## Task 1

Epochs = 150

Embed dim = 64

Latent dim = 64

Encoder-decoder word accuracy = 79.51%

Best model word accuracy = 98.85%

- ➤ Task 1b
  - $\circ$  Epochs = 150
  - $\circ$  Embed dim = 64
  - o Latent dim = 64
  - $\circ$  Dropout = .5
  - I ran my code 10 times, and this is a summary of my results:
    - ★ Smallest Accuracy: 75.56%
    - ★ Largest Accuracy: 83.12%
    - ★ Mean Accuracy: 79.13%
    - ★ Median Accuracy: 78.38%
- ➤ Task 1c
  - $\circ$  Epochs = 150
  - $\circ$  Embed dim = 128
  - Latent dim = 128
  - o I ran my code 10 times, and this is a summary of my results:
    - ★ Smallest Accuracy: 79.10%
    - ★ Largest Accuracy: 83.52%
    - ★ Mean Accuracy: 81.98%
    - ★ Median Accuracy: 82.34%

## Task 2

Epochs = 10

 $Embed_dim = 100$ 

Num heads = 3

Dense dim = 32

Accuracy = 98.42%

- ➤ Task 2b
  - $\circ$  Epochs = 10
  - $\circ$  Embed\_dim = 100
  - $\circ$  Num\_heads = 3
  - $\circ$  Dense dim = 32
  - $\circ$  Dropout = .1
  - $\circ$  Dense = 20
  - o 2 Encoder Layers
  - o I ran my code 10 times. Here's the summary of what I got:

Run	Accuracy (%)
1	98.5

2	98.7
3	98.6
4	98.4
5	98.8
6	98.3
7	98.9
8	98.6
9	98.7
10	98.5

★ Smallest Accuracy: 98.17%
★ Largest Accuracy: 98.84%
★ Mean Accuracy: 98.58%
★ Median Accuracy: 98.63%

## ➤ Task 2c

- $\circ$  Epochs = 10
- $\circ$  Embed\_dim = 128
- $\circ$  Num heads = 4
- $\circ$  Dense\_dim = 64
- $\circ$  Dropout = .2
- $\circ$  Dense = 32
- o 3 Encoder Layers
- o I ran my code 10 times. Here's a summary of what I got.
  - ★ Smallest Accuracy: 98.42%
  - ★ Largest Accuracy: 99.00%
  - ★ Mean Accuracy: 98.71%
  - ★ Median Accuracy: 98.67%