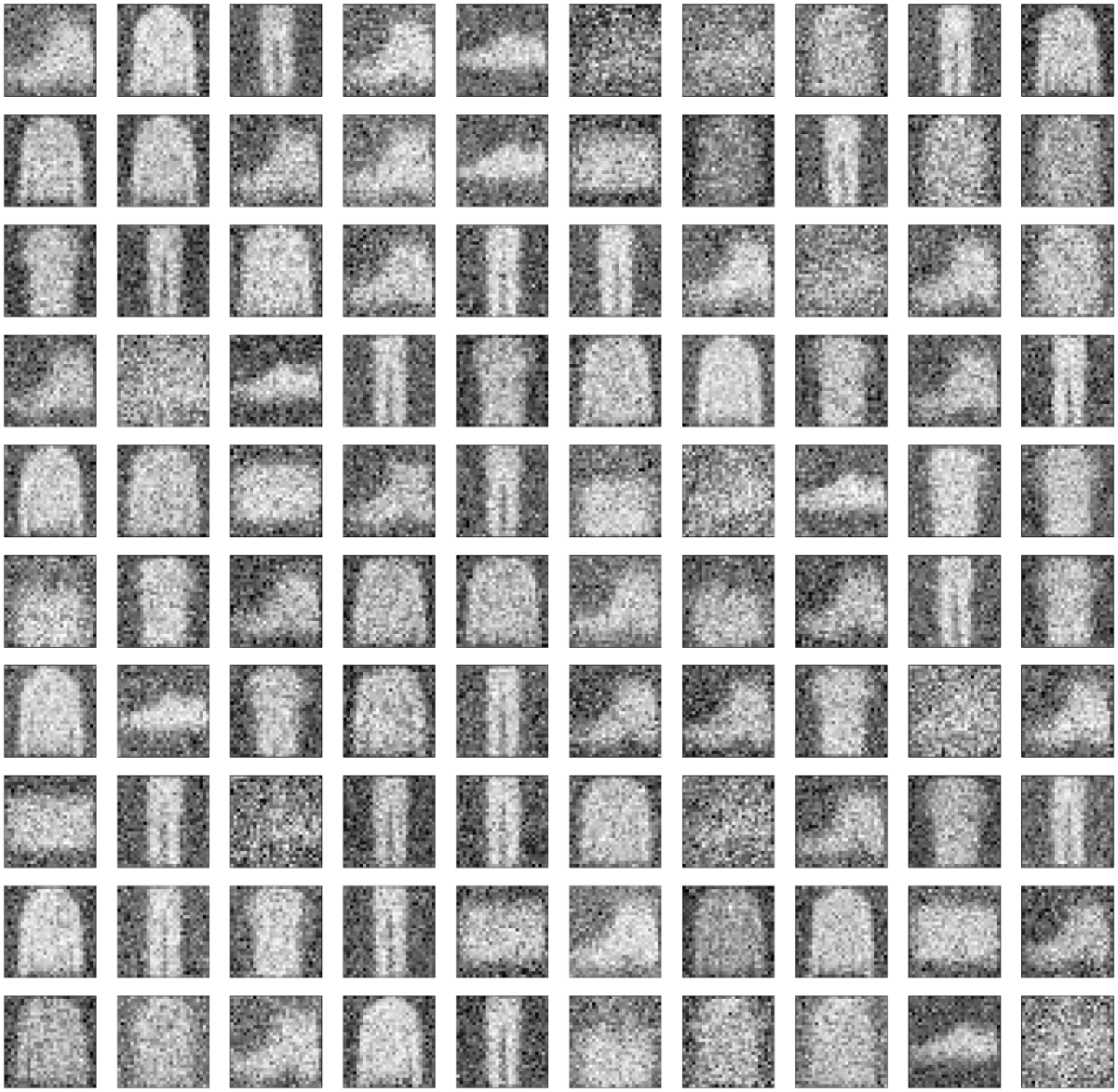
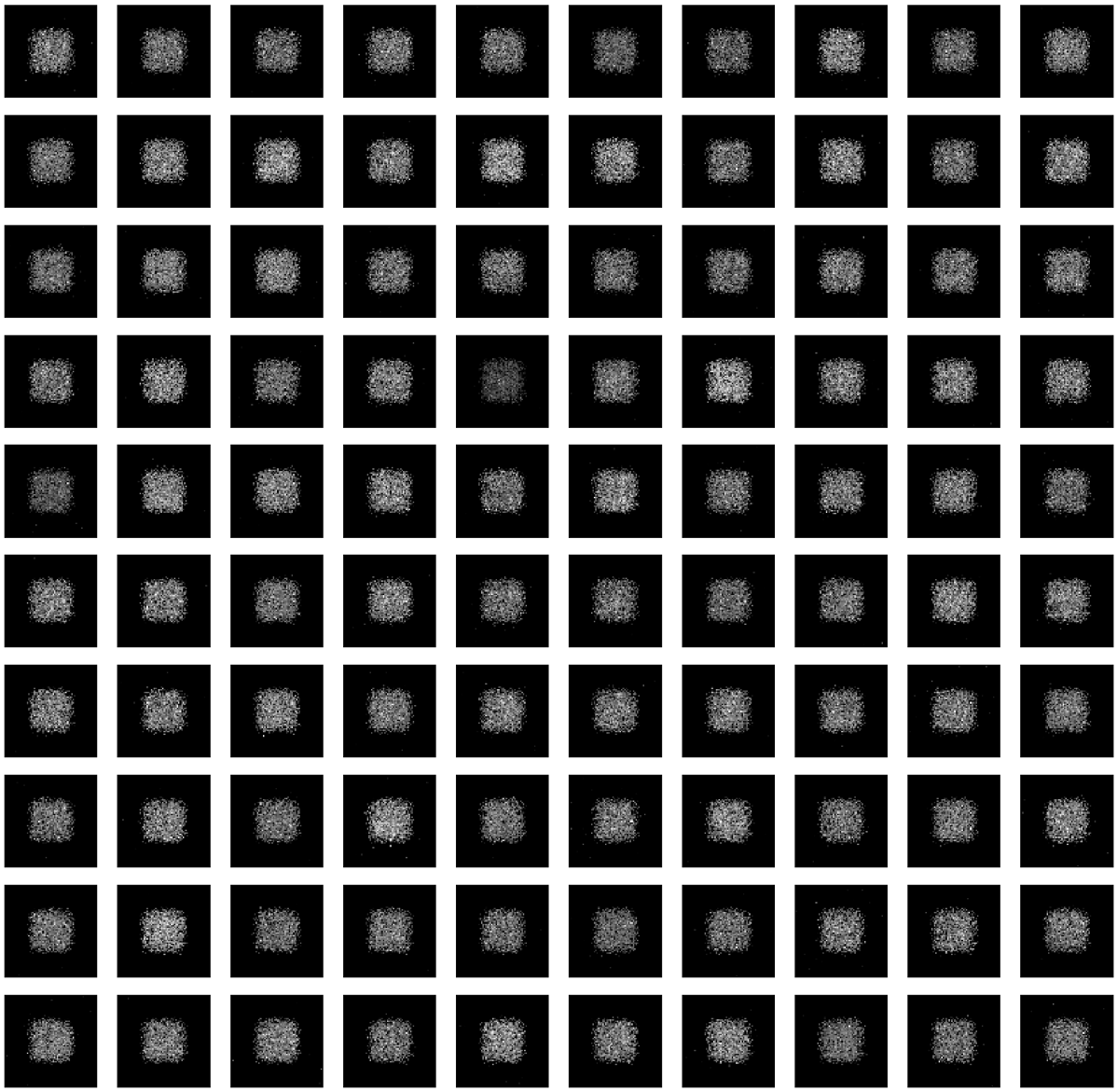
1. GMM on F-MNIST:



Observations:

1. Convergence happened only in 1 or 2 iterations
2. Generated images hardly differ much from each other.

2. VAE on Dsprites:



Observations:

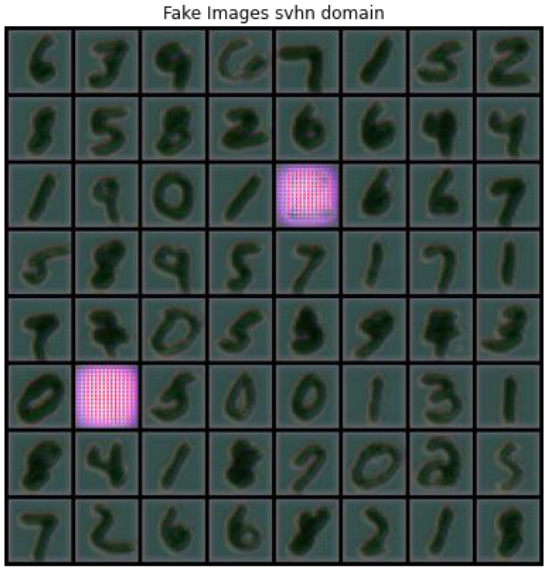
1. Generated images are quite similar and are very diffuse. They are similar to overall density of images in dataset and are not sharp.

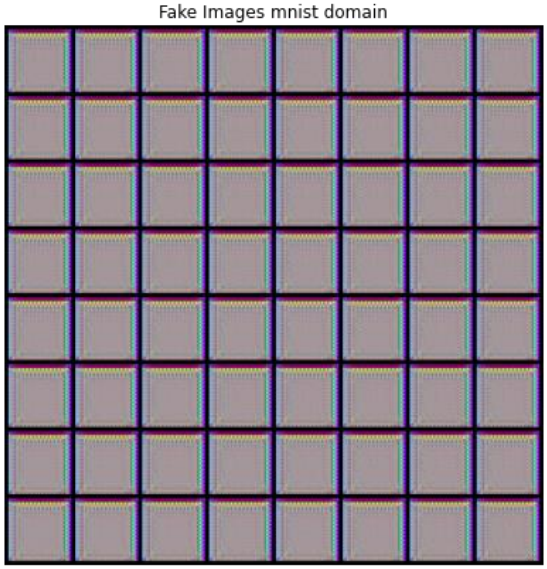
DCGAN with bitmoji:

Observations:

1. Training is very sensitive to hyperparameters.
2. training Generator requires 5 times more data than compared to discriminator.
3. Generated images have close resemblance to real images but all are of same modality.

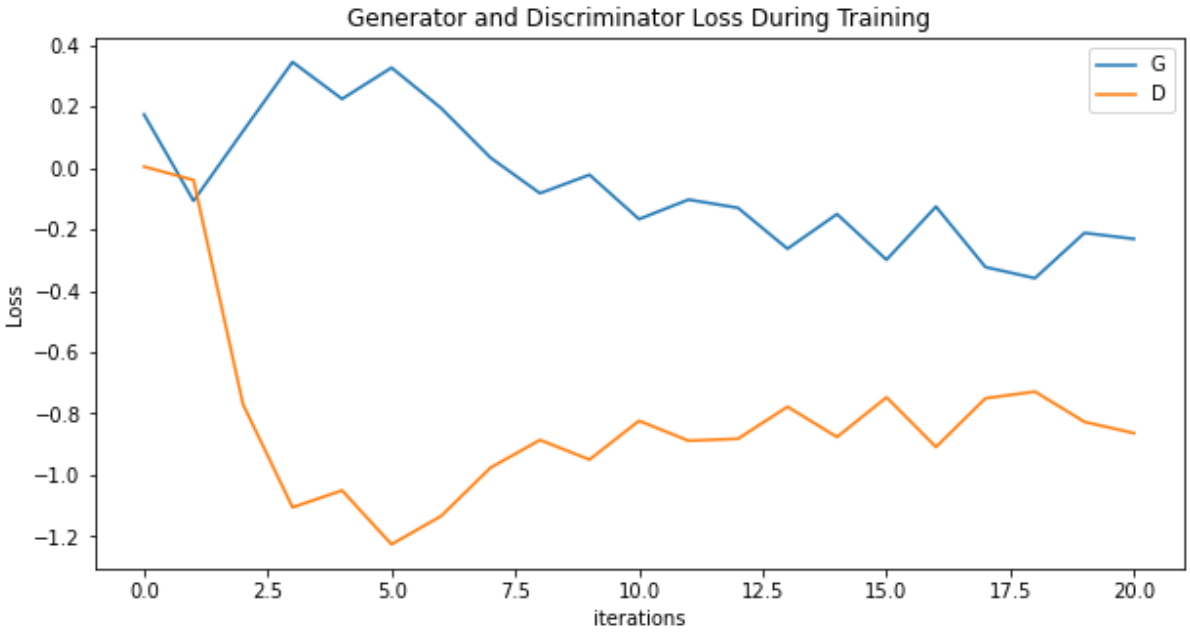
Cycle gan with W-GAN as base model:





Observations:

1. mnist to svhn generator learns good mapping. However, svhn to mnist generator does not learn at all it seems.
2. Unet architecture is much better than convolutional architecture.
3. W-gan training is very sensitive to clipping value and learning rate hyperparameter.


Generator and Discriminator Loss During Training
G
D
Loss
iterations
0.4
0.2
0.0
−0.2
−0.4
−0.6
−0.8
−1.0
−1.2
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0