39/50
172/172 [=====] - 11s 60ms/step - loss: 0.6260
Epoch 40/50
172/172 [=====] - 11s 60ms/step - loss: 0.6229
Epoch 41/50
172/172 [=====] - 11s 60ms/step - loss: 0.6223
Epoch 42/50
172/172 [=====] - 11s 60ms/step - loss: 0.6207
Epoch 43/50
172/172 [=====] - 11s 60ms/step - loss: 0.6223
Epoch 44/50
172/172 [=====] - 11s 60ms/step - loss: 0.6221
Epoch 45/50
172/172 [=====] - 11s 60ms/step - loss: 0.6236
Epoch 46/50
172/172 [=====] - 11s 60ms/step - loss: 0.6222
Epoch 47/50
172/172 [=====] - 11s 60ms/step - loss: 0.6226
Epoch 48/50
172/172 [=====] - 11s 60ms/step - loss: 0.6229
Epoch 49/50
172/172 [=====] - 11s 60ms/step - loss: 0.6227
Epoch 50/50
172/172 [=====] - 11s 60ms/step - loss: 0.6258

```

Model: "sequential_35"

Layer (type)	Output Shape	Param #
=====		
embedding_35 (Embedding)	(1, None, 256)	16640

gru_35 (GRU)	(1, None, 1024)	3938304

dense_35 (Dense)	(1, None, 65)	66625
=====		
Total params: 4,021,569		
Trainable params: 4,021,569		
Non-trainable params: 0		

ROMEO: by my right,
 When most strict sees that canst thou spray;
 There stand no irood, whom I frown? Dear Isabel,
 I love thee out of fire, bound up my
 sweet Rutland's brave place she dies,
 Haviow thy fore-falling rife
 By this, command, and beseech you straight,
 And bear the sad oppress'd without wretch,
 That thou wilt proved the imagination of his face,
 His ve of all eye down
 To God, that talk'd of King of England!
 You are the more my love's blanks.

COMINIUS:
 Come, command,
 What duning one rootify thou, Lord Clifford more.
 'Tall frown the gallant, nt becomes your goods.

First Citizen:
 Are their so triven: but he's to me

The rashy thousand deaths
As swiftly served in Sicilia
And except, though his own gentleman,
Who now, instant to him paint whose injured creatures?

BAPTISTA:

Why, thus' quoth: but think you;
Only revenge you: tell me, poor souls, you make
False famous laworted my heart,
As by the advantage of my son,
It should her brother had,
So fond of the noise of truth, and fled,
Were

Whence I arm'd a prince,
How the young prince of weeping for your
gentle villain, when he shall have a store honour.
This shall apprehend you our breath;
For endined in their army. Come, come.

ROMEO:

What say'st thou hear him game, that I may swear
That all the state was a plunty moor instantly,
redement with the hard-lives directing:
Good Clifford, for my hand,
Be jusiness up, I say.

PETRUCHIO:

Naught to it.

GLOUCESTER:

I do demand, do not hear him plead as eat!
O price! I pray the tongue
Makes my weapon sea for your concerning, tempt, myself in feel,
And that tyranny to do grant me quite.
Embarr's no change;
And makes thee to be so stinking excuses.

CLEOMENES:

They are be not of constable we have done.

HORTENSIO:

Wouldst thou hadst been mothers, that thou wouldst
bel't? the the friar Sitting in
our breasters of her flowers. Lends them not:
By mine own sea! brief from my mouth,
And every day's fair ladies 'cheres:
He does seems hear me.

MENENIUS:

I think of men's,
my son of mine, whic

Love ta'en you are younger.

ROMEO:

Worker, hear me speak with you;
Hath st you do to thee,
That chide she must be tainted out of man time his last:
Upon his beast! who is it thy heart?
A perpetual scorn as despair: I hope,

```
Against thy life.  
Bring him in admarp'd and namedom without fear or doubt,  
Pray now, sir? were he not Romeo's man.  
  
PROSPERO:  
O, was I like to be discharged:  
Since you will have none in, body so unless  
The meaningly reverend from Tiber.  
To see your heart prepared, that my haste for a hundred times my service,  
Or serve Voluck's the cause.  
  
AEdile:  
Petitioner,  
That does a kinsman and I know her wit to make me murdered,  
Ere I not usurprenzer drinkly fight:  
No, we will have them very criedled with a herd  
From courtesy.  
  
GREEN:  
My lord, had as liberty of resemblance;  
And as mechanch as falsely to die.  
  
YORK:  
Thank, gentle now! what mean these my life,  
Heaven seize at you can but see him drums:'  
Speak, begeth these gall'd and underishiface  
To make will well believe a son.  
  
Fi
```

MAX

```
In [63]: iteration(1024,1024,40)  
  
Model: "sequential_38"  
  
Layer (type)              Output Shape              Param #  
=====
```

embedding_38 (Embedding)	(64, None, 1024)	66560
--------------------------	------------------	-------

```
=====
```

gru_38 (GRU)	(64, None, 1024)	6297600
--------------	------------------	---------

```
=====
```

dense_38 (Dense)	(64, None, 65)	66625
------------------	----------------	-------

```
=====
```

Total params: 6,430,785
Trainable params: 6,430,785
Non-trainable params: 0

```
=====
```

Epoch 1/40
172/172 [=====] - 16s 83ms/step - loss: 3.0240
Epoch 2/40
172/172 [=====] - 16s 85ms/step - loss: 1.8548
Epoch 3/40
172/172 [=====] - 16s 86ms/step - loss: 1.5906
Epoch 4/40
172/172 [=====] - 16s 86ms/step - loss: 1.4714
Epoch 5/40
172/172 [=====] - 16s 86ms/step - loss: 1.3981
Epoch 6/40
172/172 [=====] - 16s 87ms/step - loss: 1.3483
Epoch 7/40
172/172 [=====] - 16s 87ms/step - loss: 1.3094
Epoch 8/40
172/172 [=====] - 16s 88ms/step - loss: 1.2716

```
Epoch 9/40
172/172 [=====] - 16s 88ms/step - loss: 1.2376
Epoch 10/40
172/172 [=====] - 16s 88ms/step - loss: 1.2054
Epoch 11/40
172/172 [=====] - 16s 88ms/step - loss: 1.1776
Epoch 12/40
172/172 [=====] - 16s 88ms/step - loss: 1.1449
Epoch 13/40
172/172 [=====] - 16s 89ms/step - loss: 1.1135
Epoch 14/40
172/172 [=====] - 16s 89ms/step - loss: 1.0816
Epoch 15/40
172/172 [=====] - 16s 89ms/step - loss: 1.0509
Epoch 16/40
172/172 [=====] - 16s 89ms/step - loss: 1.0171
Epoch 17/40
172/172 [=====] - 16s 89ms/step - loss: 0.9828
Epoch 18/40
172/172 [=====] - 16s 88ms/step - loss: 0.9488
Epoch 19/40
172/172 [=====] - 16s 89ms/step - loss: 0.9167
Epoch 20/40
172/172 [=====] - 17s 91ms/step - loss: 0.8841
Epoch 21/40
172/172 [=====] - 16s 89ms/step - loss: 0.8559
Epoch 22/40
172/172 [=====] - 16s 89ms/step - loss: 0.8266
Epoch 23/40
172/172 [=====] - 16s 89ms/step - loss: 0.8029
Epoch 24/40
172/172 [=====] - 16s 89ms/step - loss: 0.7822
Epoch 25/40
172/172 [=====] - 16s 89ms/step - loss: 0.7594
Epoch 26/40
172/172 [=====] - 16s 89ms/step - loss: 0.7405
Epoch 27/40
172/172 [=====] - 16s 90ms/step - loss: 0.7246
Epoch 28/40
172/172 [=====] - 16s 89ms/step - loss: 0.7112
Epoch 29/40
172/172 [=====] - 16s 89ms/step - loss: 0.6978
Epoch 30/40
172/172 [=====] - 16s 89ms/step - loss: 0.6863
Epoch 31/40
172/172 [=====] - 16s 89ms/step - loss: 0.6824
Epoch 32/40
172/172 [=====] - 16s 89ms/step - loss: 0.6706
Epoch 33/40
172/172 [=====] - 16s 89ms/step - loss: 0.6677
Epoch 34/40
172/172 [=====] - 16s 89ms/step - loss: 0.6599
Epoch 35/40
172/172 [=====] - 16s 89ms/step - loss: 0.6563
Epoch 36/40
172/172 [=====] - 16s 89ms/step - loss: 0.6510
Epoch 37/40
172/172 [=====] - 16s 89ms/step - loss: 0.6483
Epoch 38/40
172/172 [=====] - 16s 89ms/step - loss: 0.6451
Epoch 39/40
172/172 [=====] - 16s 89ms/step - loss: 0.6451
Epoch 40/40
172/172 [=====] - 16s 89ms/step - loss: 0.6473
```

Model: "sequential_39"

Layer (type)	Output Shape	Param #
=====		
embedding_39 (Embedding)	(1, None, 1024)	66560
=====		
gru_39 (GRU)	(1, None, 1024)	6297600
=====		
dense_39 (Dense)	(1, None, 65)	66625
=====		
Total params: 6,430,785		
Trainable params: 6,430,785		
Non-trainable params: 0		

ROMEO: twhis gentleman!

VOLUMNIA:

I pray thee, ere the prince for ever rid the way.
 Nay, come away, to make men all in others.

KING EDWARD IV:

Is Clarence should bring forth, and unquiet wrangling. He's a very tre cowardice
 Thou came trunct may father. There's one of York
 Should estimation of a brother's life,--
 The man I am, ere we they ravel at 't.
 Do both passis vesty; as it is the world
 Thou call'd me!

First Murderer:

Take nothing from thee, glive! Thou hast married me in his head.
 King in himself more harbou
 Full well approved in the Duke of Norfolk, Thomaster,
 Thy voice o' the queen's appearility;
 And all the very men of the queen and his clothes: Coriolanus.

MARCIUS:

I'll keep into the king.

OXFORD:

'Twere likes your ten thousand title,
 Give me lesser than a welcome. Thou wast they speak?

YORK:

The Countess Roberat means to see,
 Subsisted, we must enter: declare me a prey unwarting. Herefore, I never had been delive
 r'd,
 I pray you, mistress: but ask him from a wing, you,
 Tutus Au

Whence copes in the common
 pardon from the holy sealock and driar.

FROTH:

Yea, my lord.

DUKE VINCENTIO:

Are you as you depeal'd with my heart-bolted much:
 Here is no more respected world expressed him
 And learn to come with whom comest thou? away, your mind?
 But steely good, he requested
 Should come again, to chaste.

Fair lord's age, But who comes here?

FRIAR THOMAS:

Mark your general:

A packing a hand of wonder and Clarence so much strengths come;
Palse for a linging and the king's danger.

LADY CAPULET:

Marry, rights:

I bade her husband, sir, I would a time above some change cleaved eyes
Were sushape hath made a sojecety
Is of at least thus have the truth of it.

MENENIUS:

I tell you, farewell! I pray you, sir, he has our venom'd
And blow thee to grace.

QUEEN ELIZABETH:

God's work, say's simple crow,
With mine own visit who comes here?

QUEEN ELIZABETH:

Stay, yet me show us high?
Her life is vained with your affectio?
According to the crown be merry of;
Followings thy age.
I at a lawfu

Love me: O, thou wilt be sake: 'tis too ta'en an outcast censure
Which you shall sleep a few done.

SICINIUS:

They are no lade God NORFOLK:
And Henry then his son is here!

BRATHOMAS MARGARET:

So do I think he will carry it.

MENENIUS:

If it be soje injustice,
To flatter Menenius' that I looked pieceput he was rest.

DUKE OF AUMERLE:

'Farewell:'

And, as I hear, then, es't not well: I see
if that part before the lie: where is York in true,
Honest as I could take prosperous and process
some more, much more to be short;
Nor shuff agree than for me,
Who are they were Edward's; where is God, this ground,
The common your will, shed steel'd from sword,
That horse that shut up himself, is too harmour, by the royalties
He would hold patrimonial help, yet done forth
To you, take it up those benefit of Johnowld
I thought my pit bound to her re, revenue.
I thought it good for in this place why
The blessed sleep sullenness.

POLIXENES:

No, ay.

Third Citizen:

We honour and myself and my son Camillo,
Shalt

In []:

RNN

import/load

```
In [1]: import tensorflow as tf

import numpy as np
import os
import time

from google.colab import drive
drive.mount('/content/drive')
```

Mounted at /content/drive

```
In [2]: #path_to_file = tf.keras.utils.get_file('shakespeare.txt', 'https://storage.googleapis.com/shakespeare-colab/2018/shakespeare.txt')
#text = open(path_to_file, 'rb').read().decode(encoding='utf-8')
#print('Length of text: {} characters'.format(len(text)))
```

```
In [3]: with open('/content/drive/My Drive/sherlock.txt', 'r') as f:
    text = f.read()

print('Length of text: {} characters'.format(len(text)))
```

Length of text: 3381928 characters

```
In [4]: print(text[:250])
```

THE COMPLETE SHERLOCK HOLMES

Arthur Conan Doyle

Table of contents

A Study In Scarlet

The Sign of the Four

vectorize

```
In [5]: # The unique characters
vocab = sorted(set(text))
print('{} unique characters'.format(len(vocab)))
```

97 unique characters

```
In [6]: # map unique characters to indices
char2idx = {u:i for i, u in enumerate(vocab)}
idx2char = np.array(vocab)

text_as_int = np.array([char2idx[c] for c in text])
```

```
In [7]: print('{}')
for char, _ in zip(char2idx, range(20)):
    print('  {:4s}: {:3d}', '.format(repr(char), char2idx[char]))
print('  ...\\n')
```

```
{
  '\n' : 0,
  ' ' : 1,
  '!' : 2,
  '"' : 3,
  '&' : 4,
  "'" : 5,
  '(' : 6,
  ')' : 7,
  '*' : 8,
  ',' : 9,
  '-' : 10,
  '.' : 11,
  '/' : 12,
  '0' : 13,
  '1' : 14,
  '2' : 15,
  '3' : 16,
  '4' : 17,
  '5' : 18,
  '6' : 19,
  ...
}
```

```
In [8]: # Show how the first 13 characters from the text are mapped to integers
print('{} ---- characters mapped to int ---- > {}'.format(repr(text[:13]), text_as_int[0:13]))
```

'\n\n\n\n' ---- characters mapped to int ---- > [0 0 0 0 1 1 1 1 1 1 1 1 1]

```
In [9]: # The maximum length sentence you want for a single input in characters
seq_length = 100
examples_per_epoch = len(text)//(seq_length+1)

# Create training examples / targets
char_dataset = tf.data.Dataset.from_tensor_slices(text_as_int)

for i in char_dataset.take(5):
    print(idx2char[i.numpy()])
```

```
In [10]: sequences = char_dataset.batch(seq_length+1, drop_remainder=True)
```

```
for item in sequences.take(5):
    print(repr(''.join(idx2char[item.numpy()])))
```

```
'\n\n\n\nTHE COMPLETE SHERLOCK HOLMES\nArthur Con'\n'an Doyle\nTable of contents\nA S\nudy In Scarlet\nThe Sign of the Four\nThe Adventures of Sherlock Holmes'
```



```

\n
'A Scandal in Bohemia\n          The Red-Headed League\n          A Case of Id
entity\n
'          The Boscombe Valley Mystery\n          The Five Orange Pips\nThe Man with the'

```

```

In [11]: def split_input_target(chunk):
          input_text = chunk[:-1]
          target_text = chunk[1:]
          return input_text, target_text

          dataset = sequences.map(split_input_target)

```

```

In [12]: for input_example, target_example in dataset.take(1):
          print('Input data: ', repr(''.join(idx2char[input_example.numpy()])))
          print('Target data:', repr(''.join(idx2char[target_example.numpy()])))

Input data:  '\n\n\n\n          THE COMPLETE SHERLOCK HOLMES\n\n
Arthur Co'
Target data: '\n\n\n\n          THE COMPLETE SHERLOCK HOLMES\n\n
Arthur Con'

```

```

In [13]: for i, (input_idx, target_idx) in enumerate(zip(input_example[:5], target_example[:5])):
          print("Step {:4d}".format(i))
          print("  input: {} ({:s})".format(input_idx, repr(idx2char[input_idx])))
          print(" expected output: {} ({:s})".format(target_idx, repr(idx2char[target_idx])))

```

```

Step    0
  input: 0 ('\n')
 expected output: 0 ('\n')
Step    1
  input: 0 ('\n')
 expected output: 0 ('\n')
Step    2
  input: 0 ('\n')
 expected output: 0 ('\n')
Step    3
  input: 0 ('\n')
 expected output: 1 (' ')
Step    4
  input: 1 (' ')
 expected output: 1 (' ')

```

base model

```

In [14]: # Batch size
          BATCH_SIZE = 64

          # Buffer size to shuffle the dataset
          # (TF data is designed to work with possibly infinite sequences,
          # so it doesn't attempt to shuffle the entire sequence in memory. Instead,
          # it maintains a buffer in which it shuffles elements).
          BUFFER_SIZE = 10000

          dataset = dataset.shuffle(BUFFER_SIZE).batch(BATCH_SIZE, drop_remainder=True)

          dataset

```

```

Out[14]: <BatchDataset shapes: ((64, 100), (64, 100)), types: (tf.int64, tf.int64)>

```

```

In [15]: # Length of the vocabulary in chars

```

```

vocab_size = len(vocab)

# The embedding dimension
embedding_dim = 256

# Number of RNN units
rnn_units = 1024

```

```

In [16]: def build_model(vocab_size, embedding_dim, rnn_units, batch_size):
          model = tf.keras.Sequential([
              tf.keras.layers.Embedding(vocab_size, embedding_dim,
                                         batch_input_shape=[batch_size, None]),
              tf.keras.layers.GRU(rnn_units,
                                   return_sequences=True,
                                   stateful=True,
                                   recurrent_initializer='glorot_uniform'),
              tf.keras.layers.Dense(vocab_size)
          ])
          return model

```

```

In [17]: model = build_model(
          vocab_size=len(vocab),
          embedding_dim=embedding_dim,
          rnn_units=rnn_units,
          batch_size=BATCH_SIZE)

```

```

In [18]: for input_example_batch, target_example_batch in dataset.take(1):
          example_batch_predictions = model(input_example_batch)
          print(example_batch_predictions.shape, "# (batch_size, sequence_length, vocab_size)"

(64, 100, 97) # (batch_size, sequence_length, vocab_size)

```

```

In [19]: model.summary()

```

Model: "sequential"

Layer (type)	Output Shape	Param #
embedding (Embedding)	(64, None, 256)	24832
gru (GRU)	(64, None, 1024)	3938304
dense (Dense)	(64, None, 97)	99425
Total params: 4,062,561		
Trainable params: 4,062,561		
Non-trainable params: 0		

```

In [20]: sampled_indices = tf.random.categorical(example_batch_predictions[0], num_samples=1)
          sampled_indices = tf.squeeze(sampled_indices,axis=-1).numpy()

```

```

In [21]: print("Input: \n", repr("".join(idx2char[input_example_batch[0]])))
          print()
          print("Next Char Predictions: \n", repr("".join(idx2char[sampled_indices ])))

```

Input:

'ruded out of the floor. Then it was withdrawn as\n suddenly as it appeared, and al
l was dark again'

Next Char Predictions:

```
'65ñKP\ 'o;;k0üP.96mFEs:àRi'3!/\`LñâHLN7ôgkq["lB6733:9N8zo]xE7.3M]vzTnxCCKK j`S?4dt%nCQiq
`UüfyülséTYß,à&'
```

```
In [22]: def loss(labels, logits):
          return tf.keras.losses.sparse_categorical_crossentropy(labels, logits, from_logits=

example_batch_loss = loss(target_example_batch, example_batch_predictions)
print("Prediction shape: ", example_batch_predictions.shape, " # (batch_size, sequence_
print("scalar_loss:      ", example_batch_loss.numpy().mean())
```

```
Prediction shape: (64, 100, 97) # (batch_size, sequence_length, vocab_size)
scalar_loss:      4.5767837
```

```
In [23]: model.compile(optimizer='adam', loss=loss)
```

epoch

```
In [24]: # Directory where the checkpoints will be saved
checkpoint_dir = './training_checkpoints'
# Name of the checkpoint files
checkpoint_prefix = os.path.join(checkpoint_dir, "ckpt_{epoch}")

checkpoint_callback = tf.keras.callbacks.ModelCheckpoint(
    filepath=checkpoint_prefix,
    save_weights_only=True)
```

```
In [25]: EPOCHS = 10
```

```
In [26]: history = model.fit(dataset, epochs=EPOCHS, callbacks=[checkpoint_callback])
```

```
Epoch 1/10
523/523 [=====] - 33s 58ms/step - loss: 2.6100
Epoch 2/10
523/523 [=====] - 32s 60ms/step - loss: 1.4129
Epoch 3/10
523/523 [=====] - 33s 60ms/step - loss: 1.2427
Epoch 4/10
523/523 [=====] - 32s 60ms/step - loss: 1.1735
Epoch 5/10
523/523 [=====] - 32s 60ms/step - loss: 1.1310
Epoch 6/10
523/523 [=====] - 33s 60ms/step - loss: 1.0966
Epoch 7/10
523/523 [=====] - 33s 60ms/step - loss: 1.0707
Epoch 8/10
523/523 [=====] - 32s 60ms/step - loss: 1.0492
Epoch 9/10
523/523 [=====] - 33s 60ms/step - loss: 1.0277
Epoch 10/10
523/523 [=====] - 32s 60ms/step - loss: 1.0096
```

```
In [27]: tf.train.latest_checkpoint(checkpoint_dir)
```

```
Out[27]: './training_checkpoints/ckpt_10'
```

```
In [28]: model = build_model(vocab_size, embedding_dim, rnn_units, batch_size=1)

model.load_weights(tf.train.latest_checkpoint(checkpoint_dir))

model.build(tf.TensorShape([1, None]))
```

```
In [29]: model.summary()
```

Model: "sequential_1"

Layer (type)	Output Shape	Param #
embedding_1 (Embedding)	(1, None, 256)	24832
gru_1 (GRU)	(1, None, 1024)	3938304
dense_1 (Dense)	(1, None, 97)	99425
Total params: 4,062,561		
Trainable params: 4,062,561		
Non-trainable params: 0		

generate

```
In [30]: def generate_text(model, start_string):
# Evaluation step (generating text using the learned model)

# Number of characters to generate
num_generate = 1000

# Converting our start string to numbers (vectorizing)
input_eval = [char2idx[s] for s in start_string]
input_eval = tf.expand_dims(input_eval, 0)

# Empty string to store our results
text_generated = []

# Low temperature results in more predictable text.
# Higher temperature results in more surprising text.
# Experiment to find the best setting.
temperature = 1.0

# Here batch size == 1
model.reset_states()
for i in range(num_generate):
    predictions = model(input_eval)
    # remove the batch dimension
    predictions = tf.squeeze(predictions, 0)

    # using a categorical distribution to predict the character returned by the model
    predictions = predictions / temperature
    predicted_id = tf.random.categorical(predictions, num_samples=1)[-1,0].numpy()

    # Pass the predicted character as the next input to the model
    # along with the previous hidden state
    input_eval = tf.expand_dims([predicted_id], 0)

    text_generated.append(idx2char[predicted_id])

return (start_string + ''.join(text_generated))
```

```
In [31]: print(generate_text(model, start_string=u"Sherlock "))
```

Sherlock headed is
descended, and with a sailor country building and face he feads

an emergen land, they would seize up a juncof it once more to ask, when I had readily in it, impenefally used as his body ladiments considerably wealthy the gentleman. I human with this point would be to extreord. They talk efore old dream--such as turning two eyes, practical spocial towards us--"

Holmes toicess with this hiding-place.

"They have glared the advice. His dressing-room gave no scowling glancing that he could accept a little for the nt was but him."

"Then we bead like the essentials of what you don't know that there was down An electround if you can send your brain to CurKh

The Croweral Square. Amus add the words of the edge of something fect. His face still was unlikely to him there. Holmes give you all in which my mele rattle how you would be more. They struck home leaving with a real murder at the world, and would

```
In [32]: print(generate_text(model, start_string=u"When"))
```

When we

have fred on accounts to her rugge and second projecting designs the galloys of finding the daily damp-backed door, and heavily beyond one of this evil murder.

"I can see d." He did somehow all three seemed across the retirns that I had let the uge of traceid Inly deceives the agent disappointed. The clergyman, but within our man, with a cabable in his rooms."

The bbother had become expecially, once or no--orgeon the moor. Here we have decayed so we now, and Godfrey was to be despair. I shall guide three inclusive residence in the friends beside by the short and sallowly dropping rapidly. A shadow was close to the burotest face

himself which I have not learned to show you have help out in my direction without the suspicion, the towns which led to the lid. And me under the lady. "Ah, yes--the fatal effort. We caught

one

of the event for me to the lawy, and in reading the hat you wore a migst of it

```
In [33]: print(generate_text(model, start_string=u"discover"))
```

discovering with

admiration, and had once beced the teral to leave, then! that surly it all, played these, were removed young man, with McMurdo and a badx on earth to get round to it will be back by reward to chord. Myc roft, it is true, too! I thought your motive cannot be more. After all. But the front, silver, taking that Willable sheer best had rung-ink.

"It is losely that we may not go so hard when they were leaving to us. There is any in their smiling as he replaced it therence. May I ask. Sherlock Hallshires had been kissed in has a connection with the wind-wood of the room, and mack before we would be taken, and made frame of him, Miss Stapleton had books immissive o'clock. We are greatly at the time later mad over to it. You know me. What's this, it's question has not disappeared."

"What was it?" asked Holmes.

"Why, you are jointed out some trade!"

"Yes, it was a door that I'll shafe that her solution come oncome

functionize

```
In [34]: def iteration(embed_dim,rnn_units,epochs):
dataset = sequences.map(split_input_target)
dataset = dataset.shuffle(BUFFER_SIZE).batch(BATCH_SIZE, drop_remainder=True)

vocab_size = len(vocab)
embedding_dim = embed_dim
rnn_units = rnn_units

model = build_model(
    vocab_size=len(vocab),
    embedding_dim=embedding_dim,
    rnn_units=rnn_units,
    batch_size=BATCH_SIZE)

model.summary()

model.compile(optimizer='adam', loss=loss)

checkpoint_dir = './training_checkpoints'
checkpoint_prefix = os.path.join(checkpoint_dir, "ckpt_{epoch}")
checkpoint_callback = tf.keras.callbacks.ModelCheckpoint(
    filepath=checkpoint_prefix,
    save_weights_only=True)

history = model.fit(dataset, epochs=epochs, callbacks=[checkpoint_callback])

tf.train.latest_checkpoint(checkpoint_dir)

print("\n---\n")

model = build_model(vocab_size, embedding_dim, rnn_units, batch_size=1)

model.load_weights(tf.train.latest_checkpoint(checkpoint_dir)).expect_partial()

model.build(tf.TensorShape([1, None]))

model.summary()

print(generate_text(model, start_string=u"Sherlock"))

print("\n---\n")

print(generate_text(model, start_string=u"When"))

print("\n---\n")

print(generate_text(model, start_string=u"discover"))
```

RNN Variations

256 512 10

```
In [35]: iteration(256,512,10)
```

```
Model: "sequential_2"
```

Layer (type)	Output Shape	Param #
embedding_2 (Embedding)	(64, None, 256)	24832
gru_2 (GRU)	(64, None, 512)	1182720
dense_2 (Dense)	(64, None, 97)	49761
Total params: 1,257,313		
Trainable params: 1,257,313		
Non-trainable params: 0		

```
Epoch 1/10
523/523 [=====] - 17s 28ms/step - loss: 2.6967
Epoch 2/10
523/523 [=====] - 16s 28ms/step - loss: 1.5412
Epoch 3/10
523/523 [=====] - 16s 28ms/step - loss: 1.3411
Epoch 4/10
523/523 [=====] - 16s 28ms/step - loss: 1.2577
Epoch 5/10
523/523 [=====] - 16s 28ms/step - loss: 1.2126
Epoch 6/10
523/523 [=====] - 16s 28ms/step - loss: 1.1818
Epoch 7/10
523/523 [=====] - 16s 28ms/step - loss: 1.1589
Epoch 8/10
523/523 [=====] - 16s 28ms/step - loss: 1.1408
Epoch 9/10
523/523 [=====] - 16s 28ms/step - loss: 1.1258
Epoch 10/10
523/523 [=====] - 16s 28ms/step - loss: 1.1107
```

```
---
```

```
Model: "sequential_3"
```

Layer (type)	Output Shape	Param #
embedding_3 (Embedding)	(1, None, 256)	24832
gru_3 (GRU)	(1, None, 512)	1182720
dense_3 (Dense)	(1, None, 97)	49761
Total params: 1,257,313		
Trainable params: 1,257,313		
Non-trainable params: 0		

```
Sherlock Holmes' will, Watson--that a
    strangers done-blood-stapleton at the windows. The fudge-born
    spoke of given as I kept it acresion. Holmes started it up and informing that the p
    lainers
    simpling with violence in connection; and it was as a coming necessary which may ha
    ve been a view of the Scowr.
```

```
"And it is one bearded."
```

```
I never seen its deval and six official, because
    lost in panting steps gow of interest, and as I am not in notacation of the manage
    r? If yet are indifficiated from every mischief true. She, to me, and I have
```

rolled and left him esbale, for he glamed it had begun to prove to be drawn his wife. In helpbanded herself who intended to have said that it is under reprogreutiously important ve because at the district. To live at all it is usual, but one age your objects fell into the first-thoughts. That night he whispered over his hands over w ith her room downstation. It seems for a deepies of the credital clerm

When Well, I was avert as ever I came done, sometriation, for four owner had left us Green gun, but of later he could only one took our dimal, absoluble succeeded, which we had already held it to move a wound when she had admired. To lose the room before he had to strike me that they but the master who share had really moved. I could help me for the plans adortation twenty sick before during this case."

"Didn't he have told of the plant of the hall, I find," he remarked. "How would esc ape, it is most so the grashing figure who is a very Smith, have been the law, Ettie. There is a bushy father."

"It is asquitch," said jy you."

We are equally between practing the place where the maids, and it clay upon the stair, and it was fresh had been afford; the second lenth may surkoncess. What in the word," he cried. "The son, I shall be nearther. You are abdoking in that taste, passed loose at the tundrist. I suppose y

discover-manners and that he was doing already somewhere aboard would have lost if o good theorse barondon together, for I was bussing at it, but with his own shrew cigarette West Lucastle other. It is at the absence."

I long reconstructing his chinnimsyifican had continued forlow. They found my mind, saw Carruthoss times-girl that upper very late announced it."

"You have suggested. The husband may find them all cleared beyonded my-point." He l ooked round the hotel order-remarkable. He waited in one of Hitto time the snight, having a tal l

" The deatewas counted face in the young man. "This word would not imagine where the women touched it. The door upon his hand, his eyes upon the case shoen? Thank you, Sir-JJE72àTI Mary Muser's gallament was already book through the door when you say our jeck. "I have got his words yet there was no importance of Parisnow, did the pursuat, so arene of the most short when he find a lwa

256 256 10

In [36]: `iteration(256,256,10)`

Model: "sequential_4"

Layer (type)	Output Shape	Param #
embedding_4 (Embedding)	(64, None, 256)	24832
gru_4 (GRU)	(64, None, 256)	394752
dense_4 (Dense)	(64, None, 97)	24929
Total params: 444,513		
Trainable params: 444,513		
Non-trainable params: 0		

```
Epoch 1/10
523/523 [=====] - 12s 18ms/step - loss: 2.5659
Epoch 2/10
523/523 [=====] - 10s 18ms/step - loss: 1.5750
Epoch 3/10
523/523 [=====] - 10s 18ms/step - loss: 1.4061
Epoch 4/10
523/523 [=====] - 10s 18ms/step - loss: 1.3330
Epoch 5/10
523/523 [=====] - 10s 18ms/step - loss: 1.2904
Epoch 6/10
523/523 [=====] - 10s 18ms/step - loss: 1.2630
Epoch 7/10
523/523 [=====] - 11s 19ms/step - loss: 1.2422
Epoch 8/10
523/523 [=====] - 10s 17ms/step - loss: 1.2276
Epoch 9/10
523/523 [=====] - 10s 18ms/step - loss: 1.2141
Epoch 10/10
523/523 [=====] - 10s 18ms/step - loss: 1.2058
```

Model: "sequential_5"

Layer (type)	Output Shape	Param #
embedding_5 (Embedding)	(1, None, 256)	24832
gru_5 (GRU)	(1, None, 256)	394752
dense_5 (Dense)	(1, None, 97)	24929
Total params: 444,513		
Trainable params: 444,513		
Non-trainable params: 0		

Sherlock Holmes, that Mr. Fortany
 complicat of my clothes, safe. James Ruschbeau,
 putt us about the horicial, and it wouldered uproad.

"And heed the lodge; Lest I am paid, that there could had all
 taken them to get the Poictor,
 Watson, what you possibly be dead more pursual to our serief once."

"Any sofa. He ran here a ser message the ricent man, and presuming bad to dark for
 a most tiiously runcy."

It called mine.3 Counterry Bover your wrisk,
 and a friend I should one in the clatter danger, in the edge of our
 left on the ring."

"It was surling our valusion, looking was stralk out of your

cloud on a bicycle lonely into Pontry? There were more blacker's wiser
 above them. If dismidaked thusmishelf. We have had the Sholto
 Pennister satisf,
 and be near the war--after his business the long of the feet, under excitable.
 On a smile, no have been anything much follower, and set d a complete horsself of fa
 rm Case, I hear

Whent to my sofa

Cock, and I will have no concerned. From the erbinappation of
 Wilson specialitle it about?"

"I am the desprided and nerves be passed of written his charbes, and that I went to
 me, and so are we sake
 to pulils with the deed, interview, but I will cat together, she does not 'all. "Wh
 at was that of
 time to Watson," said he can't possitience that that swinf of the
 British to ifation, if there was no afud taking an hands of years for ourselves. It
 was the time, after
 that morning. I had, my dear Wating ghable, or fail to
 hear peace--socter."

"That is it?"

The busy of Harible before you next picked a serious curbards which is! Holmes went
 to discovering from the
 feet. "The grape had never almeak where there are no prpara, and
 there are a names occursens."

"And the Paxement was retrean Milverton Hampsurould
 part on my hours, then?"

Our vigarrs), McMurdo should fallen back what you should I never at

discover, or how contained
 the good duries's aviable marks of bill. A heart of a
 black Agein'd Here of billiard curtu, Rucclain when save you to an old boy sudden
 ly to
 be down. I took us before this teleggage and own heart. I wouldn't broke a remarked
 at the Ross
 and nor an eyes. Holmes rose to what you are heard with or behind be
 her in me to face. The same hair. "Well, if I have
 visit to be horribles which he stanging! Then had pathed after the treasure followe
 d a
 father and was, but what your possible
 facts, I can't imong,
 with me with an extraora Cusim Lord Harrest of that Blishing man, where a
 ediered his colour of rest, suggested for us. You
 are for this ironever, and ticking. That's bo I went by the opinion. The
 convince crime, then BodymaVue!" said Miss Charless, that justions but our
 thing whit it is from the great family seemed to read if it's long lest
 "Tell me that I
 found all the threw of I heard them. I

256 128 10

In [37]: `iteration(256,128,10)`

Model: "sequential_6"

Layer (type)	Output Shape	Param #
embedding_6 (Embedding)	(64, None, 256)	24832
gru_6 (GRU)	(64, None, 128)	148224
dense_6 (Dense)	(64, None, 97)	12513

=====
 Total params: 185,569
 Trainable params: 185,569
 Non-trainable params: 0

Epoch 1/10
 523/523 [=====] - 10s 16ms/step - loss: 2.6971
 Epoch 2/10
 523/523 [=====] - 9s 15ms/step - loss: 1.6935
 Epoch 3/10
 523/523 [=====] - 9s 15ms/step - loss: 1.5386
 Epoch 4/10
 523/523 [=====] - 9s 15ms/step - loss: 1.4651
 Epoch 5/10
 523/523 [=====] - 9s 15ms/step - loss: 1.4229
 Epoch 6/10
 523/523 [=====] - 9s 15ms/step - loss: 1.3972
 Epoch 7/10
 523/523 [=====] - 9s 15ms/step - loss: 1.3776
 Epoch 8/10
 523/523 [=====] - 9s 15ms/step - loss: 1.3620
 Epoch 9/10
 523/523 [=====] - 9s 15ms/step - loss: 1.3491
 Epoch 10/10
 523/523 [=====] - 9s 15ms/step - loss: 1.3407

Model: "sequential_7"

Layer (type)	Output Shape	Param #
embedding_7 (Embedding)	(1, None, 256)	24832
gru_7 (GRU)	(1, None, 128)	148224
dense_7 (Dense)	(1, None, 97)	12513

=====
 Total params: 185,569
 Trainable params: 185,569
 Non-trainable params: 0

Sherlockery, who are "

"Nover, they comeard her eive he groan, the pockety have a bado."

Holmes's defingable
 armed bulks, the swept up the commisbusony lawn Lucable fact back of far acident
 and dins the namitor, observing
 he was broadcastle, of it a juke,
 and much bealwards or together, and Borked that if I twound. "I could get the chack
 ed no. Lerice me for"
 you admit my
 away his ix Iblarse."

"Then?"

It was to
the more with a coill, who reterns, but it is stick-ledg ups was closed volumnper.
In the knitiner.

"There's the room which was need before back to me a time--"

"Then we insident my fire me."

"Tell me smotted at Mrs. Bletch's cled out grasped talk bound--rosese mork our in B
estiving of with my covicul-place my very's's an as Pachpat into the gate, however, whos
e missing in him. Finded a commaster;

Sherlock Holmes was absolitant of the firm of mystenly always nar friends. How even
ing of an
about minute

When miles wind weak of the miss," said Sould's Pecurpase acknday.

"Whone put determed the.

They might seemed that regaltims lady," he said this, patpers. But, sooningarl,
some
presuravoura of
incidered and
coiar really to me to murg a consej with a tratch--anly, and,
which artsmeavina third."

"And that Armanicys of the life, happed in, we are
to by my swifts of which he take a south. This ged shry, day.
Hook jo, that the fird, Mr. McCarragared taken
do novedy day what is his blaund upon seen with
exeast of the talg, arvour. The other comert that, one of which seen they caunderan
t," he

would I
could not wrong. It is obviouss and heeling to next
what on:
Lestrade, must not less them and
wingies that occurred mes, have as se into the Godedge anything at the Fares the mo
rning again Morany to be all us. The man laughed and lived over the gut upon their ligh
t, from they will should get at streng
shair we

discoveress who is what had dist."

"The pull of you in the in the popice at no foger of the appeared. I only to me in
one

rest for nothed--you bejing in his promises of his pracess of it was
against reforea, but I remork."

"I could glieved done with
all
we sun whose
but as could give them by accountham given
the use to the loudled amade-earry."

"And his strong were back into the vand mornims that was a by no, Mr. Moriarry to m
under with her up to
the dirached over the small resignality, and that twown sitting
two endsward referace, Didge?"

"One-dies from had--"

12/18/2020

charnnsherlock

The mardderally upon
the
prusesshall, and to until the end in the corner strange suter lott?"

"No one of the man."

"You topuce line'serves is tracer as yet me that when
I
thought him. You say py:

"Bay Smified and refored to me. Jomeman nor Tone obciguel to advanced. I said him.
I will down for run friend's is the
one, wimesse

256 64 10

In [38]: iteration(256,64,10)

Model: "sequential_8"

Layer (type)	Output Shape	Param #
embedding_8 (Embedding)	(64, None, 256)	24832
gru_8 (GRU)	(64, None, 64)	61824
dense_8 (Dense)	(64, None, 97)	6305

=====
Total params: 92,961
Trainable params: 92,961
Non-trainable params: 0

Epoch	523/523	Time	Step	Loss
Epoch 1/10	[=====]	10s	15ms/step	loss: 2.8922
Epoch 2/10	[=====]	8s	14ms/step	loss: 1.8443
Epoch 3/10	[=====]	8s	14ms/step	loss: 1.6884
Epoch 4/10	[=====]	8s	14ms/step	loss: 1.6202
Epoch 5/10	[=====]	8s	14ms/step	loss: 1.5789
Epoch 6/10	[=====]	8s	14ms/step	loss: 1.5520
Epoch 7/10	[=====]	8s	14ms/step	loss: 1.5341
Epoch 8/10	[=====]	8s	14ms/step	loss: 1.5189
Epoch 9/10	[=====]	8s	14ms/step	loss: 1.5063
Epoch 10/10	[=====]	8s	14ms/step	loss: 1.4983

Model: "sequential_9"

Layer (type)	Output Shape	Param #
embedding_9 (Embedding)	(1, None, 256)	24832
gru_9 (GRU)	(1, None, 64)	61824
dense_9 (Dense)	(1, None, 97)	6305

```
=====
Total params: 92,961
Trainable params: 92,961
Non-trainable params: 0
```

Sherlock!"

per, sime, and
with them," caud with mark's implaterar, anythe are day exampacade."

"It a write as the part that I grot trect instand ad her die"seobin of the left is
fach
tell that I salkical cams. The man towan?"

this whacter is your Wear
with a ways."

"Weninghor Morth had thrice was for the corress gone little stud with a mon the mor
ninghace; but you that etteres and not dondy for
what he was a finshed dought we have in Boscerun
wit me at there's the wayg to
ourse upon this this why strience." He had hardly examinelt your derive my coldend
three it at a
you're a brought Stark, if "But Hoirson in the cloring that this druntlatered o
f abremation boin. There of the
why I had meeth that the trim! He had sat eachor was a man in had await in.

"It bruct, in you had been to her grain is we a abouns." He was troused it on twion
e that thes its, and a bleen, handable Condrage. "But I shouse secret thratied for

When Lest?" erom reapiic case areary canded is adder."

"Mainside thas I like convorlaned lay fall lighted minute
ponself upon a lodent manious in strange explantch intamaning to me at the reassigna
l of his ondle, like answerly a
undergies Path as, and it place sure, and the hight."

"No name
the prone would be
combare--these," Hisend I coninalthen was was befidly and all, to be at the find t
o have buld man to did to.

Tens the own with some from the possepp."

"He was the lasher not for of the own deaded to gever."

"Tilecter, worst
lenged, for to which
not deatuaning."

"You here. When it." Eurest off the cloor mosting-thought."

"The neat upon the one it."

"'That have let migh there beside converignst, is
know nall conlessed. That was bush lost. If he fronds, and so nevine. A very that m
y windowst the portrenes.
What lay remarkselfed Stranced from Palled of hell do dierse little smight rubs
unongs, thi

discovering a mon the Natfleds, from presences what beyonf

12/18/2020

charnnsherlock

I could name. "They," I cold. "I complaching most live heard the wit whelands of
did come about figging murdered the masty-can searer of ever for so last instantly
have hour the Chort. "It leg.

"

"Jokng?" I have there. Alother
deap and him mon a house way in it would
the may weich must haired to seemed
not het, and jare, and seything a shall this
taken plare. On them fecture was paper y ut upon the from the hudding flool colfce
at anything man
that you have cooy Lemarkflenicgole, that we wame had greep, the opening one presen
ched the spges.

"You have us here on the door and I re or the one of greas's looked at the whole wh
en Spers his minuteals the dince chaition when he neterce?

the man?"

"Do. I must before where Black for his there faid betwes, and while the placed, poo
ral, may costly leave
made eove desess of at it eorramy."

"Perking must bread arat the exer

Embed Variations

64 1024 10

In [39]: iteration(64,1024,10)

Model: "sequential_10"

Layer (type)	Output Shape	Param #
embedding_10 (Embedding)	(64, None, 64)	6208
gru_10 (GRU)	(64, None, 1024)	3348480
dense_10 (Dense)	(64, None, 97)	99425

Total params: 3,454,113
Trainable params: 3,454,113
Non-trainable params: 0

Epoch 1/10
523/523 [=====] - 28s 50ms/step - loss: 2.7950
Epoch 2/10
523/523 [=====] - 27s 50ms/step - loss: 1.5539
Epoch 3/10
523/523 [=====] - 28s 52ms/step - loss: 1.3100
Epoch 4/10
523/523 [=====] - 28s 52ms/step - loss: 1.2155
Epoch 5/10
523/523 [=====] - 28s 52ms/step - loss: 1.1625
Epoch 6/10
523/523 [=====] - 29s 53ms/step - loss: 1.1243
Epoch 7/10
523/523 [=====] - 29s 53ms/step - loss: 1.0949
Epoch 8/10
523/523 [=====] - 29s 53ms/step - loss: 1.0701

Epoch 9/10
 523/523 [=====] - 29s 53ms/step - loss: 1.0474
 Epoch 10/10
 523/523 [=====] - 29s 53ms/step - loss: 1.0268

Model: "sequential_11"

Layer (type)	Output Shape	Param #
embedding_11 (Embedding)	(1, None, 64)	6208
gru_11 (GRU)	(1, None, 1024)	3348480
dense_11 (Dense)	(1, None, 97)	99425

=====
 Total params: 3,454,113
 Trainable params: 3,454,113
 Non-trainable params: 0

Sherlock Holmes was all dazided.

Keen you'segious and only the one in the world; but, as I have no
 drand.

"I am possible that I had lit from the darkness sey of his cases which have ever
 observed. I sent the window, lay down here to
 uneash. No doubt," said Holmes.

"Colonel Moran crust remains across the country.

"There't Themptthere will be in England. Garia, McMurdo, so I know,
 Certainly, if my ith to man that nothing that they had
 ly met. There was bare enough on the moor. And
 let us veriferious the envelope which passed fifty face, I saw him from hearth
 to occasion. It is a question. You show you a chance, nor would come
 training. By Garcial, and that you say?]
 , care him. Hisly, and its necessary reservations, the
 scyool-dogs gave an absurd linkles of course, in dounly up, I know where my highrid
 ing is mistaken.
 Besides, as I have made up his face, the only men can't escape, for
 I have advance in soug ma

When in anything which have been how late I yet her. The fellow would be with very pr
 ovidental very few monograph
 table, but it hurdled better over this," said the weather and discolouralt has been
 a
 peculiar, might not imagine that he had been advantageous mere; but why
 a surpress, besides the crubbeling manner thad
 he has drs, and it would not be here two hard accounts after ve yet putted from pap
 e against the utmost importance,
 which had been there, as an uggas brow was travelling ines, so he expect me. I assu
 re you-the message to
 awaght have been drank aware, MsM.. D. ADo," Insion
 that had passed the blood of about Awlands that you should.'

"See how think you would not have ganes with me for getting him."

"There was no harm in this box
 and his further twenty fires and stages which have been very good in excitement und
 er my own line's affairs
 when they live business. I would hear sworn by the truth. I made a
 word of fear a


```
---
discover, that he refused to see
him in an instant he puckered the impression if he tells us seated in London, and our
case,
and you'll give a note which you have it all the truth. I apprehend
which was that I could not know, indeed, the charming thicket over feet
to his life, smoothing an holery, blue-eyed men would be
accepted; but he was the flames of their mate up them.
But, seating, up my most pleasant, since was I owe your sign against her
people. One of your age."

Holmes's face came to the tunnel. there are sideways a heavily
stair, three of behind us. Only one
was young I flushed after him and hastily done, what collected it,
there was a wager," report of the God respond Holmes.

"He approached the dining-room upon the story.

"Are you someone without vague. I looked back in
me to be Blass Holmes.

"So far out," cried Holmes.

"What were you?" he cried in his eyes.

"Passing gloves, which
could h
```

128 1024 10

```
In [40]: iteration(128,1024,10)

Model: "sequential_12"

Layer (type)                Output Shape                Param #
=====
embedding_12 (Embedding)    (64, None, 128)            12416
gru_12 (GRU)                (64, None, 1024)           3545088
dense_12 (Dense)            (64, None, 97)              99425
=====
Total params: 3,656,929
Trainable params: 3,656,929
Non-trainable params: 0

Epoch 1/10
523/523 [=====] - 32s 57ms/step - loss: 2.7672
Epoch 2/10
523/523 [=====] - 31s 58ms/step - loss: 1.4820
Epoch 3/10
523/523 [=====] - 31s 58ms/step - loss: 1.2745
Epoch 4/10
523/523 [=====] - 31s 58ms/step - loss: 1.1922
Epoch 5/10
523/523 [=====] - 31s 58ms/step - loss: 1.1474
Epoch 6/10
523/523 [=====] - 31s 58ms/step - loss: 1.1111
Epoch 7/10
523/523 [=====] - 31s 58ms/step - loss: 1.0828
Epoch 8/10
```

523/523 [=====] - 32s 58ms/step - loss: 1.0600
 Epoch 9/10
 523/523 [=====] - 32s 58ms/step - loss: 1.0378
 Epoch 10/10
 523/523 [=====] - 31s 58ms/step - loss: 1.0195

Model: "sequential_13"

Layer (type)	Output Shape	Param #
embedding_13 (Embedding)	(1, None, 128)	12416
gru_13 (GRU)	(1, None, 1024)	3545088
dense_13 (Dense)	(1, None, 97)	99425
Total params: 3,656,929		
Trainable params: 3,656,929		
Non-trainable params: 0		

Sherlock Holmes sprang to a hotel."

"This was what the spite of whom?"

"Well, not to the beautiful woman in which I used at once as having a cuped, and he spent with

Wallelfied to the each girl. Leave rise a formidable man with his learned valley th e chril very first words and broadened. It was disturbed them a clive following me, h uman

inquiries and badly coles at our little traces. She things he poured out almost curiosity. "I am sorry to be a very like match. The car spoke in a special siline woman, has left him up when I left twinel. She has longer with my conduct. Her fingers gave a man lighting, and yet how she was about to know what the foggessory of his face was spoken of brdather open, but the tra qua

as conveyed to us wasthis panasel, human eyes on which I could make to get me on turn. Anyways

through by the hall doof our third recalls tured to scienting it. It was about to be formidable that you have

When's

time, but never be caured in time for nervous, but the money called men."

The Poor direction that the housekeeper happened to break in a large revolver. "I took the best thing in sight of him. Mawhodall bow is he. "You will be no one has known candle I am asking Sir Henry. Having served the point of him now know."

"But we can indeed his nervous intentness, and we make no good with you."

TAll Ballar Howells will prevent?"

"You certainly observe that laughter is enough to do with the calculation. Now I'm soon realize that the gleam sad Heaven talked away attacts of a woman.

Even if he had entered the lady's suspense for Mr. Behere I pointed to him. There i s any remarkable man tithe. He still made one hand had a kindly fears at organize the man to ite fore expects. Believit engineer. The face built mad be a sensities."

"And how do you know this spring-face dressed in a cold snify, shadow employments.
We hide a h

discovery by the whole. A jour and the
cable buy go for a moment, two dreams passing.
Through the printing signal, not to talk off upon us at the door. "Come. I watched
you should have been present sure enough, and looked like a malmably with
a strange third pluns of paper like this, when a long journey Jones was a
ten-offinential; for or withhe campable of interest to act on the Underground
Europe. It is secret at that moment?"

"A town practice for experience in them. Two lovers I on
observed the trick in form when he had possibly thrill
open and already forget it. There is, whether the other

Stanley Hopkins called for Jackmort laughing, square and raise up. My hurry did not
see to me, and waving his eyes, and a-mounted to the door and examined the house wh
ich
hunted woods us easily consumed from the door. A husband was
within an alarm and shoots of the silence of bankers instantly,
so he laid the scandall be a mistake,

512 1024 10

In [41]: iteration(512,1024,10)

Model: "sequential_14"

Layer (type)	Output Shape	Param #
=====		
embedding_14 (Embedding)	(64, None, 512)	49664

gru_14 (GRU)	(64, None, 1024)	4724736

dense_14 (Dense)	(64, None, 97)	99425
=====		

Total params: 4,873,825
Trainable params: 4,873,825
Non-trainable params: 0

Epoch 1/10
523/523 [=====] - 39s 70ms/step - loss: 2.4977
Epoch 2/10
523/523 [=====] - 38s 70ms/step - loss: 1.4292
Epoch 3/10
523/523 [=====] - 38s 70ms/step - loss: 1.2568
Epoch 4/10
523/523 [=====] - 38s 70ms/step - loss: 1.1882
Epoch 5/10
523/523 [=====] - 38s 71ms/step - loss: 1.1443
Epoch 6/10
523/523 [=====] - 38s 71ms/step - loss: 1.1140
Epoch 7/10
523/523 [=====] - 38s 71ms/step - loss: 1.0882
Epoch 8/10
523/523 [=====] - 38s 71ms/step - loss: 1.0657
Epoch 9/10
523/523 [=====] - 38s 71ms/step - loss: 1.0477
Epoch 10/10
523/523 [=====] - 38s 71ms/step - loss: 1.0305

Model: "sequential_15"

Layer (type)	Output Shape	Param #
embedding_15 (Embedding)	(1, None, 512)	49664
gru_15 (GRU)	(1, None, 1024)	4724736
dense_15 (Dense)	(1, None, 97)	99425
Total params: 4,873,825		
Trainable params: 4,873,825		
Non-trainable params: 0		

Sherlock

"Lyon--that's whether the matter," by the house, to Ettie St. Life allowing himself. Yet on earth suddenly sprung to carrying however, as you are more quarrel, and frosty sparring, as we knew nothing of my reach, my good face! Bring it up into successful proposition, but I am only a during manner before he leaned upon frightened. My without recall it at that indication."

"Yes, sir; he bicycleish party that the young lady reads his astonishment, who wonder which he fled off groan for lighting his results sorted all in his the sole one who leads her. She knows of a very welche. Yet I am another people will give my judge, for a factition, and anxious that I inquired it all to walk."

"And a dankerory?"

"What thing?"

"I can tell you much. But next?"

"No foremost assassin."

"Because I have heard him. I shall be able to it--that is, I though any quivering with those who answered with escape. There is

Whents."

"But what a Saturdayly Shall Pacticu, to be already giving you a day to the very line of ener. His pence, and the criminaly. And the large district had begun I felt from our furious secretary. Gregson, finally, he became a false-finger rest, receive the moor fellow, and so drew out his board in which I had done it. You have done in view of trouble, and I must be women to the house or complication, and a large number of flattings which book responsible. There's not yet product to have been a man again."

"I tractice during Crookers in the Regies of London. Dr. Mortimer, we all lose does it not for him a candle until we had really come now of it. It're true yet--we'll find no questions."

"I'm ready to make to say; but he's future, but I had no until we all engaged and traces from the safe, and I saw him low up and ruefully and resume the apparibre cease. There's no other intrusion of Blefter and took to the the

discovering his room he lay behind.

"The inspector's lonely coroner's suspicion would handle sure about myself over by time to collect. The readers condrolled when he laughed into last hand.

"You've been oxer, but now I couldn't much theatre to do that."

"Tell it a cridicious, Mr. Parlages?"

The woman are half-ray passage. This lith of some hundreds in as unlikely. Ol, and the

endowed drink and with any use here. Now I guess I want to go with me furnished. Master looked a little from posses. They had drawn it from an end of the country

lock, candle out of policemen and wondeling as if it would come. I'd reconstruct hi s bord on eith a great city, and entered

it is distinctive. The bar rose for saying that I had essaulted until we were, for days I had done so; for havill

begins to discover consuman investigation from Eccles Wilson, surgeoned in his bedroom against his eyes, and that it would a five or fator, besides his light

1024 1024 10

```
In [42]: iteration(1024,1024,10)

Model: "sequential_16"

Layer (type)                Output Shape                Param #
=====
embedding_16 (Embedding)    (64, None, 1024)           99328
gru_16 (GRU)                (64, None, 1024)           6297600
dense_16 (Dense)            (64, None, 97)              99425
=====
Total params: 6,496,353
Trainable params: 6,496,353
Non-trainable params: 0

Epoch 1/10
523/523 [=====] - 49s 89ms/step - loss: 2.1713
Epoch 2/10
523/523 [=====] - 48s 90ms/step - loss: 1.2877
Epoch 3/10
523/523 [=====] - 48s 90ms/step - loss: 1.1819
Epoch 4/10
523/523 [=====] - 48s 90ms/step - loss: 1.1298
Epoch 5/10
523/523 [=====] - 48s 89ms/step - loss: 1.0955
Epoch 6/10
523/523 [=====] - 48s 90ms/step - loss: 1.0690
Epoch 7/10
523/523 [=====] - 48s 90ms/step - loss: 1.0453
Epoch 8/10
523/523 [=====] - 48s 90ms/step - loss: 1.0255
Epoch 9/10
523/523 [=====] - 48s 90ms/step - loss: 1.0089
Epoch 10/10
523/523 [=====] - 48s 90ms/step - loss: 0.9937

---
```

Model: "sequential_17"

Layer (type)	Output Shape	Param #
embedding_17 (Embedding)	(1, None, 1024)	99328
gru_17 (GRU)	(1, None, 1024)	6297600
dense_17 (Dense)	(1, None, 97)	99425
Total params: 6,496,353		
Trainable params: 6,496,353		
Non-trainable params: 0		

Sherlock Holmes. "We'll all this, but he is
in the miscon only this starting-powerful miners--is--"

"But I cannot peculiar such an iron-grap of your sins are
theyefice with information, and Gennaro was that in the Higa follow out from
South Africa."

Holmes's report to me. I have said my companion. "We will
appear to your help to your study. Then, Watson, for I insist upon ourselves in
trudge to publishicaping-room? What news or teeth linselves to fid in the police; b
ut his smile
clean enough that it was damped across the
garden. At it may be her. It would not help into my
treasure.

h the wevered hypothesis, and
came some tenants or, a man of peds. The expert sounds at the head, lump and
discretion, but Holmes had been communicative. I don't think that I thought he knew
that the
chief hung a day shilling of a tall myself. He would have warned the secret
weeks before him."

"It at that moment that they have elsem

When the morning he
suspected. There must be he he saw something
of out from a body.

"There is no great longer before had been dead,
and looked at my ears had been do no word in the burding. Oted
before he glanced round the sunk bullet's room which was the
highorote moon wandered with his household. He
has been entirely promise to ensu entered
to his method. He was again, until he had wast a funntal thread by overthen, but it
seems two more singular disease
founded up above them, and the cadicardly because he always have expected. The word
was
that he would like to be on the winterview, and the man himself
were ending. It was something of the man at 100. The
1030 and towely to represent my irresual in the
minutes, and then I came from the street. They are both eyes,
when they turned across his hand. Our dy stopped vile that evening all he has offer
ed him then.
He is a
trusty conscious one. These little made m

discovery intrusive
criminal."

"Under that last dinner was dead,"

"And Then the note was beyond impartive."

"Yesterday?"

"In a youth with a first-class tide in twenty tyles' in the shouldeying! He is stil
l patiently frequences," said Holmes, in the
fored board of the door.

"Well, well,' said I.

"'Oh, it all cheer after this message which vanished
in the English detective; "but, too, and I am syirit--an injustionate thousand to b
ring his whole life
in factor."

The strangerous deuger, through the halt which were too detachment, and see
was tracked and sorrow to seeking. They had been estim, which he
appeared arreet of a ready startled across the moat for many a long busts still
off in winter-Arrest day's whole lebtere by certain this
beyond yourself, where we can tell us the glint all
of the money, and I will tell my circulation. "That's the news a
wound and of little will excuse myself and in some contim

Epoch Variations

256 1024 5

```
In [43]: iteration(256,1024,5)
```

Model: "sequential_18"

Layer (type)	Output Shape	Param #
embedding_18 (Embedding)	(64, None, 256)	24832
gru_18 (GRU)	(64, None, 1024)	3938304
dense_18 (Dense)	(64, None, 97)	99425

Total params: 4,062,561
Trainable params: 4,062,561
Non-trainable params: 0

Epoch 1/5
523/523 [=====] - 34s 60ms/step - loss: 2.6004
Epoch 2/5
523/523 [=====] - 32s 60ms/step - loss: 1.4282
Epoch 3/5
523/523 [=====] - 33s 60ms/step - loss: 1.2517
Epoch 4/5
523/523 [=====] - 33s 60ms/step - loss: 1.1792
Epoch 5/5
523/523 [=====] - 32s 60ms/step - loss: 1.1361

Model: "sequential_19"

Layer (type)	Output Shape	Param #
embedding_19 (Embedding)	(1, None, 256)	24832
gru_19 (GRU)	(1, None, 1024)	3938304
dense_19 (Dense)	(1, None, 97)	99425
Total params: 4,062,561		
Trainable params: 4,062,561		
Non-trainable params: 0		

Sherlock Holmes

that sixtens that the singular and discharging for me in which
forehe has been
fixed tift. But, it so that we could upen the roofs, coming
for yonders. Look how record in seal that has
been twisted in a corner with a prigate journey."

"A sail, excitement case."

"My dear sir?" cried the trees, scraphed relations. At last te man side and
rap down Aldgrard--who came glancing eye was reproaty. Here died
Africa in the inspector, when I sway of burst from the kindly strike hundreds which
mystery

each of the opportunity. It was not survive
gone. He had no other woman's dislike or wishes,
and being to go to think that theyse propressed in the man as he handed Pan would n
ot say

he would be of it. You are now resture to a plans!" he cried.

"Halloa! Was possibly think that it would have suspiced that he
gave bit when they are to certainly dapense than to a finish fright. Then I walked
so excited in the way of a

When they

discorners

which had been speens. A decept sigh you have given the whole thunger off.
The man must have sat up our door?"

"That was it so possible a man, Watson, but there is someone him, An his oponess, b
eornature

two in my own position to Stery and Pare observed, a foreigner
than them off before we were not our principaties. "Any
vanished, 6ath."

"And to find a very point of some opin?"

"No, Mr. Holmes,"

said The gallen separation.

"Anyhow's would be guliard, Moriarty! I beg you what they have almost
all proper; the very impossibility of
many or neither we shall be settly one. I am not upon the murderer
that he had
muscuiter, trieded the corner of no help you will help to return from my
hat a Hunter &
then,
with poor Lord Treding On the situation of the pethology against the adviser behind
the
charge as after I counted fast away, then, you would induch your

visitor, she answ

discovered hempt.

hice, wish. We will do buy there is an angle of life. It must have been remarkable benuful miles and I excreet."

"That is possibly canisuoine.

But he has a search coming
leaving, who, walked half-day ever more long, presentamily, with rest?"

"No, you'll have former message to only to come into the deep on the letters which we escape upon them. 'While I have drifved by his their open. The mere said at butler coming against sort, nor contrm of he was quite deep-coloured athat three way. He whistled between Norwica.'

the light sat no plans."

He has kept persuading so many that set in where his white face that good thon he could get ous that he had into a hour to case he could not be published you with importance very popularity. It would be, however, as your pursuis. He is about the most love in my connouncious two of his death be objects in it, but still e wife when he could not ge

256 1024 20

```
In [44]: iteration(256,1024,20)
```

Model: "sequential_20"

Layer (type)	Output Shape	Param #
embedding_20 (Embedding)	(64, None, 256)	24832
gru_20 (GRU)	(64, None, 1024)	3938304
dense_20 (Dense)	(64, None, 97)	99425

Total params: 4,062,561
Trainable params: 4,062,561
Non-trainable params: 0

Epoch 1/20
523/523 [=====] - 34s 60ms/step - loss: 2.6359
Epoch 2/20
523/523 [=====] - 32s 60ms/step - loss: 1.4205
Epoch 3/20
523/523 [=====] - 33s 60ms/step - loss: 1.2441
Epoch 4/20
523/523 [=====] - 33s 60ms/step - loss: 1.1754
Epoch 5/20
523/523 [=====] - 33s 60ms/step - loss: 1.1309
Epoch 6/20
523/523 [=====] - 33s 60ms/step - loss: 1.0970
Epoch 7/20
523/523 [=====] - 33s 60ms/step - loss: 1.0713
Epoch 8/20
523/523 [=====] - 33s 60ms/step - loss: 1.0482

```

Epoch 9/20
523/523 [=====] - 32s 60ms/step - loss: 1.0265
Epoch 10/20
523/523 [=====] - 33s 60ms/step - loss: 1.0094
Epoch 11/20
523/523 [=====] - 33s 60ms/step - loss: 0.9928
Epoch 12/20
523/523 [=====] - 33s 60ms/step - loss: 0.9768
Epoch 13/20
523/523 [=====] - 33s 60ms/step - loss: 0.9633
Epoch 14/20
523/523 [=====] - 33s 60ms/step - loss: 0.9518
Epoch 15/20
523/523 [=====] - 32s 60ms/step - loss: 0.9422
Epoch 16/20
523/523 [=====] - 32s 60ms/step - loss: 0.9333
Epoch 17/20
523/523 [=====] - 33s 60ms/step - loss: 0.9262
Epoch 18/20
523/523 [=====] - 32s 60ms/step - loss: 0.9214
Epoch 19/20
523/523 [=====] - 32s 60ms/step - loss: 0.9180
Epoch 20/20
523/523 [=====] - 32s 60ms/step - loss: 0.9152

```

Model: "sequential_21"

Layer (type)	Output Shape	Param #
=====		
embedding_21 (Embedding)	(1, None, 256)	24832
=====		
gru_21 (GRU)	(1, None, 1024)	3938304
=====		
dense_21 (Dense)	(1, None, 97)	99425
=====		

Total params: 4,062,561

Trainable params: 4,062,561

Non-trainable params: 0

Sherlock Holmes are

in an hour's surrounding the Herequates one miles off to show the
 meantime to secruct the second night, and so had thr us so dark to arouse with him,
 while we warn altogether--for tennight had they
 suffer of neathe more descend. I
 watch with her when he raised her onws for them, do the post, the clue it not been
 in the habit of summit, but aquil my belief that during their plains who had
 not advanced whistless, after I handed my returning novel was done, and he
 had been patience back with him--that my messages Watson, the
 acquaintance of the very hour opens any illfully."

"You mean to that. Hold Alexandre was not mere change.
 Nothing in it."

"But what has attain? You have a great murder of the beg your supering the
 will give a coupination?"

"I'm proud to say! What did he not be used to overtaken under."

"My dear Watson," said he, pointing on to the times with which the low, cloudy moul
 ds window as

When I see that I, who did it, and I reached them every day to the rest as the capture. Books were speech at his way already in his position.

"What, that's the mornings of the life less. Luctor last night, at the door of the sideboard, which made no more than the such visitor on The DeadilGthey's dearest to the kingdom of the road, when every nd with the intention of One work were stepping up the car.

There was a convulation in my road. It was not nearly everything after mistran a folk in the somnow of our orderly house, that u shall I like to keep the property outside the direction to this American station. It has deserted his ceiling within her last top piece. "Ah, it didn't do bettered it for, and he did not tell them then, without anyone my notes, and the places were some time before to do with him. He had vanished hard-hunge I only knows, however, and of country had just quitted. One human like enholds with a

discovery were turned in someone who came struck him in the arm-chair, and the tufted hours in this chair and the lady. "My word, impossible!"

In reasoning, she had a copy of us set rising and disaster, and I am by expectation the Holmes's eyes before my life. There was no chance for the arresting habits, and it was head, a broken blackmailed method at up with my power over. Lying of importance it will be more intently disclosed and kissed the smoke by perfect conclusion that he had seen upon the achold day of one of the starts and had lost her.

"I am so unpleasang. Yes, it was unseen. I admorally destroyed it, and all the tragedy arrived?"

"Personally it would his wife with Douglas and three miners. I lay it about over myself. I have no doubt at all. I drew illls with you, his lens, the best of residence in the darkness, one blow do nothing on a princely scare at the door of the light. Nothing often were risen. If the

256 1024 30

```
In [45]: iteration(256,1024,30)
```

Model: "sequential_22"

Layer (type)	Output Shape	Param #
=====		
embedding_22 (Embedding)	(64, None, 256)	24832

gru_22 (GRU)	(64, None, 1024)	3938304

dense_22 (Dense)	(64, None, 97)	99425
=====		
Total params: 4,062,561		
Trainable params: 4,062,561		
Non-trainable params: 0		

Epoch 1/30		

```

523/523 [=====] - 34s 60ms/step - loss: 2.6191
Epoch 2/30
523/523 [=====] - 32s 60ms/step - loss: 1.4280
Epoch 3/30
523/523 [=====] - 32s 60ms/step - loss: 1.2491
Epoch 4/30
523/523 [=====] - 32s 60ms/step - loss: 1.1771
Epoch 5/30
523/523 [=====] - 33s 60ms/step - loss: 1.1340
Epoch 6/30
523/523 [=====] - 33s 60ms/step - loss: 1.1006
Epoch 7/30
523/523 [=====] - 32s 60ms/step - loss: 1.0752
Epoch 8/30
523/523 [=====] - 32s 60ms/step - loss: 1.0523
Epoch 9/30
523/523 [=====] - 32s 60ms/step - loss: 1.0310
Epoch 10/30
523/523 [=====] - 32s 60ms/step - loss: 1.0139
Epoch 11/30
523/523 [=====] - 33s 60ms/step - loss: 0.9975
Epoch 12/30
523/523 [=====] - 33s 60ms/step - loss: 0.9845
Epoch 13/30
523/523 [=====] - 33s 60ms/step - loss: 0.9714
Epoch 14/30
523/523 [=====] - 32s 60ms/step - loss: 0.9589
Epoch 15/30
523/523 [=====] - 33s 60ms/step - loss: 0.9491
Epoch 16/30
523/523 [=====] - 33s 60ms/step - loss: 0.9401
Epoch 17/30
523/523 [=====] - 32s 60ms/step - loss: 0.9341
Epoch 18/30
523/523 [=====] - 32s 60ms/step - loss: 0.9286
Epoch 19/30
523/523 [=====] - 32s 60ms/step - loss: 0.9230
Epoch 20/30
523/523 [=====] - 32s 60ms/step - loss: 0.9203
Epoch 21/30
523/523 [=====] - 32s 60ms/step - loss: 0.9185
Epoch 22/30
523/523 [=====] - 32s 60ms/step - loss: 0.9158
Epoch 23/30
523/523 [=====] - 32s 60ms/step - loss: 0.9173
Epoch 24/30
523/523 [=====] - 32s 60ms/step - loss: 0.9166
Epoch 25/30
523/523 [=====] - 32s 60ms/step - loss: 0.9179
Epoch 26/30
523/523 [=====] - 32s 60ms/step - loss: 0.9199
Epoch 27/30
523/523 [=====] - 32s 60ms/step - loss: 0.9217
Epoch 28/30
523/523 [=====] - 32s 60ms/step - loss: 0.9256
Epoch 29/30
523/523 [=====] - 32s 60ms/step - loss: 0.9284
Epoch 30/30
523/523 [=====] - 32s 60ms/step - loss: 0.9341

```

Model: "sequential_23"

Layer (type)	Output Shape	Param #
--------------	--------------	---------

```
=====
embedding_23 (Embedding)      (1, None, 256)      24832
gru_23 (GRU)                  (1, None, 1024)     3938304
dense_23 (Dense)              (1, None, 97)       99425
=====
Total params: 4,062,561
Trainable params: 4,062,561
Non-trainable params: 0
```

Sherlock Holmes was closing
to my mind. Peters--the grounds and the warmant came to the window-sill talk about
silk."
There came her into get as much of the Daily bird.

"About that?"

A door of the shutters. Then who were daring giarly complete bonds?"

"Yes, that was dreadful to me for the thing was
really very clear reason to you against the gase of the
inconjection of this desperate talk. His brows
was pure seven been oped from the head weeks of his low, but over
we came out and lunch a murder interest and yet has save interest in
my hair in opinion that my friend Dr. Mortimer seem to drive away in the
paper. There is no silnimple refully found three souse up everything in
my mind or remark, the result which should be the same estimate messenger.

"You will chall think it there after describe that's for ten minutes if I were to c
ome
at once; but if anytogethering you will see little of
itmeet nor which ran call to thi

When I may take it to the
male
healows, a breast-rooms which was married under the evening which
had farled with the
ight, for his wife has given hear some great steepen it again; and yet he was so fa
r
together. Hudson has been mad upon us for an alternative that in
yeat Birlst the law."

Holmes should pass later to our investigation itself; but
only an instant he pointed to the garden.

"The shoe-clected half of his mind will it be more likely?"

"The case came to Baskerville Hall for som an assurance, Mr. Holmes.
Agra, then, how on earth, I have nothing to do with his eyes."

"Is it the slip?" said he together in the subject."

The let it have put it down."

Blair false slips are injent fire. A bearie cried along until it was followed by an
open door just before us. In the cebthad was a complain
observant attention to him."

I brought me from his notebook, but a gleam of a high
house began to come

discover, been specially at work at 7 before we can only be from his sleeves. Let him look upon me the work has come of it a quarter of an honest murder again!"

"Who is your with satisfied me--ever a thin has he. It is true."

"Myectitiface," said I, tunnial. All that the hills of a quarter of a mine or an injured country preciping at once the floor leadhing very mere so exceptional relatives of the shot. The bullets of every night, if my name is Firbus the death could be wondered with timis with people dog-matter."

"You see, at his excellent sequence hung from the three.

"You know what I did, this man Peter Carey, had been shot half out on the losp, saw there will became round on Mrs. Cecil Further, and, as I have had most news."

"There's no doubte of ever drove upon all the writing in an angle and rose from the scener was known moboled on those excitement at the treal to attach.

He heard a minute looking for wai

256 1024 40

```
In [46]: iteration(256,1024,40)

Model: "sequential_24"

Layer (type)                Output Shape                Param #
=====
embedding_24 (Embedding)    (64, None, 256)            24832
gru_24 (GRU)                (64, None, 1024)           3938304
dense_24 (Dense)            (64, None, 97)              99425
=====
Total params: 4,062,561
Trainable params: 4,062,561
Non-trainable params: 0

Epoch 1/40
523/523 [=====] - 33s 60ms/step - loss: 2.6119
Epoch 2/40
523/523 [=====] - 32s 60ms/step - loss: 1.4319
Epoch 3/40
523/523 [=====] - 32s 60ms/step - loss: 1.2524
Epoch 4/40
523/523 [=====] - 33s 60ms/step - loss: 1.1816
Epoch 5/40
523/523 [=====] - 32s 60ms/step - loss: 1.1384
Epoch 6/40
523/523 [=====] - 32s 60ms/step - loss: 1.1047
Epoch 7/40
523/523 [=====] - 32s 60ms/step - loss: 1.0796
Epoch 8/40
523/523 [=====] - 32s 60ms/step - loss: 1.0568
Epoch 9/40
523/523 [=====] - 32s 60ms/step - loss: 1.0377
Epoch 10/40
523/523 [=====] - 32s 60ms/step - loss: 1.0191
Epoch 11/40
```

```

523/523 [=====] - 32s 60ms/step - loss: 1.0031
Epoch 12/40
523/523 [=====] - 32s 60ms/step - loss: 0.9887
Epoch 13/40
523/523 [=====] - 32s 60ms/step - loss: 0.9747
Epoch 14/40
523/523 [=====] - 33s 60ms/step - loss: 0.9615
Epoch 15/40
523/523 [=====] - 32s 60ms/step - loss: 0.9534
Epoch 16/40
523/523 [=====] - 32s 60ms/step - loss: 0.9446
Epoch 17/40
523/523 [=====] - 32s 60ms/step - loss: 0.9365
Epoch 18/40
523/523 [=====] - 32s 60ms/step - loss: 0.9312
Epoch 19/40
523/523 [=====] - 32s 60ms/step - loss: 0.9265
Epoch 20/40
523/523 [=====] - 32s 60ms/step - loss: 0.9232
Epoch 21/40
523/523 [=====] - 32s 60ms/step - loss: 0.9207
Epoch 22/40
523/523 [=====] - 32s 60ms/step - loss: 0.9180
Epoch 23/40
523/523 [=====] - 32s 60ms/step - loss: 0.9186
Epoch 24/40
523/523 [=====] - 32s 60ms/step - loss: 0.9172
Epoch 25/40
523/523 [=====] - 32s 60ms/step - loss: 0.9165
Epoch 26/40
523/523 [=====] - 32s 60ms/step - loss: 0.9204
Epoch 27/40
523/523 [=====] - 32s 60ms/step - loss: 0.9211
Epoch 28/40
523/523 [=====] - 32s 60ms/step - loss: 0.9237
Epoch 29/40
523/523 [=====] - 32s 60ms/step - loss: 0.9279
Epoch 30/40
523/523 [=====] - 32s 60ms/step - loss: 0.9333
Epoch 31/40
523/523 [=====] - 32s 60ms/step - loss: 0.9382
Epoch 32/40
523/523 [=====] - 32s 60ms/step - loss: 0.9405
Epoch 33/40
523/523 [=====] - 32s 60ms/step - loss: 0.9464
Epoch 34/40
523/523 [=====] - 32s 60ms/step - loss: 0.9534
Epoch 35/40
523/523 [=====] - 32s 60ms/step - loss: 0.9616
Epoch 36/40
523/523 [=====] - 32s 60ms/step - loss: 0.9721
Epoch 37/40
523/523 [=====] - 32s 60ms/step - loss: 0.9812
Epoch 38/40
523/523 [=====] - 32s 60ms/step - loss: 0.9891
Epoch 39/40
523/523 [=====] - 32s 60ms/step - loss: 1.0021
Epoch 40/40
523/523 [=====] - 32s 60ms/step - loss: 1.0180

```

Model: "sequential_25"

Layer (type)	Output Shape	Param #
--------------	--------------	---------

```

=====
embedding_25 (Embedding)      (1, None, 256)      24832
gru_25 (GRU)                  (1, None, 1024)     3938304
dense_25 (Dense)              (1, None, 97)       99425
=====
Total params: 4,062,561
Trainable params: 4,062,561
Non-trainable params: 0

```

Sherlock Holmes.

The man with a room by he stulfulsher with results. His brow with him a cash away d ay that

the mass movements and good? Taken in my power, and very givin expecta was our criminals who heard that he was to leand so rapid to St. Cluster Baskerville Hall, with sanner and examined intently.

"I wonder that you have a mercy of a young man.

"Sir Eurwoiland Wood, law came to thought an inn out of the Kepail."

"What thing the facts around improsesment?"

"Who---she buried in your trouble?" said McGinty rossed the spring to Miss Morton, who has not been searched. My only now. He opened the tobacy--and we walked it on each and togetue," and Vitton Shafter, with ghistle investering emotion. For five Huntabolple seemed to be a permit unlightens day for and be at the same to my room."

The acquaintance of Barrymore run such a difference to cock at the bottom above my throat.

"He arrested. I co

When they are in other gentlemen."

The road was a black sudden and most mate as recognise as I was to line, and I felt that he was a young empnooner together as if in portiofmental Eucoral had left the door by Jacob Mr. Small. The worth management, and a beautid they belondly. Then we shall, here is he Trevords, a cry adep arm. Slowly it impediformanyou will excuse myself." He put me gringing neighbours Bylines."

"Well, I also gived me to searn the Door for the lividette. I left its and complexion will be glad to preceal. But your presence is almost inch came to you, Egable!" McMurdo said constable.

"The two dozen: I often wastened you forget that I shall all in the distant of the day, have the appurre?"

"I will see that if I falls!" I exclaimed.

Hich a train was the simplicity little and pursuet lunch the time, and it is my back at you down there but the suffer which lay befabable, and he was dressed behind


```
---
discovered?"

    The inscrutiness will carry out our heap of a second the same fancy to that last de
ed
    and interesting glance. He was a Sman times under the mire. But, and another
    that he has sufeized and she stood half words eagerly over the mais. "In he can tak
e a crowns of and life in the society-of--only
    you were alone and distonce, and were tyle to show you that he showed
    my easy going cruster you would come for unnecessay to me."

    "Yes, he was paced of buffast, and do join?"

    "I have no doubt that principle that it was Standardal."

    "Our creet was as when I suggested."

    "Anything else in my advantage."

    Holmes asked me did. But I can't get call advice that I
    may be muffled agid to the eye from their eyes.

    "My name are injuries one in a week-ent or at all?"

    "He in the first shadow's client. Our whole office! That is well
    undisturbed."

    Baskerville      was prin upon the floor. The
    large could contract with an eq
```

256 1024 50

```
In [47]: iteration(256,1024,50)

Model: "sequential_26"

Layer (type)                Output Shape                Param #
=====
embedding_26 (Embedding)    (64, None, 256)            24832
-----
gru_26 (GRU)                (64, None, 1024)           3938304
-----
dense_26 (Dense)            (64, None, 97)              99425
=====
Total params: 4,062,561
Trainable params: 4,062,561
Non-trainable params: 0

Epoch 1/50
523/523 [=====] - 33s 60ms/step - loss: 2.6322
Epoch 2/50
523/523 [=====] - 32s 60ms/step - loss: 1.4288
Epoch 3/50
523/523 [=====] - 32s 60ms/step - loss: 1.2487
Epoch 4/50
523/523 [=====] - 32s 60ms/step - loss: 1.1777
Epoch 5/50
523/523 [=====] - 32s 60ms/step - loss: 1.1341
Epoch 6/50
523/523 [=====] - 32s 60ms/step - loss: 1.1029
Epoch 7/50
523/523 [=====] - 32s 60ms/step - loss: 1.0758
Epoch 8/50
```

```
523/523 [=====] - 32s 60ms/step - loss: 1.0520
Epoch 9/50
523/523 [=====] - 32s 60ms/step - loss: 1.0331
Epoch 10/50
523/523 [=====] - 32s 60ms/step - loss: 1.0149
Epoch 11/50
523/523 [=====] - 32s 60ms/step - loss: 0.9983
Epoch 12/50
523/523 [=====] - 32s 60ms/step - loss: 0.9825
Epoch 13/50
523/523 [=====] - 32s 60ms/step - loss: 0.9706
Epoch 14/50
523/523 [=====] - 32s 60ms/step - loss: 0.9589
Epoch 15/50
523/523 [=====] - 32s 60ms/step - loss: 0.9483
Epoch 16/50
523/523 [=====] - 32s 60ms/step - loss: 0.9399
Epoch 17/50
523/523 [=====] - 32s 60ms/step - loss: 0.9333
Epoch 18/50
523/523 [=====] - 32s 60ms/step - loss: 0.9286
Epoch 19/50
523/523 [=====] - 32s 60ms/step - loss: 0.9221
Epoch 20/50
523/523 [=====] - 32s 60ms/step - loss: 0.9196
Epoch 21/50
523/523 [=====] - 32s 60ms/step - loss: 0.9165
Epoch 22/50
523/523 [=====] - 32s 60ms/step - loss: 0.9163
Epoch 23/50
523/523 [=====] - 32s 60ms/step - loss: 0.9147
Epoch 24/50
523/523 [=====] - 32s 60ms/step - loss: 0.9164
Epoch 25/50
523/523 [=====] - 32s 60ms/step - loss: 0.9169
Epoch 26/50
523/523 [=====] - 32s 60ms/step - loss: 0.9171
Epoch 27/50
523/523 [=====] - 32s 60ms/step - loss: 0.9224
Epoch 28/50
523/523 [=====] - 32s 60ms/step - loss: 0.9247
Epoch 29/50
523/523 [=====] - 32s 60ms/step - loss: 0.9278
Epoch 30/50
523/523 [=====] - 32s 60ms/step - loss: 0.9331
Epoch 31/50
523/523 [=====] - 32s 60ms/step - loss: 0.9382
Epoch 32/50
523/523 [=====] - 32s 60ms/step - loss: 0.9440
Epoch 33/50
523/523 [=====] - 32s 60ms/step - loss: 0.9494
Epoch 34/50
523/523 [=====] - 33s 60ms/step - loss: 0.9567
Epoch 35/50
523/523 [=====] - 32s 60ms/step - loss: 0.9663
Epoch 36/50
523/523 [=====] - 32s 60ms/step - loss: 0.9767
Epoch 37/50
523/523 [=====] - 32s 60ms/step - loss: 0.9845
Epoch 38/50
523/523 [=====] - 32s 60ms/step - loss: 1.0011
Epoch 39/50
523/523 [=====] - 32s 60ms/step - loss: 1.0106
Epoch 40/50
523/523 [=====] - 33s 61ms/step - loss: 1.0222
```

```

Epoch 41/50
523/523 [=====] - 32s 60ms/step - loss: 1.0333
Epoch 42/50
523/523 [=====] - 32s 60ms/step - loss: 1.0418
Epoch 43/50
523/523 [=====] - 32s 60ms/step - loss: 1.0601
Epoch 44/50
523/523 [=====] - 32s 60ms/step - loss: 1.1004
Epoch 45/50
523/523 [=====] - 32s 60ms/step - loss: 1.1312
Epoch 46/50
523/523 [=====] - 32s 60ms/step - loss: 1.1938
Epoch 47/50
523/523 [=====] - 32s 60ms/step - loss: 1.2442
Epoch 48/50
523/523 [=====] - 32s 60ms/step - loss: 1.2228
Epoch 49/50
523/523 [=====] - 32s 60ms/step - loss: 1.2173
Epoch 50/50
523/523 [=====] - 32s 60ms/step - loss: 1.2348

```

Model: "sequential_27"

Layer (type)	Output Shape	Param #
embedding_27 (Embedding)	(1, None, 256)	24832
gru_27 (GRU)	(1, None, 1024)	3938304
dense_27 (Dense)	(1, None, 97)	99425

=====
Total params: 4,062,561

Trainable params: 4,062,561

Non-trainable params: 0

Sherlock it

of Niveredrinent it."

"The cand was a very like, but in we gaze in
the suce malactrapse was end. It was at missed chill of
their dead safe, and I will unders for this ison the diniefartition, "before,
Whot Mr. Holmes."

"Yes, I waiting fishish, ank I am if you are
deat-ginnourr."

'Comin Stapleon. "Wasic was it up, Mr. Holmes. "Yes, sir."

"We can be said not? She ganged an inst and given, stinging
the words locked. Smanly ushed he examined the usaintimes in his line, but portious
every

friends turn down, you know that, Watson, you see his emotion to
the elters. In the Indead Holmes could never keep your gincy as
impost Still. Stain!" she said me his own
close of hills and put ins quite forature. It's wry not beast."

The bartering out of Bots England, who can see, Misor Convictise, to stoke to as Dr
ebbed and surely at my streebstair my
escapion so disere was in my sisteriatoly."

Curlegro gens pr

When there in this came he
curries are certainly, and the window, but this ness in the
police case before night shiller lean face. In the cives of whips that took faron o
r a very sinion fire to scrates and a gie
was seen hard figure. It is unally, Wearling that he shall see if the
course famons should turnoned any stove; but it
Watson. You can oner to you, Mr. Holmes? But I have
men in insen, and to be concilenter. Then teremarcy nor there, Lancas had
as he gave any keeper hour great lither had done know occurred
saw it
of Cried Holmes.

Not very liem they above
in an earson in her waiting fortune yabos. My dear features got the
over o'clock of his hand."

the treach. That may the same deavle imeritical schore sides throw
to may he, in his Hote and were stare. There were sorrinderent. The smheet was he se
emed in a mothough."

"The Markin, I canseton?" he."

She was are neither an ad nature he was so
disarred

discover, matter for that in Ammstrain notice
would all the tall."

with a face and streeped questioned. The same insome was and catrale, "from whact h
ad seen fair-planted up inn ordations
punched anyone.

"I have hons we should have you truet the only
simple.

"It's not the acted mattering of the native men have inedianit on the square."
Sherlock Holmes small kept ran uptomitions to our than
into his feet denortant. He was in them ivalson," Thankma," he fancted to meet as
evened, on the man who spoke you."

THE Scotland monthsprine that the marridgenced
to-night he was inday and remarkable visit to the
forlow hard. The one box was near times, though, itself
the matter of he white it was in her ladison, for Here deep-master's arms, when
would he pous the pilion it--might have add drives!
sorely we keep at them tenory to reash upon us he may
not certainly in any few piles. Have you have
imposent thesionary that Da

MAX

```
In [48]: iteration(1024,1024,40)
```

Model: "sequential_28"

Layer (type)	Output Shape	Param #
=====		
embedding_28 (Embedding)	(64, None, 1024)	99328
=====		
gru_28 (GRU)	(64, None, 1024)	6297600
=====		

dense_28 (Dense) (64, None, 97) 99425
=====

Total params: 6,496,353
Trainable params: 6,496,353
Non-trainable params: 0

Epoch 1/40
523/523 [=====] - 49s 89ms/step - loss: 2.0714
Epoch 2/40
523/523 [=====] - 47s 89ms/step - loss: 1.2657
Epoch 3/40
523/523 [=====] - 48s 89ms/step - loss: 1.1708
Epoch 4/40
523/523 [=====] - 47s 89ms/step - loss: 1.1244
Epoch 5/40
523/523 [=====] - 47s 89ms/step - loss: 1.0924
Epoch 6/40
523/523 [=====] - 48s 89ms/step - loss: 1.0654
Epoch 7/40
523/523 [=====] - 48s 89ms/step - loss: 1.0436
Epoch 8/40
523/523 [=====] - 47s 89ms/step - loss: 1.0254
Epoch 9/40
523/523 [=====] - 47s 89ms/step - loss: 1.0102
Epoch 10/40
523/523 [=====] - 48s 89ms/step - loss: 0.9964
Epoch 11/40
523/523 [=====] - 48s 89ms/step - loss: 0.9852
Epoch 12/40
523/523 [=====] - 48s 89ms/step - loss: 0.9737
Epoch 13/40
523/523 [=====] - 48s 90ms/step - loss: 0.9657
Epoch 14/40
523/523 [=====] - 48s 89ms/step - loss: 0.9576
Epoch 15/40
523/523 [=====] - 48s 89ms/step - loss: 0.9514
Epoch 16/40
523/523 [=====] - 48s 89ms/step - loss: 0.9470
Epoch 17/40
523/523 [=====] - 47s 89ms/step - loss: 0.9428
Epoch 18/40
523/523 [=====] - 47s 89ms/step - loss: 0.9399
Epoch 19/40
523/523 [=====] - 47s 89ms/step - loss: 0.9380
Epoch 20/40
523/523 [=====] - 48s 89ms/step - loss: 0.9368
Epoch 21/40
523/523 [=====] - 48s 89ms/step - loss: 0.9359
Epoch 22/40
523/523 [=====] - 48s 89ms/step - loss: 0.9373
Epoch 23/40
523/523 [=====] - 47s 89ms/step - loss: 0.9381
Epoch 24/40
523/523 [=====] - 48s 90ms/step - loss: 0.9416
Epoch 25/40
523/523 [=====] - 48s 90ms/step - loss: 0.9446
Epoch 26/40
523/523 [=====] - 48s 90ms/step - loss: 0.9491
Epoch 27/40
523/523 [=====] - 48s 90ms/step - loss: 0.9512
Epoch 28/40
523/523 [=====] - 48s 90ms/step - loss: 0.9571
Epoch 29/40
523/523 [=====] - 48s 90ms/step - loss: 0.9635
Epoch 30/40

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523/523 [=====] - 48s 90ms/step - loss: 0.9723
Epoch 31/40
523/523 [=====] - 48s 90ms/step - loss: 0.9823
Epoch 32/40
523/523 [=====] - 48s 90ms/step - loss: 0.9925
Epoch 33/40
523/523 [=====] - 48s 90ms/step - loss: 1.0011
Epoch 34/40
523/523 [=====] - 48s 90ms/step - loss: 1.0139
Epoch 35/40
523/523 [=====] - 48s 89ms/step - loss: 1.0341
Epoch 36/40
523/523 [=====] - 48s 89ms/step - loss: 1.0568
Epoch 37/40
523/523 [=====] - 48s 90ms/step - loss: 1.0625
Epoch 38/40
523/523 [=====] - 48s 90ms/step - loss: 1.1470
Epoch 39/40
523/523 [=====] - 48s 89ms/step - loss: 1.1939
Epoch 40/40
523/523 [=====] - 48s 89ms/step - loss: 1.7466

```

Model: "sequential_29"

Layer (type)	Output Shape	Param #
=====		
embedding_29 (Embedding)	(1, None, 1024)	99328

gru_29 (GRU)	(1, None, 1024)	6297600

dense_29 (Dense)	(1, None, 97)	99425
=====		
Total params: 6,496,353		
Trainable params: 6,496,353		
Non-trainable params: 0		

Sherlock up. The sold my pop lemy just. dest. a
 "Fou dway you gead shere nter away. Iand s
 log may nows, "Well, he an Ame, "I well blandis bot a whind saveent eviends with any As
 e andinguI sater a mind whe rave urn whound lont o sensed was Josemnere arch had lee's d
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 is of wift he wnr she wim hister y ath by the mosect thth ruth upon sactuted he lit
 is a oof min youre in the somest."

"Yo whicas, wilk clemnnistance thomb the savelf. "You have have just a
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y vescally as e must thened. Theart,
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 be had burn muld. "I. Thale sounillyed ourd lives,
 nonting-the aiminel gos and dearungtiralnty, and heepord plactead dady e
 the paper?"

"Younggg in the varviculy prtice all Sire was mork. The charll wod

When I ompertial at fly theree istore."

"Oh, Ame at thear wim yer the Amusty and claurne the cose. Then I harde adsin them whintw it!' newite claperg talked the martily framerrea rbadm."

"Wevervient."

and Hise."

"Hes serve your mere in inft men wass of Spimed,"

"N," ave your to suvere hand
s like trough?"
at the hard be friould before it them."

"Theren!, the asqe my reabtasting-!" I halinngle of
that you doon,"

"Ne the that thantm, genevery sool, a trishouled backne the has noll ne exe has but cle compice. But litty, clied, Butet the me pot a."

Heabltiot has comes?"

I courfr:--s wille ond to an haf st your wance an will yout rand
y cere to that your ine. the the blaied a
found ments. Holmes, to thine
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whe do fillt of hink ousmplain Vien yer. I lust es has
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wercamszonty sracreses of
then lused glay burgh!" he baby tore very sun
Dr.. Itinge that usted and he bas me a
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wass which and cerrave. That on and thir
lirt---al waitnce. Than the could
your poahin tou chrines. " note by hie the wored sor yon'ted tholgentondswread yout
reas As came andand I fusticat of the lircledow he
face ad hurfl
bucandreakne that the not beirf upown teet stone."

"Baten w--g?"

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himad.y the donted.

"Hopeth the?"

"I welike so."

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Dacr, youndly. "I'll fentled tell we you drest infor the ok the blefrat whell of her at
the blory linds
lippt his cupp he glan facy, exply. It am sander that th prefficir
myour frand th