Checkpoint 2.1:
Chunked tensor for "Enchanted (Taylor's Version)"

```
tensor([[50257,  1858,   314,   373,   757,  9975,   198,  1890,  2259, 20263,
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          1986,   198,  3237,   314,   460,   910,   318,   340,   373, 23260,
           278,   284,  1826,   345,   198,   198,  7120,  2951, 25029,    11,
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           464, 34264,  5273,  4940,   198, 31694,   477,   534,  2068, 10252,
           198,  7594,  6427,  4710,   287, 22780,   198,  1870,   340,   373,
         23260,   278,   284,  1826,   345,   198,  3237,   314,   460,   910,
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          5492,    11,   836,   470,   307,   287,  1842,   351,  2130,  2073,
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         37854,   259,     6,   477,   262,   835,  1363,   198,    40,  1183,
          4341,  8097,  4240,   259,     6,   611,   345,  2993,   198,  1212,
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           357,  5492,    11,   836,   470,   307,   287,  1842,   351,  2130,
          2073,     8,   198, 42337,   259,     6,   611,   345,  2993,   198,
```

```
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    [50257,  1842,   351,  2130,  2073,   198,  5492,    11,   836,   470,
      423,  8276,  4043,   259,     6,   319,   345, 50258, 50256, 50256,
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    50256, 50256, 50256, 50256, 50256, 50256, 50256, 50256, 50256, 50256,
    50256, 50256, 50256, 50256]])


Checkpoint 2.2:
Logits shape: (batch_size, chunk_len - 1, vocab_size) = (32, 63, 50259)
Hidden state shape: (num_layers, batch_size, rnn_hidden_dim) = (1, 32, 1024)



Checkpoint 2.3:
Losses plot saved to results/training_plot.png
```
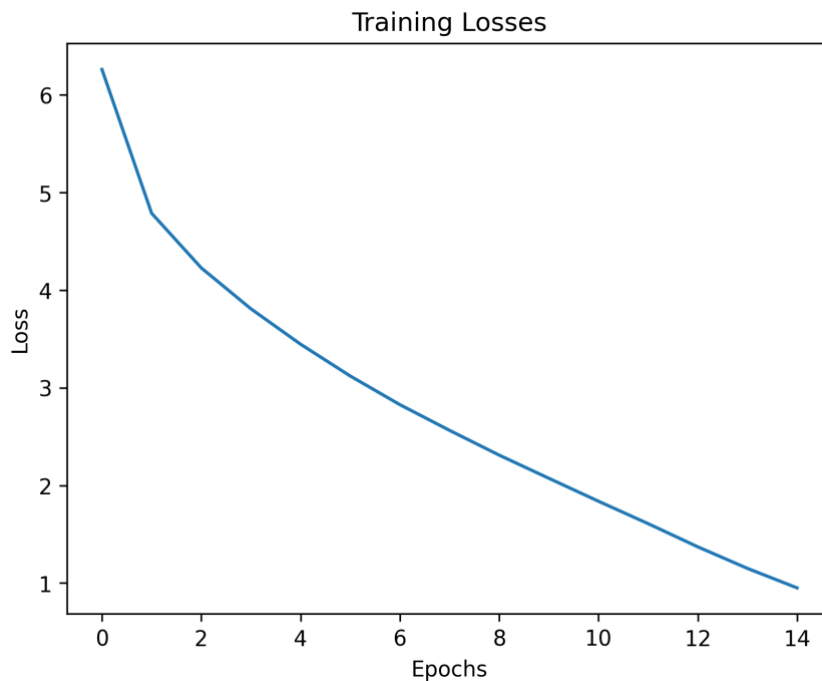

Training Losses

```
Perplexity for test data:
'And you gotta live with the bad blood now': 737.84
'Sit quiet by my side in the shade': 326.00
'And I'm not even sorry, nights are so starry': 653.80
'You make me crazier, crazier, crazier, oh': 381.96
'When time stood still and I had you': 6917.04

Observations:
We observe that the perplexity score for RNN model is 10 to 20 times lower than
trigram model.
This is expected because the RNN model is able to capture the context of the data and
long-range dependencies better than the trigram model by using the hidden states.
```

```
Checkpoint 2.4:

====== Song 1 =====
<s>Are we out of the woods yet? Are we out of the woods yet? Are we out of the woods
yet? Are we out of the woods yet? Are we out of the woods yet? Are we out of the
woods yet? Are we out of the woods yet?</s>
==================

====== Song 2 =====
<s>Like we're made of starlight, starlight
Like we're made of starlight, starlight

Did you think I wouldn't hear all the things you said about me?

What if he told you none of it was accidental?
And the first night that you saw me
Nothing was gonna stop me
I laid the groundwork, and then
==================

====== Song 3 =====
<s>I hate Calvin Harris and he is a lie
Shit my friends say to get me by
It hits different
It hits different this time
Catastrophic blues
Movin' on was always easy for me to do
It hits different (It hits different)
It</s>
==================


Checkpoint 2.5: Extra Credit

====== Song 1 =====
<s>Are we out of the woods?)?
It's poker you can't put?
Like it together just aren from you (I don't wanna know what) don't understand for me
O</s>
==================

====== Song 2 =====
<s>Like we're made of starlight, starlight, starlight
Like we dream impossible dreams star new, the world would've felt
A greater woman has up at
She all I know since I was goodbye
Notna knows in the dark where of your eyes
I'm the one who makes us to you town
When you're the first stone on the
==================

====== Song 3 =====
<s>I hate Calvin Harris and he is a ' half
A was the sign of the night
And I just like oh-oh, oh-oh, oh-oh, oh-oh, oh were born
Chasing back, he keeps the way to the nearest
When you think happiness all the friends she to me
I just wanna hang in
==================
```

Observations:
The content generated by sampling over all logits (random walk) is more unique than
by argmaxing over the logits (greedy).
This is because greedy generation is more likely to generate the most common tokens,
which tend to mimic the training data more.
Random walk generation allows the model to generate natural-like sequences and more
unique tokens.