Α



```
Epoch #20
7 $ 3 9 5 7 $ 5
9 7 1 3 4 1 2 4
4 1 7 5 0 5 0 5
5 1 3 1 3 1 1 1
5 1 3 1 1 3 1 1
5 1 3 1 3 1 1
5 1 3 1 3 1 5
6 1 3 1 3 1 4
7 3 9 1 2 1 3 6
```

Epoch #30

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25585898

12040079

28897873

28492476

98994437

99959815

99959815

96991495

75448382
```

Epoch #40

3 5 3 6 6 6 3

3 0 1 0 4 6 3 7

7 7 3 7 4 1 0 9

9 8 6 4 8 5 4 9

6 7 1 3 1 9 9 9 5

7 7 0 7 6 9 8 5

7 7 0 7 6 9 8 6

9 7 5 0 0 0 0 8

Epoch #50

b / 4 / 5 / 6 / 6

g 9 3 0 9 2 8 7

\$ 3 7 6 7 7 6 6

6 6 6 8 9 8 6 8

0 8 9 7 3 6 7 8

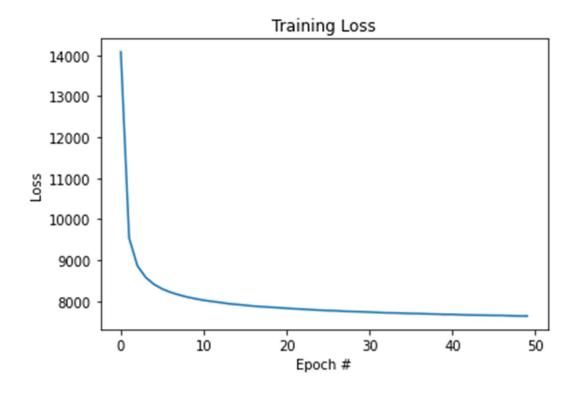
(1 8 8 1 8 6 4

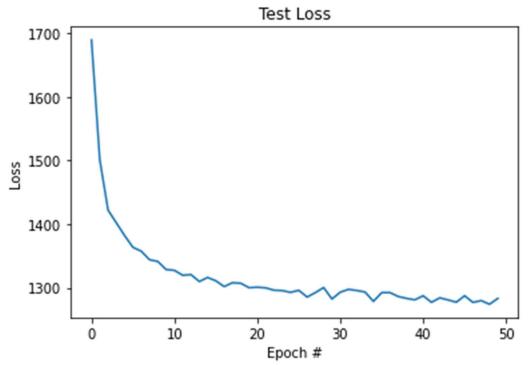
6 6 7 1 8 6 4

5 6 7 1 8 6 4

5 6 7 1 8 6 7

5 6 7 1 8 7 8 9





B Epoch #10



Epoch #20



Epoch #30

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8 8 1 1 9 1 8 1

9 8 1 1 9 1 9 1

9 7 1 6 1 1 9 3

8 7 1 6 1 1 9 3

8 7 1 1 1 1 9 8

9 8 1 1 9 1 9 8

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9
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Epoch #40



Epoch #50

```
28 | 38 8 | 9

9 1 8 | 9 8 | 1

3 4 1 7 9 3 | 8

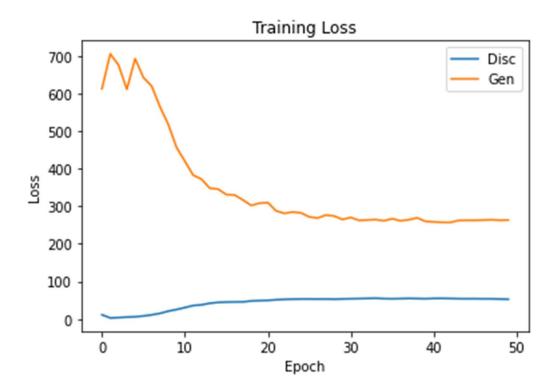
3 8 7 9 3 9 9 |

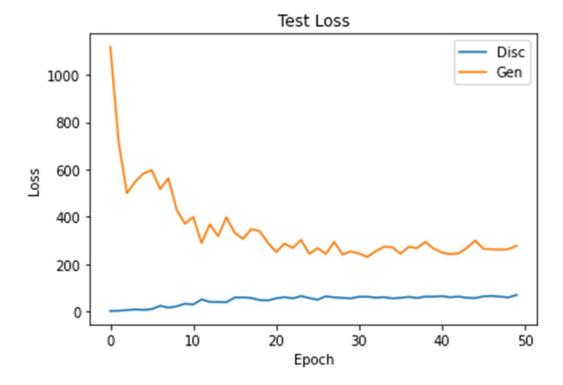
8 9 7 1 1 3 7 7

9 1 8 1 | 1 7 3

1 1 1 8 1 9 1 8

1 4 5 | 9 1 5 |
```





С

By using GANs created clearer images in comparison to VAEs. The initial GAN images produced were worse than the initial VAE images but over time got clearer. VAEs had a greater initial loss reduction but quickly flattened out over epochs. Seems that VAE are better for low iteration while GANs would be better for high iteration and time allowances.