

GAN(Generative Adversarial Network)

is a type of **generative AI model** designed to generate new, synthetic data that mimics real data.

GAN architecture consists of **2 neural networks** trained simultaneously: a **generator** that generates new data from the training data, and a **discriminator** that evaluates whether the generated data is real (ie from training data) or fake (created by the generator).

Key Points:

-**GAN architecture** is based on indirect training through the discriminator in a 'zero-sum' game-theoretic setup: the generator network learns to generate more realistic data from training data sample, and the descriminator network learns to correctly classify real vs. fake data. Over time, the generator improves at producing data that is indistinguishable from real data.

-Original **GANs are unsupervised learning models** - there is no labeled data during training. GAN learns to generate data that is statistically similar to the training dataset, but it does not learn to classify the data (i.e., recognize what the digits represent). It simply learns to model the distribution of the data. The discriminator gets feedback based only on whether the image is real or fake, not based on a specific label (such as "0" or "1").

-In this notebook will train a **GAN on the MNIST training dataset** using Convolutional layers for both the generator and the discriminator to better capture spatial hierarchies in the images, which is important for generating high-quality, complex images. This architecture is known as **Deep Convolutional GAN (or DCGAN)**.

Even though MNIST is a simple dataset, using a DCGAN on MNIST will still outperform a basic GAN in terms of image quality and training stability.

The learning process remains unsupervised because no labels are used, and the goal is to model the data distribution rather than perform classification:

- The discriminator is not concerned with identifying the specific label of the images. It simply distinguishes between real (from MNIST) and fake (generated by the generator).
- The generator does not aim to predict labels or categories, but instead aims to generate realistic images that look like they came from the training data distribution.

For an overview of GAN structure see also: https://developers.google.com/machine-learning/gan/gan_structure

Training a **DCGAN** (Deep Convolutional Generative

- ✓ Adversarial Network) on the **MNIST dataset** in **Google Colab** using **PyTorch**:

```
#imports

import torch
torch.manual_seed(42)
import torch.nn as nn
import numpy as np
import matplotlib.pyplot as plt

from tqdm.notebook import tqdm # to show progress bars in Jupyter notebooks
```

- ✓ **System requirement**

To train GAN, use GPU since GAN (and Neural Networks in general) benefit significantly from GPU acceleration, which can provide massive performance boosts over running on a CPU.

In **Google Colab**, if you're using a GPU, it will automatically use CUDA if it's available. You can check if CUDA is available on your Colab instance by running:

```
torch.cuda.is_available()
```

If the result is `True`, you can safely use the `cuda` device.

```
device = 'cuda'  
batch_size = 128  
noise_dim = 64 # for GAN generator  
  
#Adam Optimizer Hyperparameters:  
  
#Betas are the exponential decay rates for 1st and 2nd moment  
beta_1 = 0.5  
beta_2 = 0.999  
  
#learning rate  
lr = 0.0002 #for GANs  
  
epochs = 20
```

✓ Load MNIST Dataset

We will create a trainset from the MNIST dataset using PyTorch's `torchvision.datasets`, and applying a series of transformations:

```
from torchvision import datasets, transforms as T  
  
#Set up a transform pipeline for data augmentation and conversion  
train_augs = T.Compose ([T.RandomRotation((-20,+20)),T.ToTensor()]) #random rotat
```

```
#automatic download in directory 'MNIST/' the training MNIST subset (60,000 image  
trainset = datasets.MNIST('MNIST/', download=True, train=True, transform=train_a
```

→ Downloading <http://yann.lecun.com/exdb/mnist/train-images-idx3-ubyte.gz>

Failed to download (trying next):

HTTP Error 403: Forbidden

Downloading <https://ossci-datasets.s3.amazonaws.com/mnist/train-images-idx3-ubyte.gz>

Downloading <https://ossci-datasets.s3.amazonaws.com/mnist/train-images-idx3-ubyte.gz>

100%|██████████| 9.91M/9.91M [00:00<00:00, 53.7MB/s]

Extracting MNIST/MNIST/raw/train-images-idx3-ubyte.gz to MNIST/MNIST/raw

Downloading <http://yann.lecun.com/exdb/mnist/train-labels-idx1-ubyte.gz>

Failed to download (trying next):

HTTP Error 403: Forbidden

Downloading <https://ossci-datasets.s3.amazonaws.com/mnist/train-labels-idx1-ubyte.gz>

Downloading <https://ossci-datasets.s3.amazonaws.com/mnist/train-labels-idx1-ubyte.gz>

100%|██████████| 28.9k/28.9k [00:00<00:00, 2.58MB/s] Extracting MNIST/MNIST/raw

Downloading <http://yann.lecun.com/exdb/mnist/t10k-images-idx3-ubyte.gz>

Failed to download (trying next):

HTTP Error 403: Forbidden

Downloading <https://ossci-datasets.s3.amazonaws.com/mnist/t10k-images-idx3-ubyte.gz>

Downloading <https://ossci-datasets.s3.amazonaws.com/mnist/t10k-images-idx3-ubyte.gz>

100%|██████████| 1.65M/1.65M [00:00<00:00, 14.2MB/s]

Extracting MNIST/MNIST/raw/t10k-images-idx3-ubyte.gz to MNIST/MNIST/raw

Downloading <http://yann.lecun.com/exdb/mnist/t10k-labels-idx1-ubyte.gz>

Failed to download (trying next):

HTTP Error 403: Forbidden

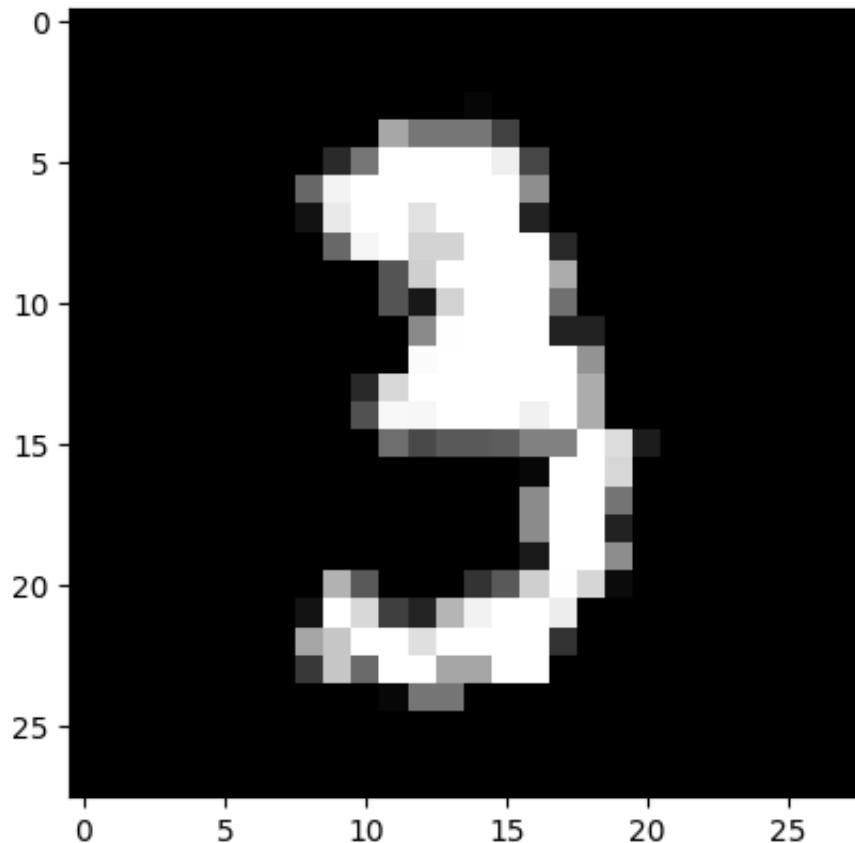
Downloading <https://ossci-datasets.s3.amazonaws.com/mnist/t10k-labels-idx1-ubyte.gz>

Downloading <https://ossci-datasets.s3.amazonaws.com/mnist/t10k-labels-idx1-ubyte.gz>

100%|██████████| 4.54k/4.54k [00:00<00:00, 5.86MB/s] Extracting MNIST/MNIST/raw

```
image, label = trainset[10] #image at index 10
print(image.shape) #[c, H, W] where c=1 for gray image
print(len(trainset)) # 60,000 is the size of training MNIST dataset
plt.imshow(image.squeeze(), cmap='gray')
```

```
→ torch.Size([1, 28, 28])
60000
<matplotlib.image.AxesImage at 0x7ba2820be4d0>
```



✓ Load Dataset Into Batches

```
from torch.utils.data import DataLoader # to load images into batches
from torchvision.utils import make_grid # to plot multiple images in a grid

# Create a DataLoader for the MNIST training set that will be used to:
# train on batches - each batch is a random sample of batch_size(=64) of images (
trainloader = DataLoader(trainset,batch_size = batch_size, shuffle = True)
```

```
print("Total number of batches in the trainloader is: ", len(trainloader))

→ Total number of batches in the trainloader is: 469

# 'show_tensor_images' : function is used to plot some of images from the batch

def show_tensor_images(tensor_img, num_images = 16, size=(1, 28, 28)):
    unflat_img = tensor_img.detach().cpu()
    img_grid = make_grid(unflat_img[:num_images], nrow=4)
    plt.imshow(img_grid.permute(1, 2, 0).squeeze())
    plt.show()

#load 1 batch from the trainloader

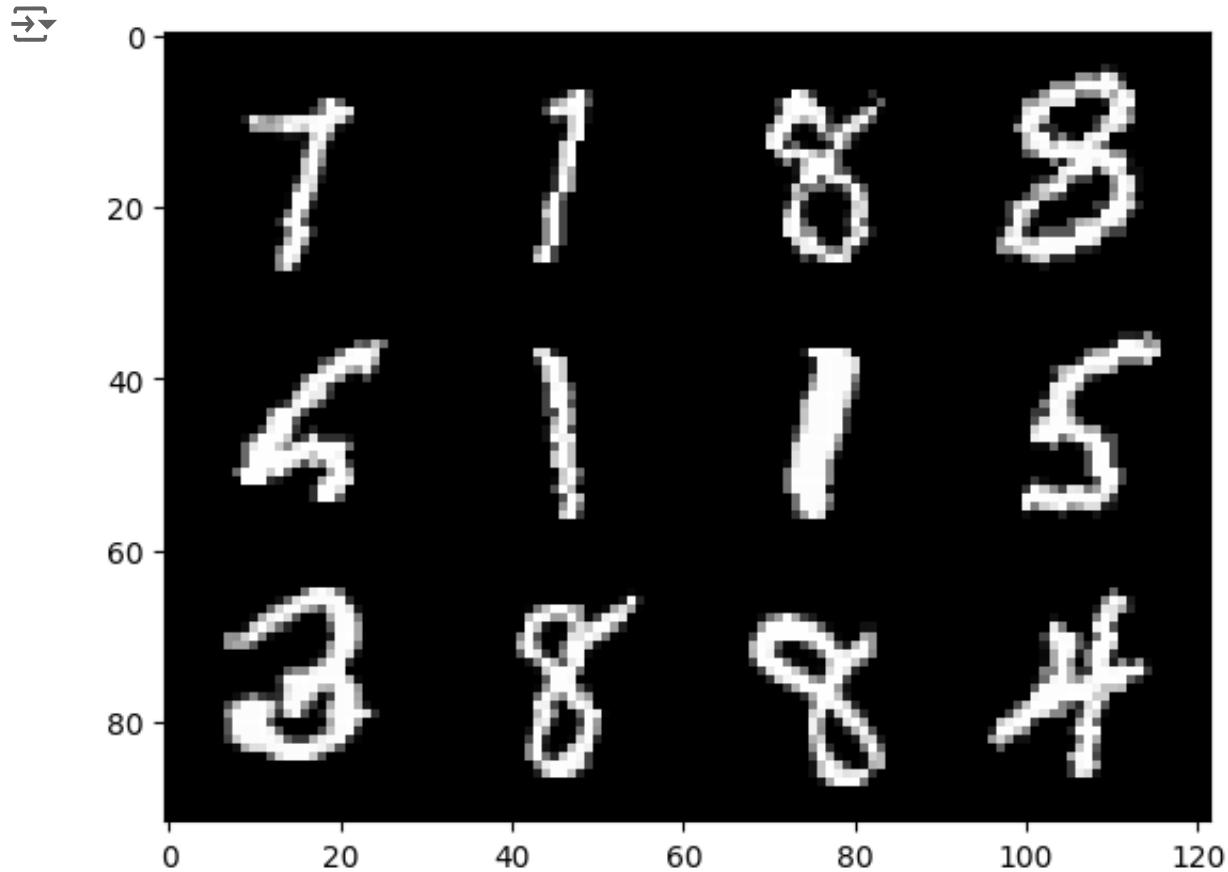
#converts trainloader, an iterable to an iterator
dataiter = iter(trainloader)

#loop through images in the batch
images, _ = next(dataiter) # retrieves the next batch of data from the dataiter i
print(images.shape)

→ torch.Size([128, 1, 28, 28])
```

To plot images from this batch run the function:

```
def show_tensor_images(tensor_img, num_images =16, size=(1,28,28)):  
    unflat_img = tensor_img.detach().cpu()  
    img_grid = make_grid(unflat_img[:num_images], nrow=4)  
    plt.imshow(img_grid.permute(1,2,0).squeeze())  
    plt.show()  
  
#plot 12 images from this batch:  
show_tensor_images(images, num_images=12)
```



❖ Define the Discriminator Network:

Discriminator network is a binary classifier that discriminates between real images from fake images

```
#run this if torch summary is not installed
!pip install torchsummary

→ Requirement already satisfied: torchsummary in /usr/local/lib/python3.10/dist-


# define block consisting of convolutional layer, apply batch normalization and LeakyReLU
def get_disc_block(in_channels, out_channels, kernel_size, stride):
    return nn.Sequential(nn.Conv2d(in_channels, out_channels, kernel_size, stride),
                        nn.BatchNorm2d(out_channels),
                        nn.LeakyReLU(0.2))

class Discriminator(nn.Module):

    def __init__(self):
        super(Discriminator, self).__init__()
        #add all blocks - use convolutional layers with different number of units (out_
        self.disc_block1 = get_disc_block(1,16,(3,3), 2)
        self.disc_block2 = get_disc_block(16,32,(5,5), 2)
        self.disc_block3 = get_disc_block(32,64,(5,5), 2)
        self.flatten = nn.Flatten()
        self.linear = nn.Linear(64,1)

    #define forward connection
    def forward(self, images):
        x1 = self.disc_block1(images)
        x2 = self.disc_block2(x1)#output from block1 goes into block2
        x3 = self.disc_block3(x2)#output from block2 goes into block3
        x4 = self.flatten(x3)
        x5 = self.linear(x4)
        return x5
```

▼ Define the Generator Network

A Generator Network generates realistic fake images using random noise

```

def get_gen_block(in_channels, out_channels, kernel_size, stride, final_block = False):
    if final_block == True:
        return nn.Sequential(nn.ConvTranspose2d(in_channels, out_channels, kernel_size, stride),
                            nn.Tanh())
    else:
        return nn.Sequential(
            nn.ConvTranspose2d(in_channels, out_channels, kernel_size, stride),
            nn.BatchNorm2d(out_channels),
            nn.ReLU()
        )

#Create Generator class network
class Generator(nn.Module):
    def __init__(self, noise_dim): #add as param
        super(Generator, self).__init__()
        self.noise_dim = noise_dim # attribute
        self.gen_block1 = get_gen_block(noise_dim, 256, (3,3), 2)
        self.gen_block2 = get_gen_block(256, 128, (4,4), 1)
        self.gen_block3 = get_gen_block(128, 64, (3,3), 2)
        self.gen_block4 = get_gen_block(64, 1, (4,4), 2, final_block = True)

    def forward(self, noise):
        #reshape noise vector
        x = noise.view(len(noise), noise_dim, 1, 1)
        x1 = self.gen_block1(x)
        x2 = self.gen_block2(x1)
        x3 = self.gen_block3(x2)
        x4 = self.gen_block4(x3)
        return x4

# Replace random initialized weights of D and G with normal weights to get robust
def weights_init(m):
    if isinstance(m, nn.Conv2d) or isinstance(m, nn.ConvTranspose2d):
        nn.init.normal_(m.weight, 0.0, 0.02)
    if isinstance(m, nn.BatchNorm2d):
        nn.init.normal_(m.weight, 0.0, 0.02)
        nn.init.constant_(m.bias, 0)

D = Discriminator().apply(weights_init)
G = Generator(noise_dim).apply(weights_init)

```

Create the real and fake Loss Functions and Load

Optimizer

We will train the discriminator on real images (labeled as 1) and fake images (labeled as 0)

```
def real_loss(disc_predict):
    criterion = nn.BCEWithLogitsLoss()
    ground_truth = torch.ones_like(disc_predict)
    loss = criterion(disc_predict, ground_truth)
    return loss

def fake_loss(disc_predict):
    criterion = nn.BCEWithLogitsLoss()
    ground_truth = torch.zeros_like(disc_predict)
    loss = criterion(disc_predict, ground_truth)
    return loss

D_optimizer = torch.optim.Adam(D.parameters(), lr = lr, betas = (beta_1, beta_2))
G_optimizer = torch.optim.Adam(G.parameters(), lr = lr, betas = (beta_1, beta_2))
```

Train the GAN model:

define training loop to iteratively improve both the **discriminator** and the **generator** in the GAN framework. Here's how we set up the training loop for GANs:

- Train the Discriminator on real and fake images.
- Train the Generator to create fake images that the discriminator classifies as real.

The training will continue until the generator produces increasingly more realistic fake data that the discriminator can no longer distinguish them.

```

# Move models to the appropriate device (GPU if available)
G.to(device)
D.to(device)

→ Discriminator(
    (disc_block1): Sequential(
        (0): Conv2d(1, 16, kernel_size=(3, 3), stride=(2, 2))
        (1): BatchNorm2d(16, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
        (2): LeakyReLU(negative_slope=0.2)
    )
    (disc_block2): Sequential(
        (0): Conv2d(16, 32, kernel_size=(5, 5), stride=(2, 2))
        (1): BatchNorm2d(32, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
        (2): LeakyReLU(negative_slope=0.2)
    )
    (disc_block3): Sequential(
        (0): Conv2d(32, 64, kernel_size=(5, 5), stride=(2, 2))
        (1): BatchNorm2d(64, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
        (2): LeakyReLU(negative_slope=0.2)
    )
    (flatten): Flatten(start_dim=1, end_dim=-1)
    (linear): Linear(in_features=64, out_features=1, bias=True)
)

```

```

for n in range(epochs):
    D_losses = []
    G_losses = []
    for real_images, _ in tqdm(trainloader):
        real_images = real_images.to(device)
        noise = torch.randn(batch_size, noise_dim, device = device)

        #Train discriminator: find loss & update weights for D nn:
        D_optimizer.zero_grad()

        fake_images = G(noise)
        D_pred_fake = D(fake_images)
        D_loss_fake = fake_loss(D_pred_fake)

        D_pred_real = D(real_images)
        D_loss_real = real_loss(D_pred_real)

        #discriminator loss is the average of real and fake losses
        D_loss = (D_loss_real + D_loss_fake)/2
        D_losses.append(D_loss.item())
        D_loss.backward()
        D_optimizer.step()

```

```

#Train generator: find loss & update weights for G nn:
G_optimizer.zero_grad()
noise = torch.randn(batch_size, noise_dim, device = device)
fake_images = G(noise)
D_pred_fake = D(fake_images)

G_loss = real_loss(D_pred_fake) # since we want G to produce realistic fake images
G_losses.append(G_loss.item())

G_loss.backward()
G_optimizer.step()

avg_D_loss = sum(D_losses)/len(D_losses)
avg_G_loss = sum(G_losses)/len(G_losses)

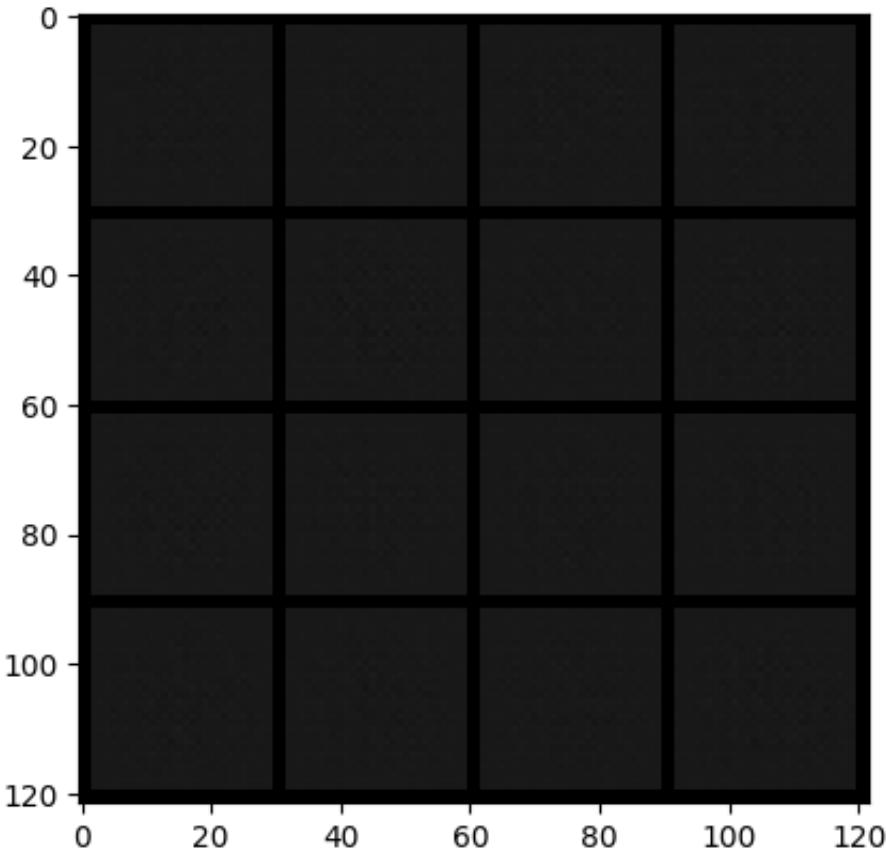
# Print progress
print(f"D_loss: {avg_D_loss:.4f}, G_loss: {avg_G_loss:.4f}")

show_tensor_images(fake_images)

```

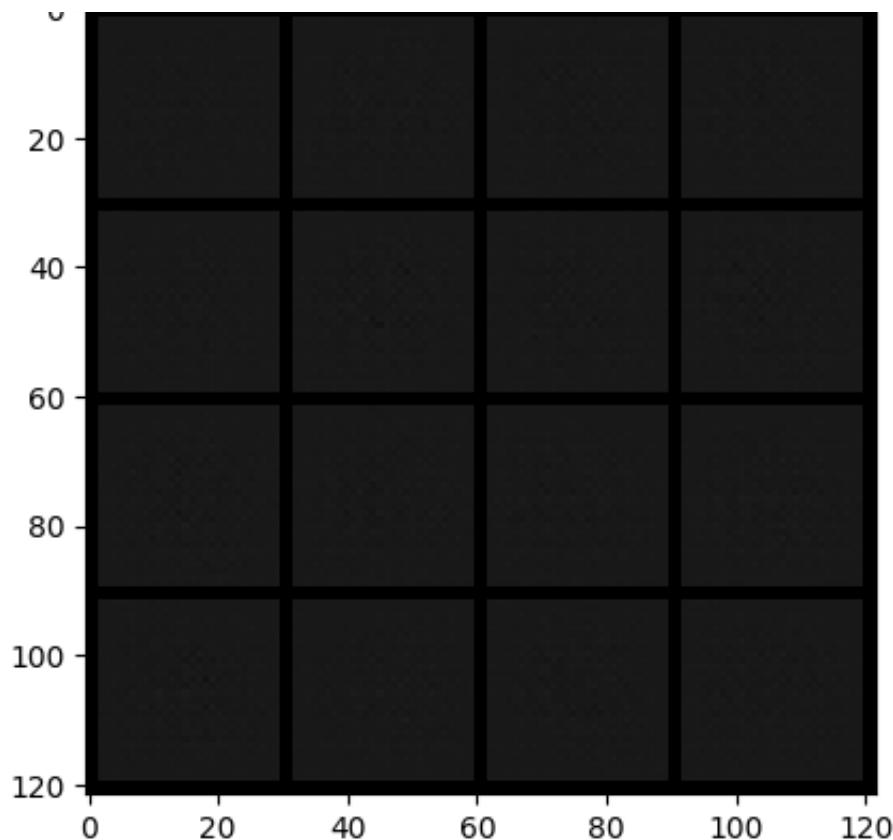
→ 100% 469/469 [02:34<00:00, 3.03it/s]

D_loss: 0.6936, G_loss: 0.6559

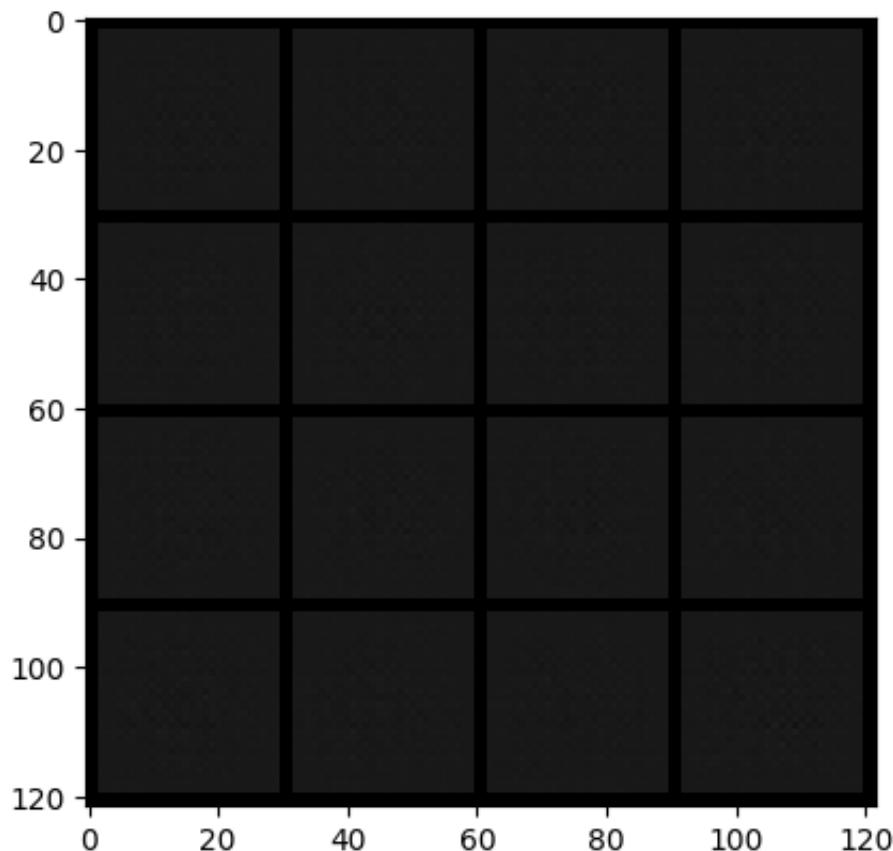


D_loss: 0.6936, G_loss: 0.6560

↻

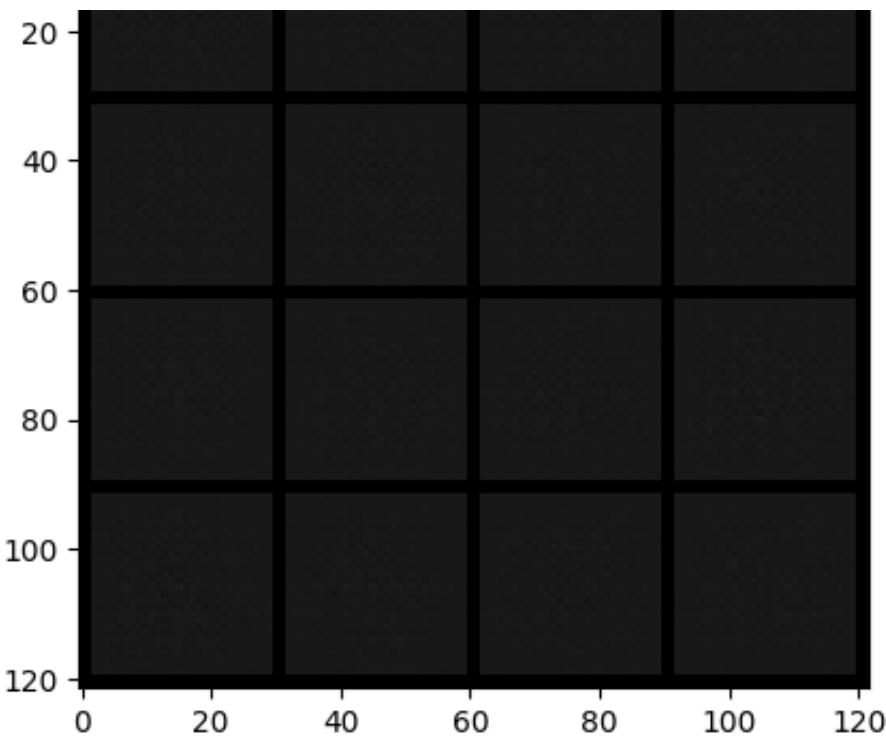


D_loss: 0.6936, G_loss: 0.6561

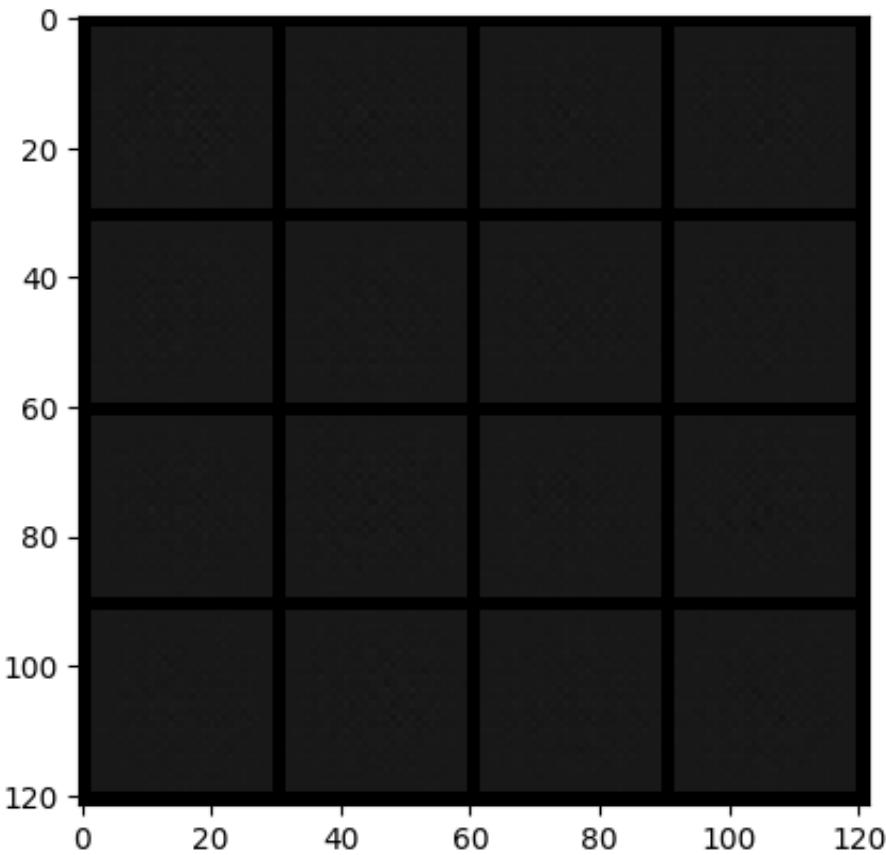


D_loss: 0.6936, G_loss: 0.6562



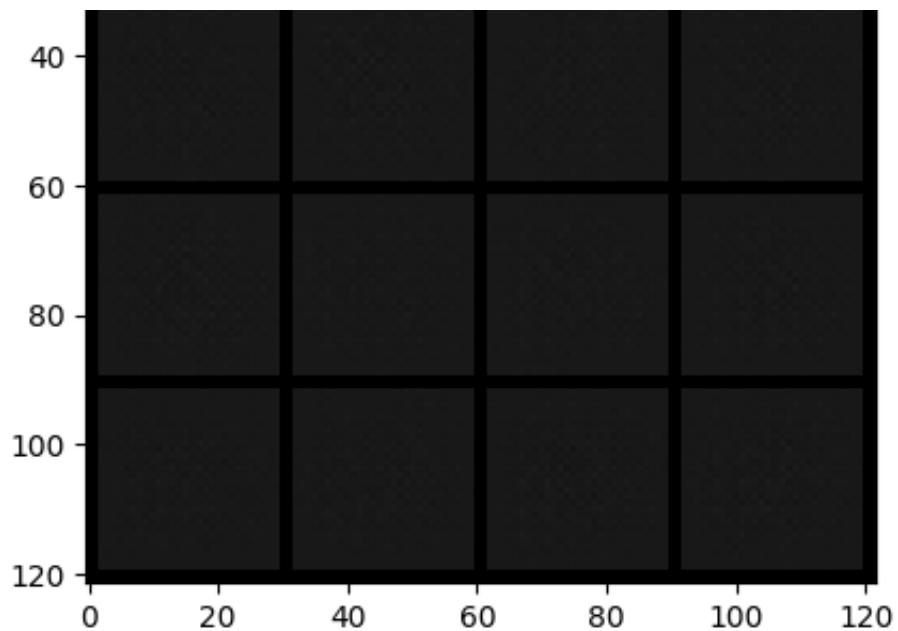


D_loss: 0.6935, G_loss: 0.6563

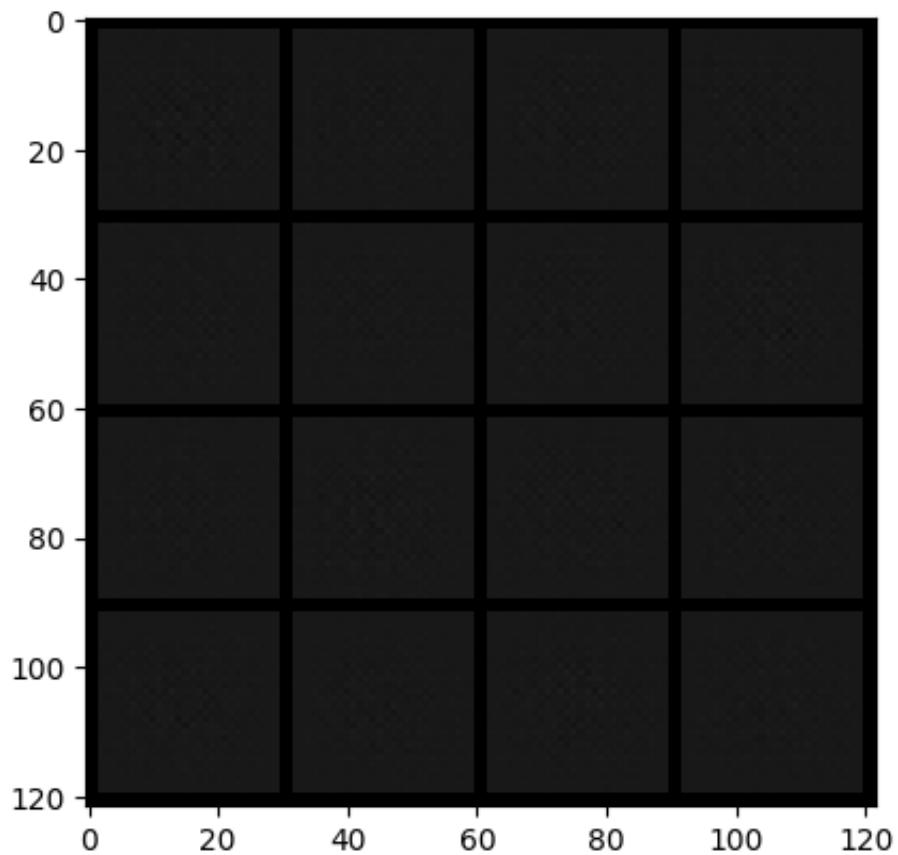


D_loss: 0.6935, G_loss: 0.6564

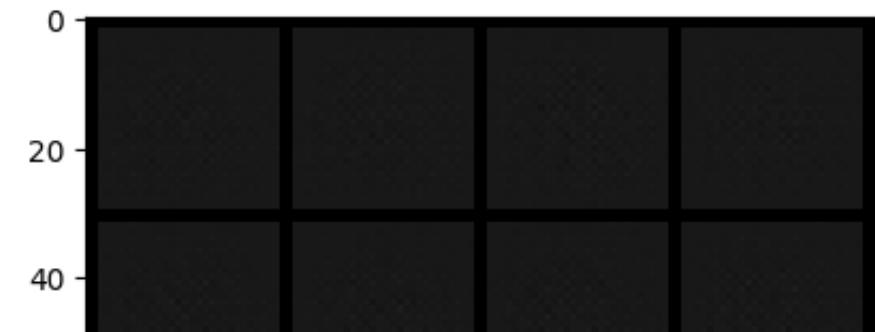


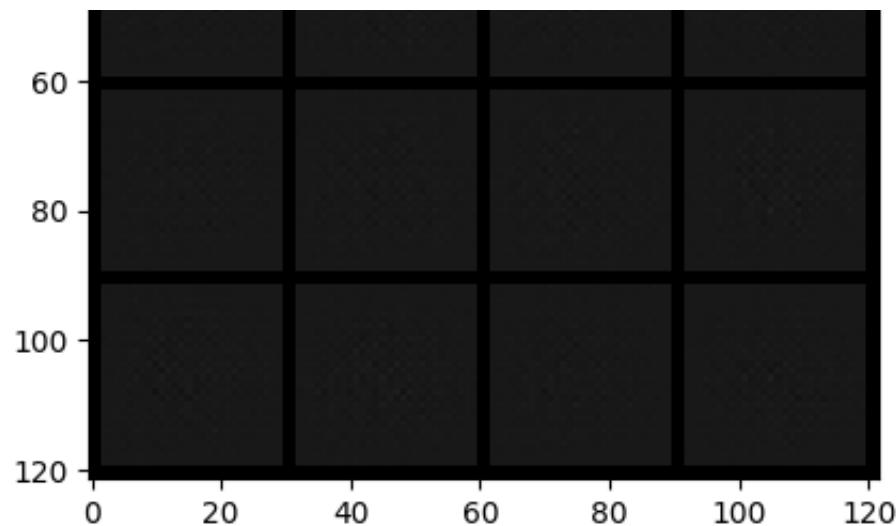


D_loss: 0.6935, G_loss: 0.6565

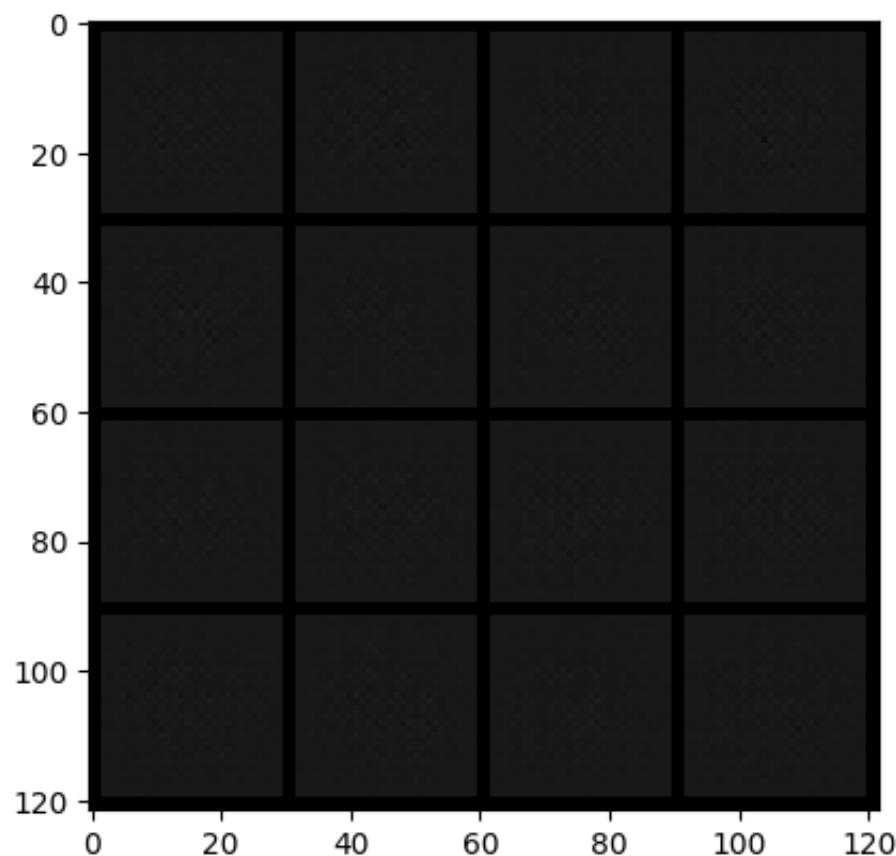


D_loss: 0.6934, G_loss: 0.6566

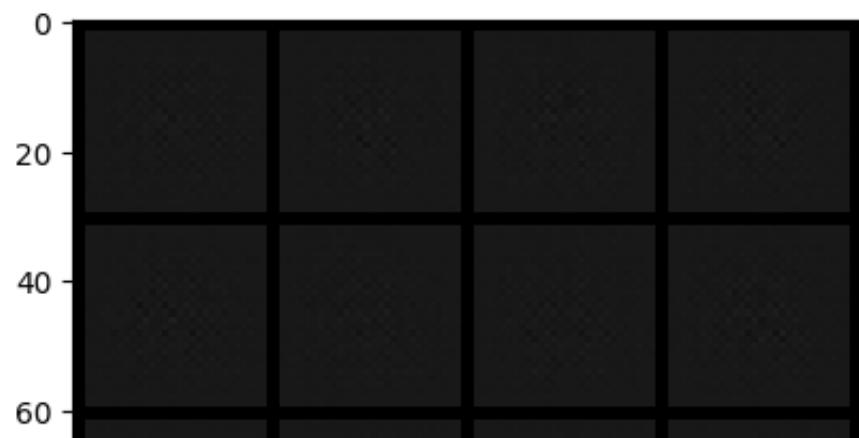


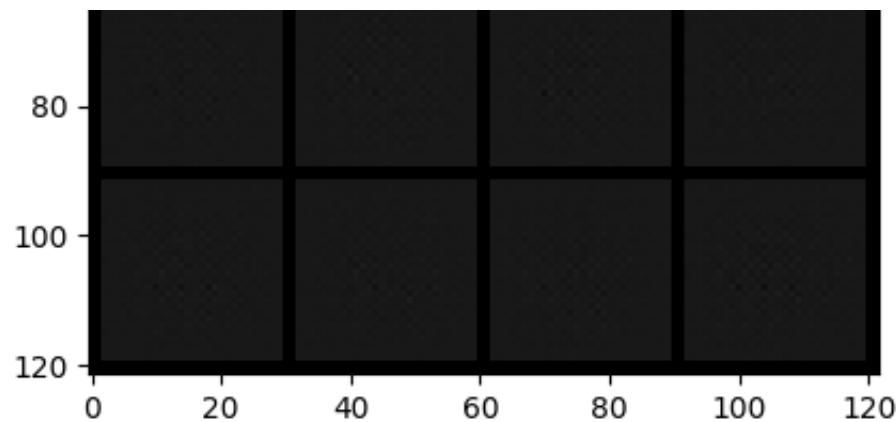


D_loss: 0.6934, G_loss: 0.6567

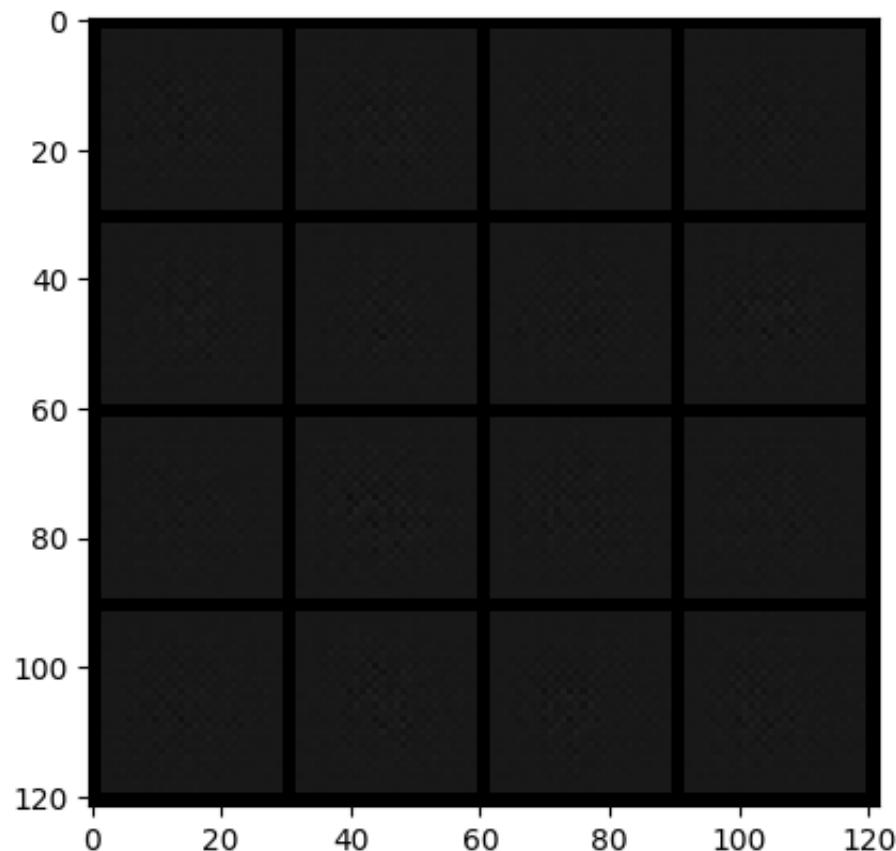


D_loss: 0.6933, G_loss: 0.6569

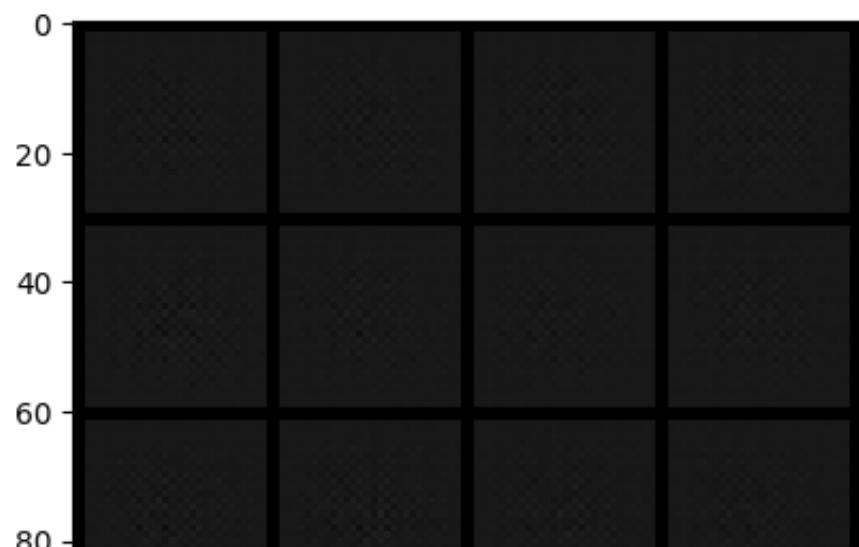


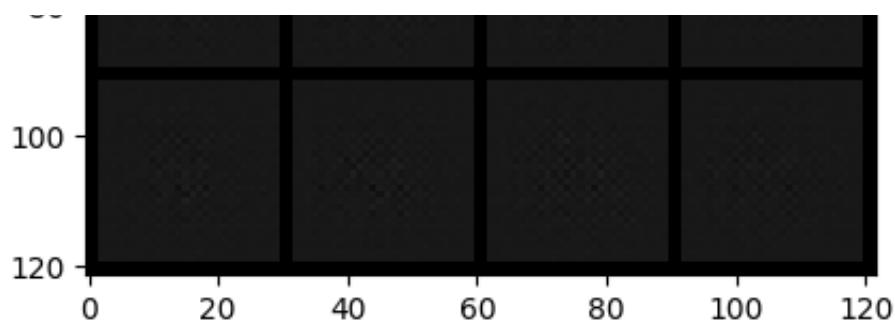


D_loss: 0.6933, G_loss: 0.6570

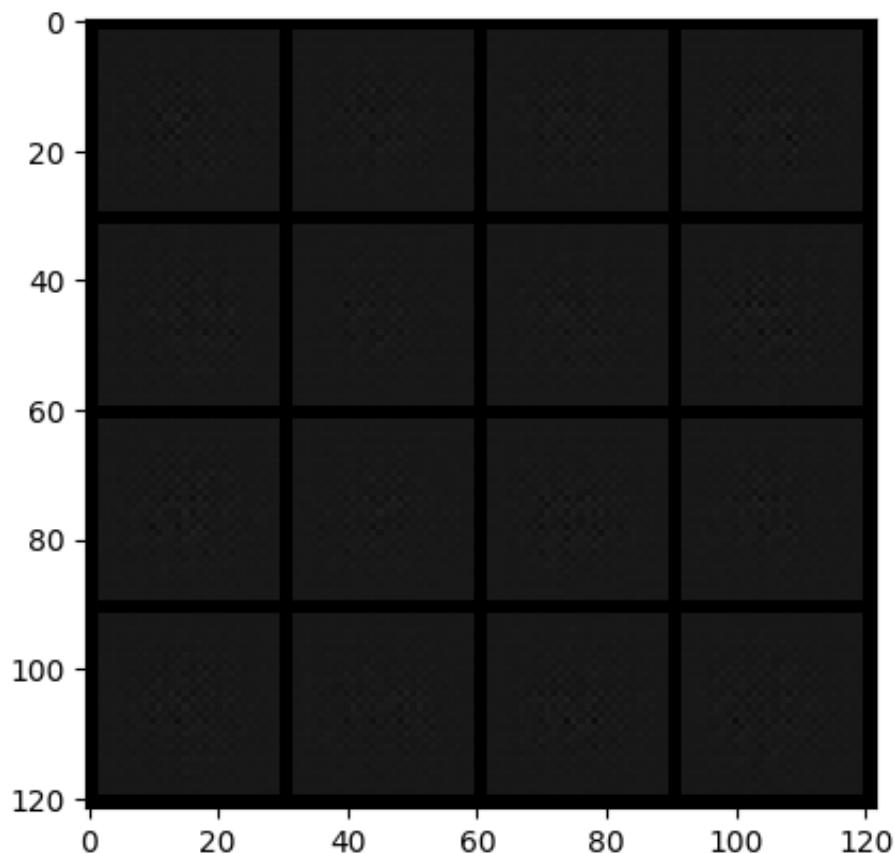


D_loss: 0.6933, G_loss: 0.6571

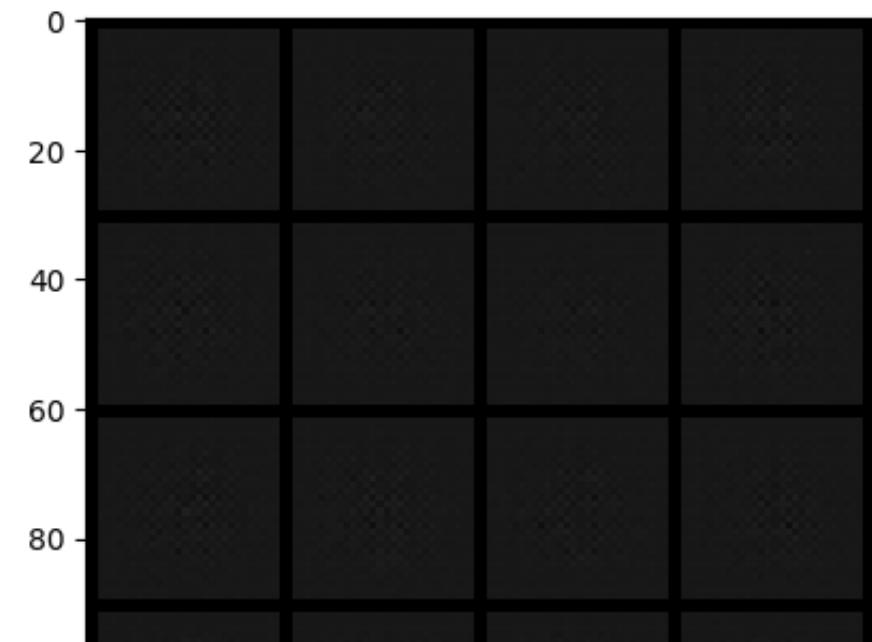


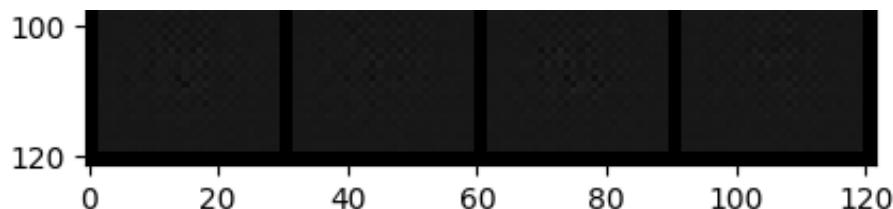


D_loss: 0.6932, G_loss: 0.6572

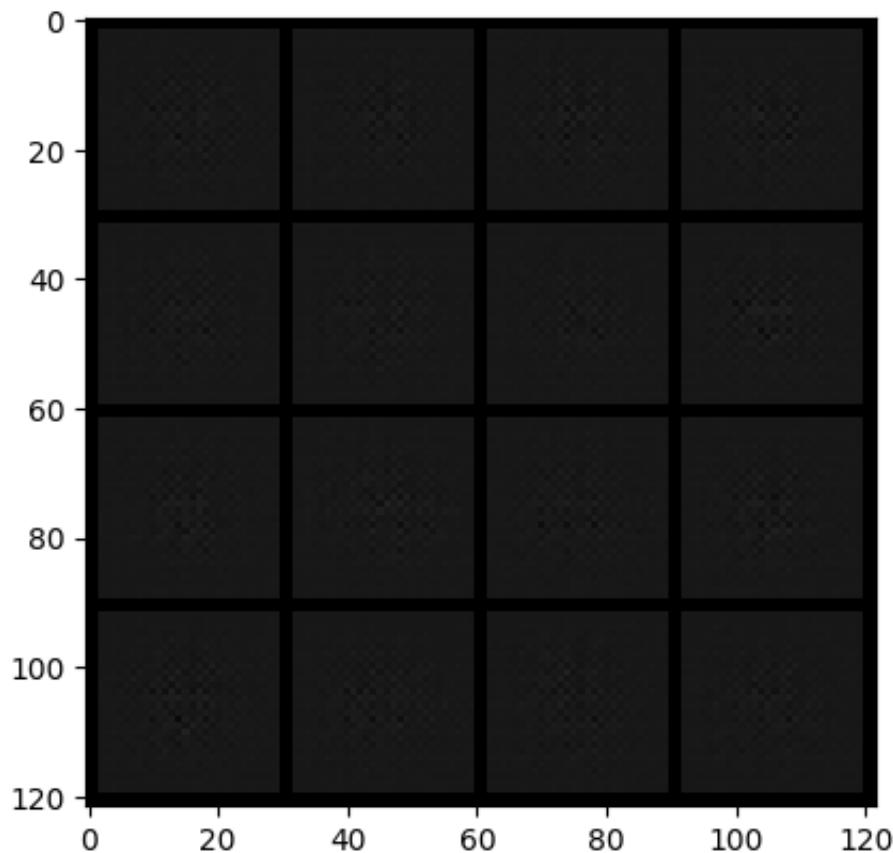


D_loss: 0.6932, G_loss: 0.6574

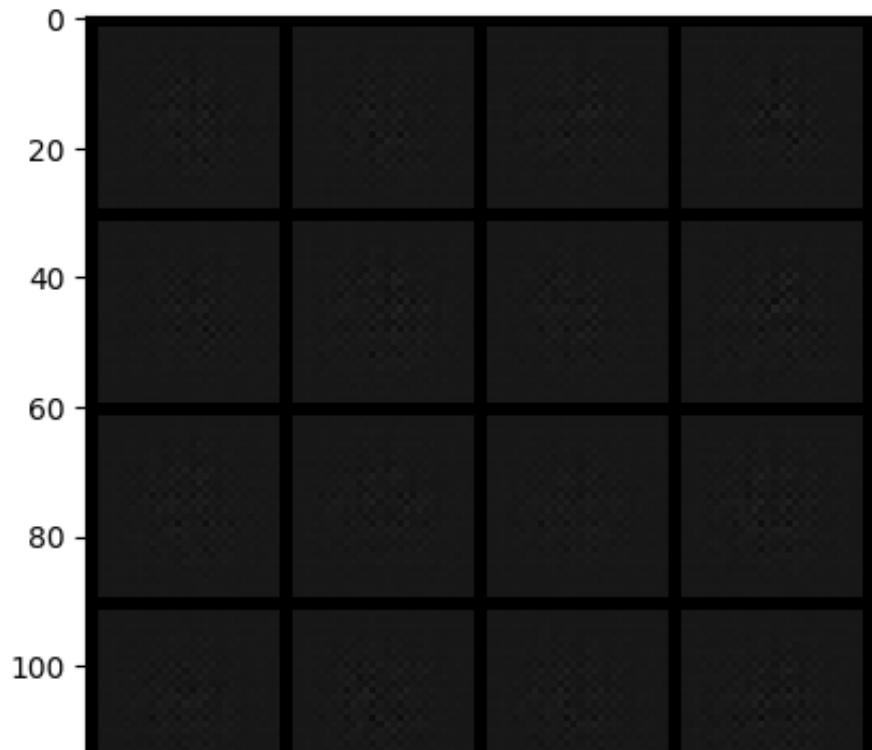




D_loss: 0.6932, G_loss: 0.6575

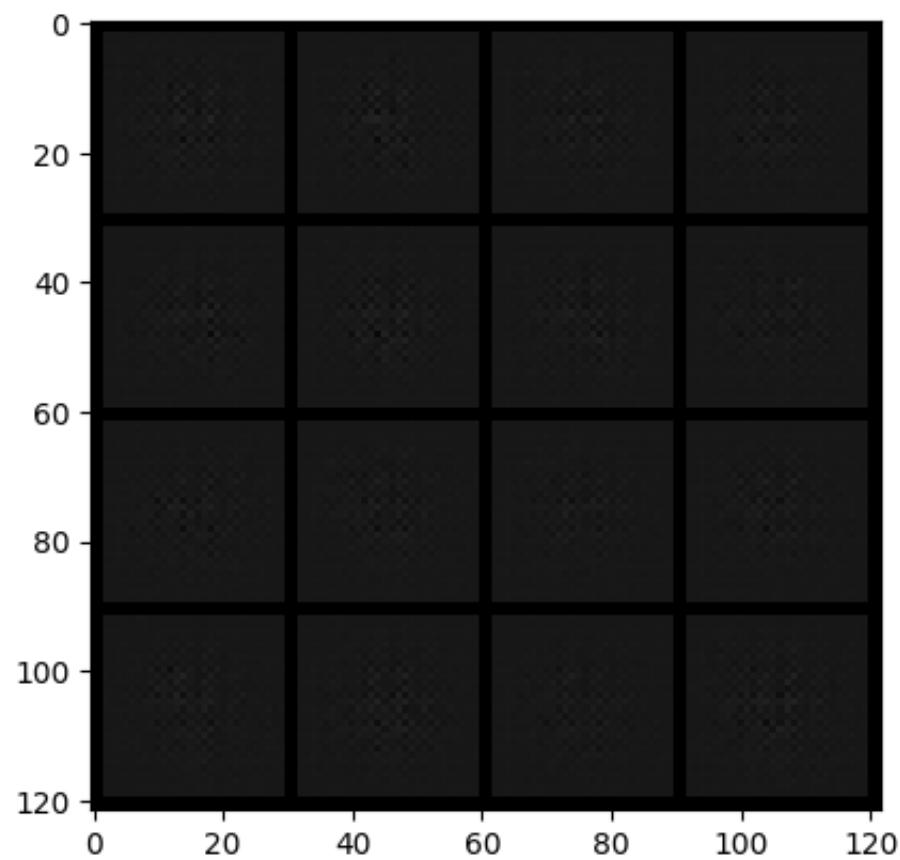


D_loss: 0.6931, G_loss: 0.6576

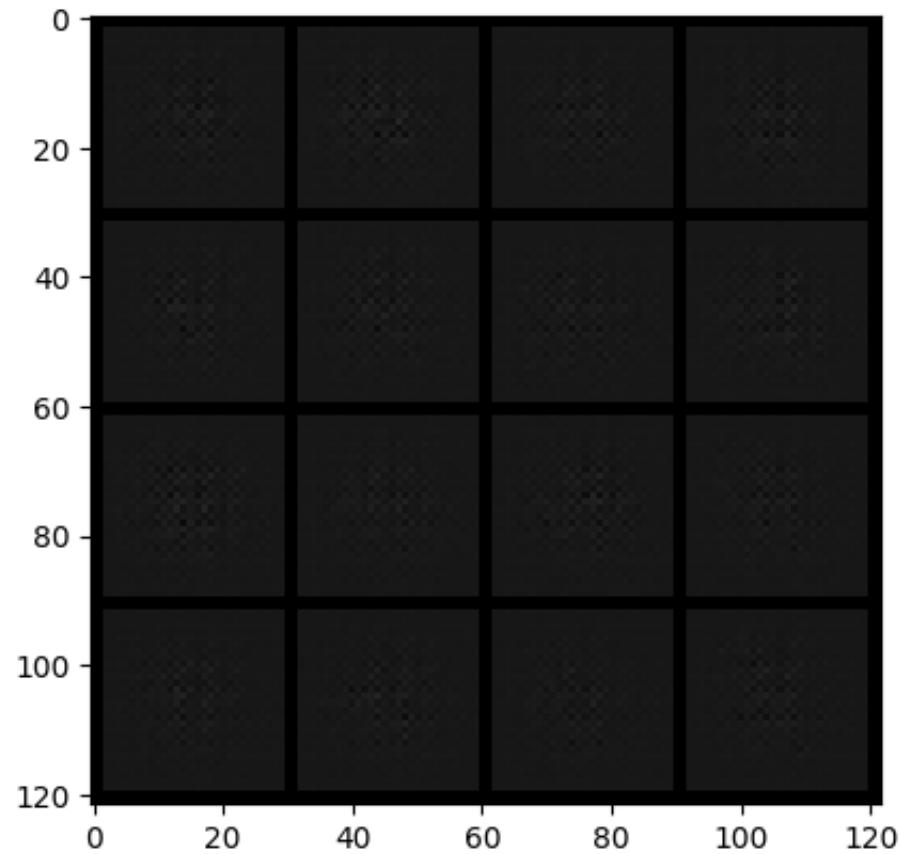




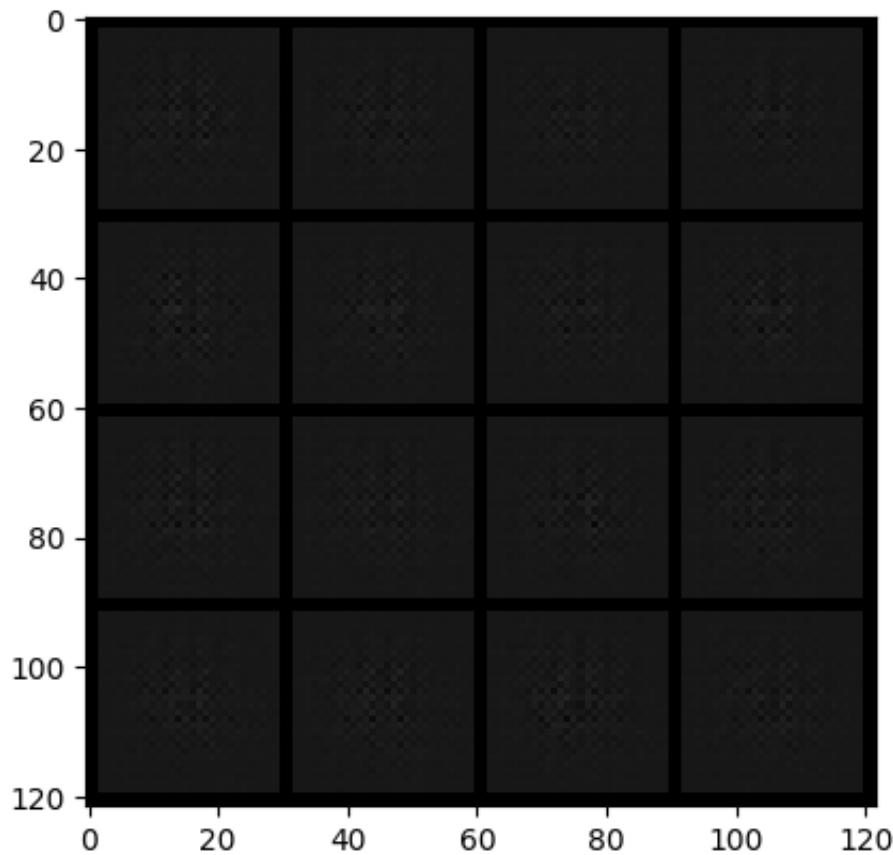
D_loss: 0.6931, G_loss: 0.6578



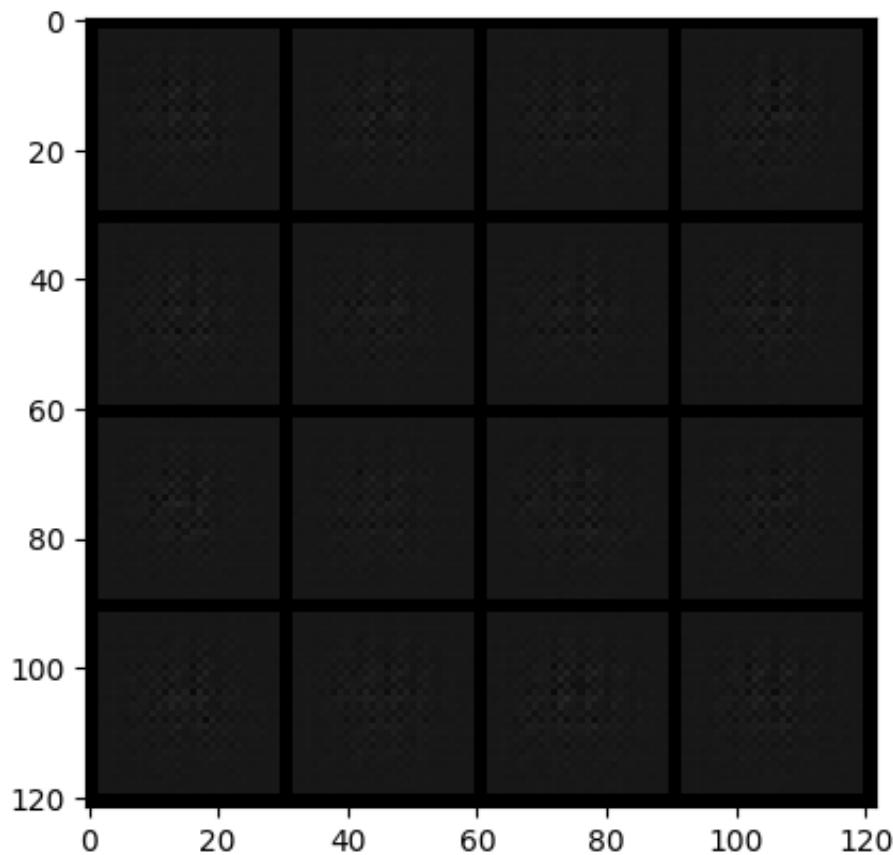
D_loss: 0.6930, G_loss: 0.6579



D_loss: 0.6930, G_loss: 0.6580

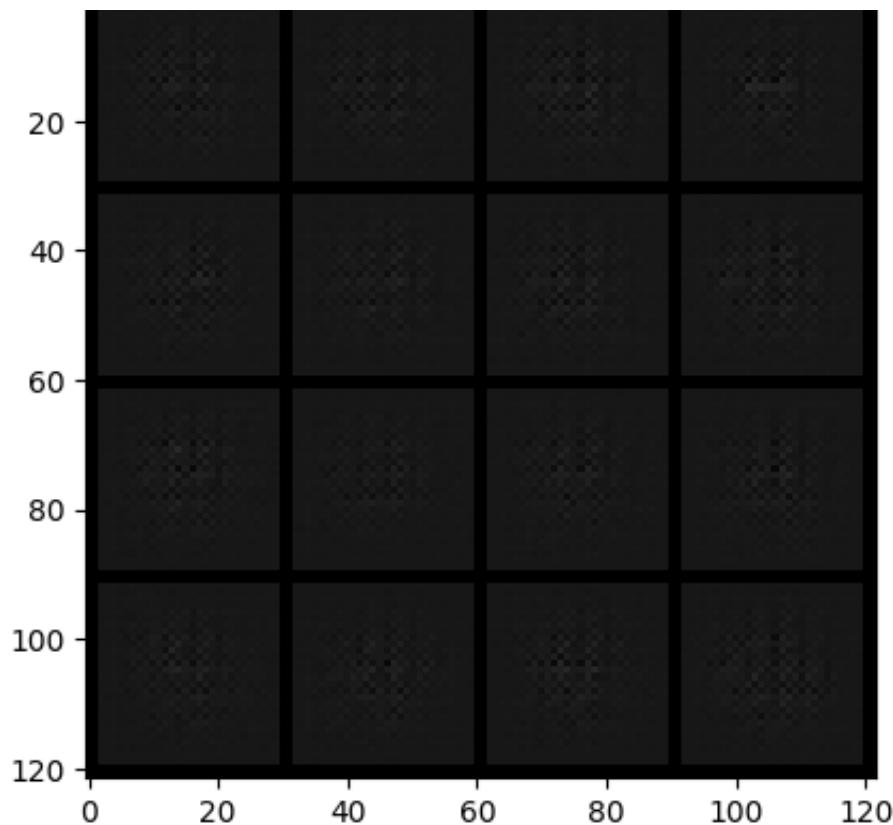


D_loss: 0.6930, G_loss: 0.6582

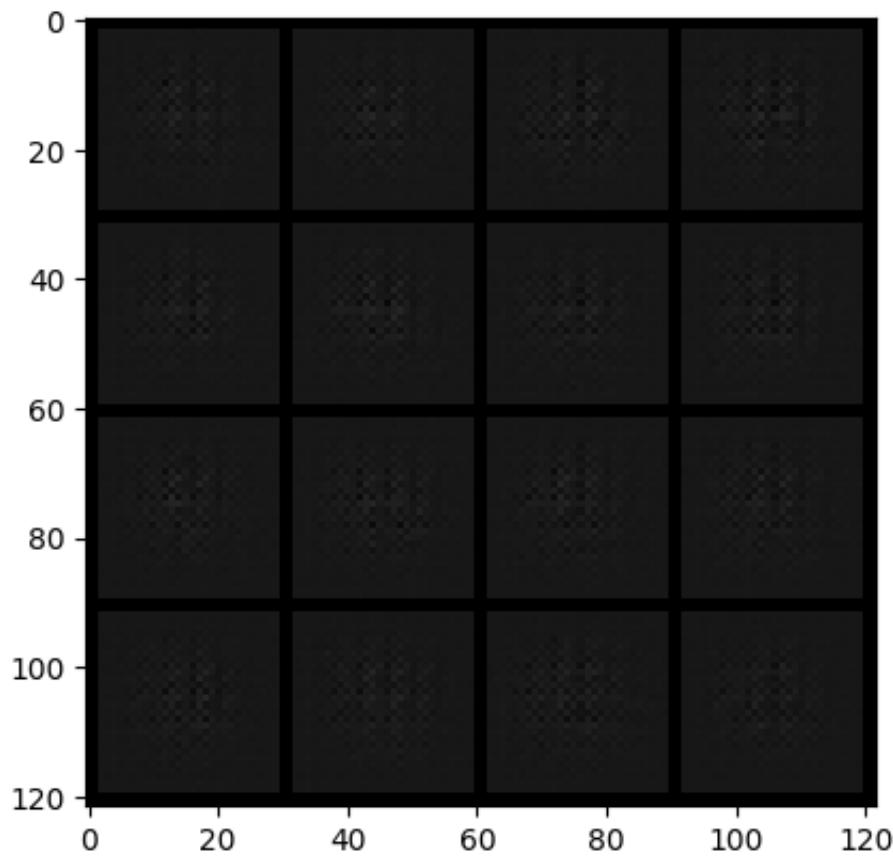


D_loss: 0.6929, G_loss: 0.6583



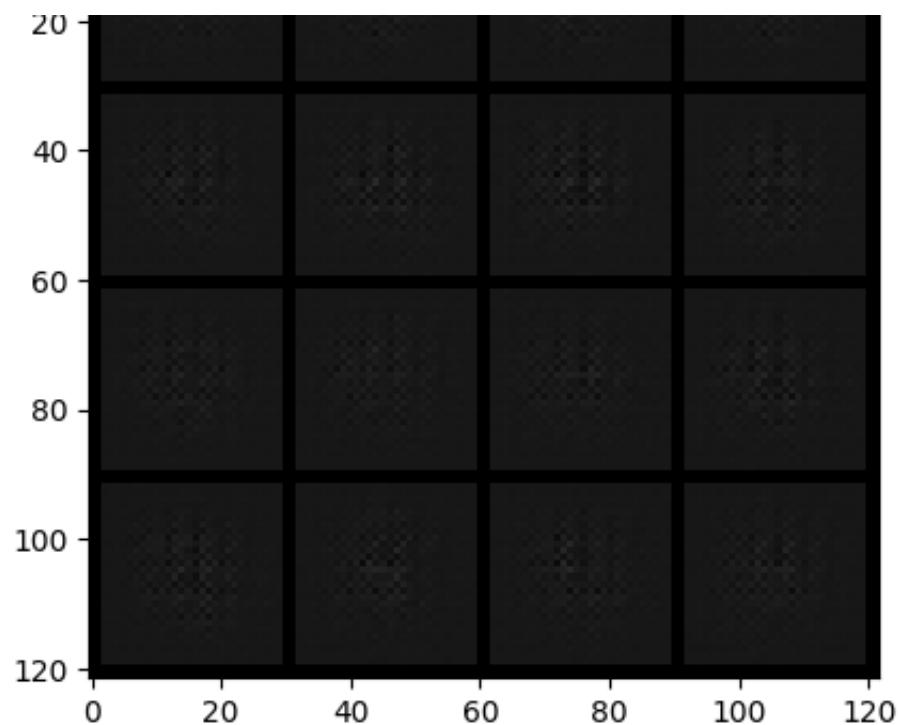


D_loss: 0.6929, G_loss: 0.6585

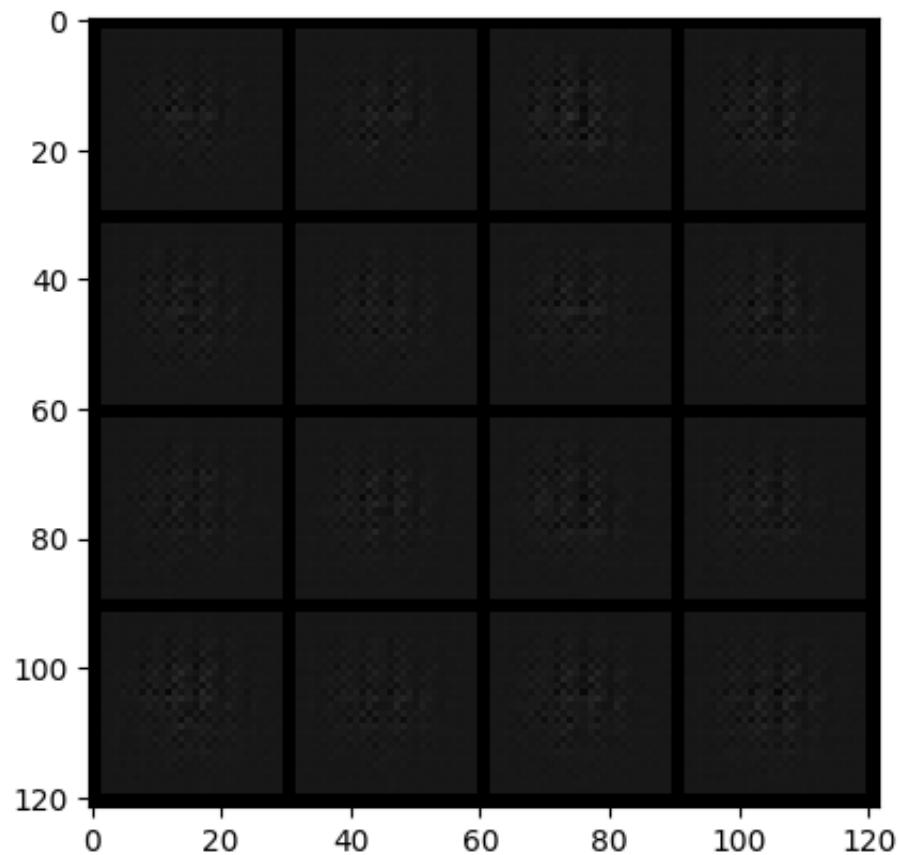


D_loss: 0.6928, G_loss: 0.6586



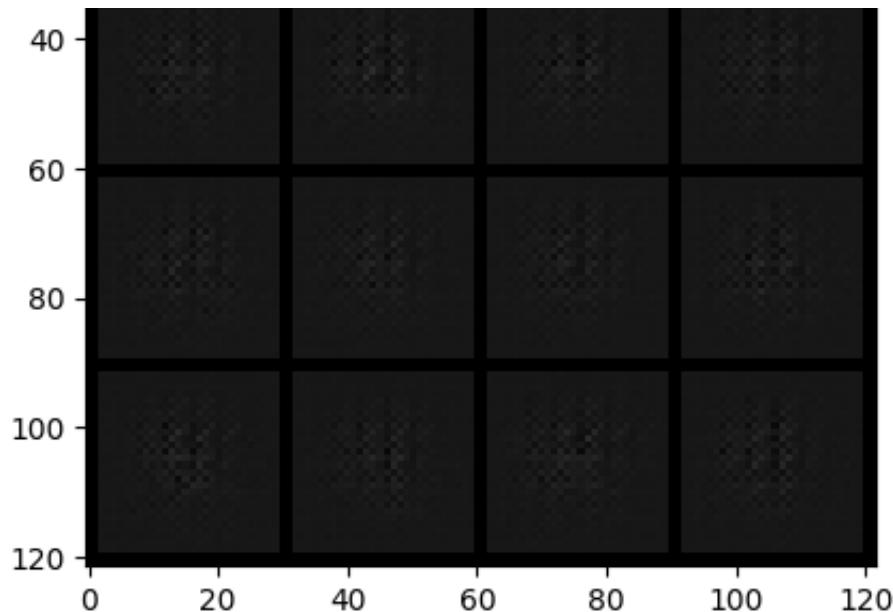


D_loss: 0.6928, G_loss: 0.6587

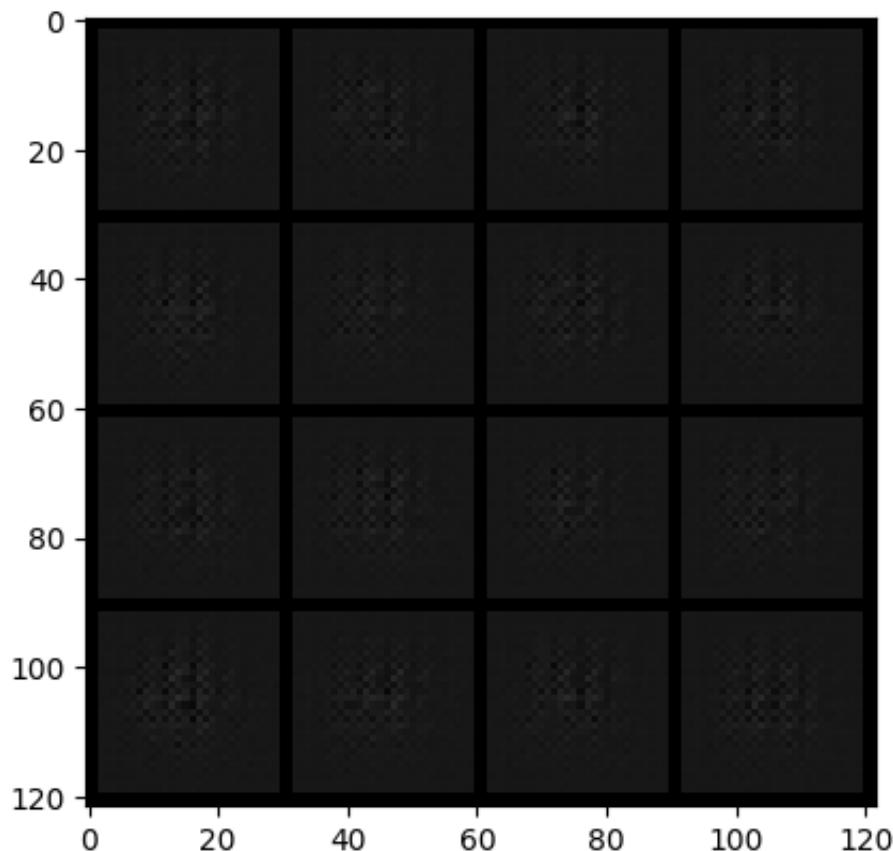


D_loss: 0.6927, G_loss: 0.6589

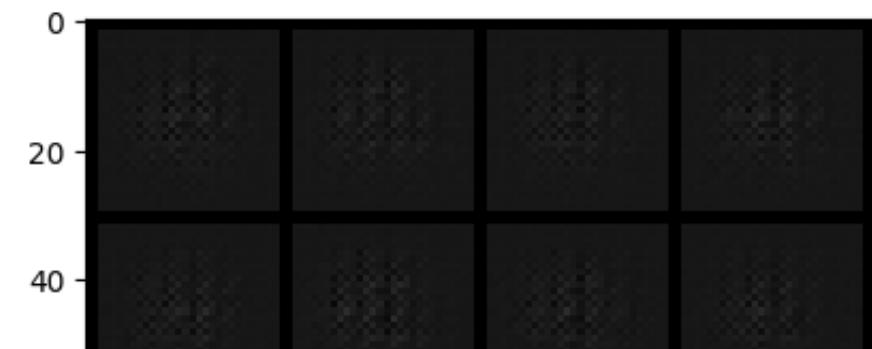


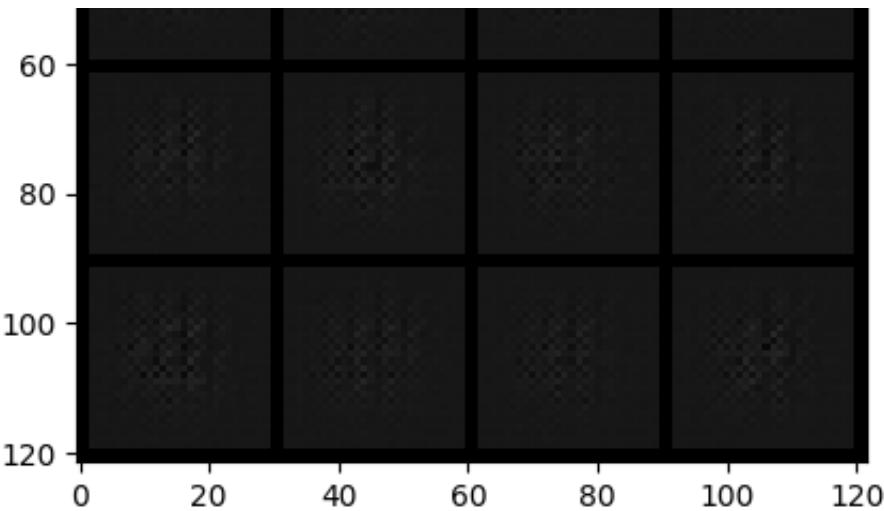


D_loss: 0.6927, G_loss: 0.6590

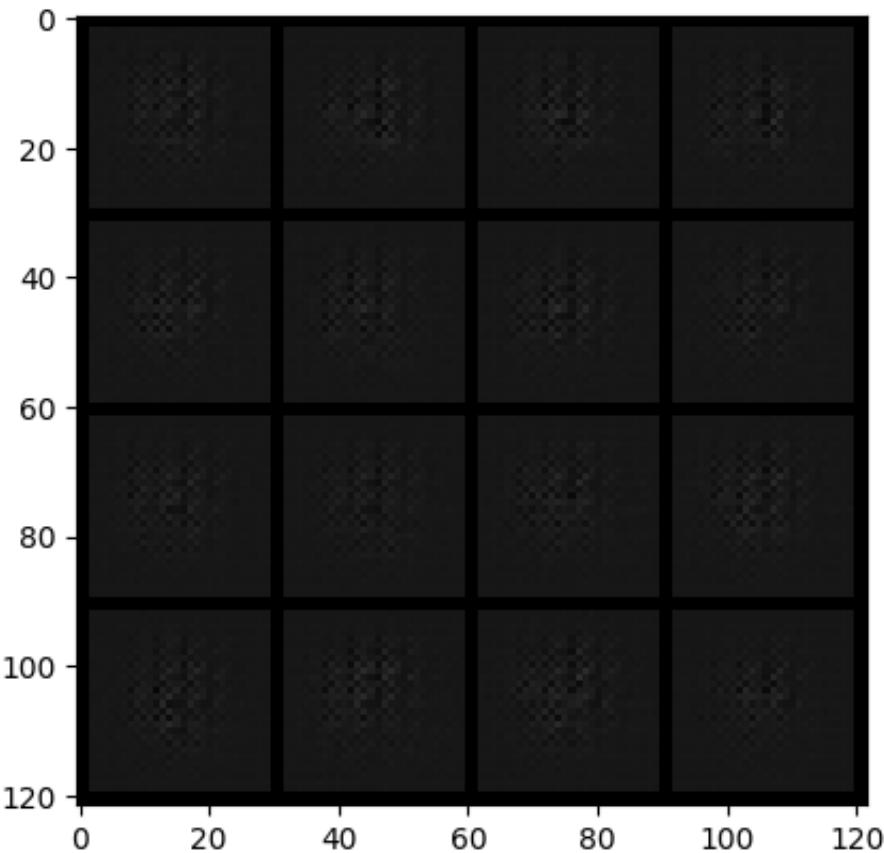


D_loss: 0.6927, G_loss: 0.6591



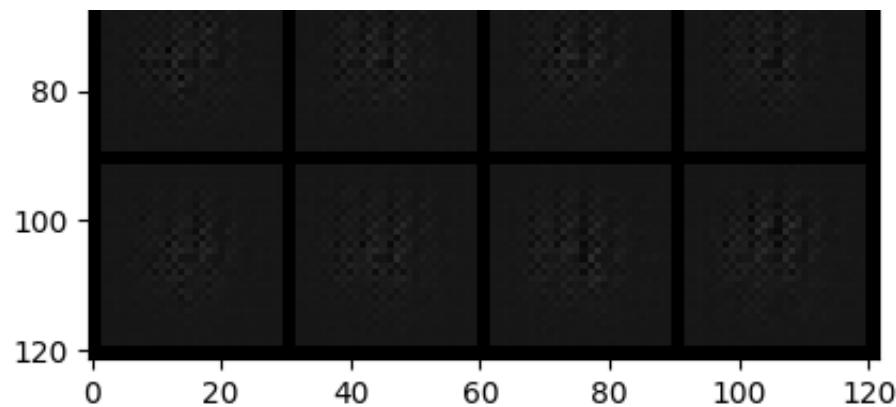


D_loss: 0.6926, G_loss: 0.6593

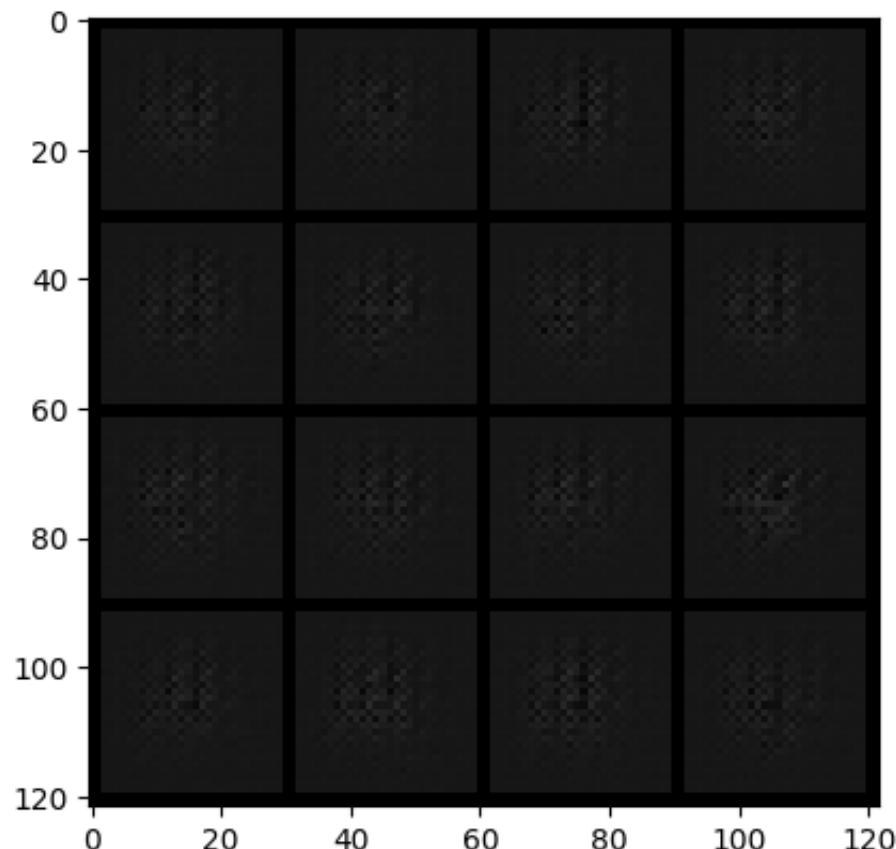


D_loss: 0.6926, G_loss: 0.6594

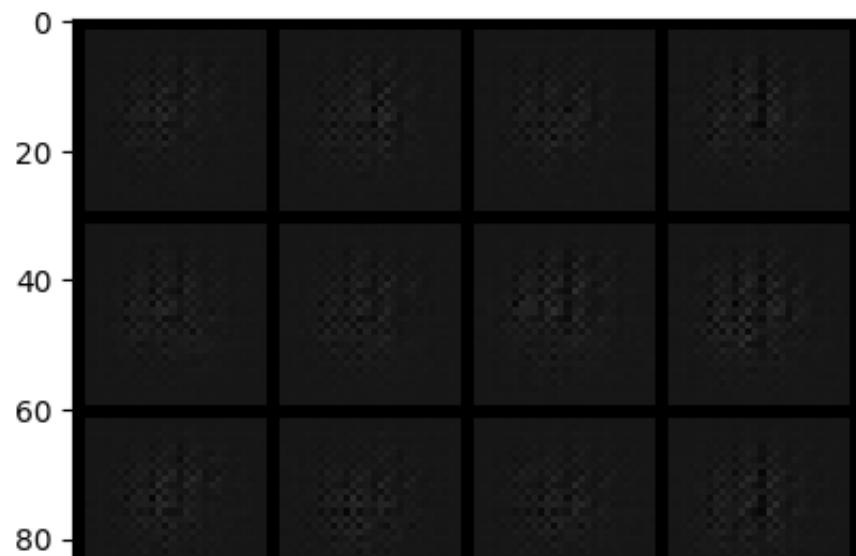


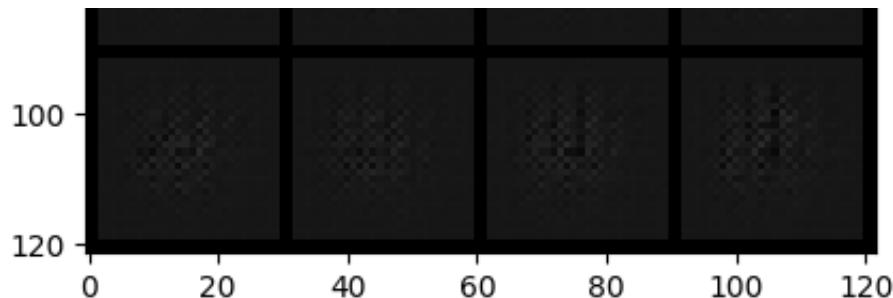


D_loss: 0.6925, G_loss: 0.6595

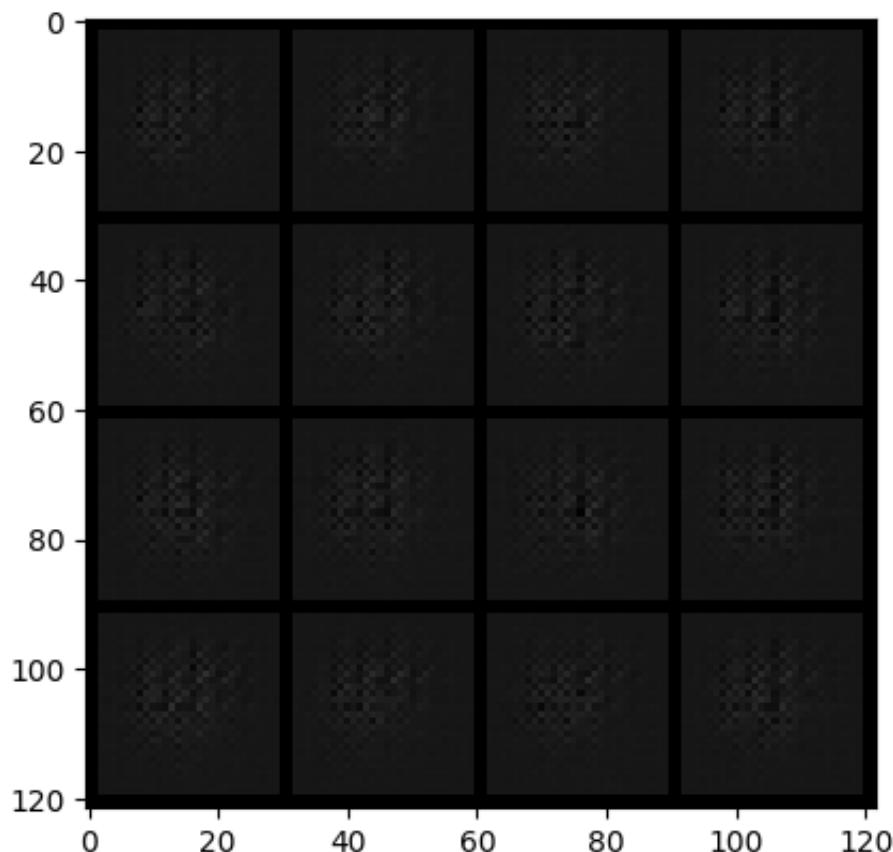


D_loss: 0.6925, G_loss: 0.6597

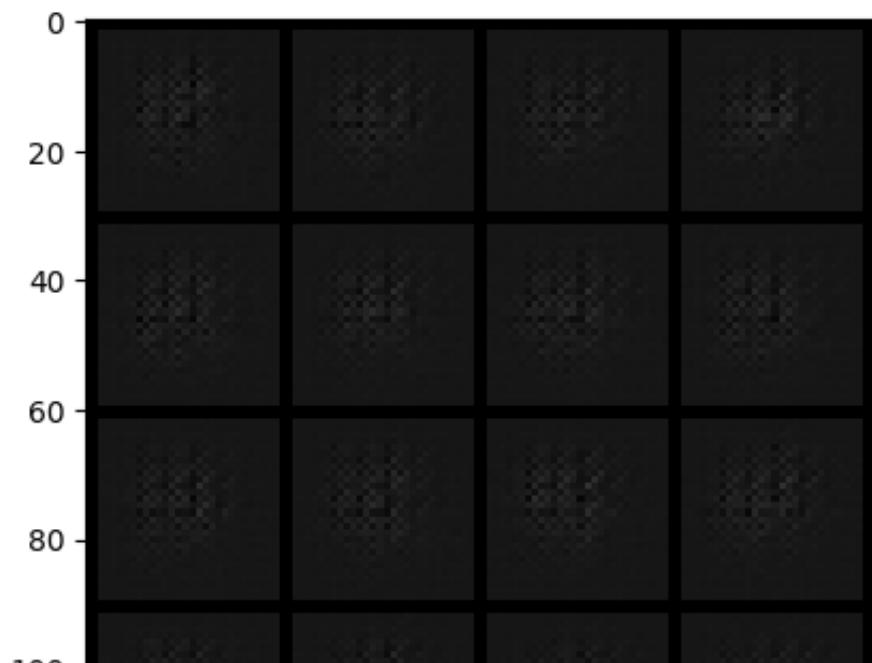


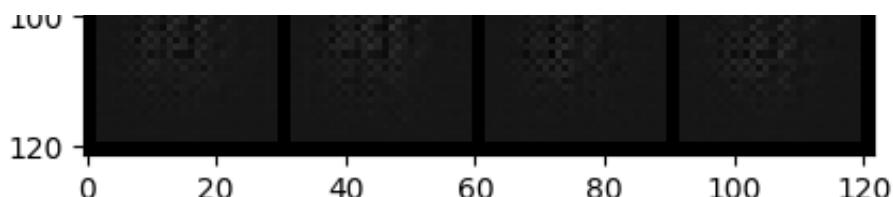


D_loss: 0.6925, G_loss: 0.6598

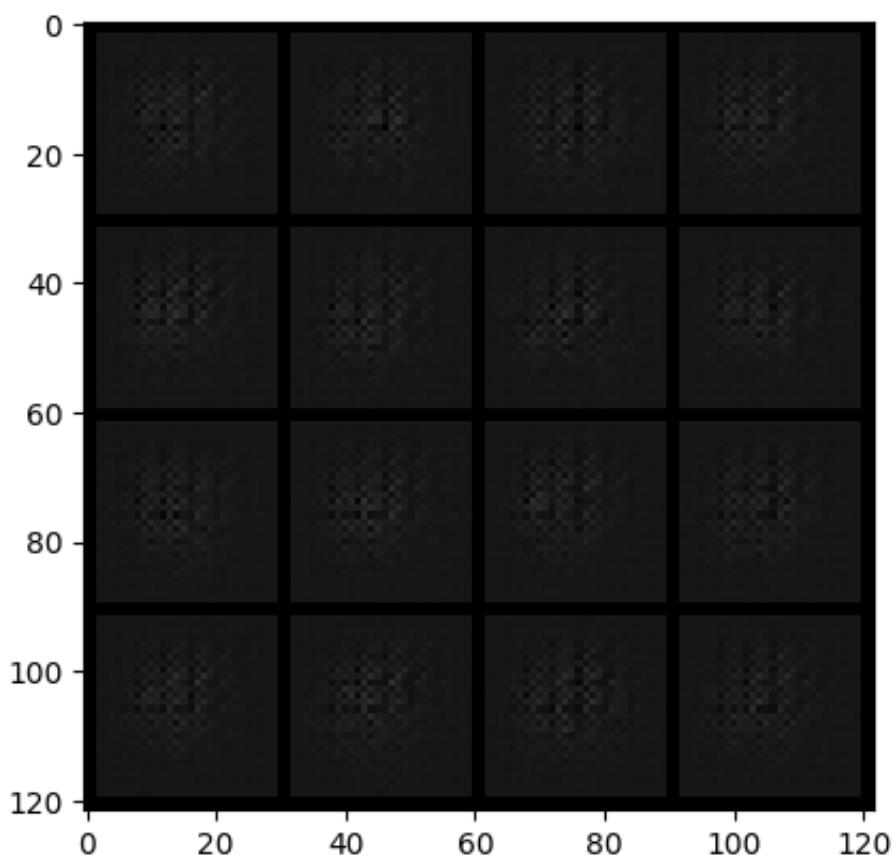


D_loss: 0.6924, G_loss: 0.6600

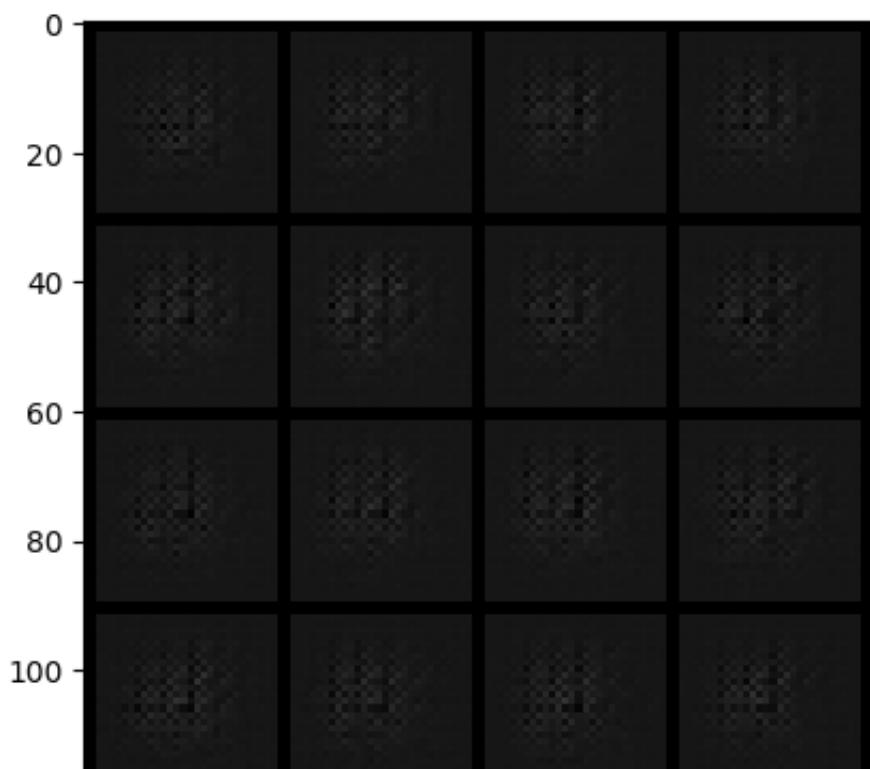




D_loss: 0.6924, G_loss: 0.6601

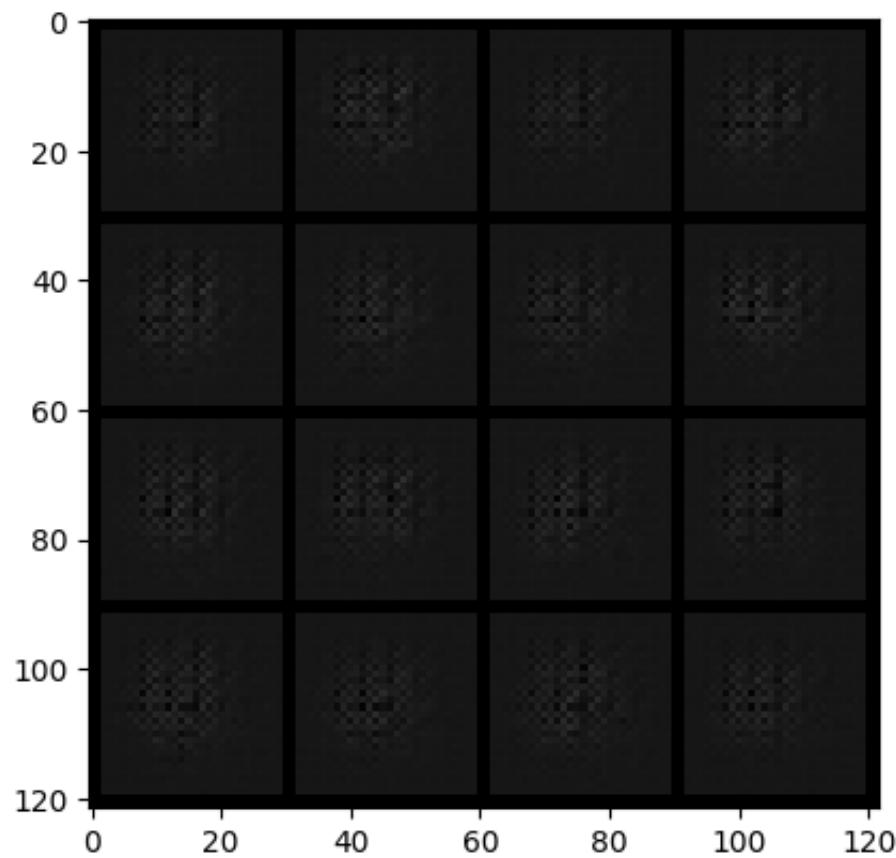


D_loss: 0.6923, G_loss: 0.6602

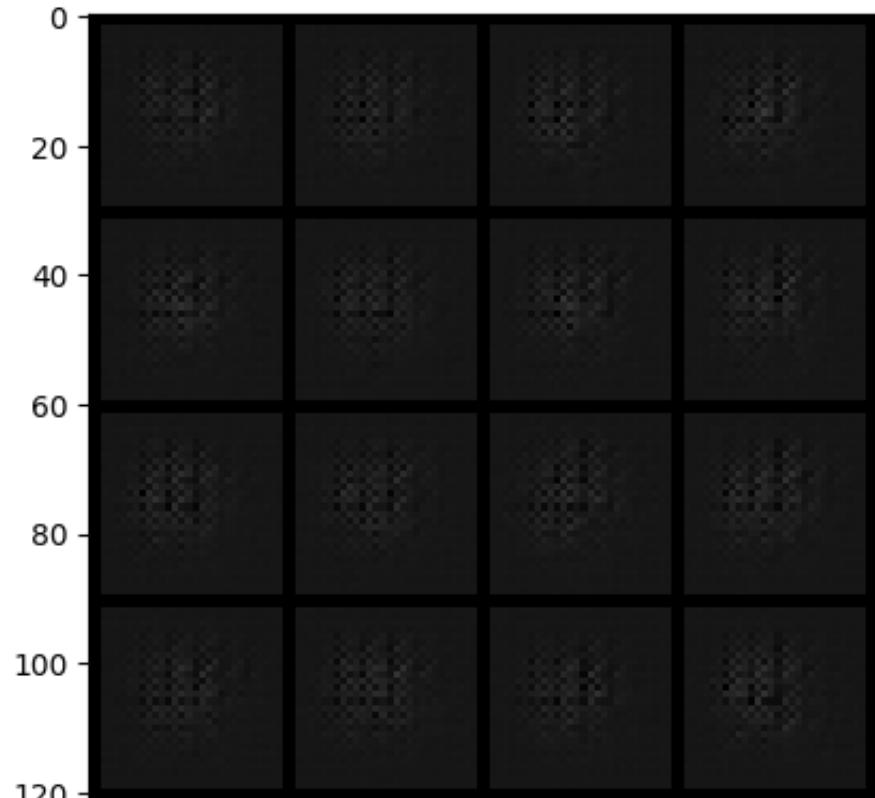


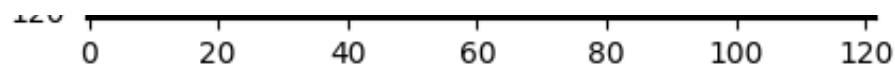


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6923, G_loss: 0.6604

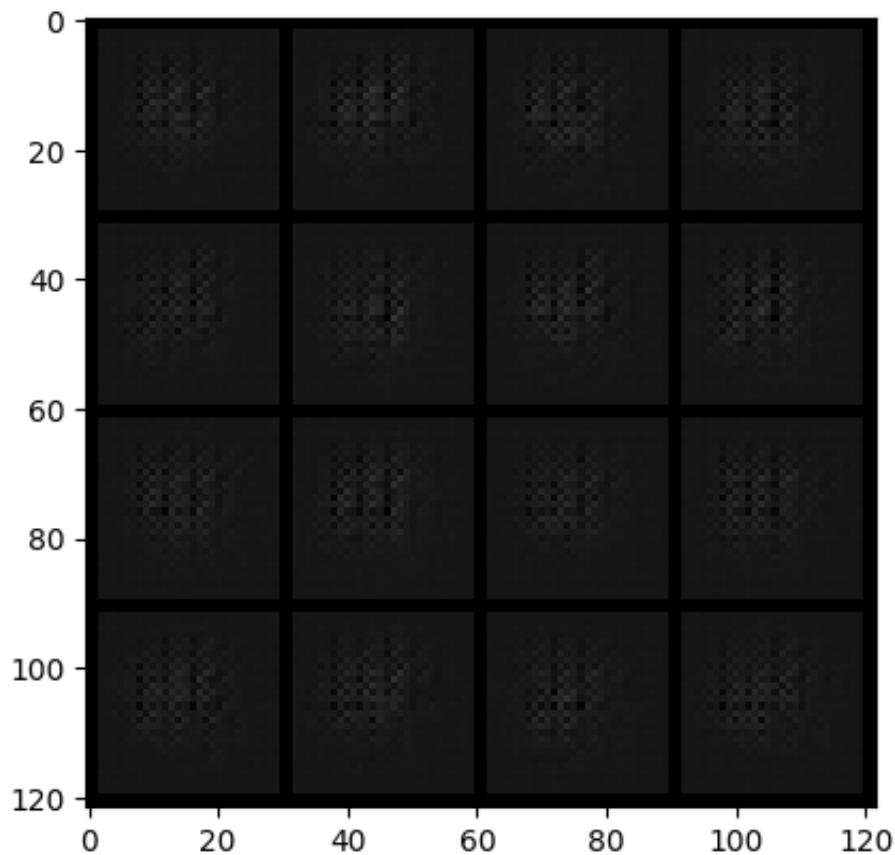


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6922, G_loss: 0.6605

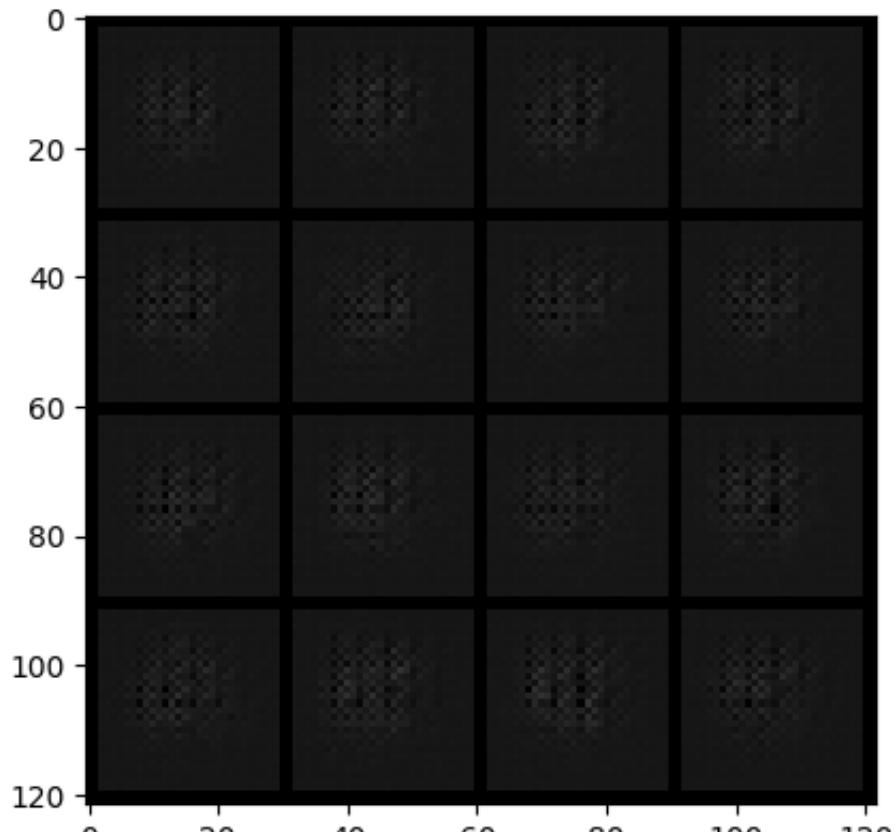




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6922, G_loss: 0.6606

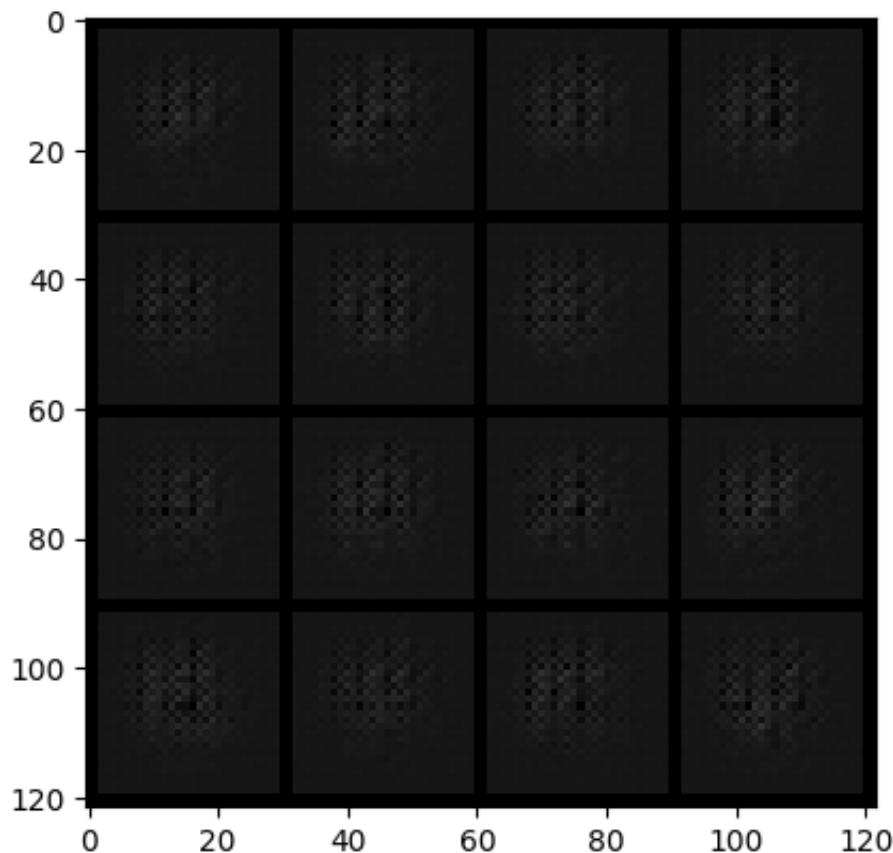


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6921, G_loss: 0.6608

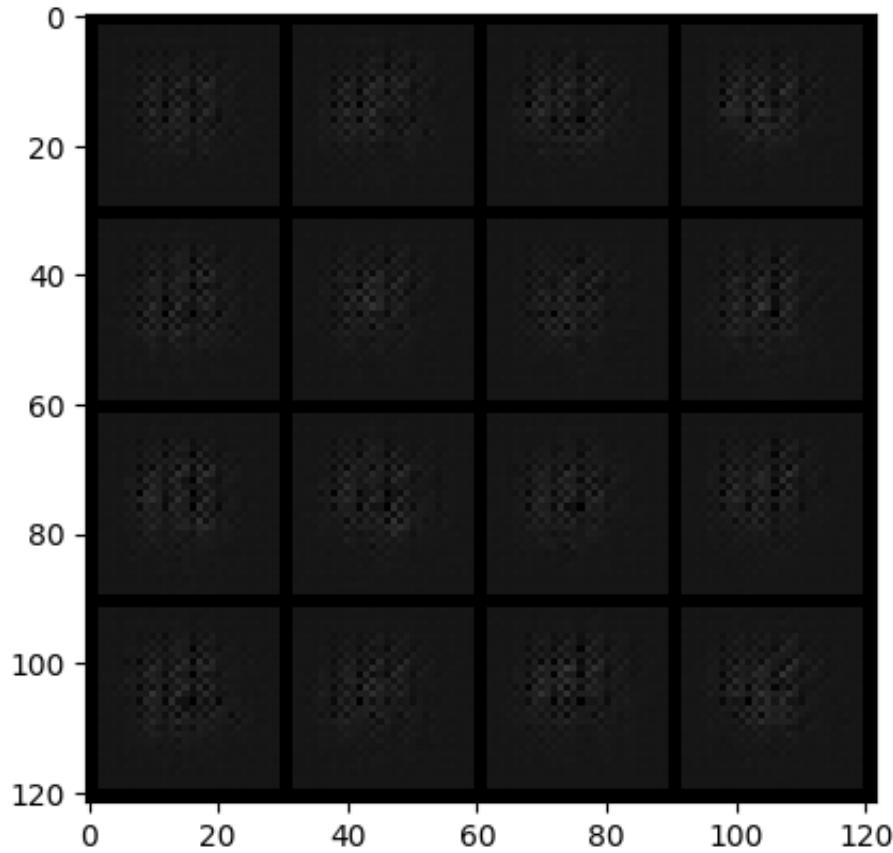


0 20 40 60 80 100 120

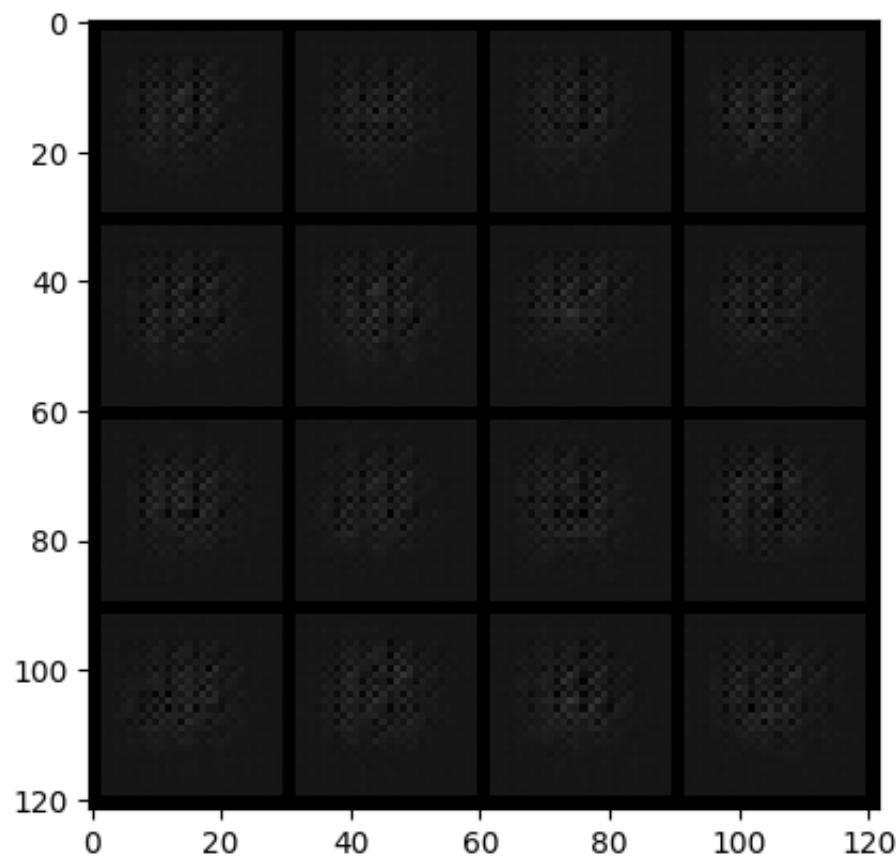
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6921, G_loss: 0.6609



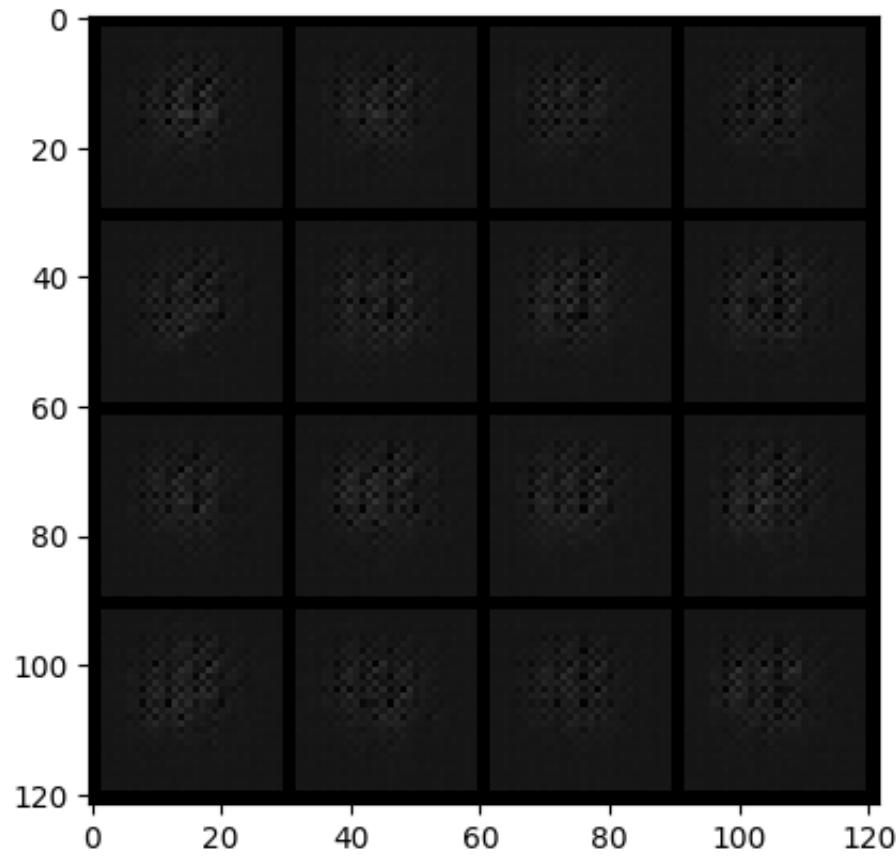
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6921, G_loss: 0.6610



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6920, G_loss: 0.6612

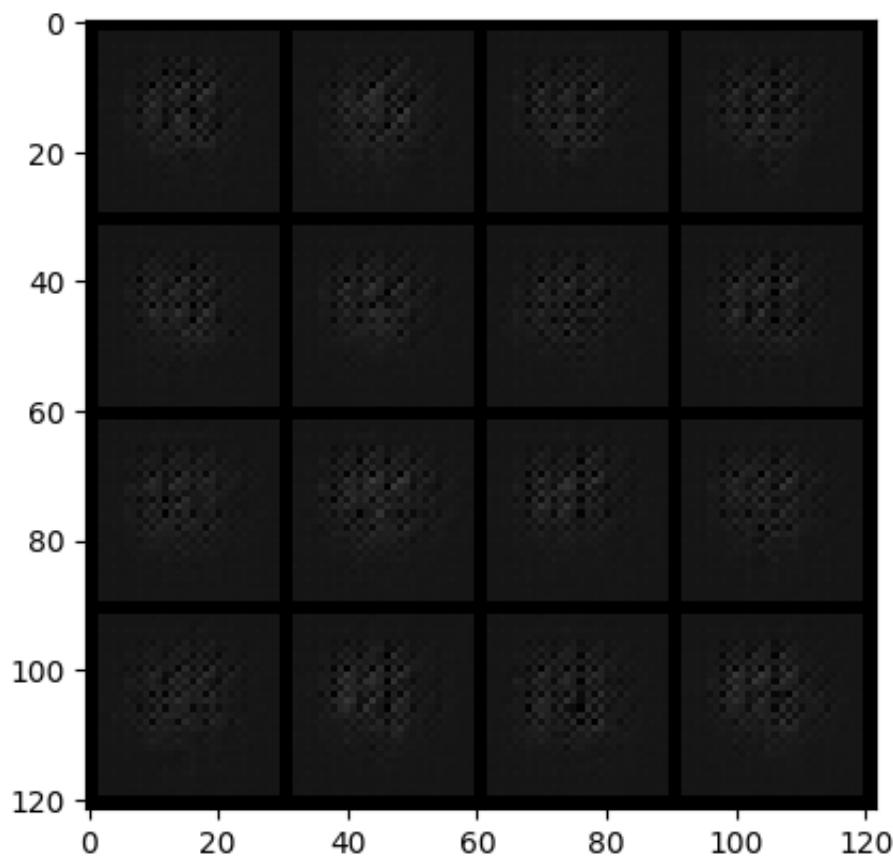


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6920, G_loss: 0.6613

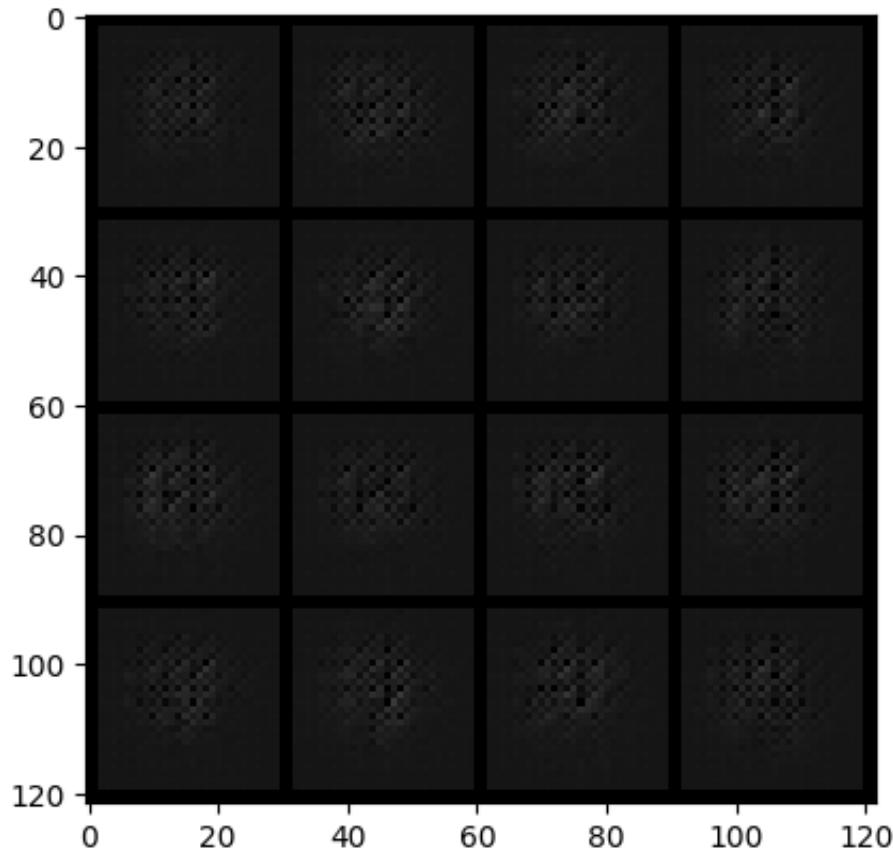


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6919, G_loss: 0.6614

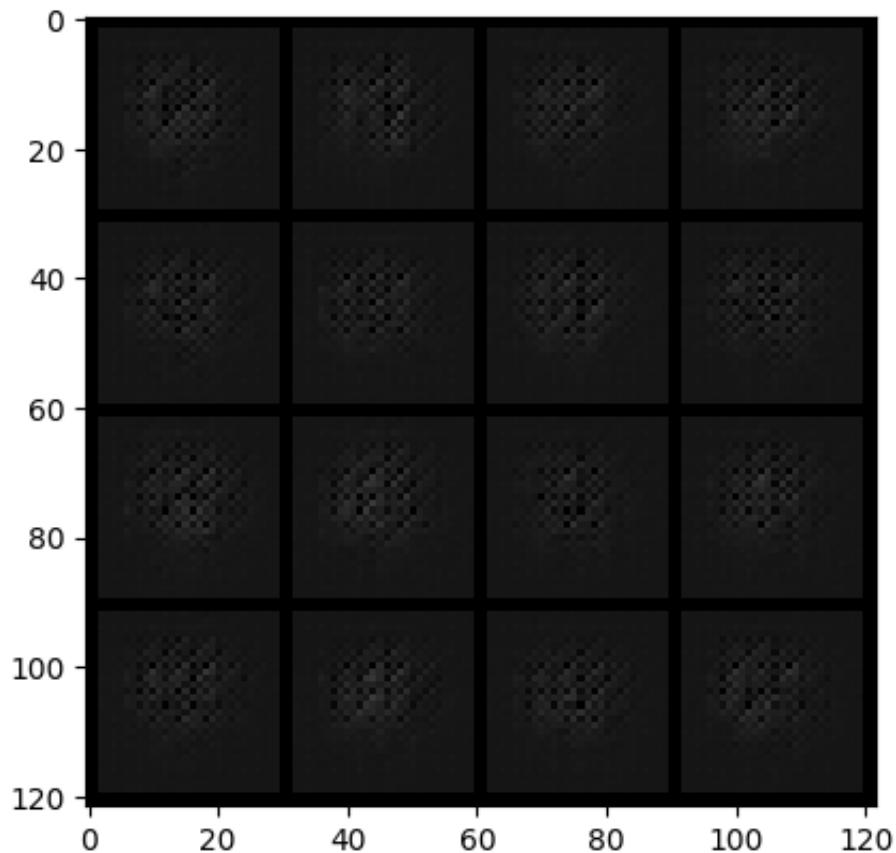


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6919, G_loss: 0.6615

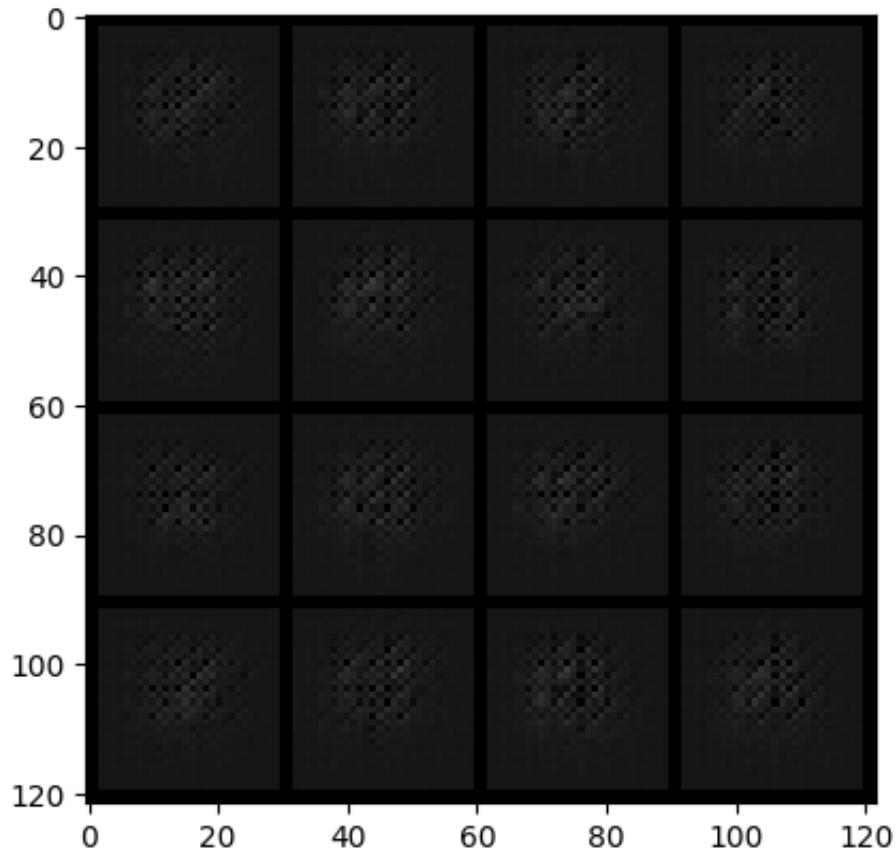


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6919, G_loss: 0.6617

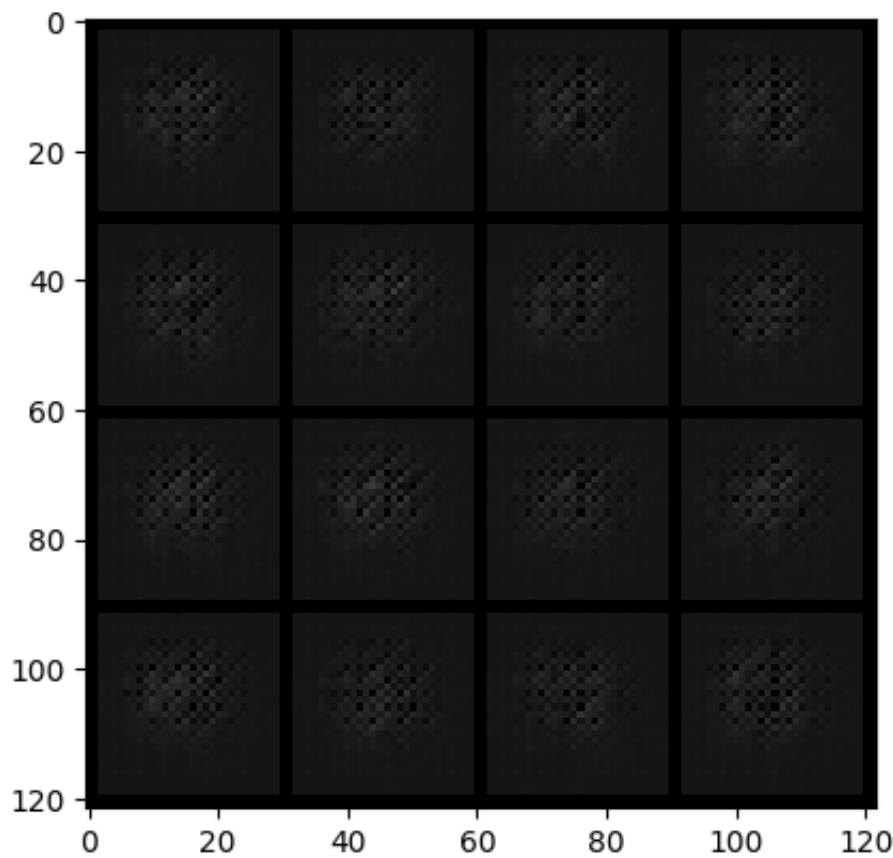
D_loss: 0.6918, G_loss: 0.6617



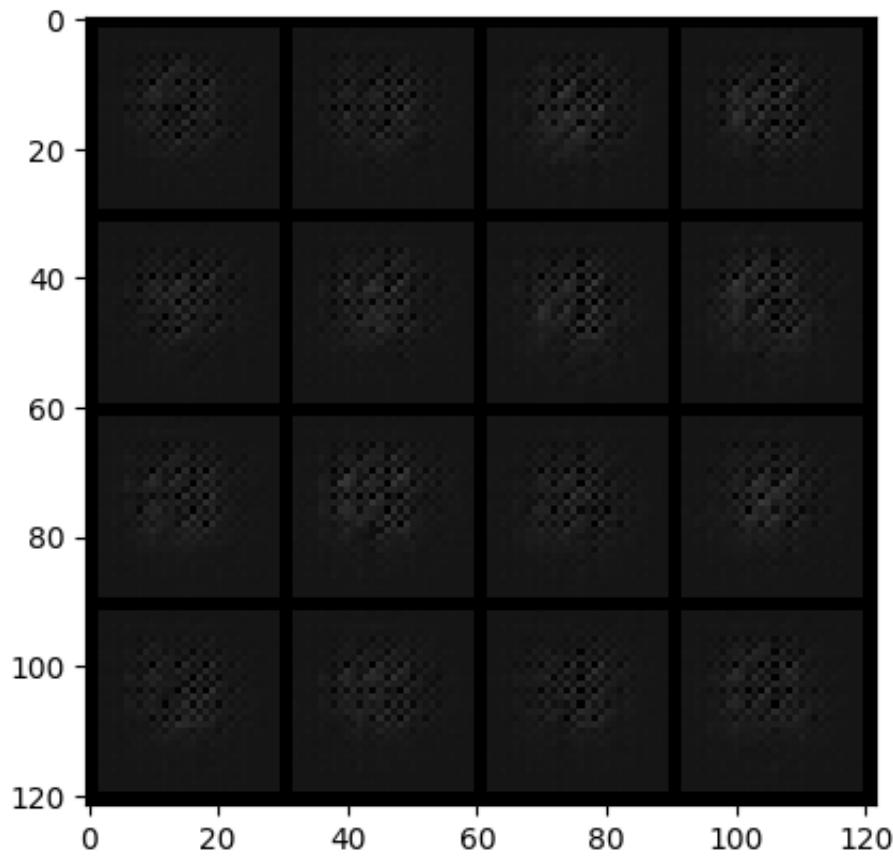
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6918, G_loss: 0.6618



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6918, G_loss: 0.6619

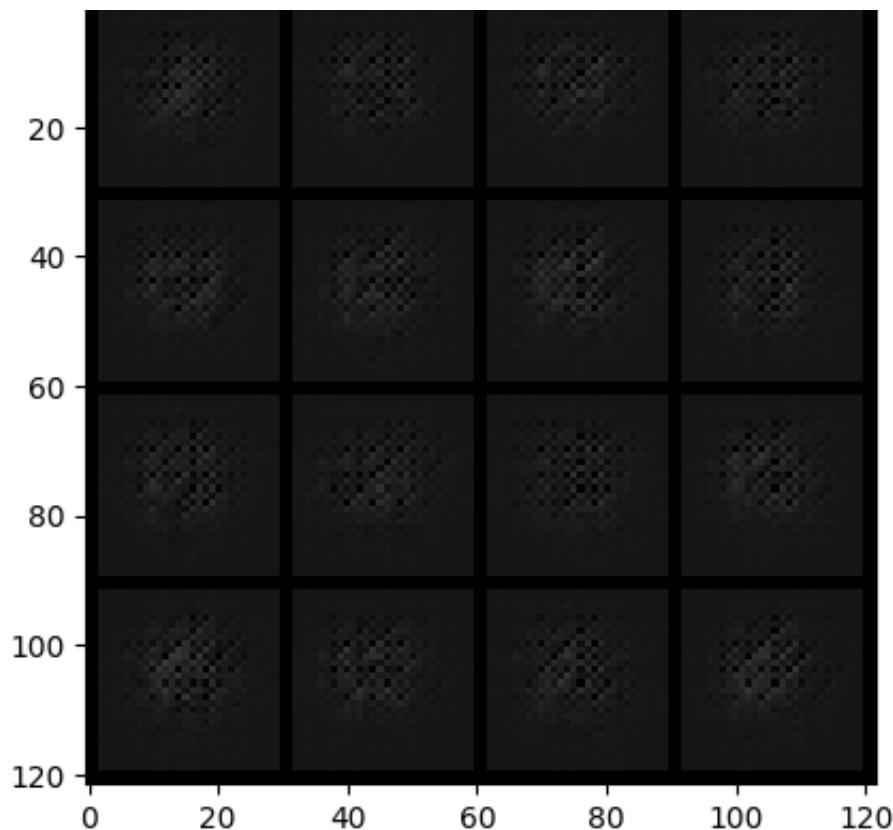


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6917, G_loss: 0.6621

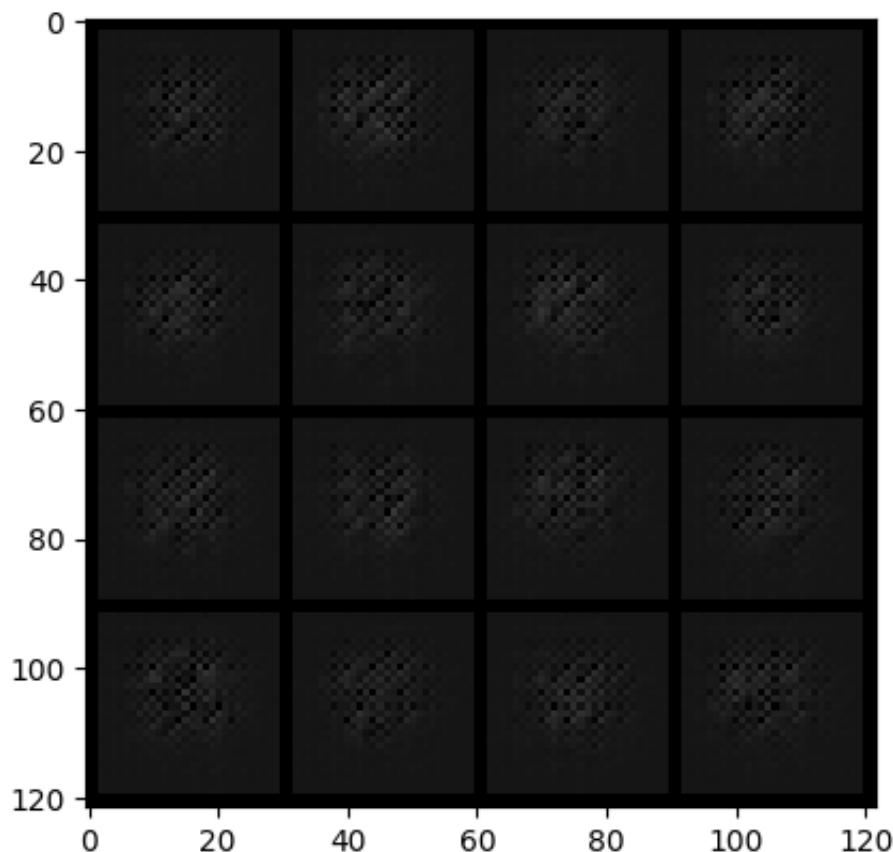


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6917, G_loss: 0.6622



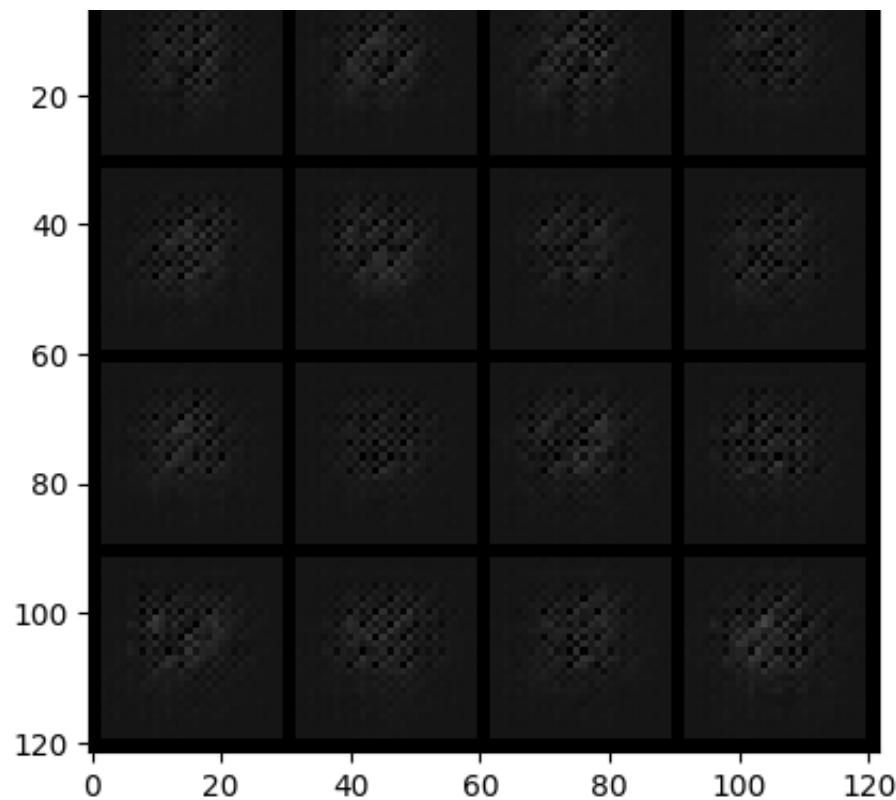


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6916, G_loss: 0.6623

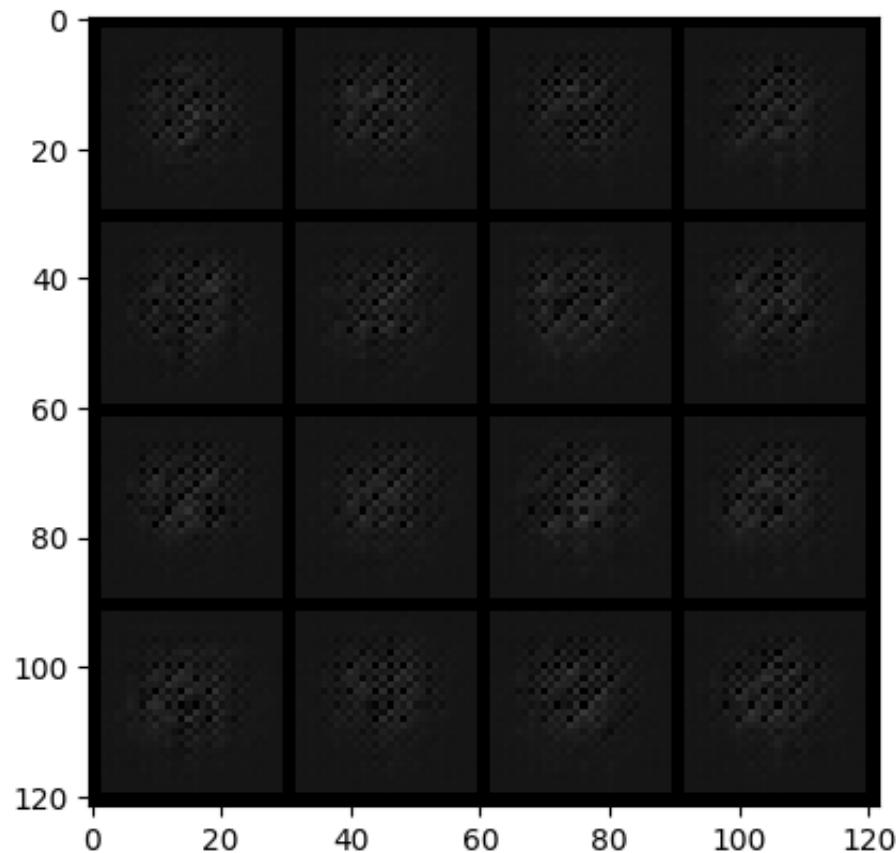


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6916, G_loss: 0.6624



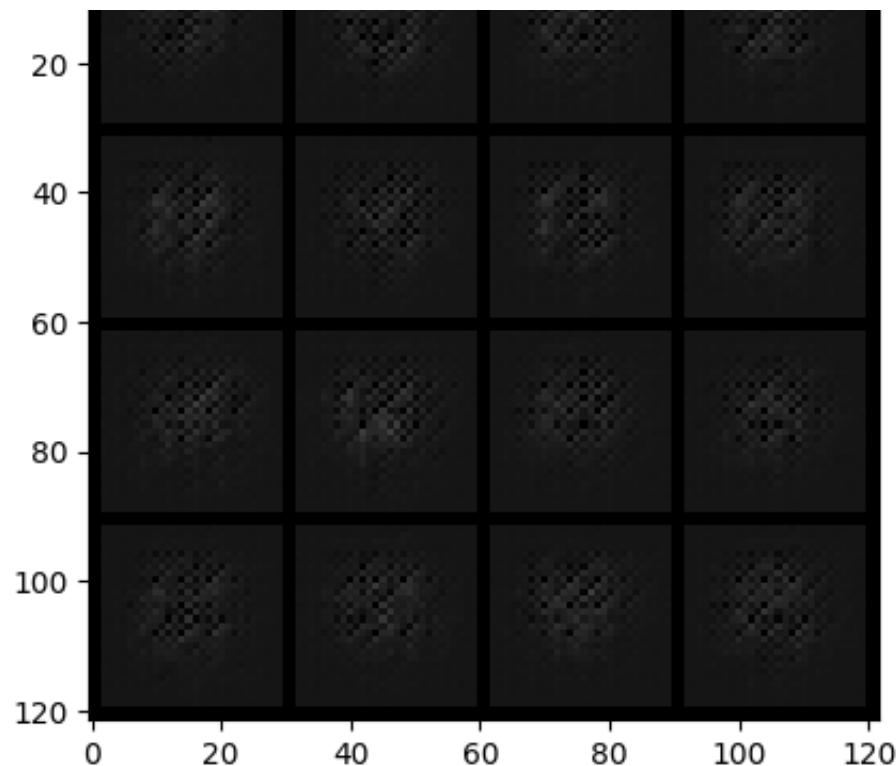


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6915, G_loss: 0.6626

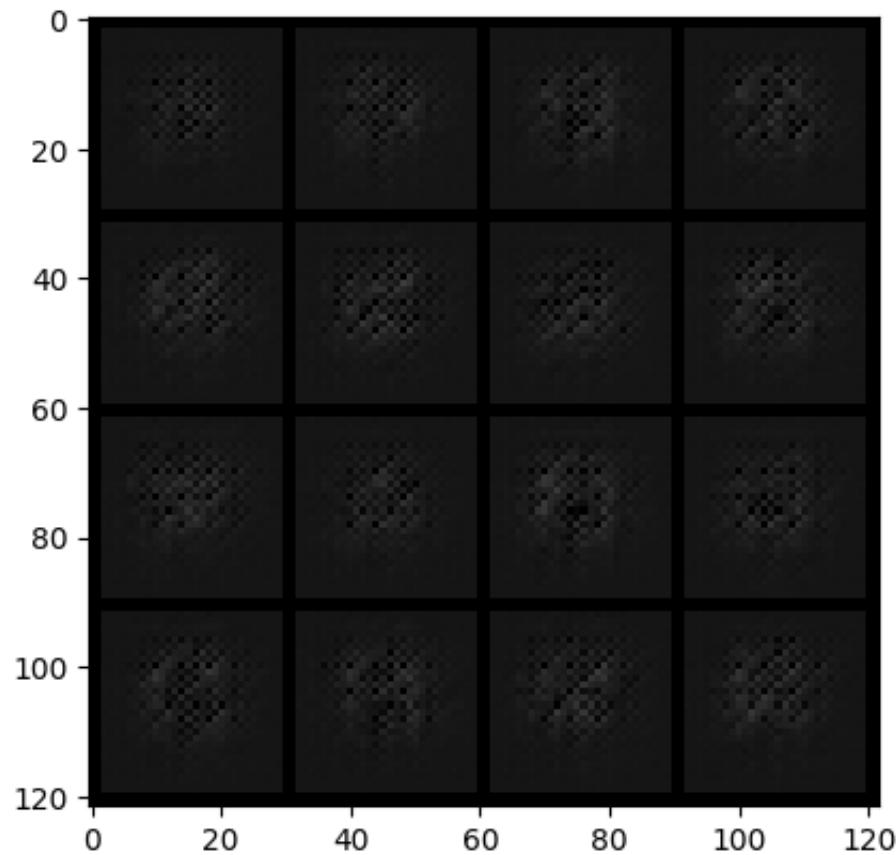


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6915, G_loss: 0.6627



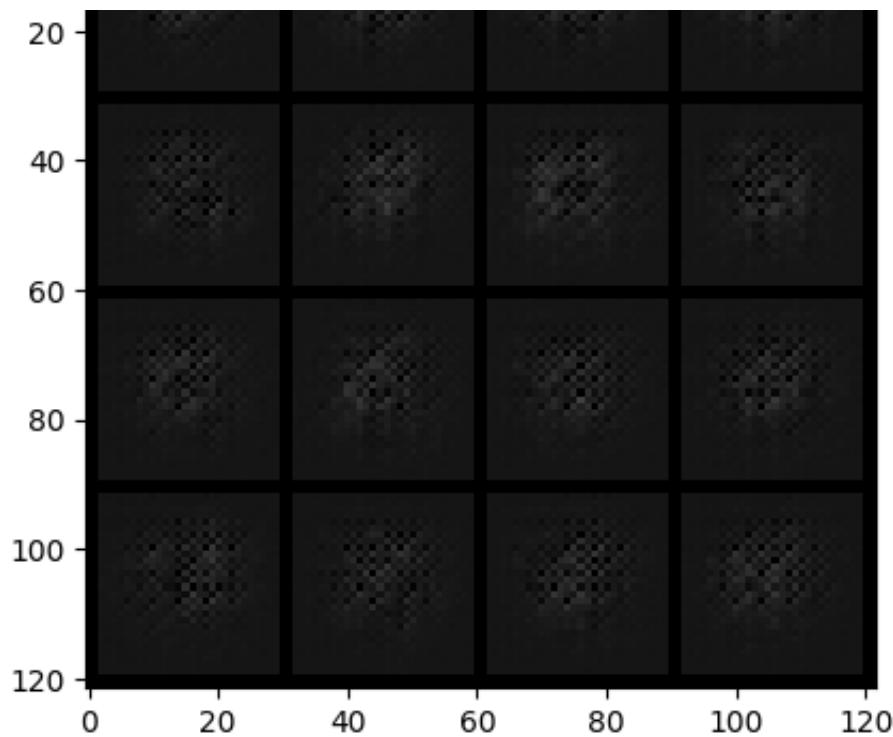


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6915, G_loss: 0.6628

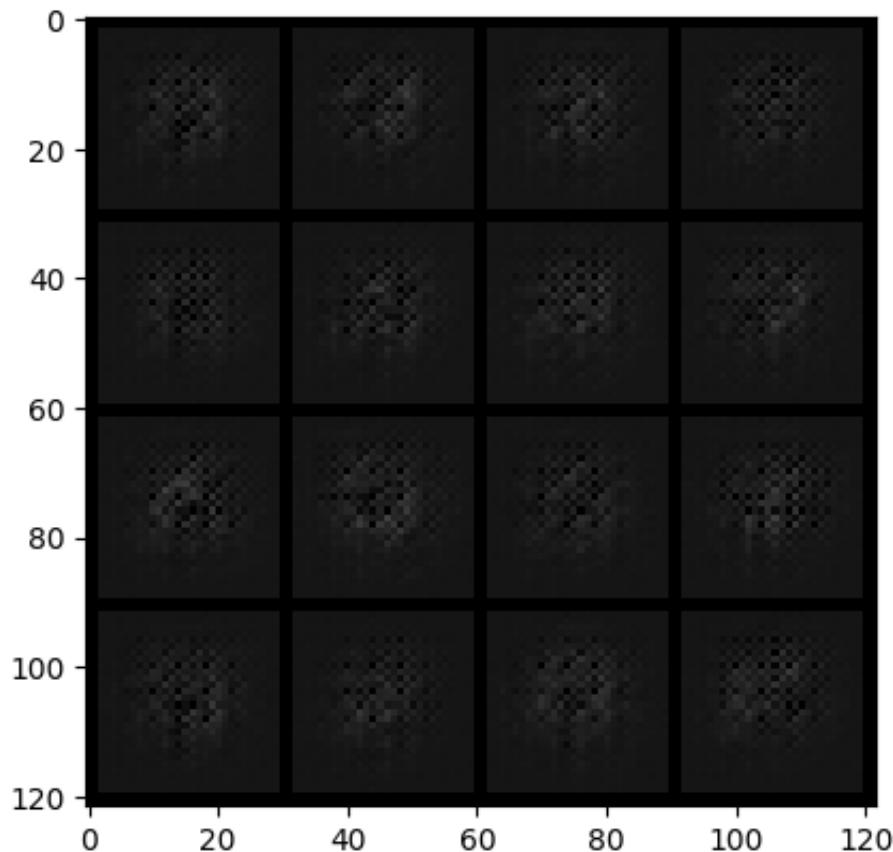


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6914, G_loss: 0.6630



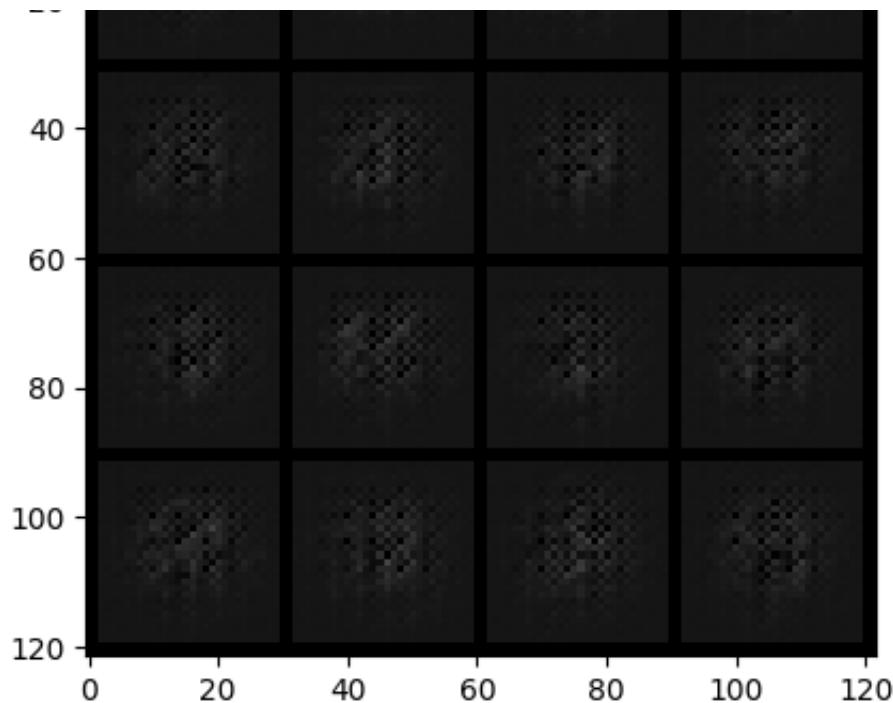


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6914, G_loss: 0.6631

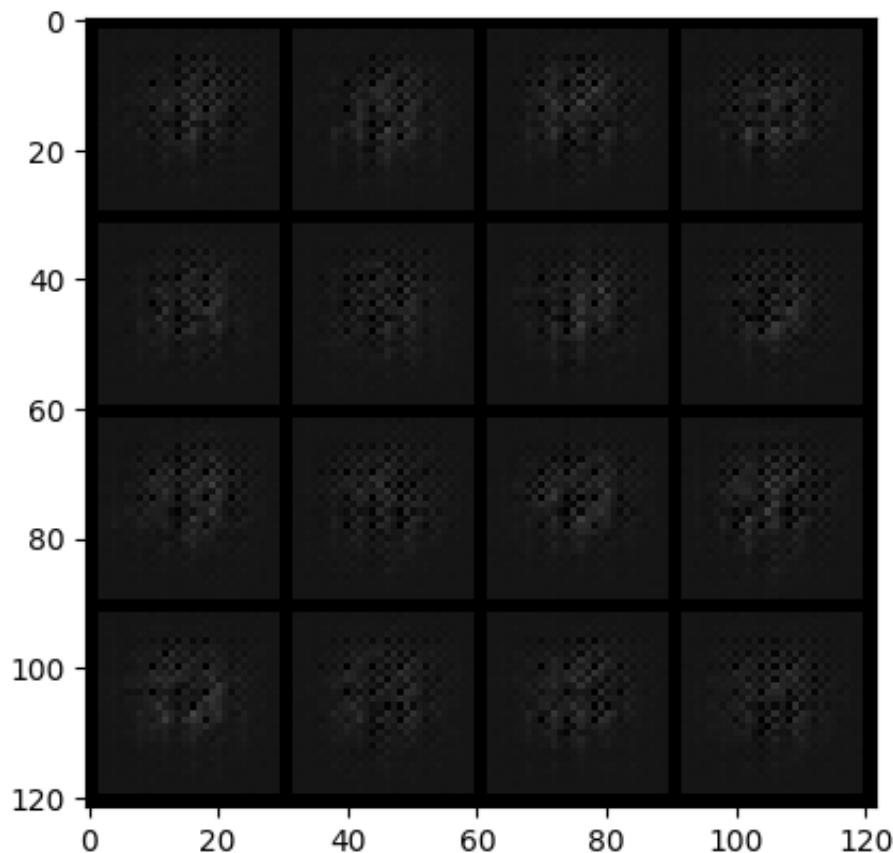


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6913, G_loss: 0.6632



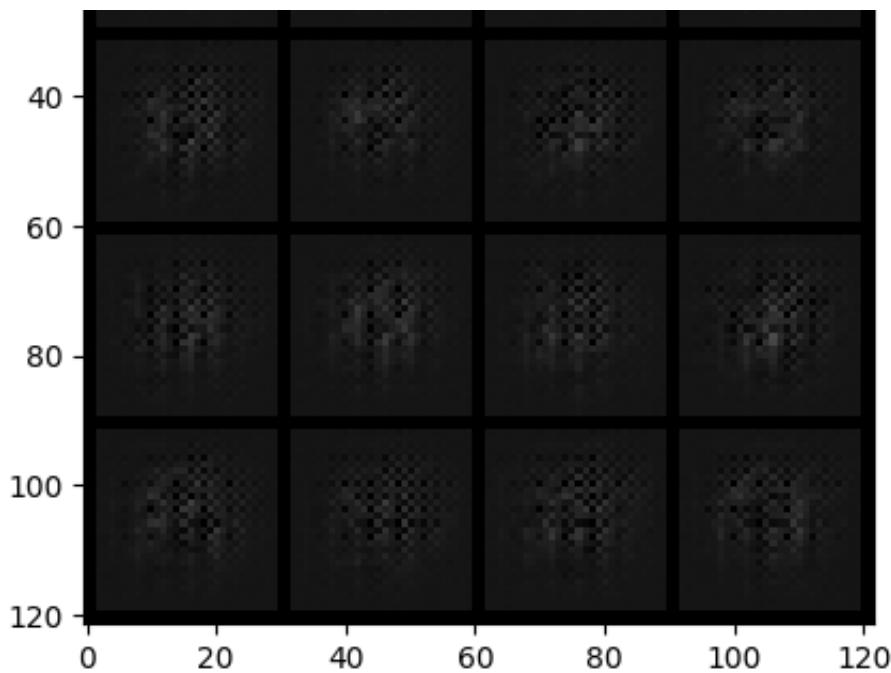


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0000
D_loss: 0.6913, G_loss: 0.6633

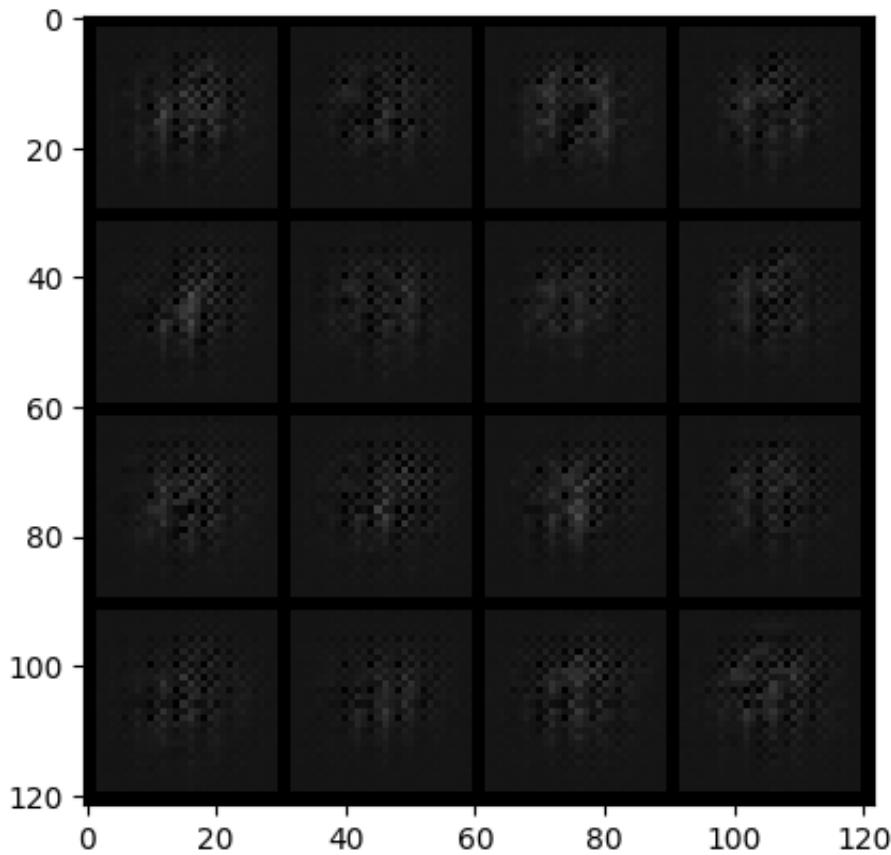


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0000
D_loss: 0.6913, G_loss: 0.6635

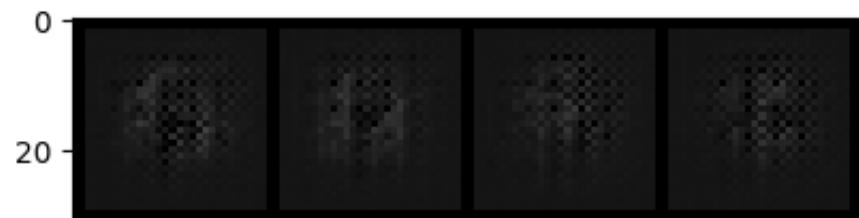


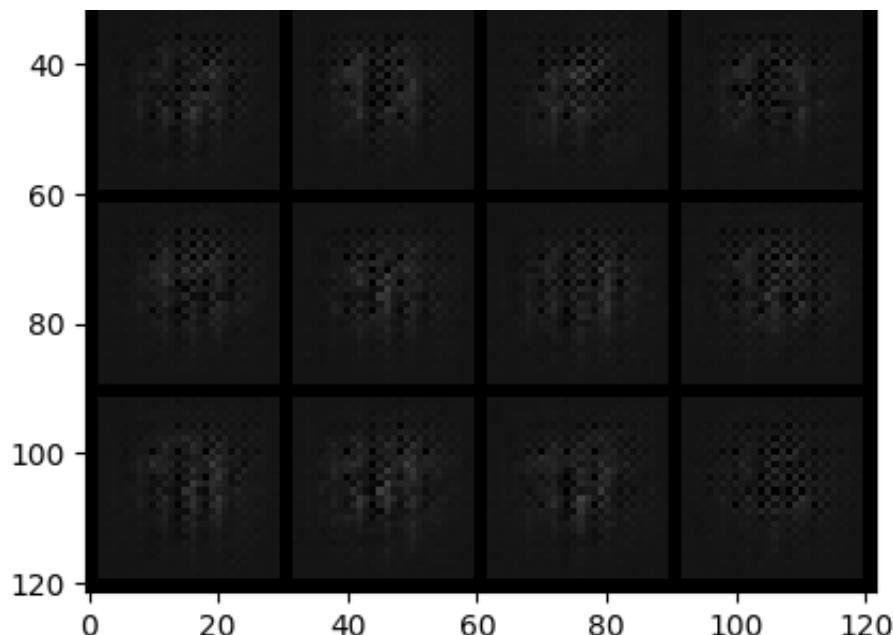


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6912, G_loss: 0.6636

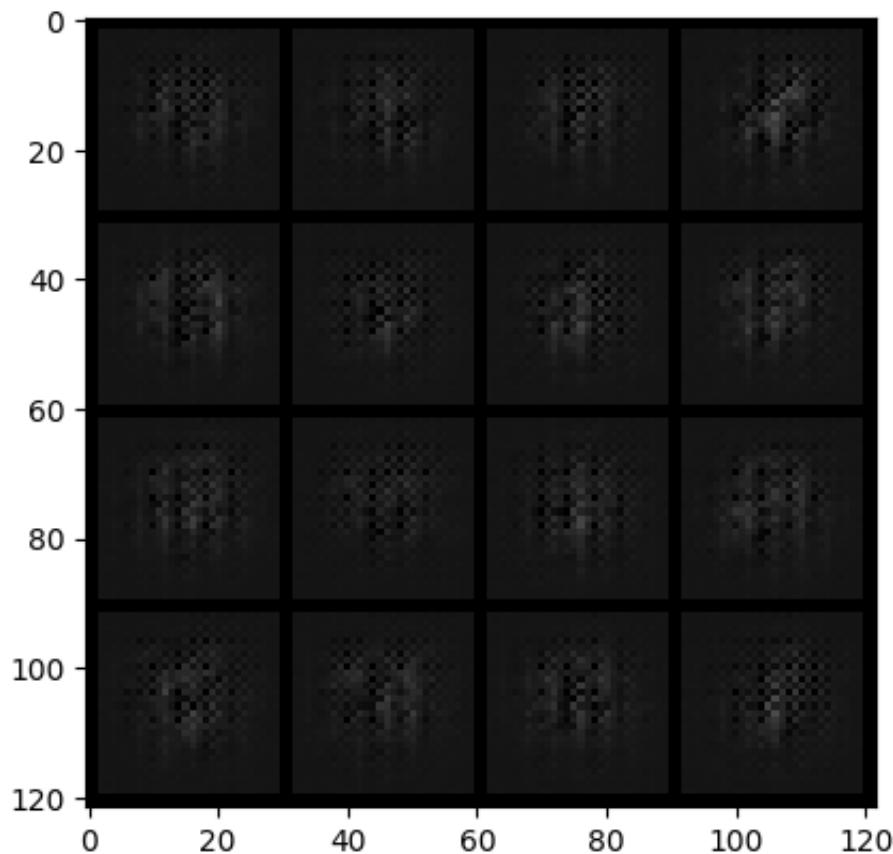


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6912, G_loss: 0.6637

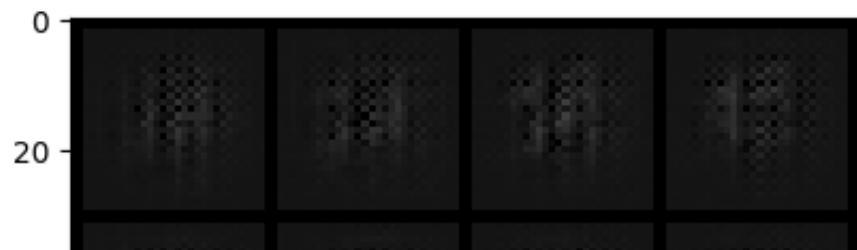


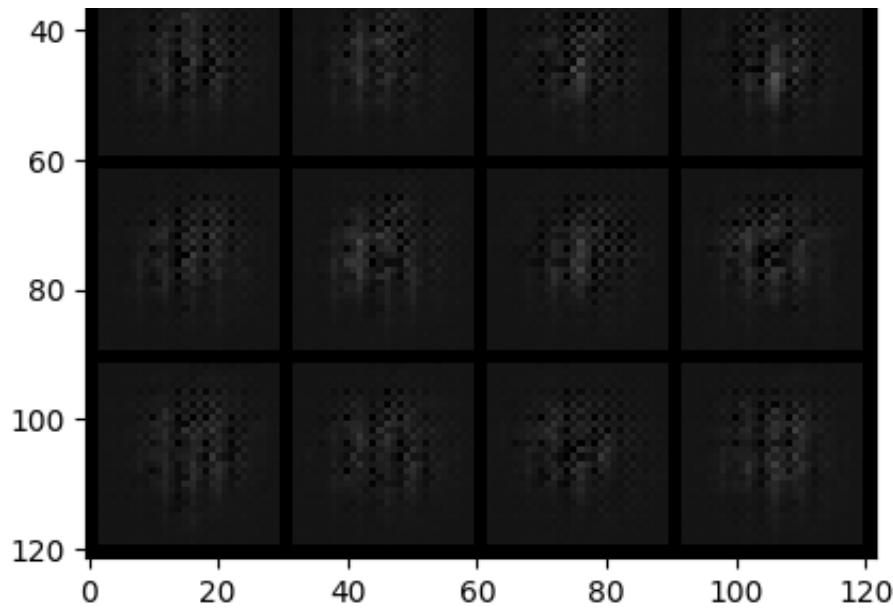


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6911, G_loss: 0.6638

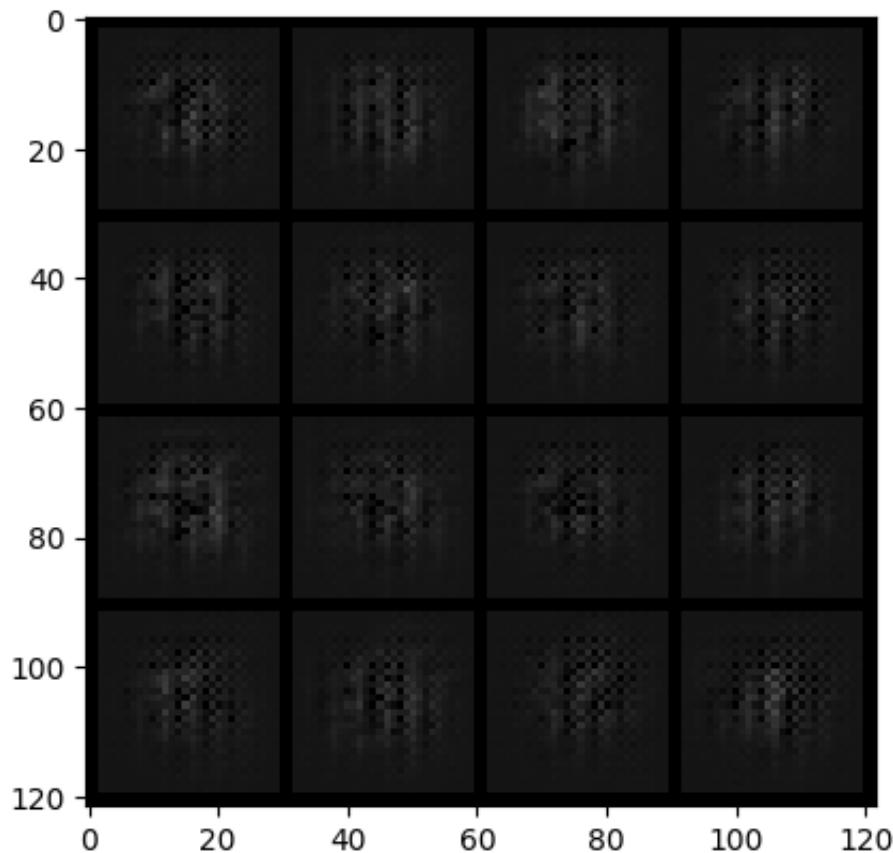


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6911, G_loss: 0.6640

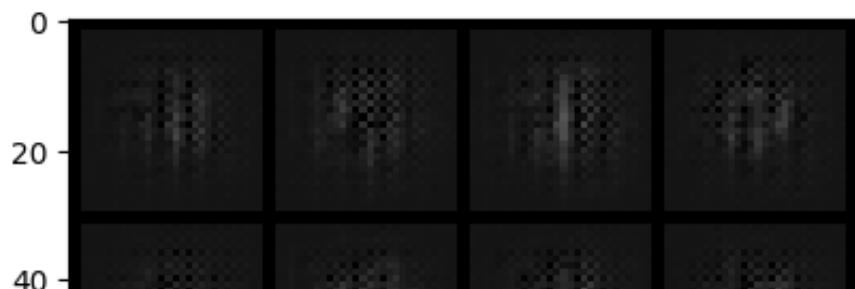


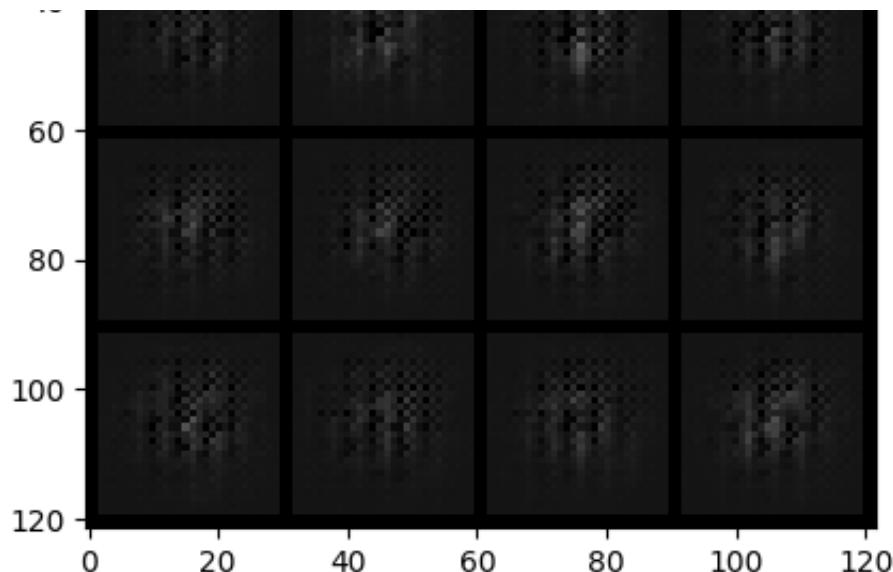


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6910, G_loss: 0.6641

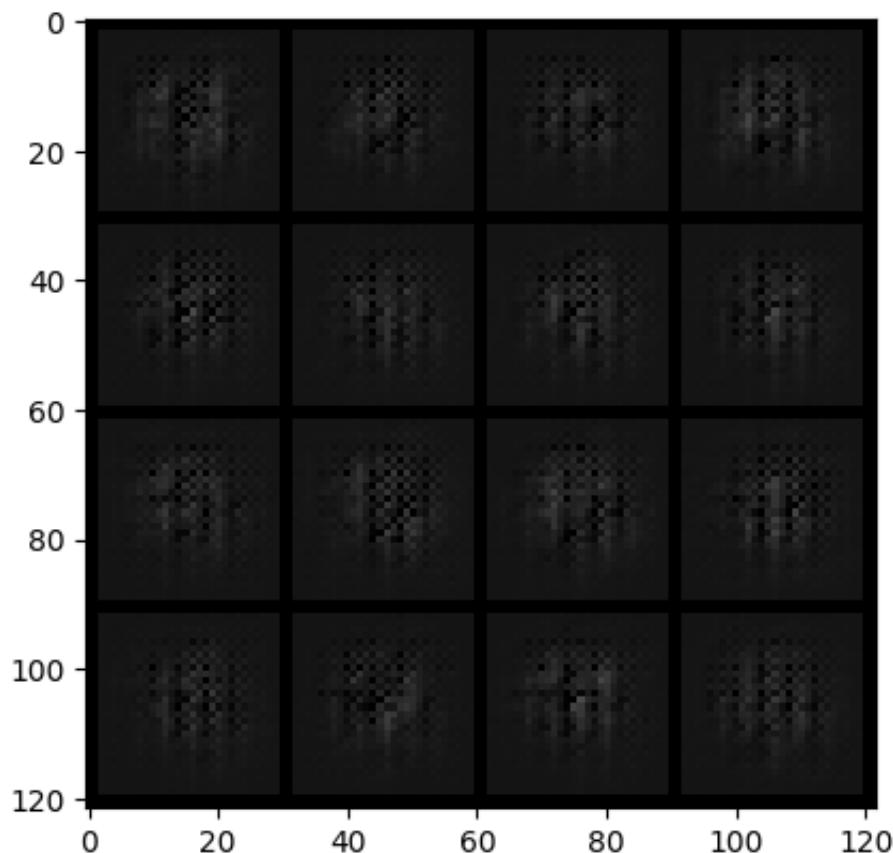


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6910, G_loss: 0.6642



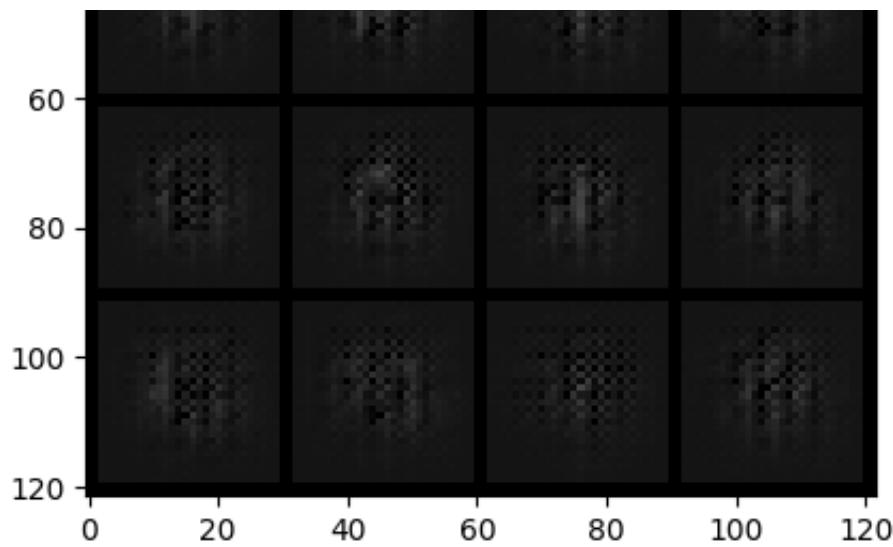


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6910, G_loss: 0.6643

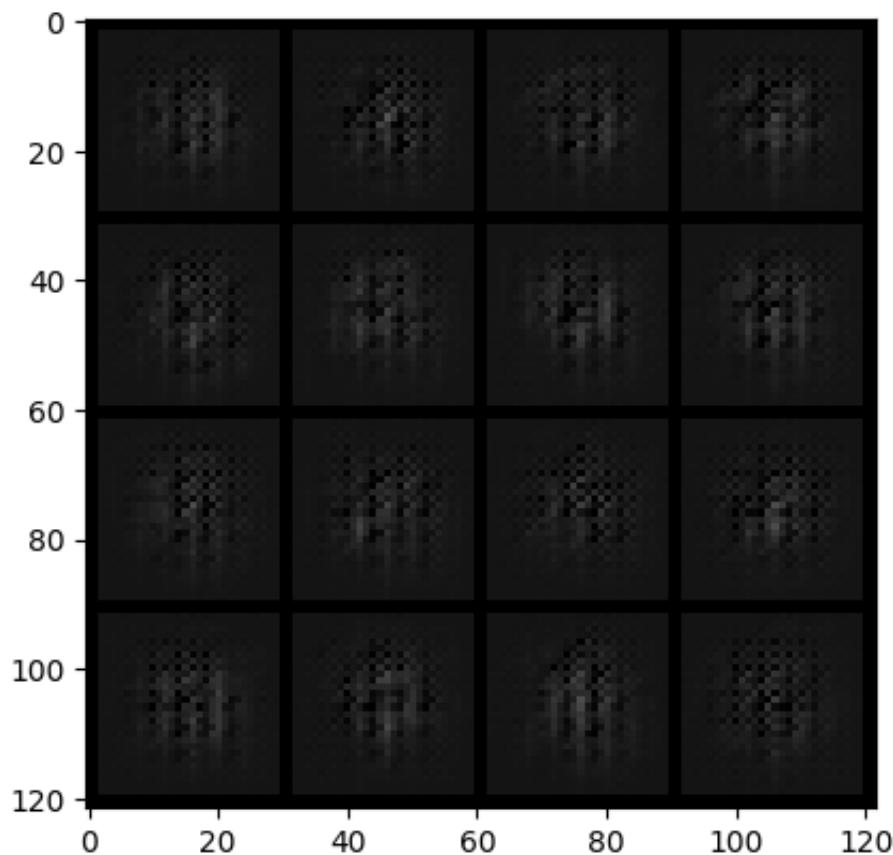


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6909, G_loss: 0.6645

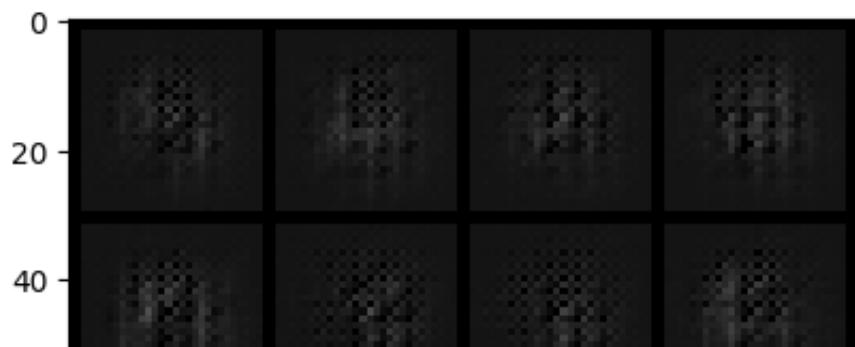


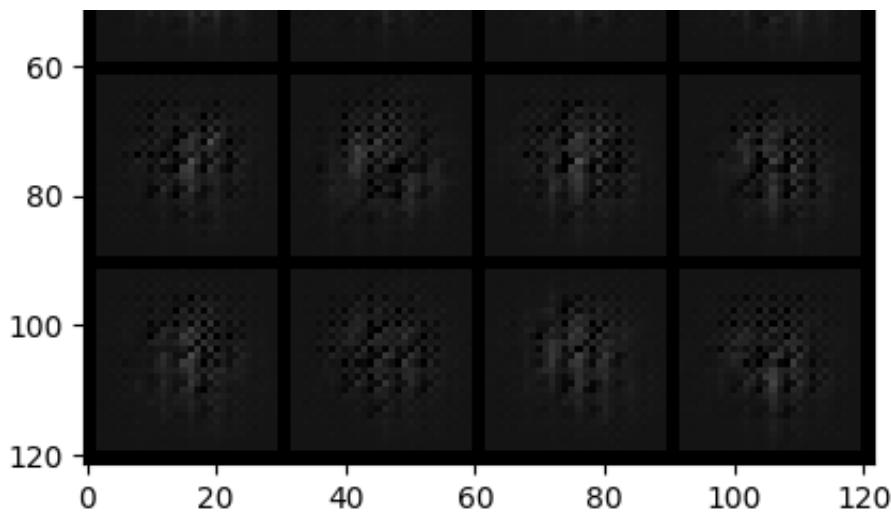


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6909, G_loss: 0.6646

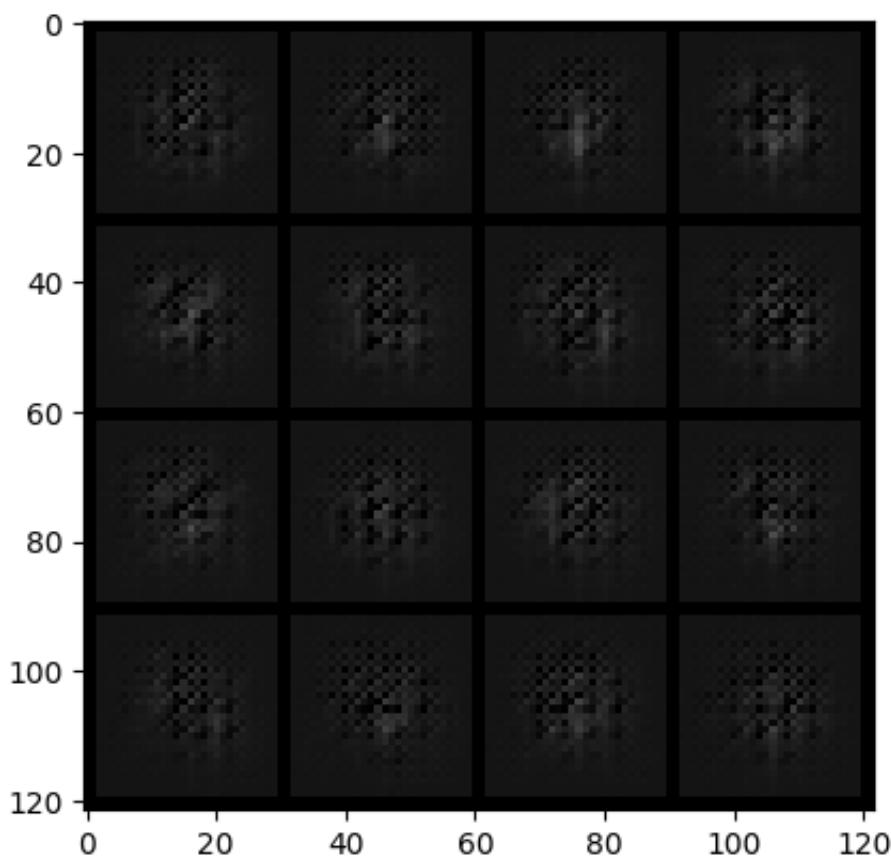


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6908, G_loss: 0.6647

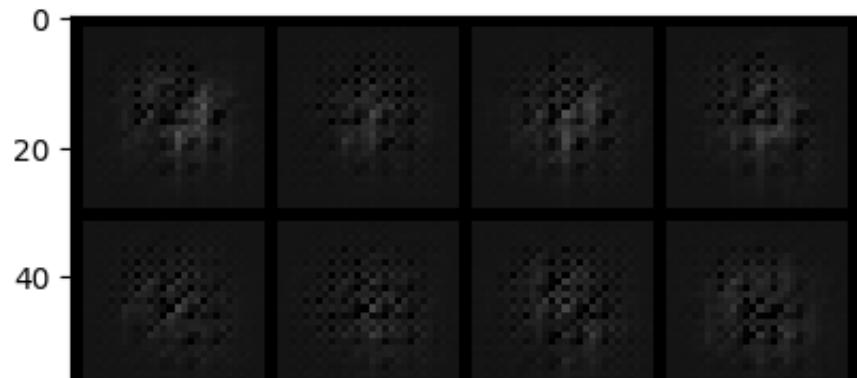


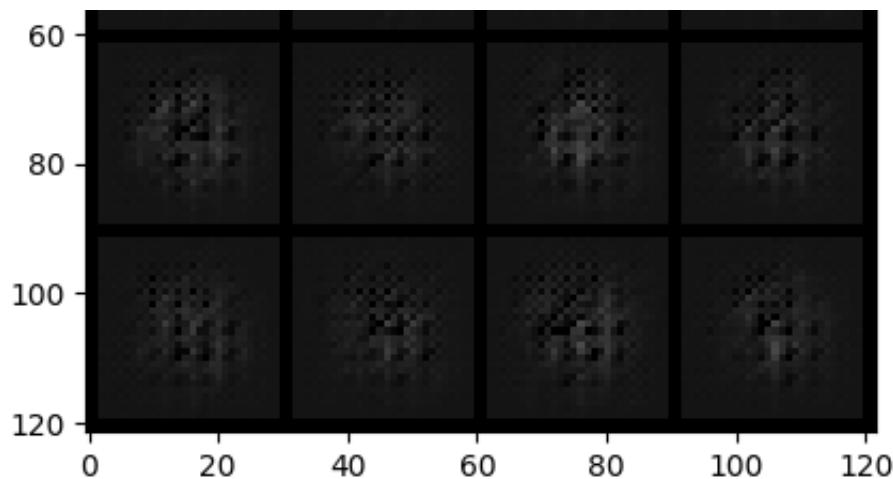


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6908, G_loss: 0.6648



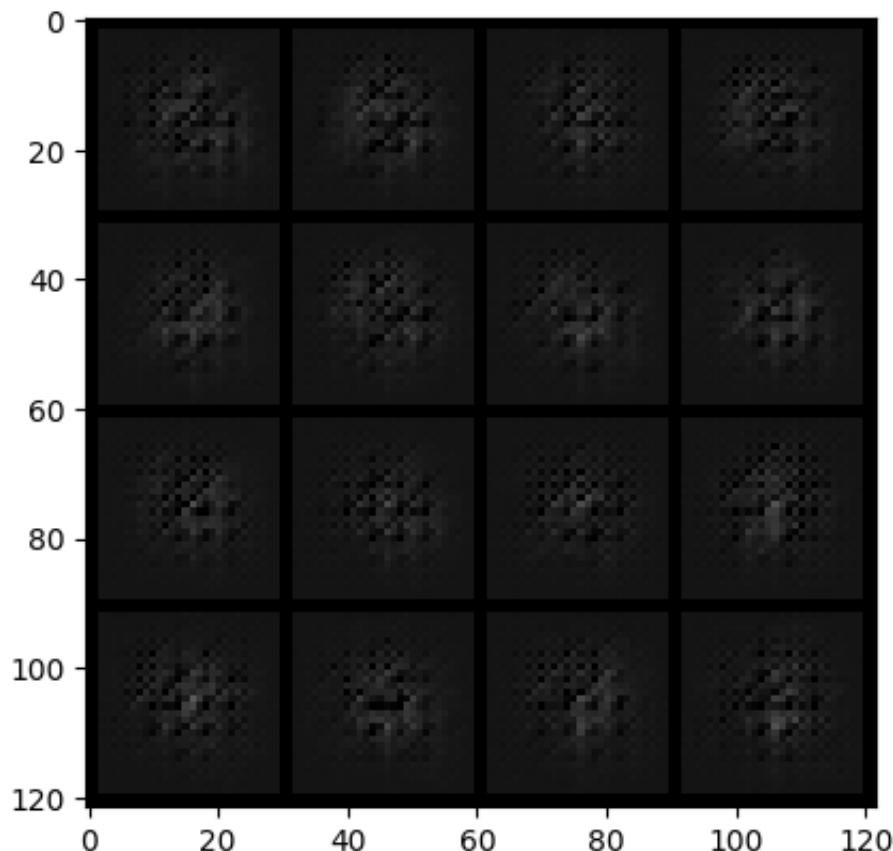
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6907, G_loss: 0.6650





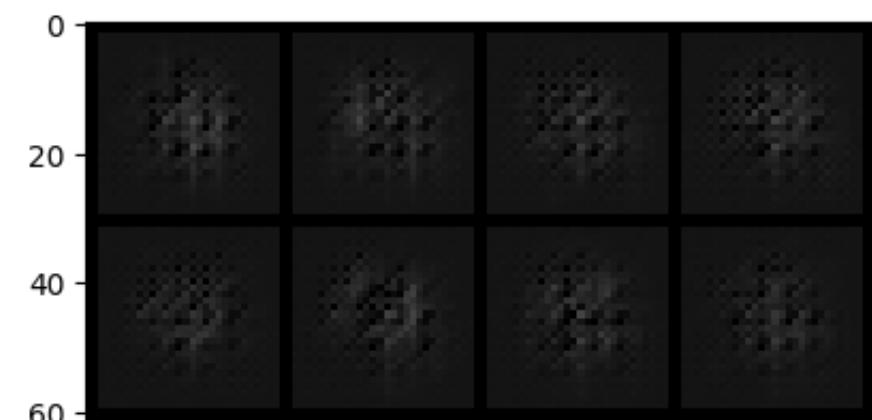
D_loss: 0.6907, G_loss: 0.6651

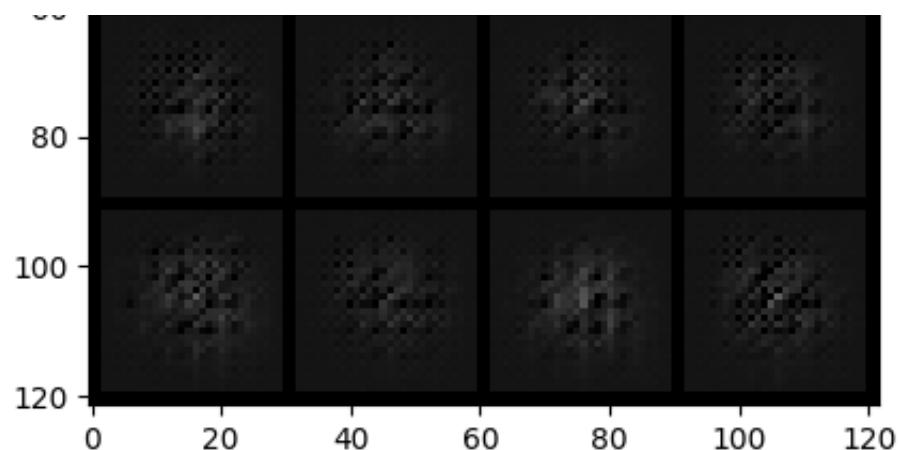
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clip'.



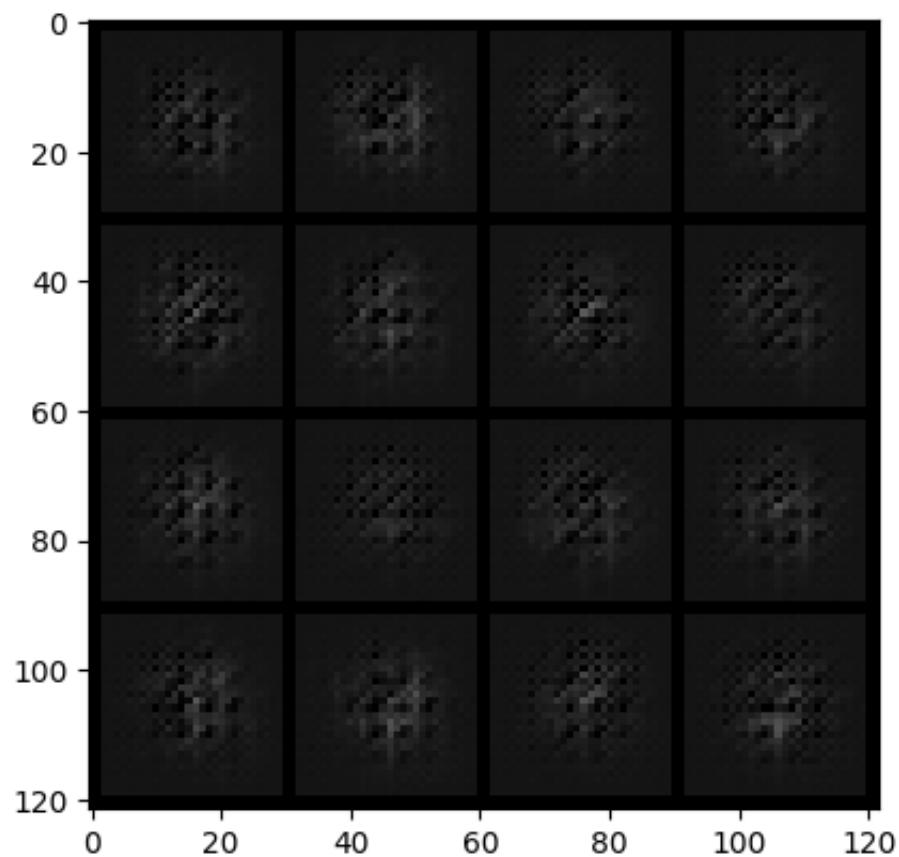
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clip'.

D_loss: 0.6906, G_loss: 0.6652

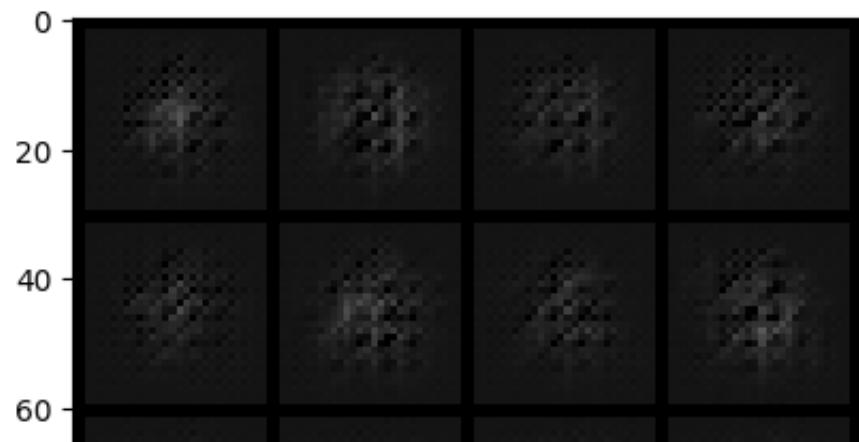


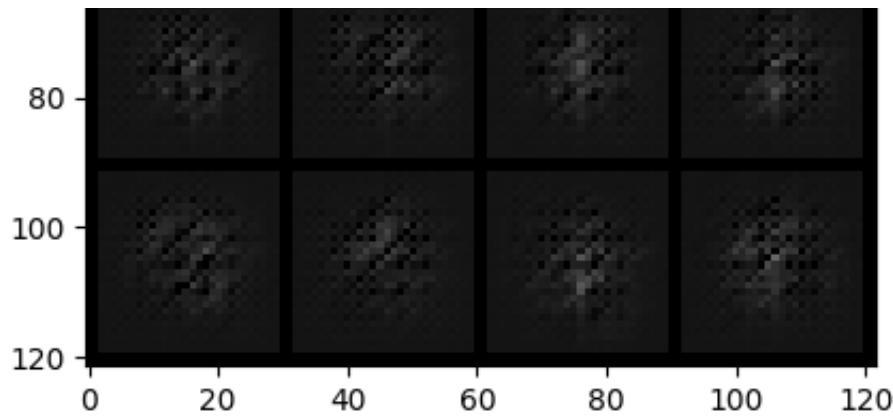


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6906, G_loss: 0.6653

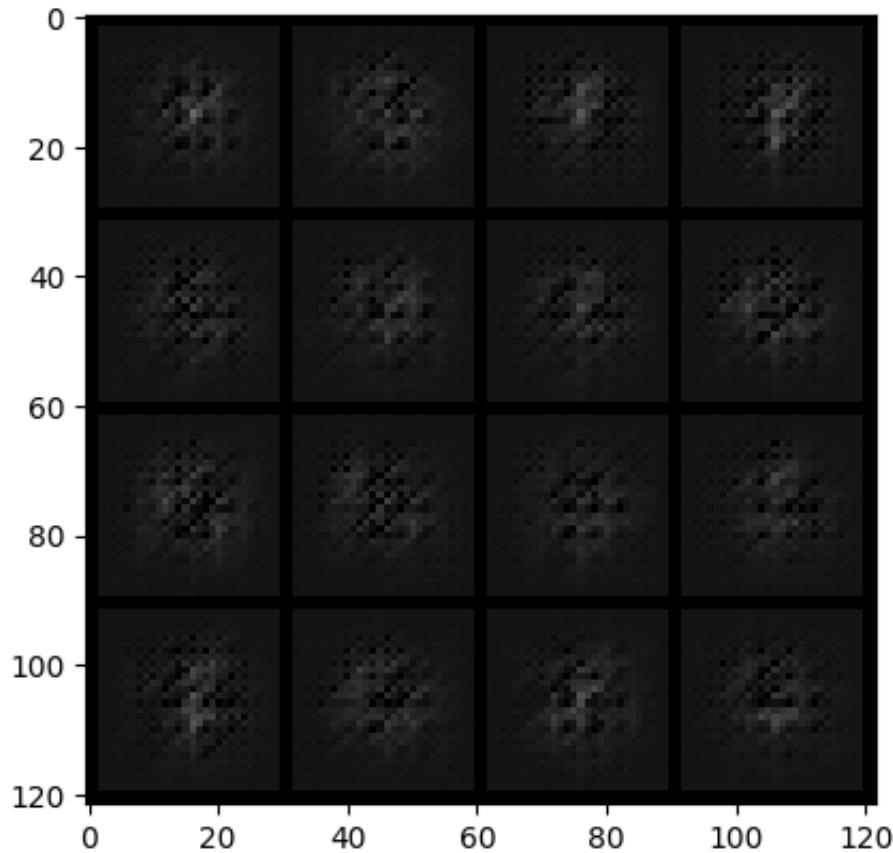


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6906, G_loss: 0.6655

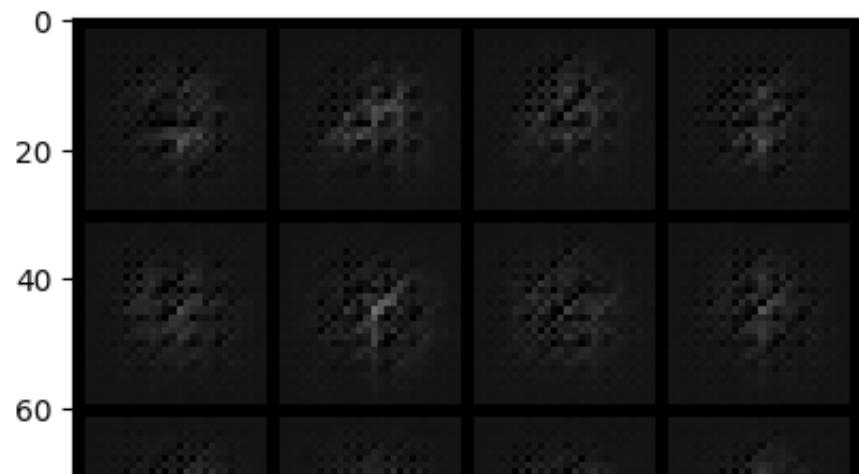


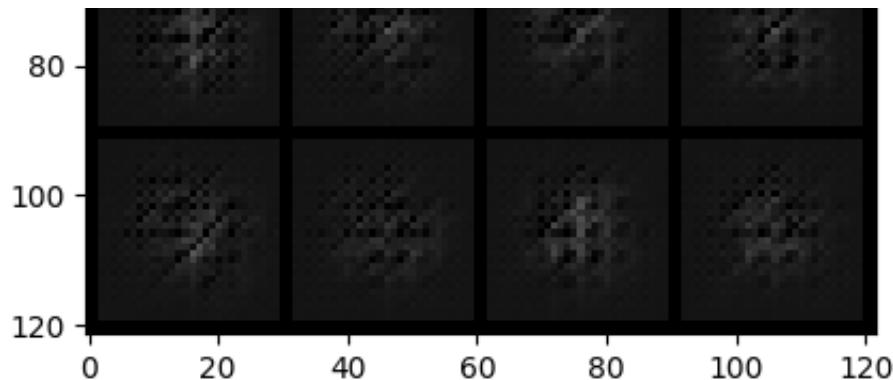


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6905, G_loss: 0.6656

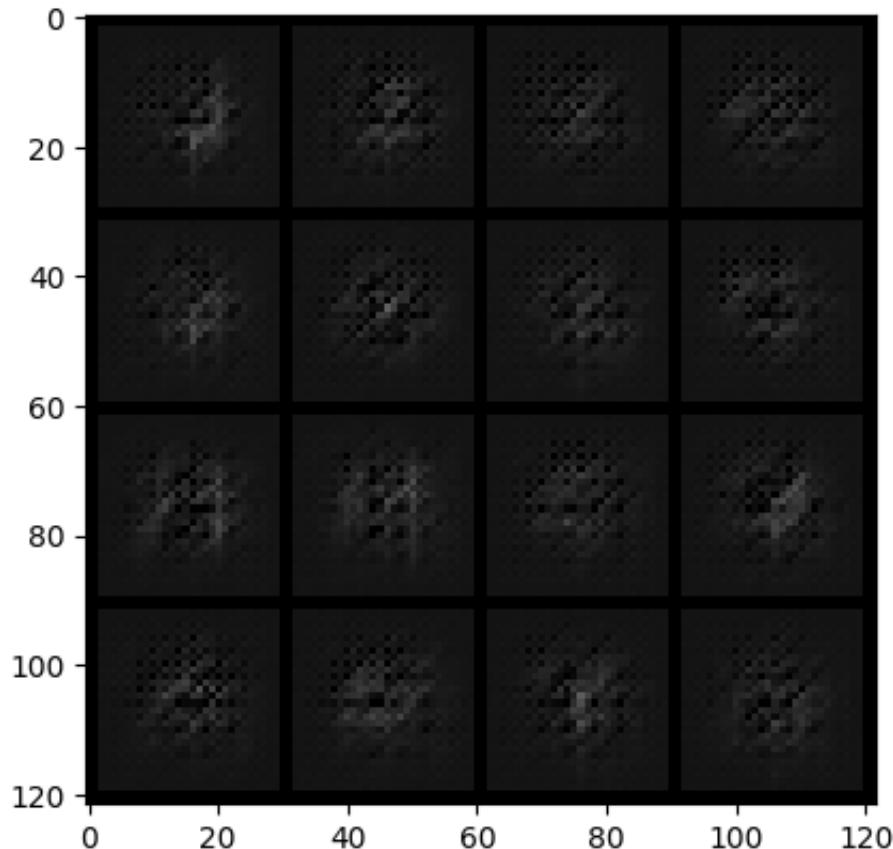


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6905, G_loss: 0.6657

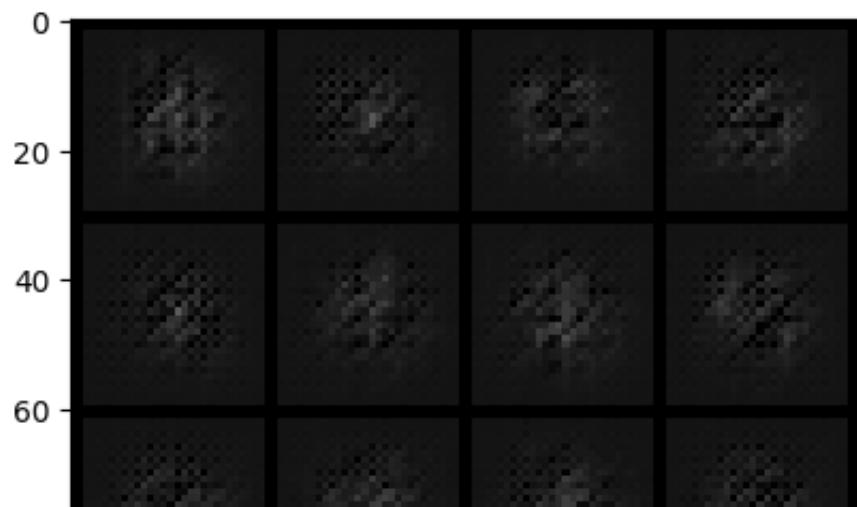


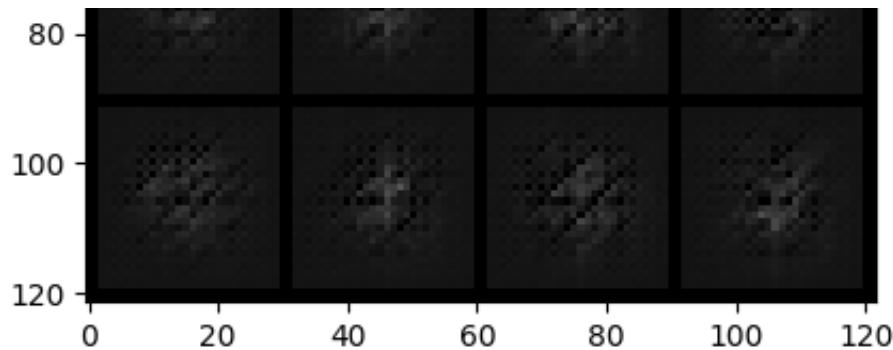


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6904, G_loss: 0.6658

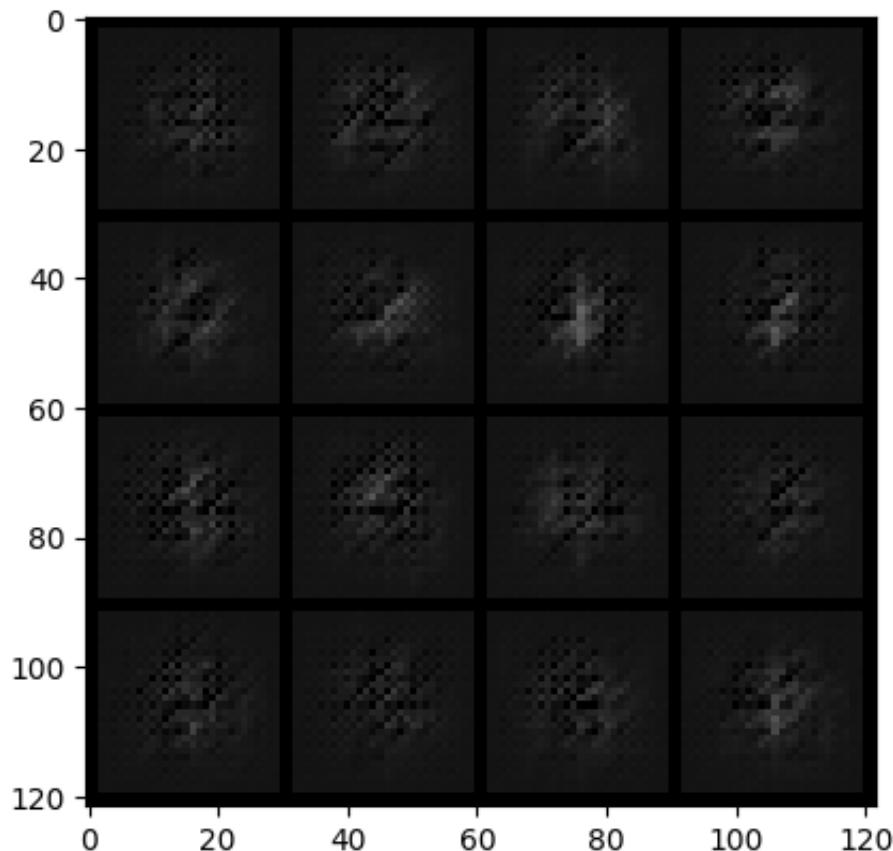


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6904, G_loss: 0.6659

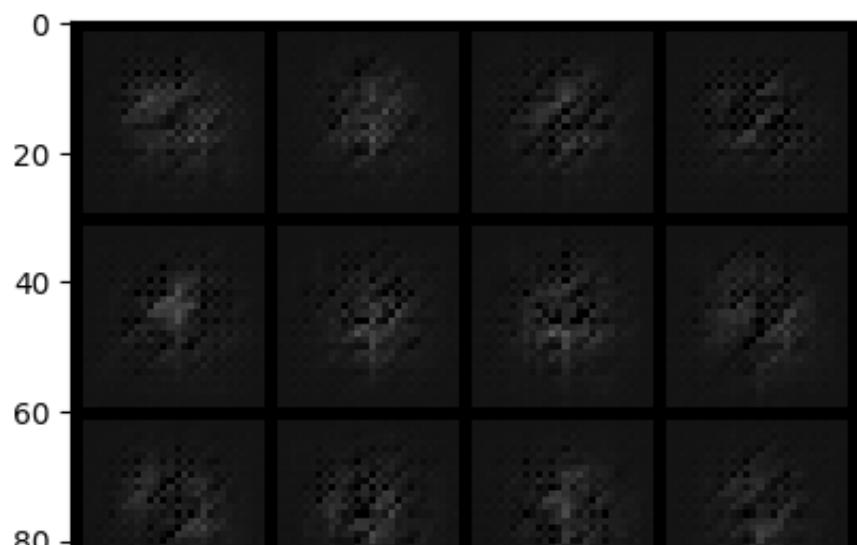


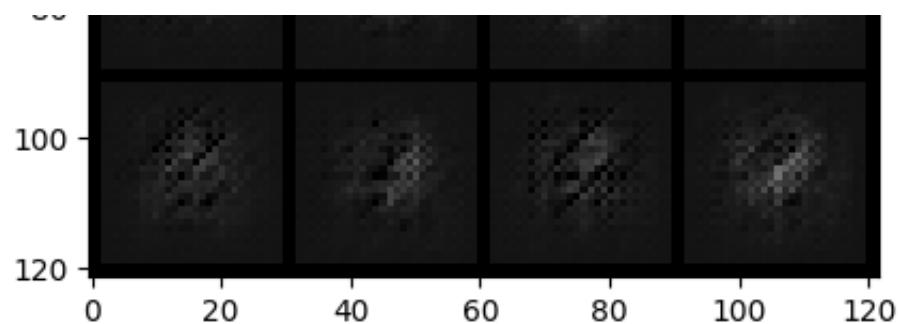


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6903, G_loss: 0.6661

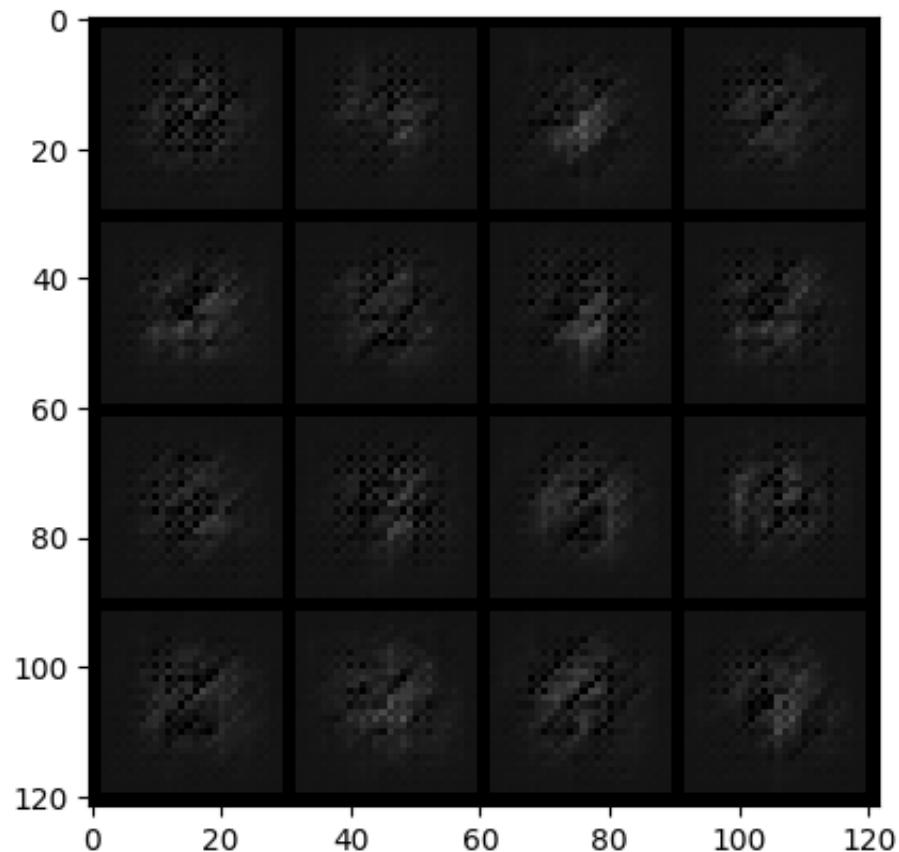


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6903, G_loss: 0.6662



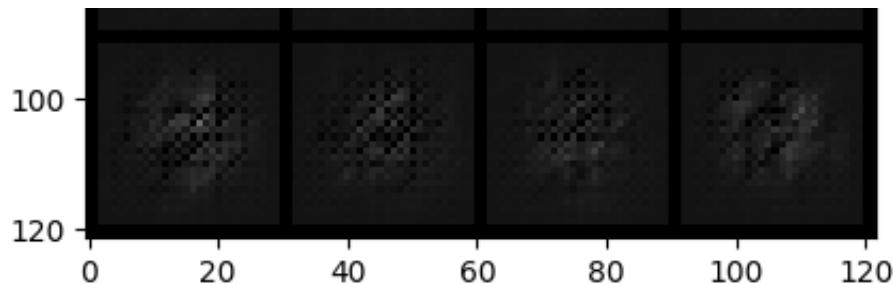


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6902, G_loss: 0.6663

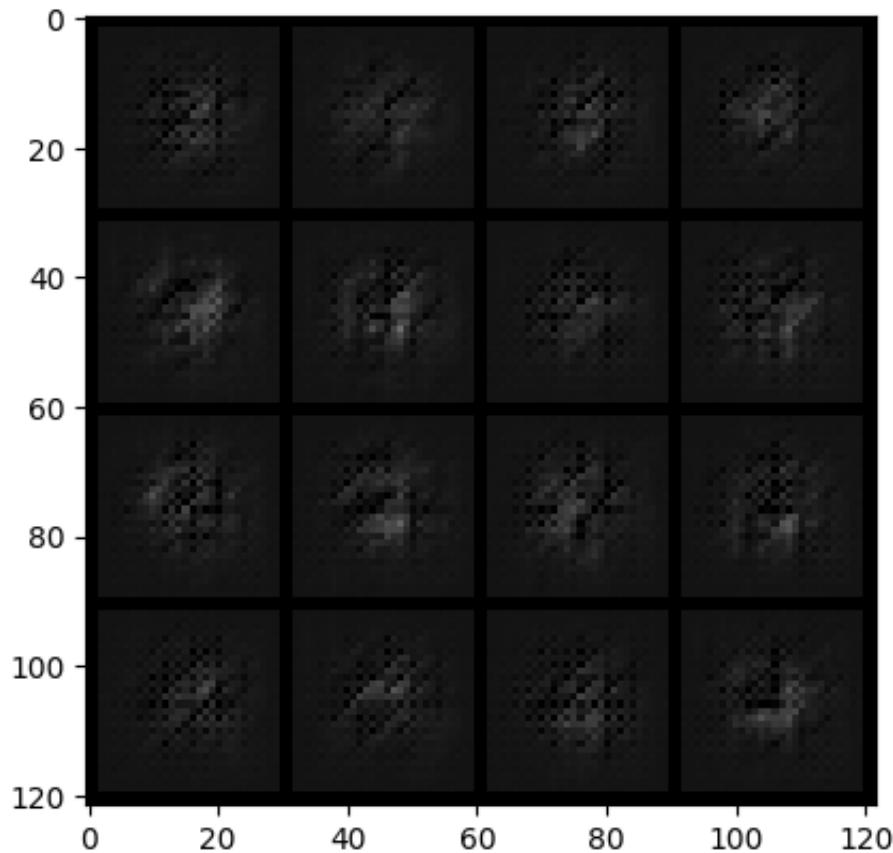


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6902, G_loss: 0.6664

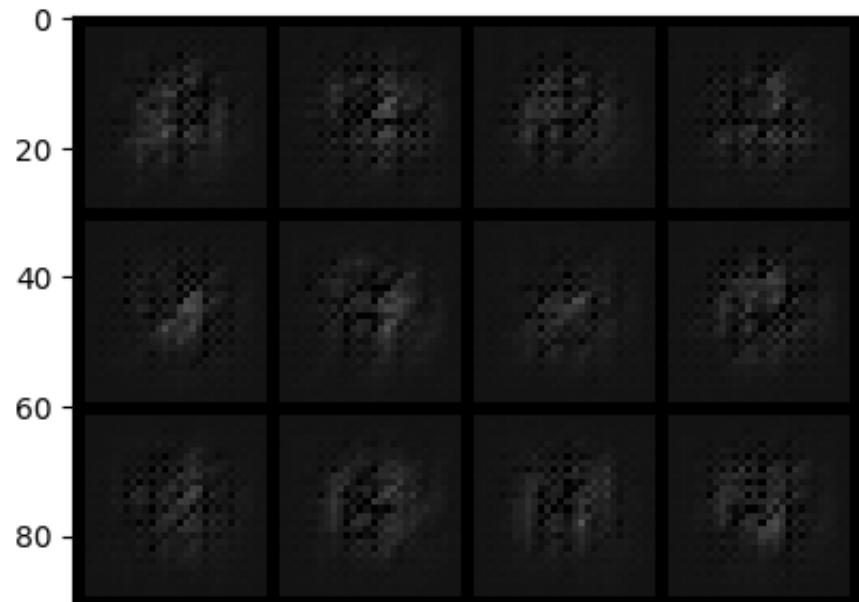


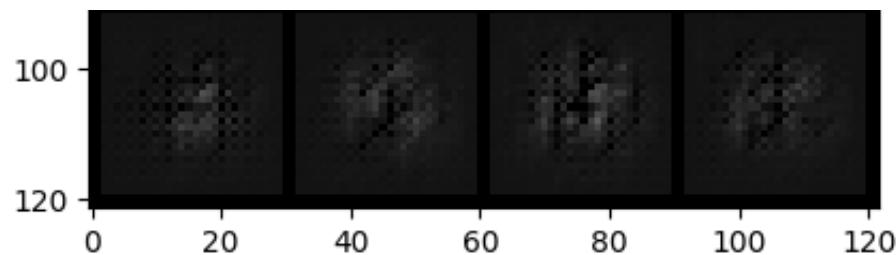


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6901, G_loss: 0.6666

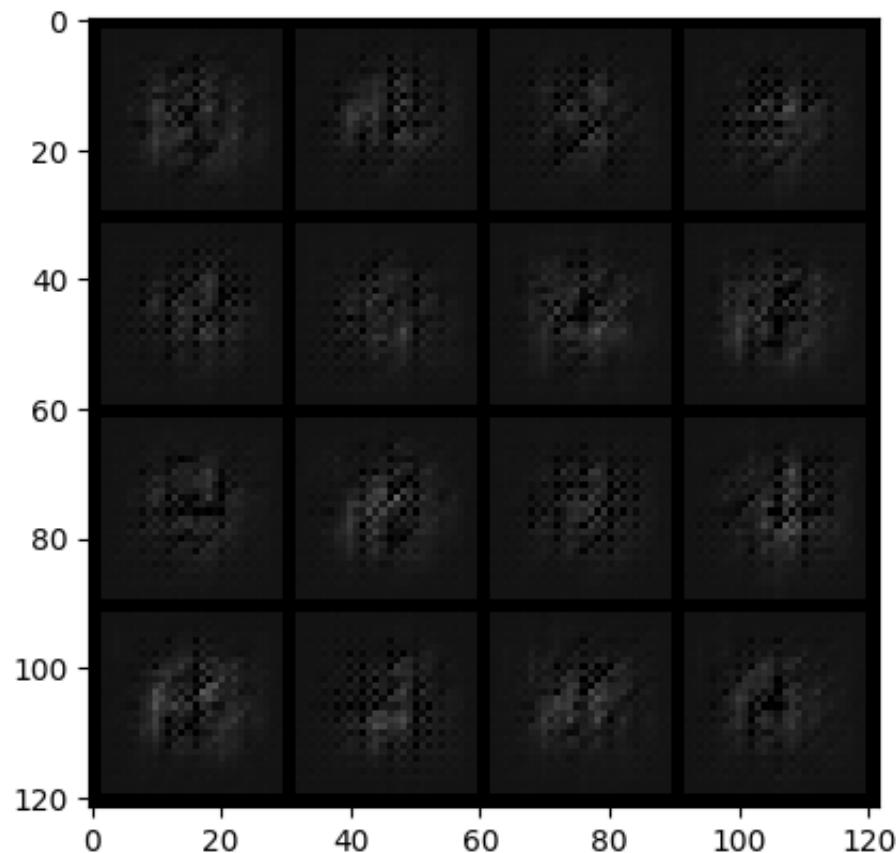


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6901, G_loss: 0.6667

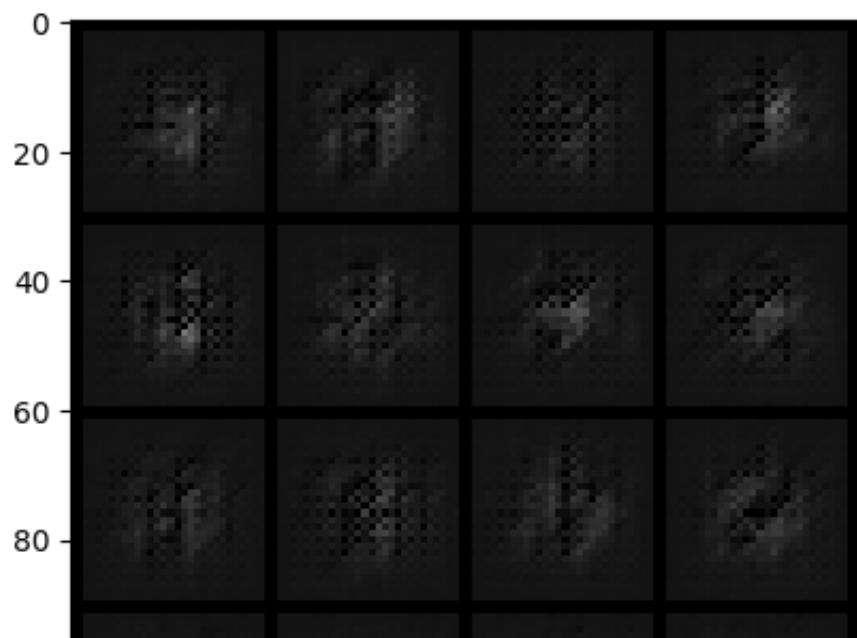


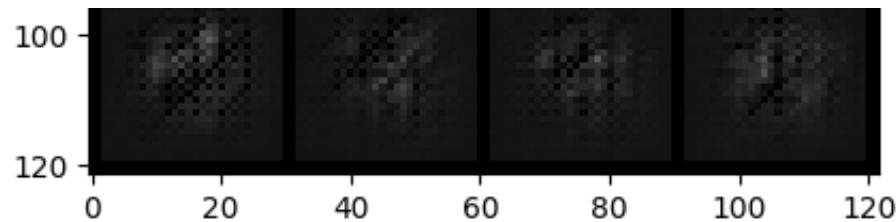


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6900, G_loss: 0.6668

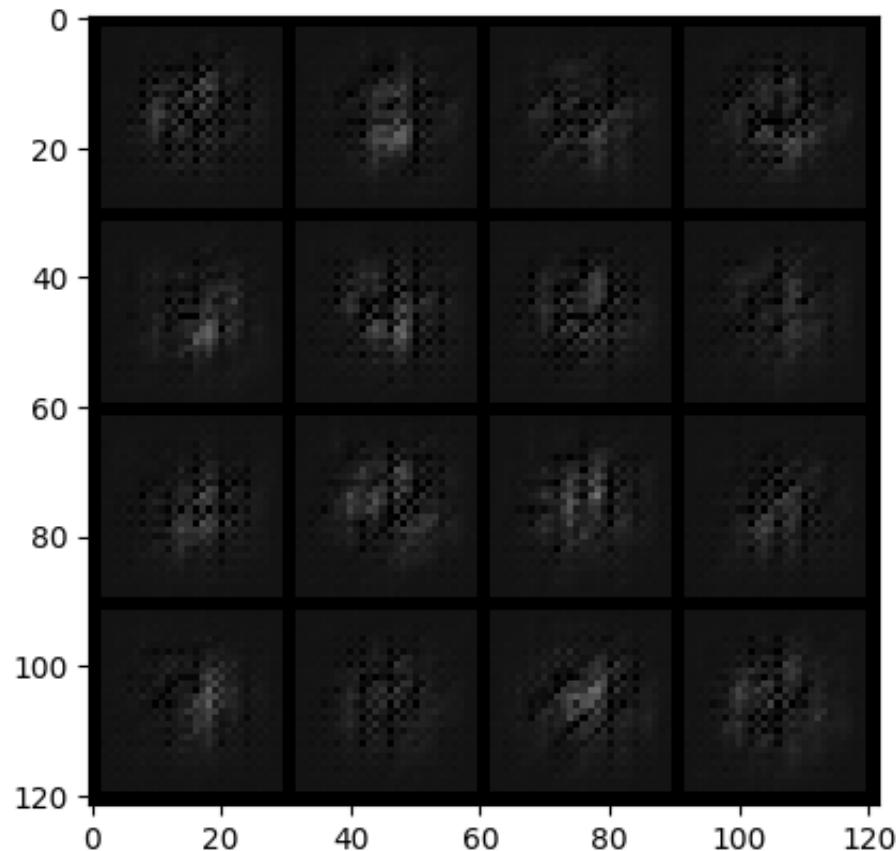


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6900, G_loss: 0.6669

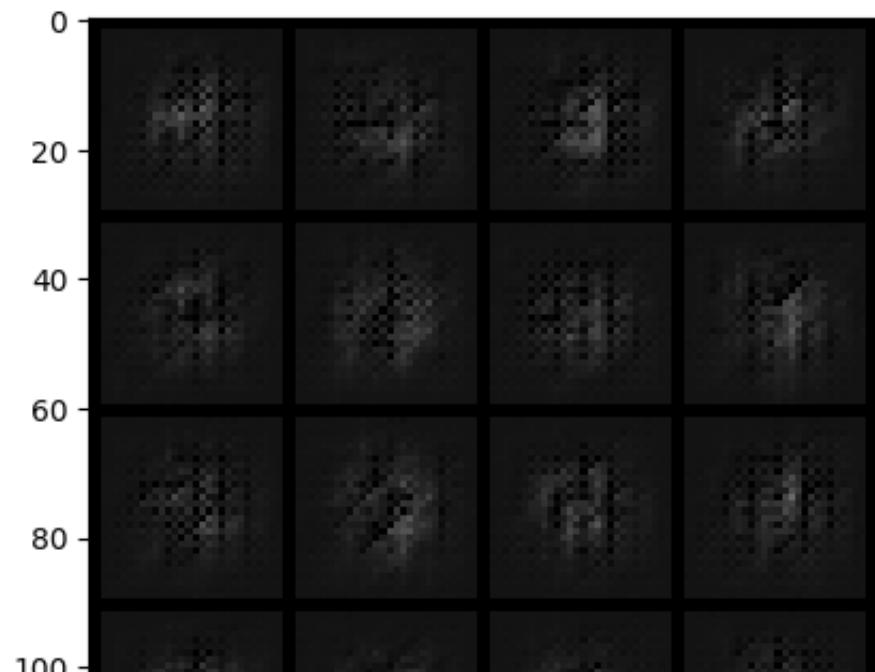


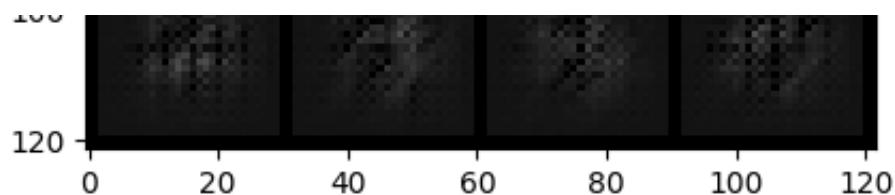


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6900, G_loss: 0.6671

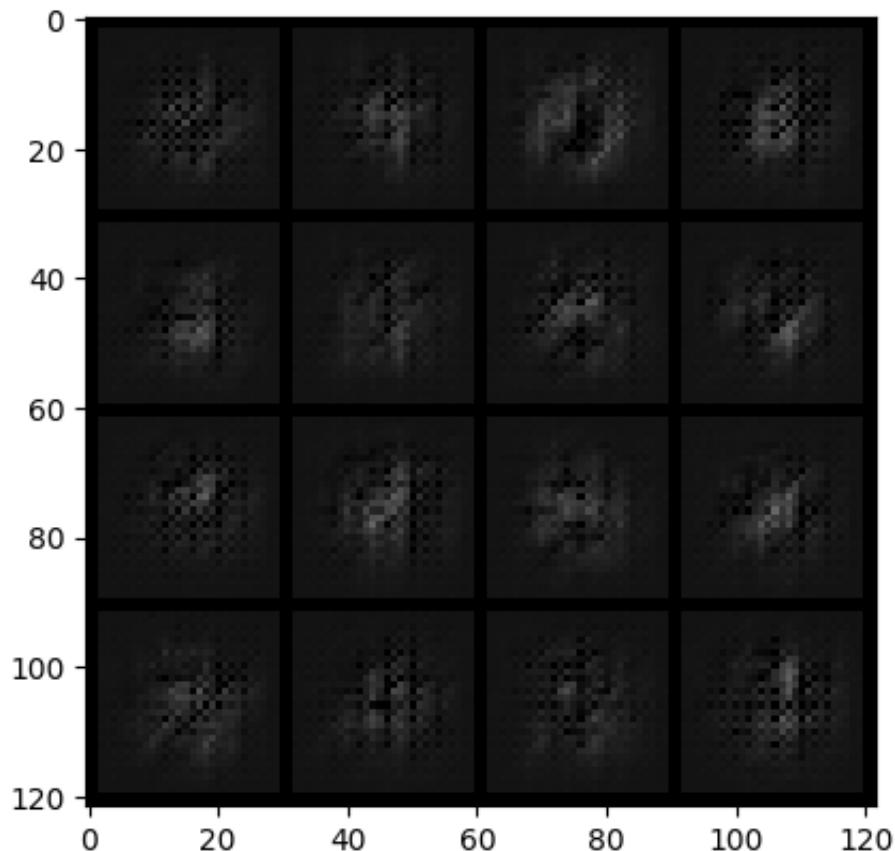


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6899, G_loss: 0.6672



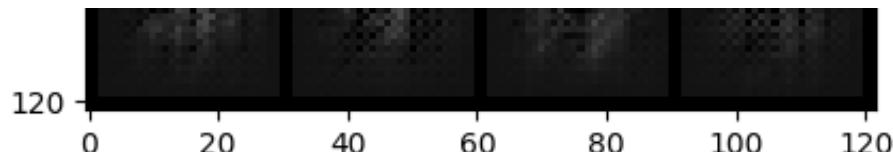


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6899, G_loss: 0.6673

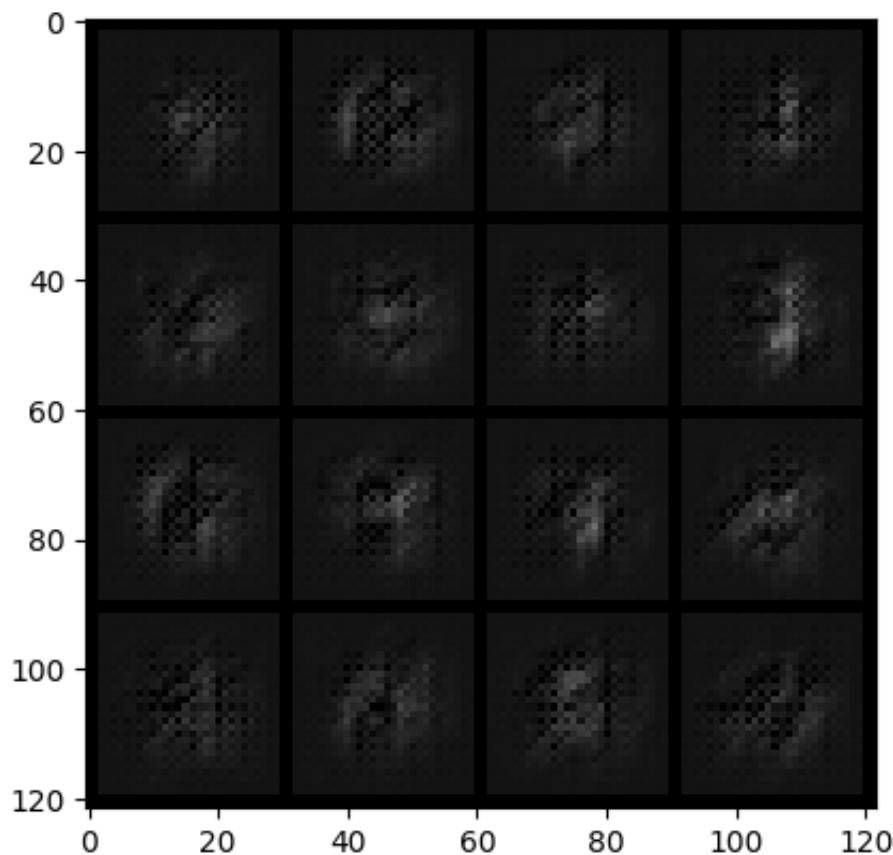


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6898, G_loss: 0.6674

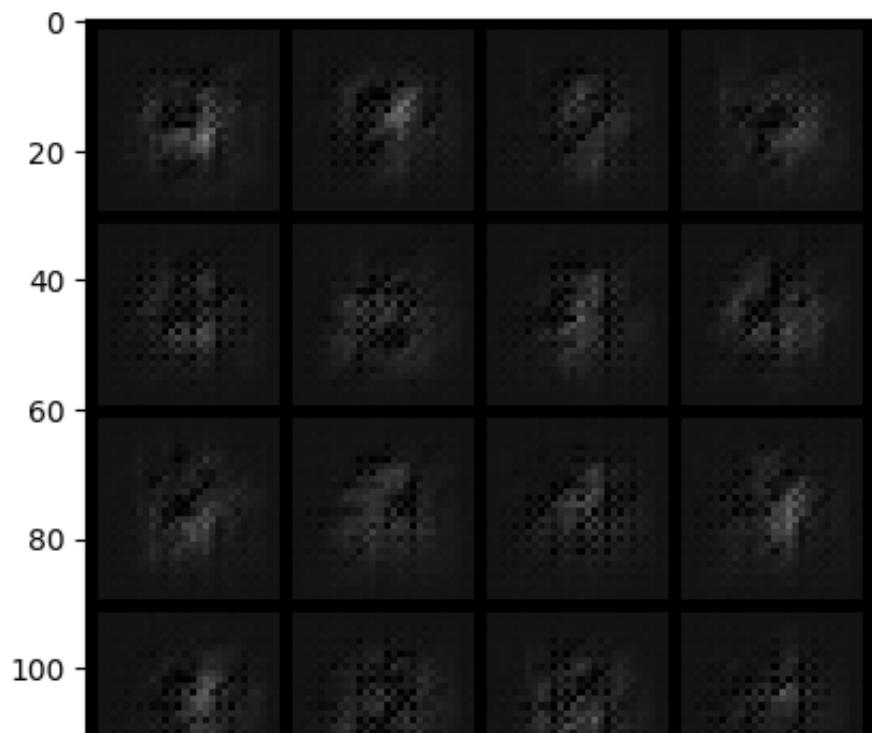




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6898, G_loss: 0.6675

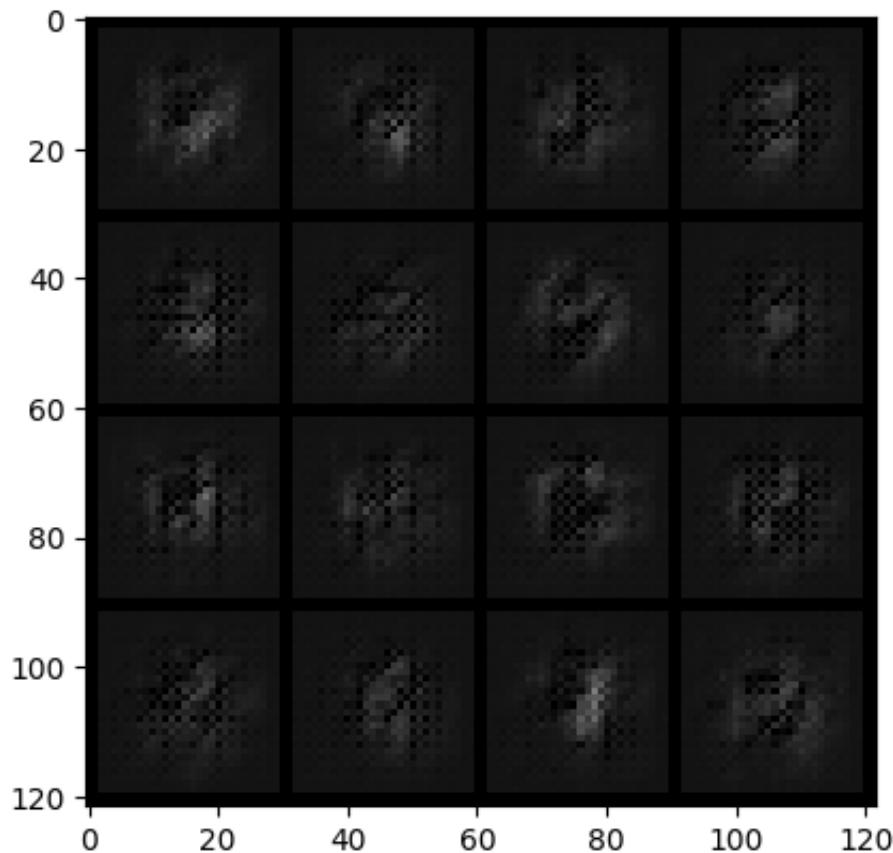


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6897, G_loss: 0.6677

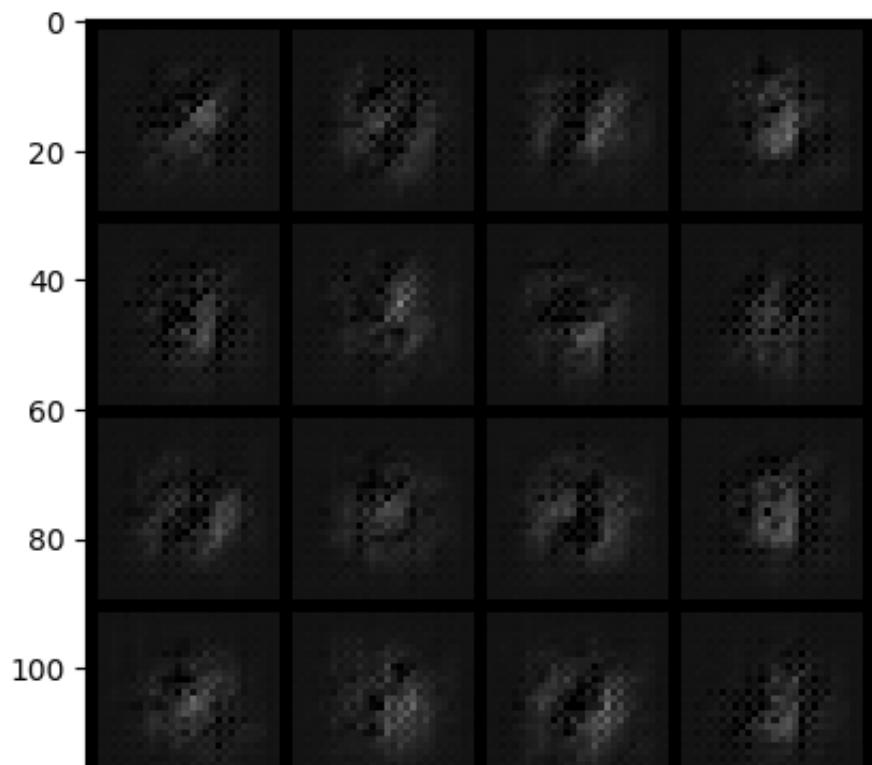


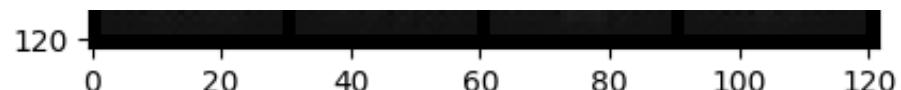


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6897, G_loss: 0.6678



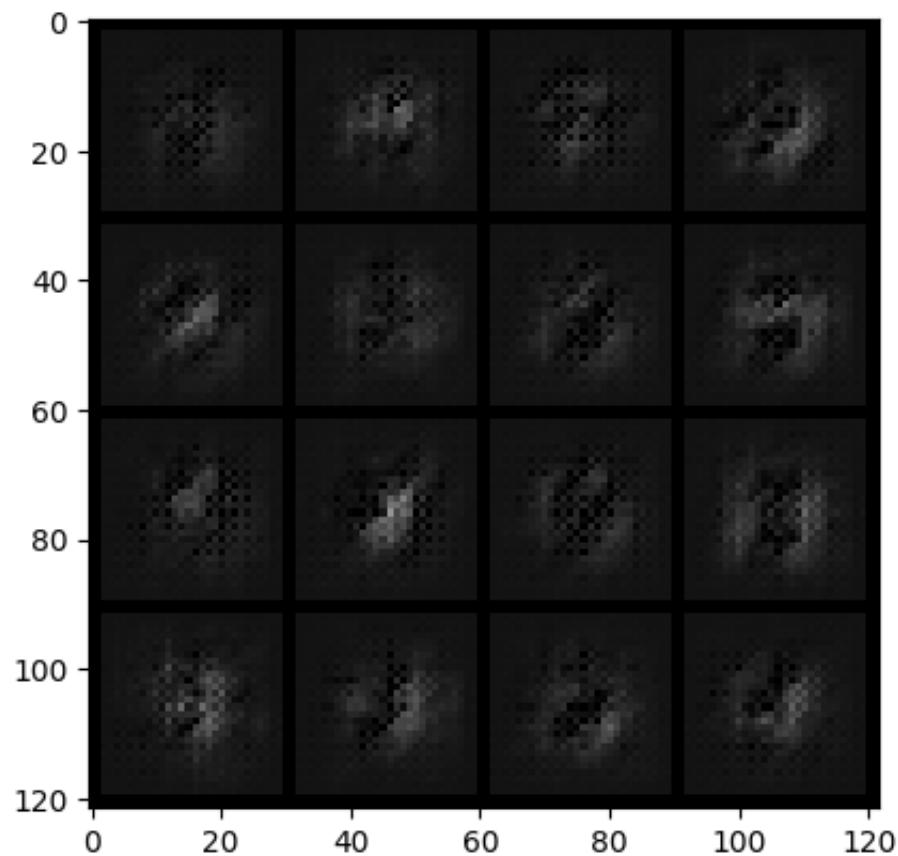
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6896, G_loss: 0.6679





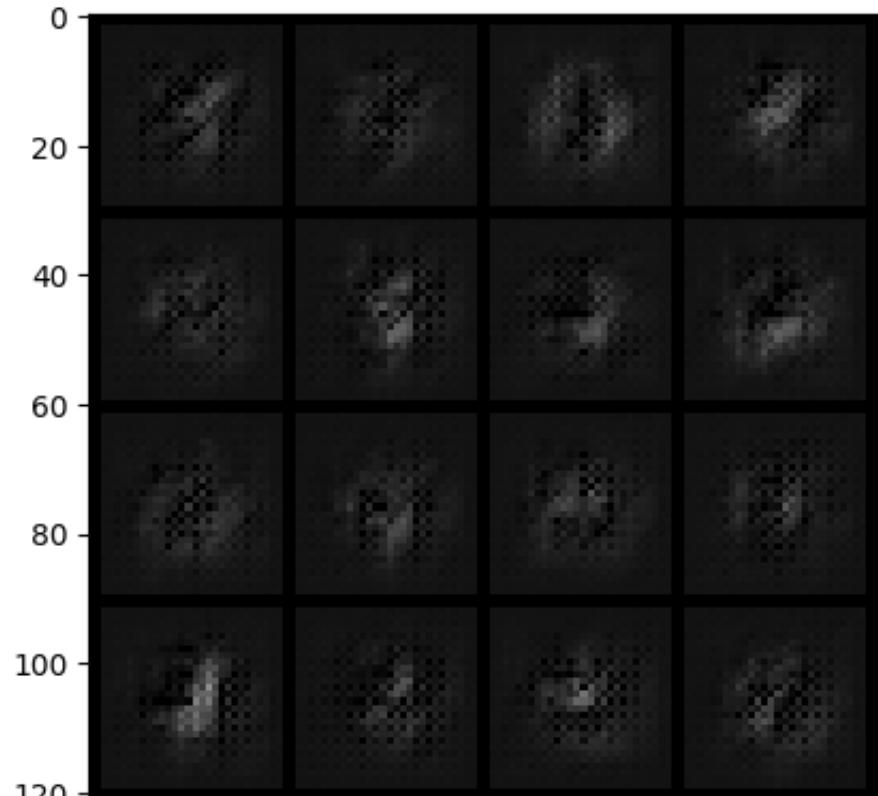
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clip'.

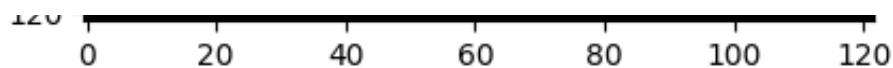
D_loss: 0.6896, G_loss: 0.6680



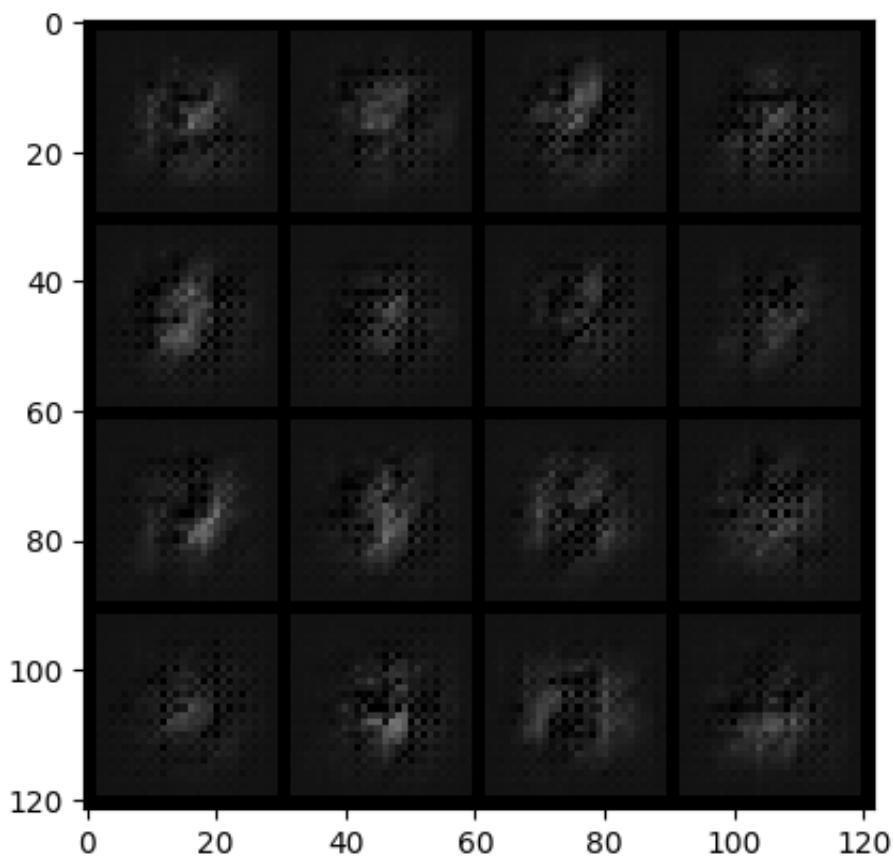
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clip'.

D_loss: 0.6895, G_loss: 0.6681

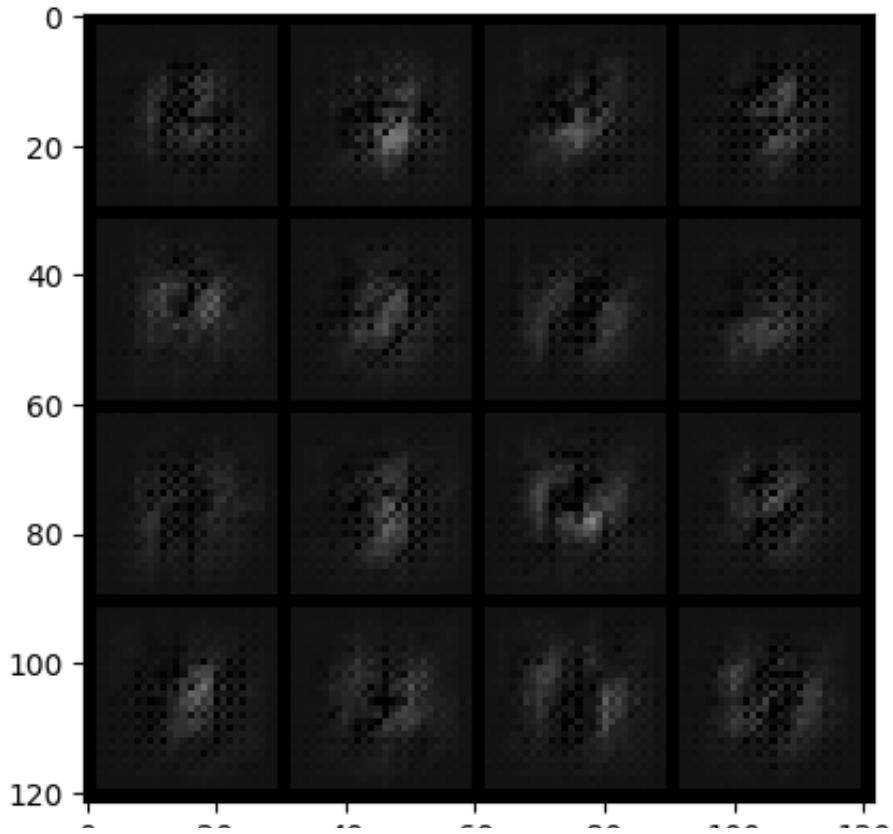




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6895, G_loss: 0.6683

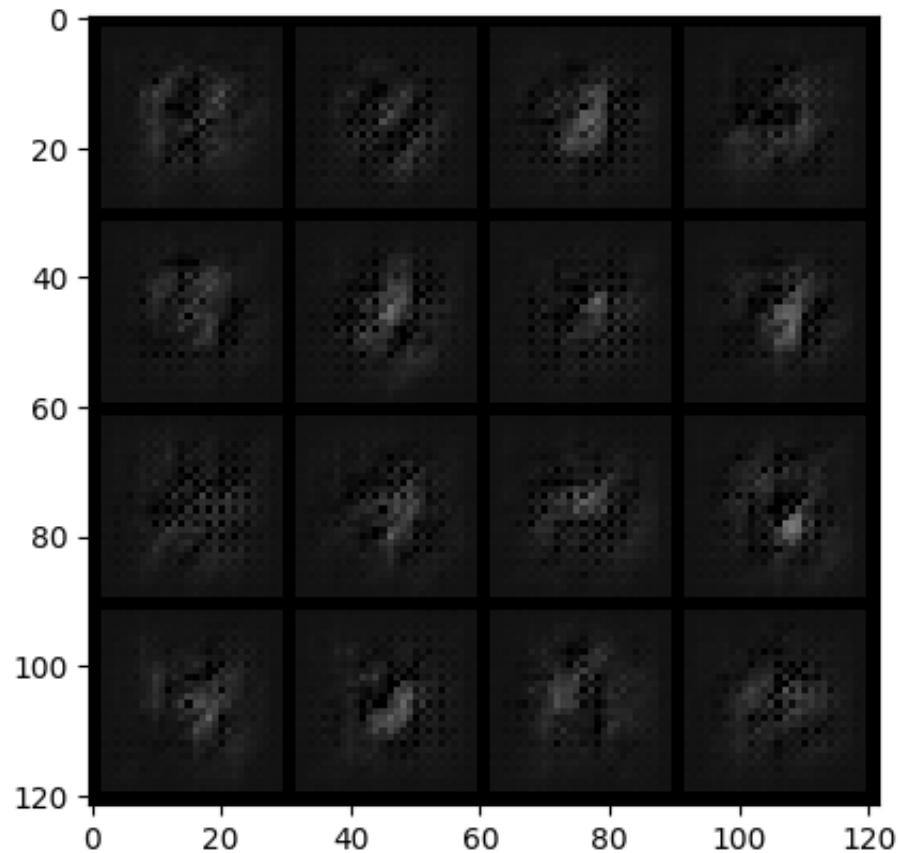


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6894, G_loss: 0.6684

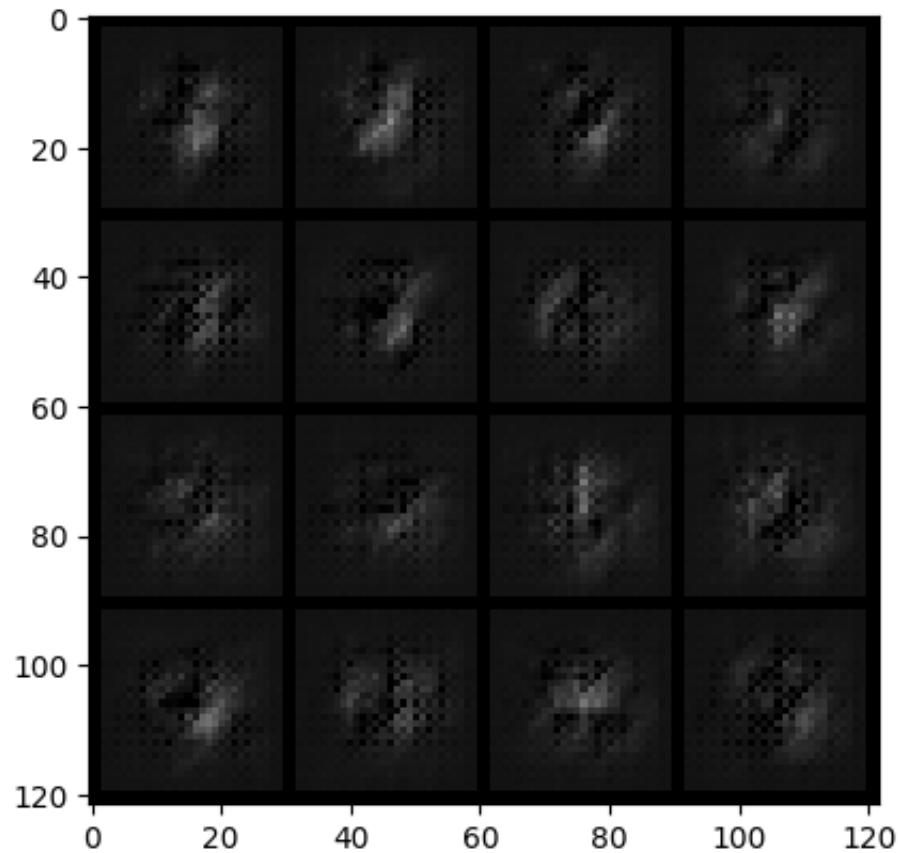


0 20 40 60 80 100 120

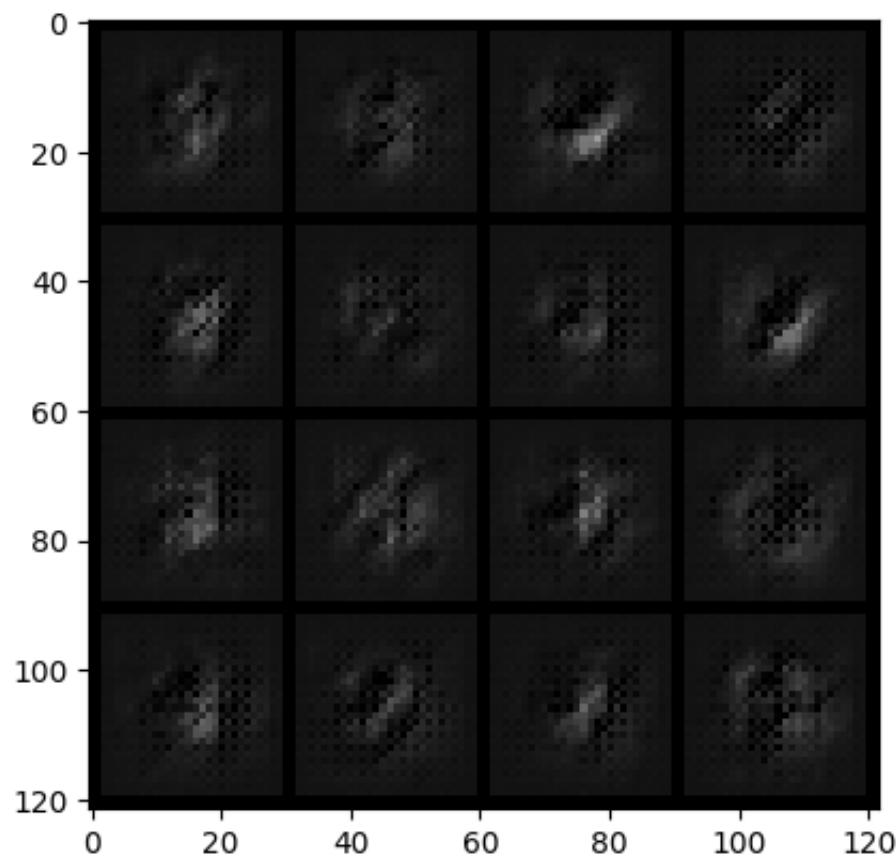
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6894, G_loss: 0.6685



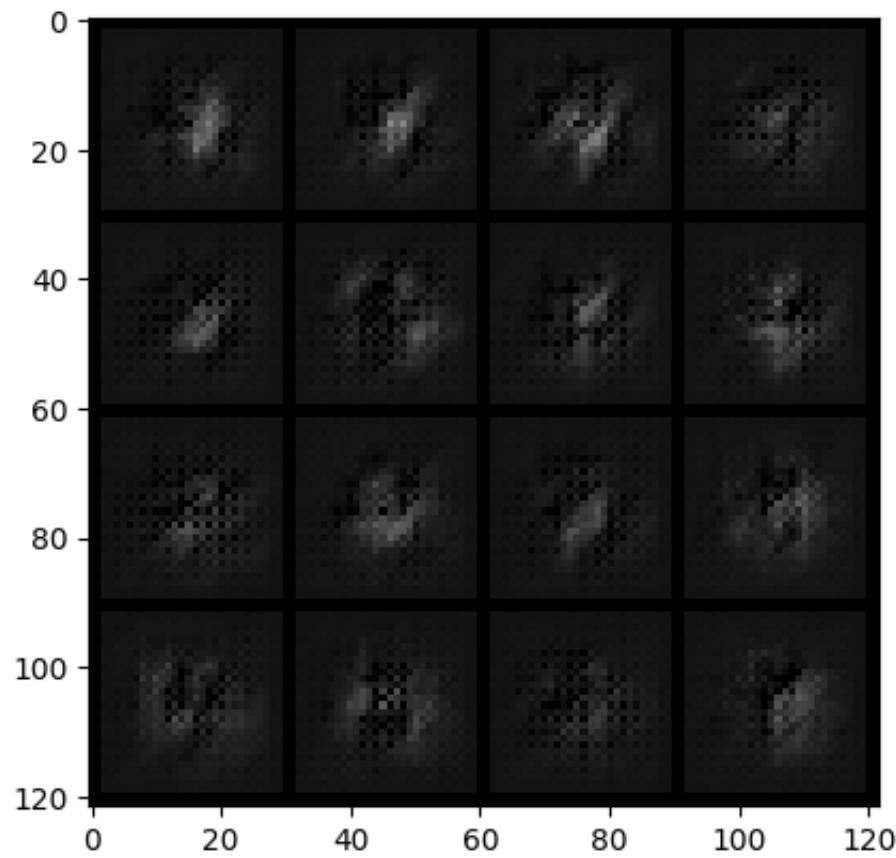
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6893, G_loss: 0.6686



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6893, G_loss: 0.6687

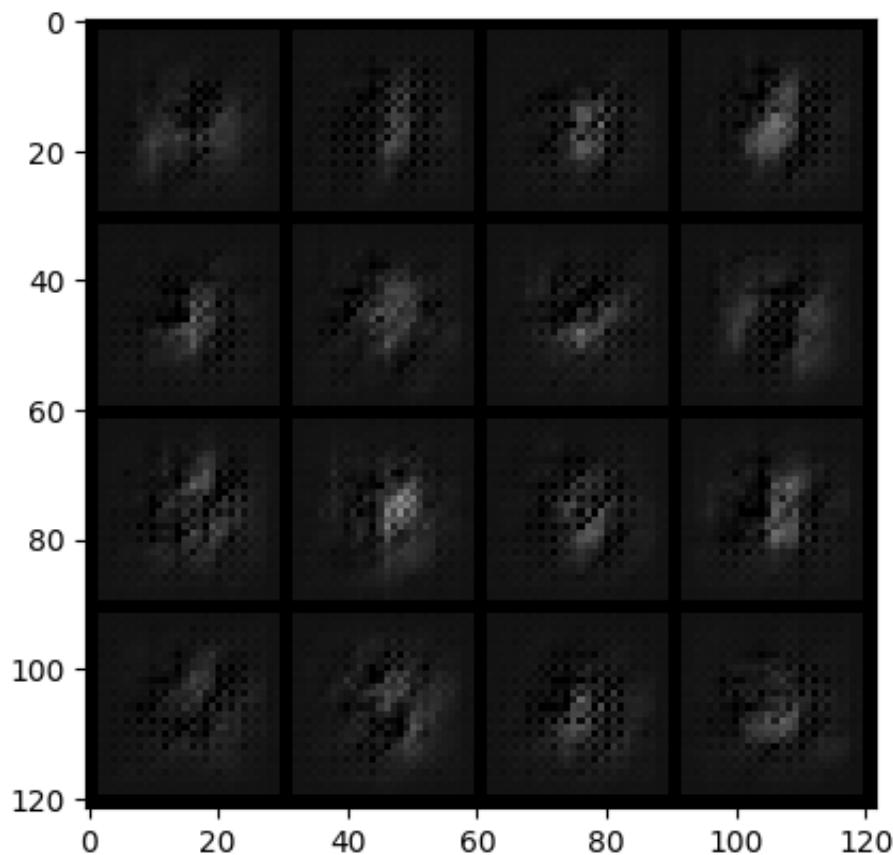


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6892, G_loss: 0.6688

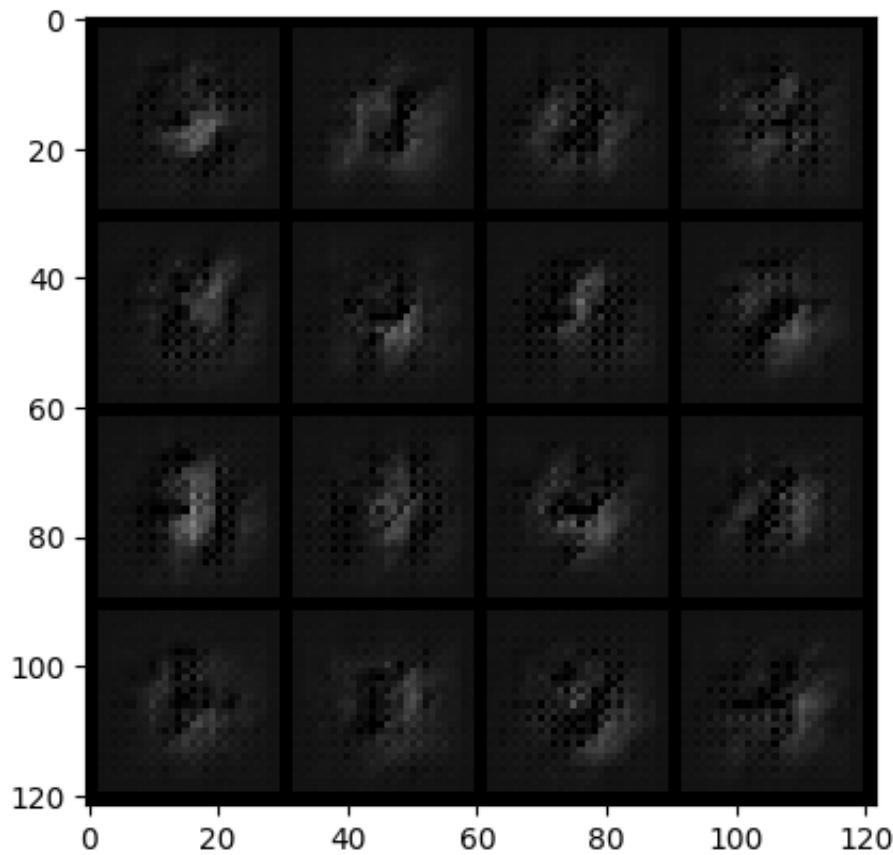


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-1, max=0.6690

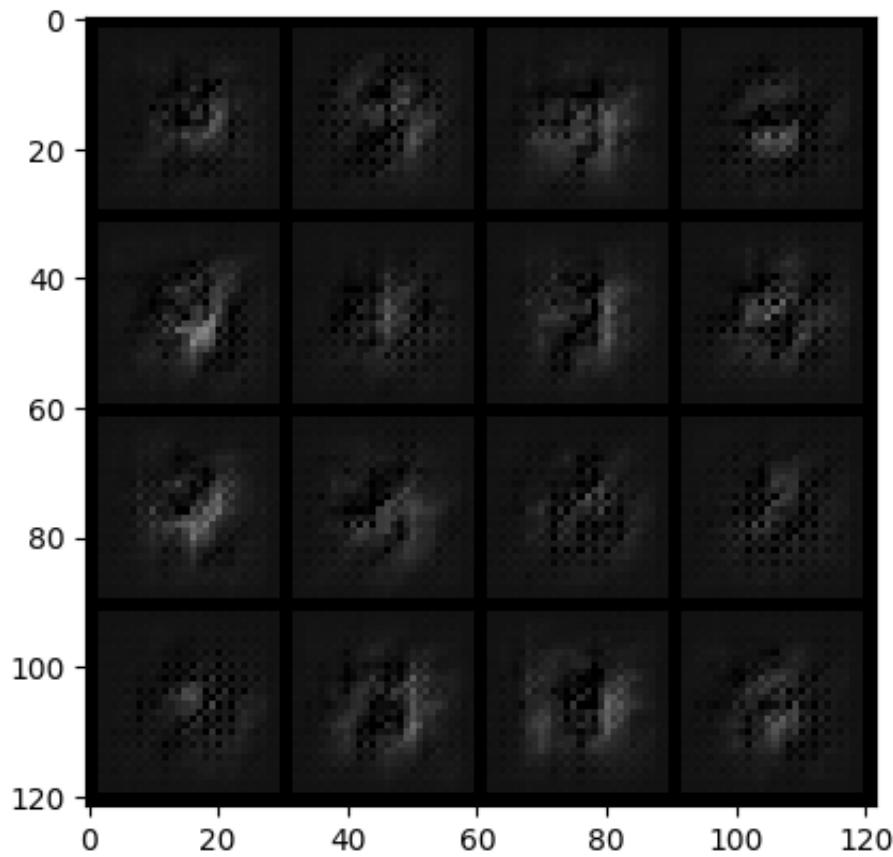


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-1, max=0.6691

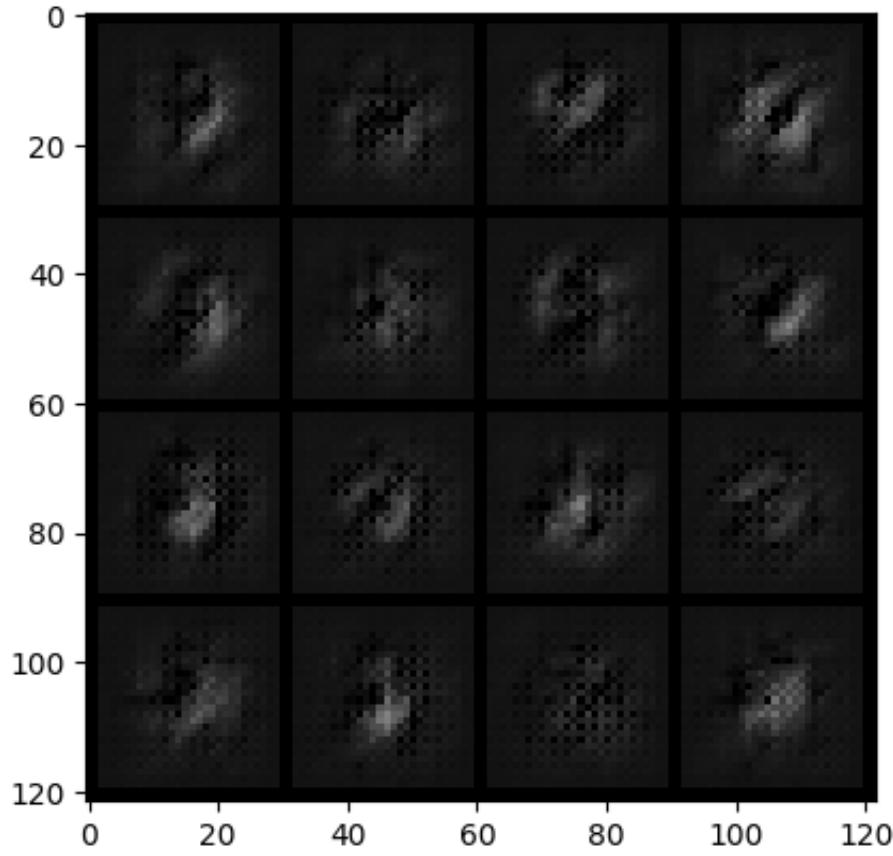


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-1, max=0.6692

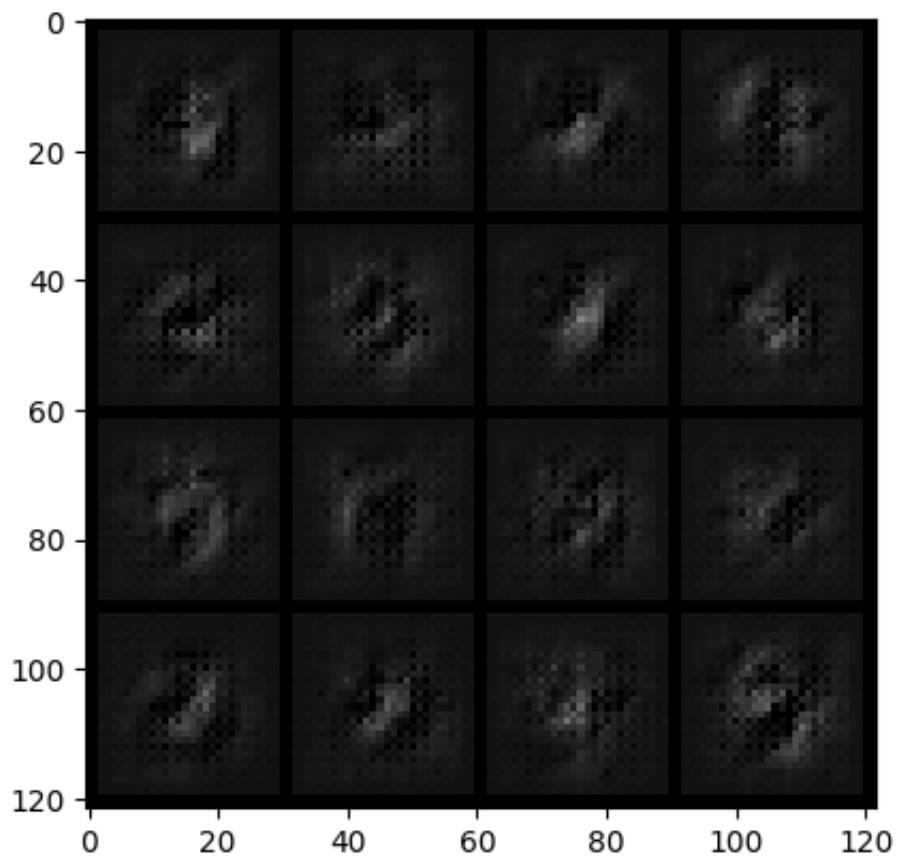
D_LOSS: 0.6891, G_LOSS: 0.6692



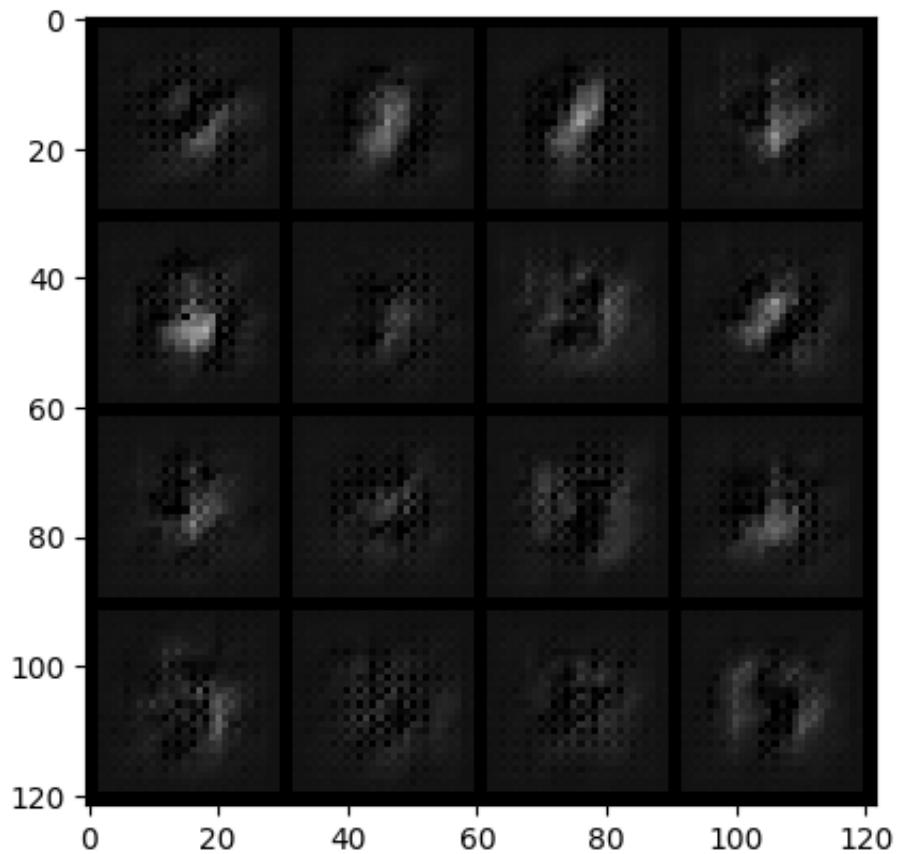
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6890, G_loss: 0.6693



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6890, G_loss: 0.6694

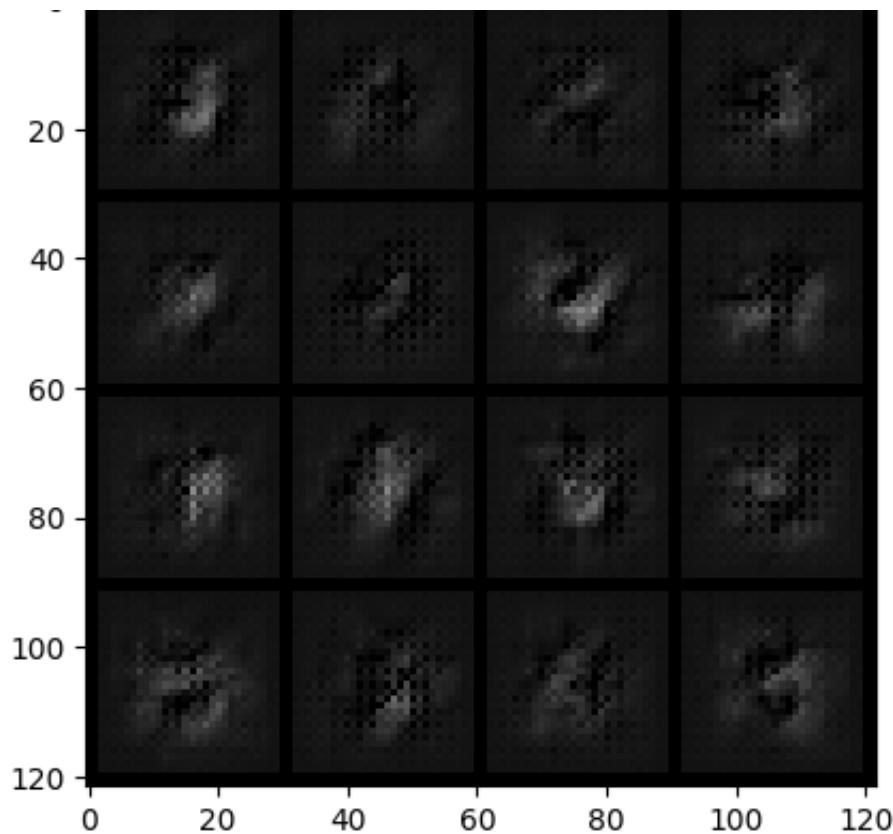


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6890, G_loss: 0.6695

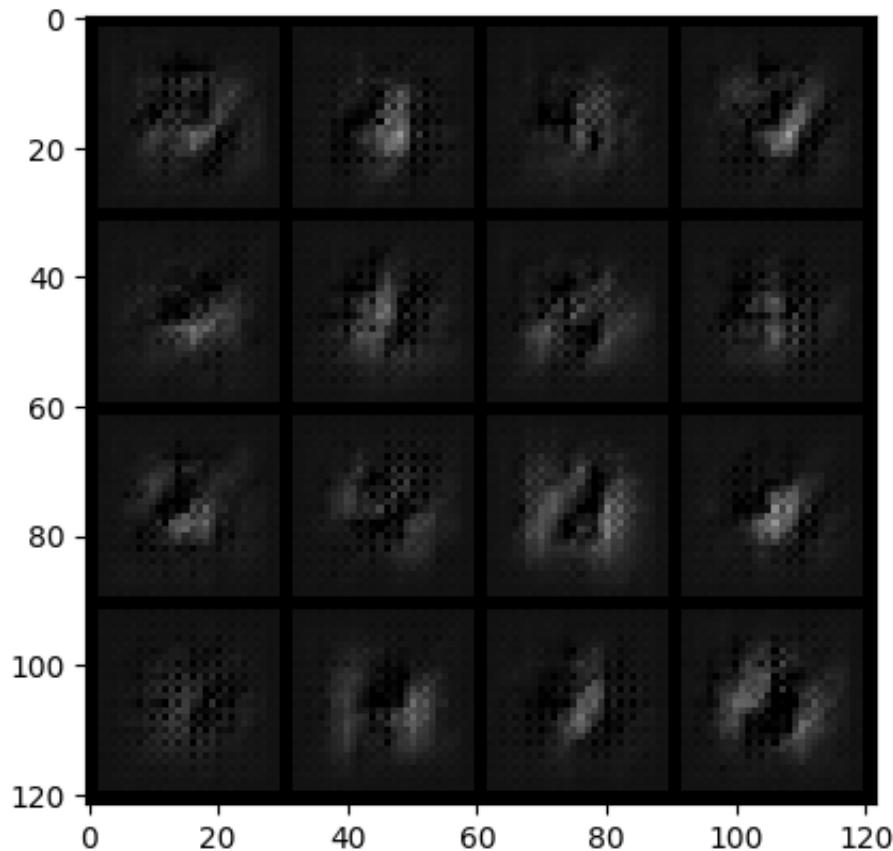


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6889, G_loss: 0.6697

0 ——————

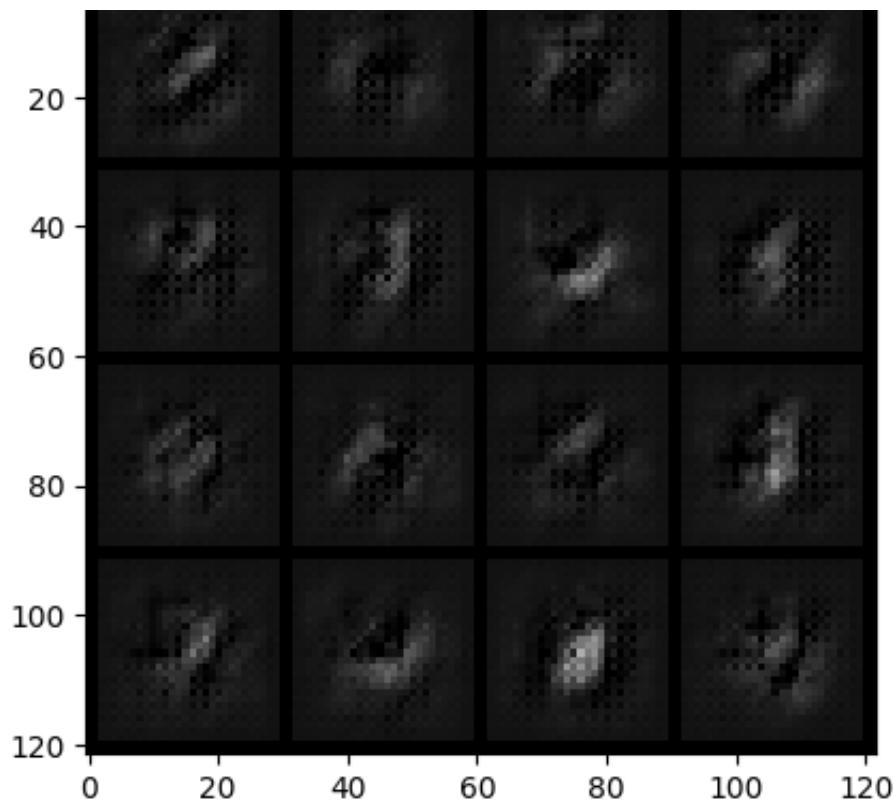


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6889, G_loss: 0.6698

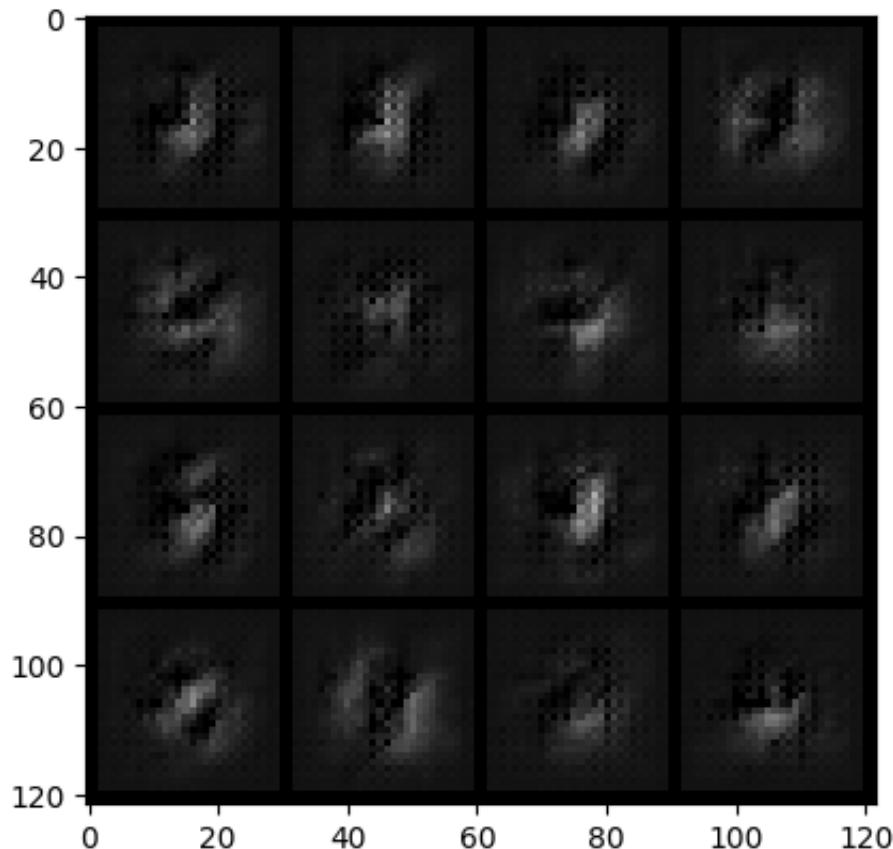


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6888, G_loss: 0.6699



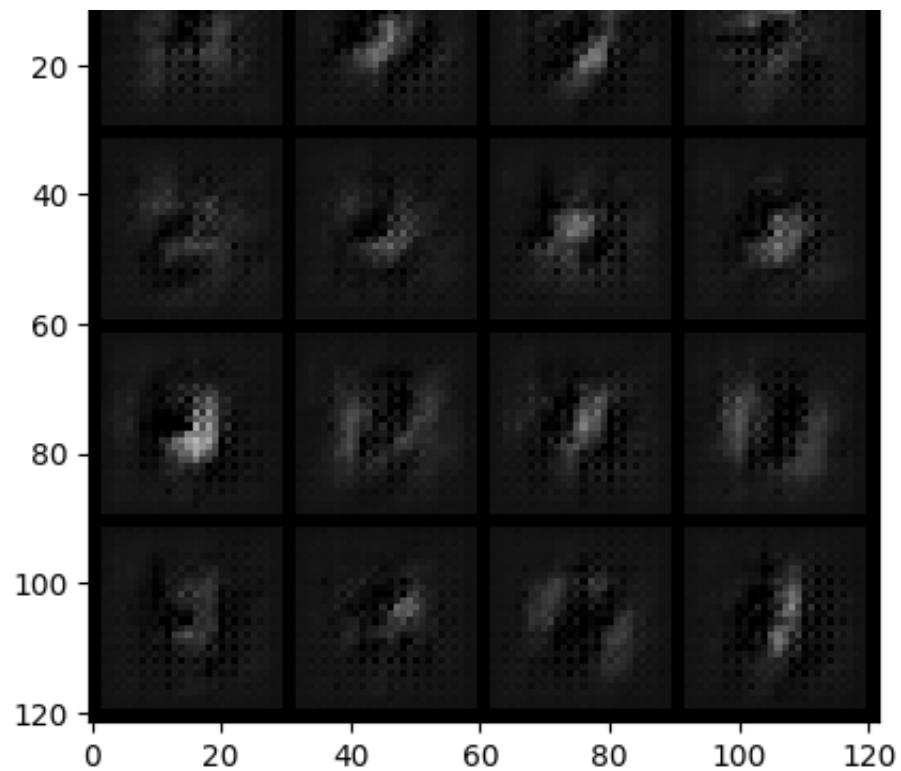


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6888, G_loss: 0.6700

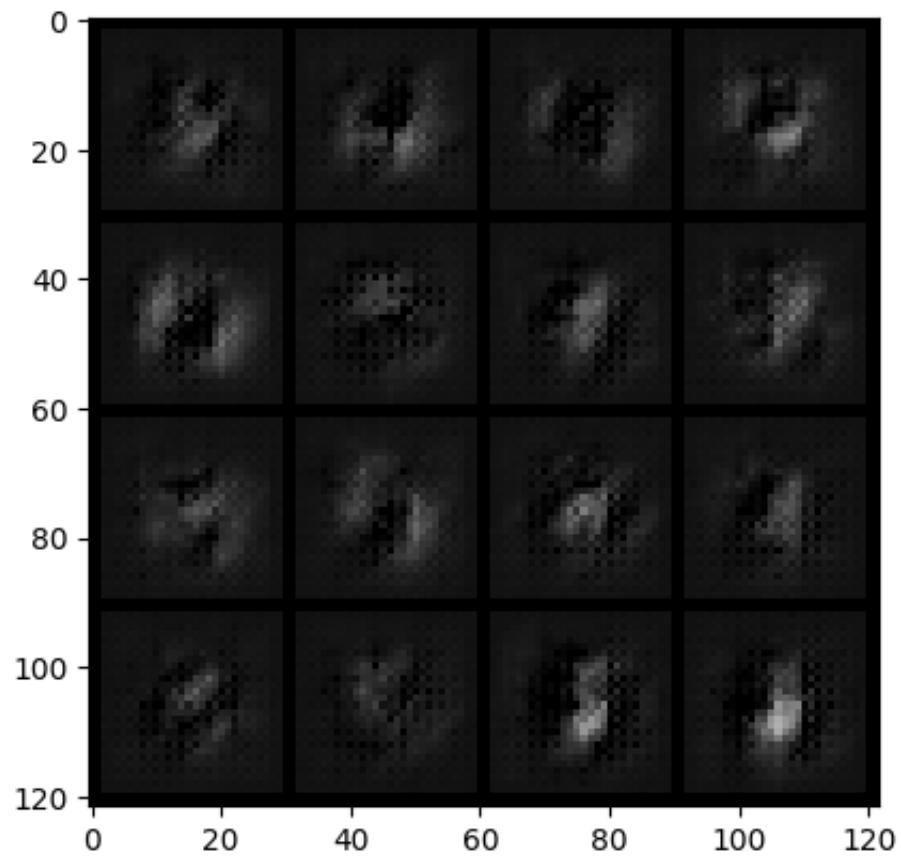


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6887, G_loss: 0.6701



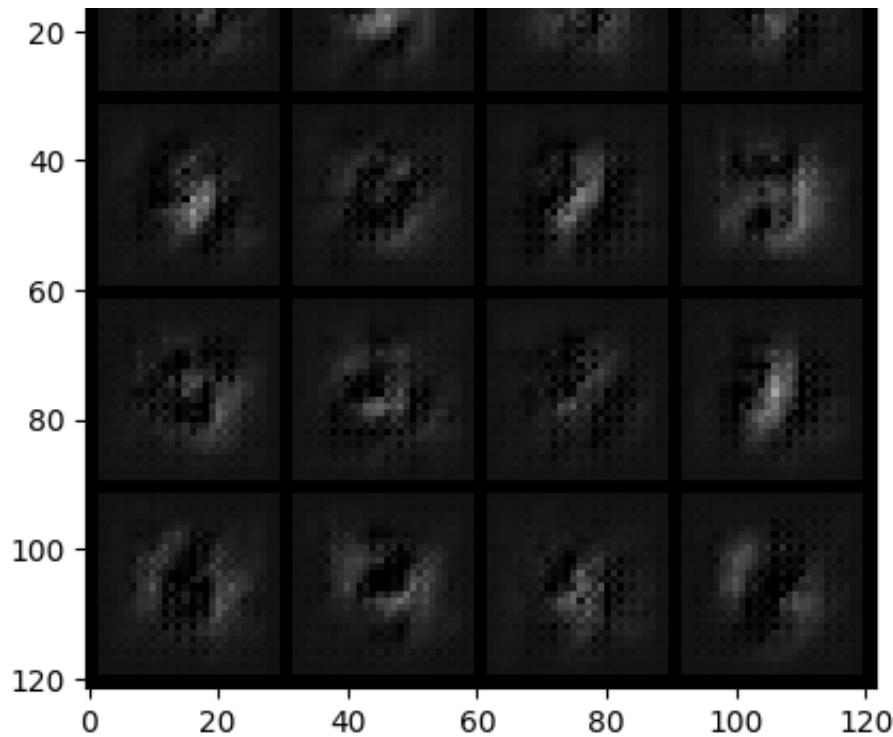


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6887, G_loss: 0.6702

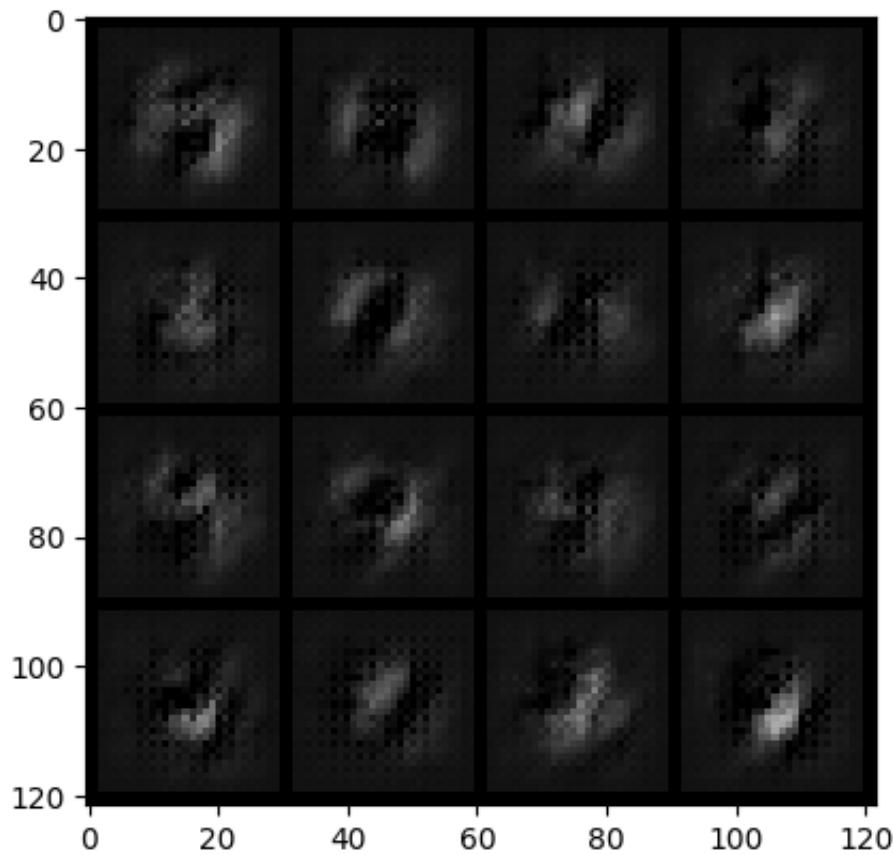


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6886, G_loss: 0.6704

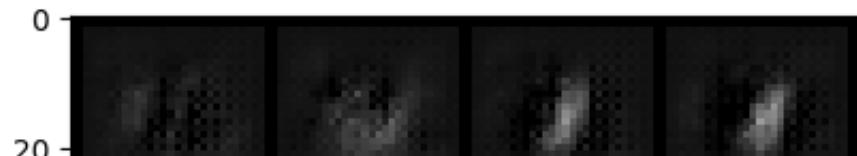


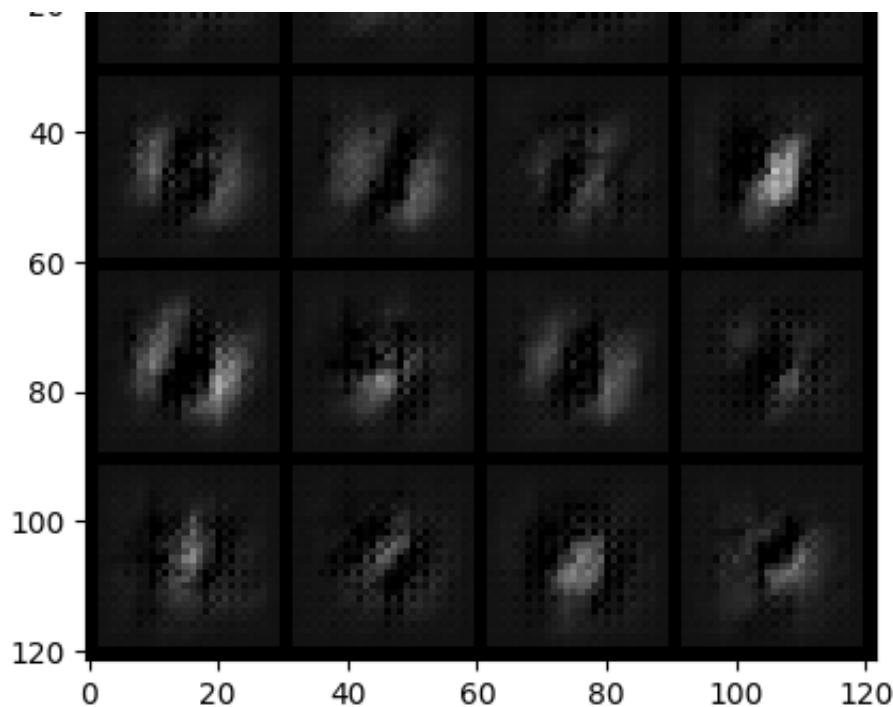


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6886, G_loss: 0.6705

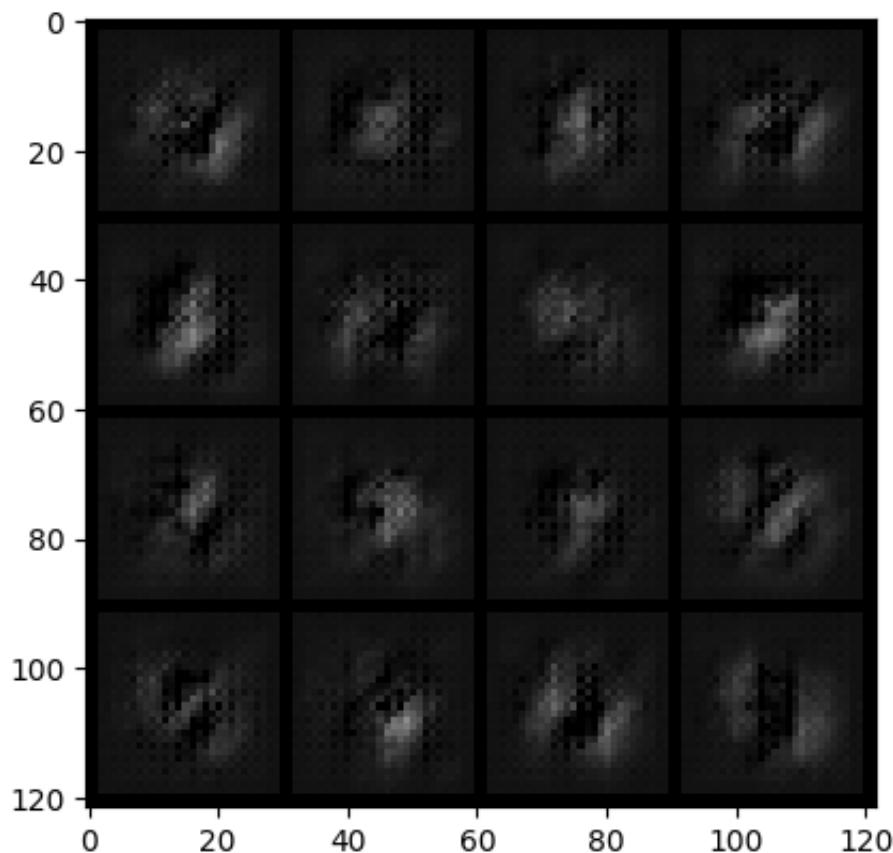


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6885, G_loss: 0.6706



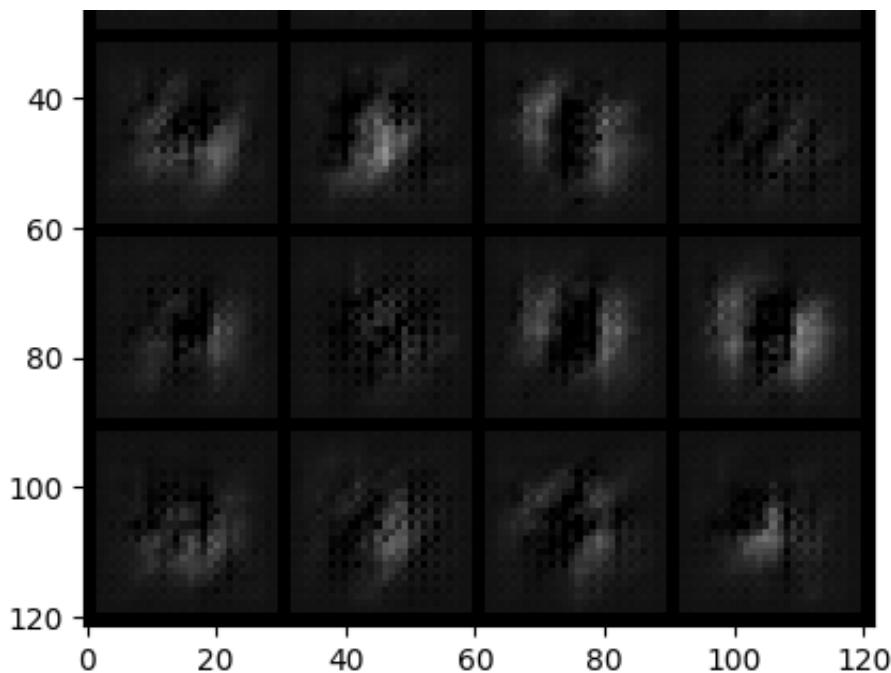


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6885, G_loss: 0.6707

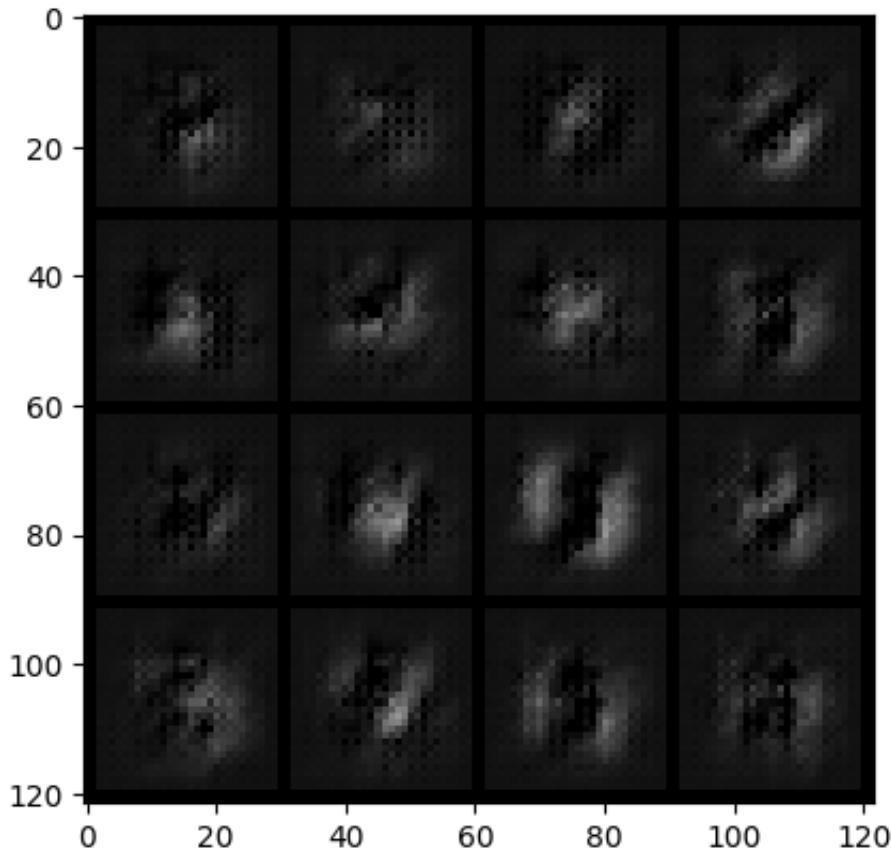


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6884, G_loss: 0.6708

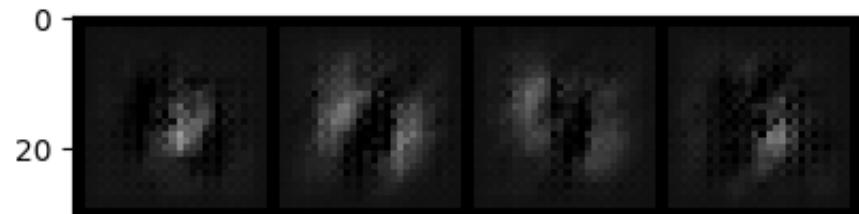


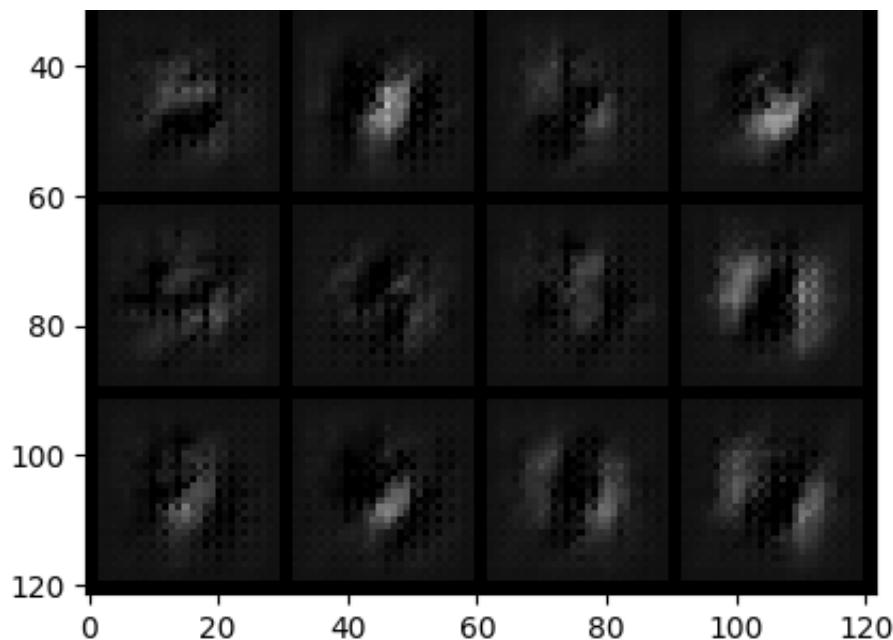


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6884, G_loss: 0.6709

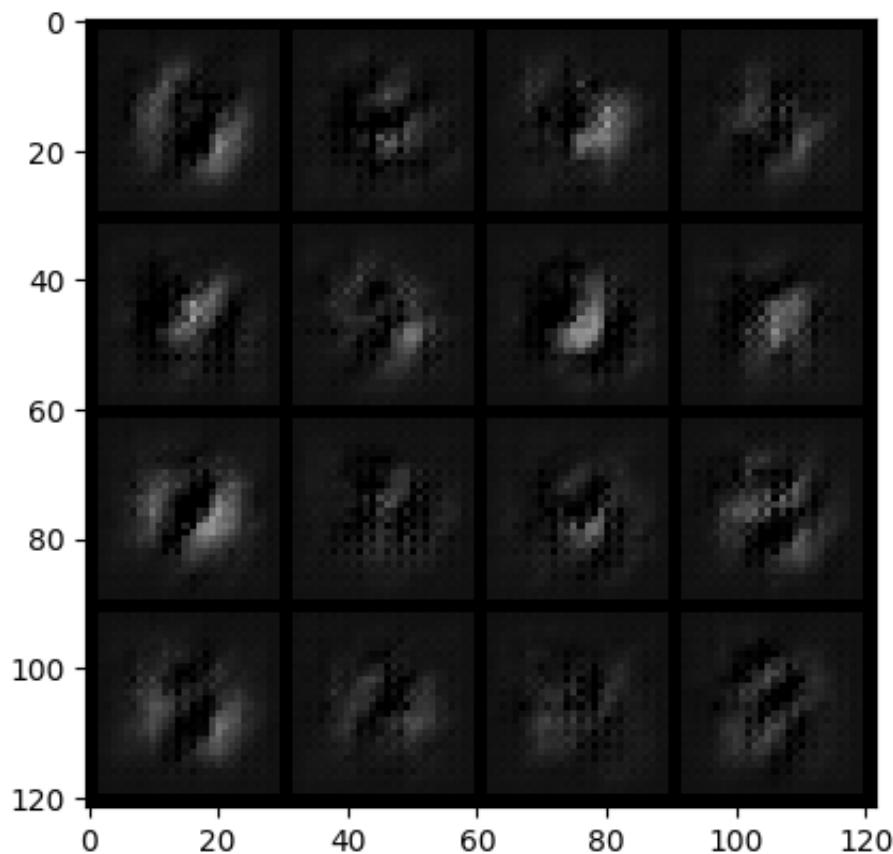


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6883, G_loss: 0.6710

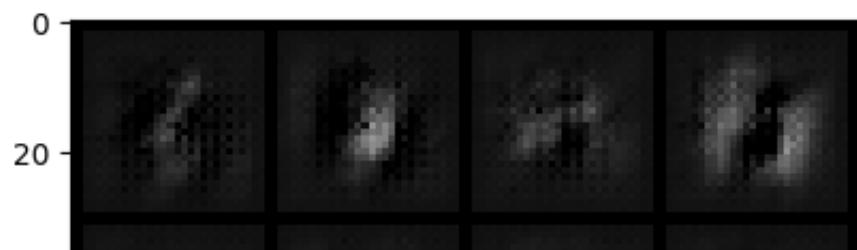


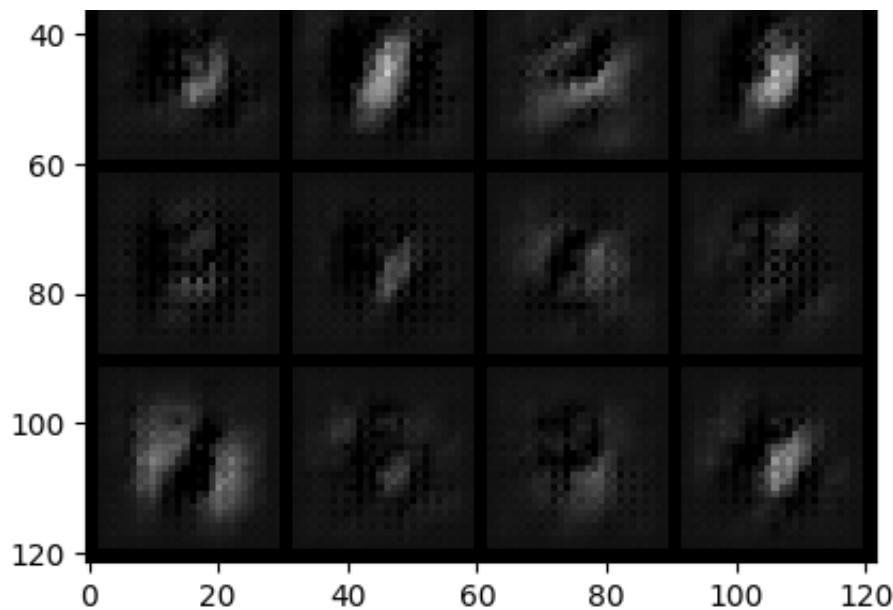


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6883, G_loss: 0.6712

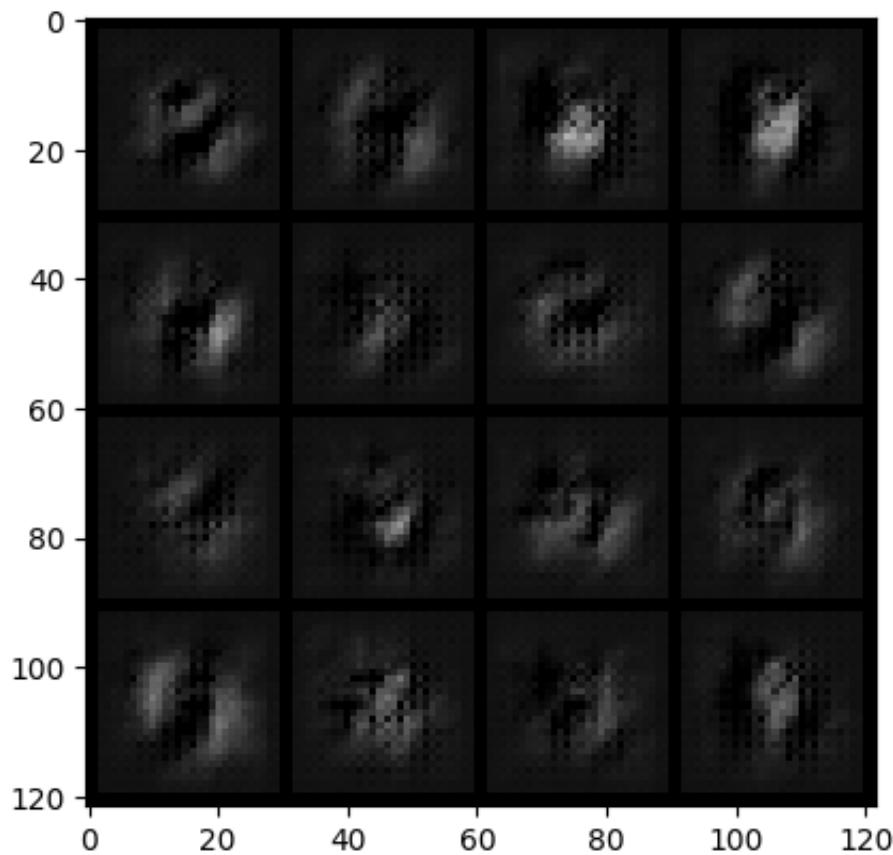


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6883, G_loss: 0.6713

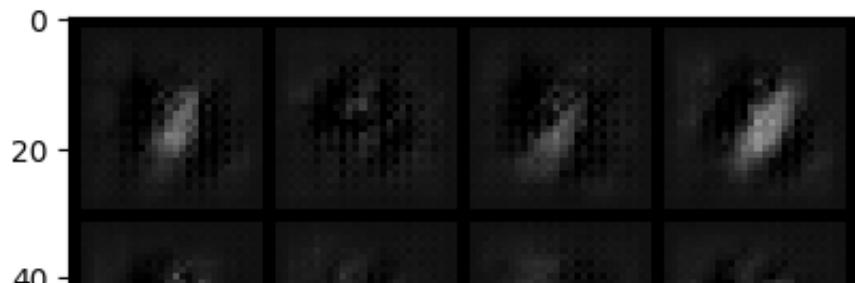


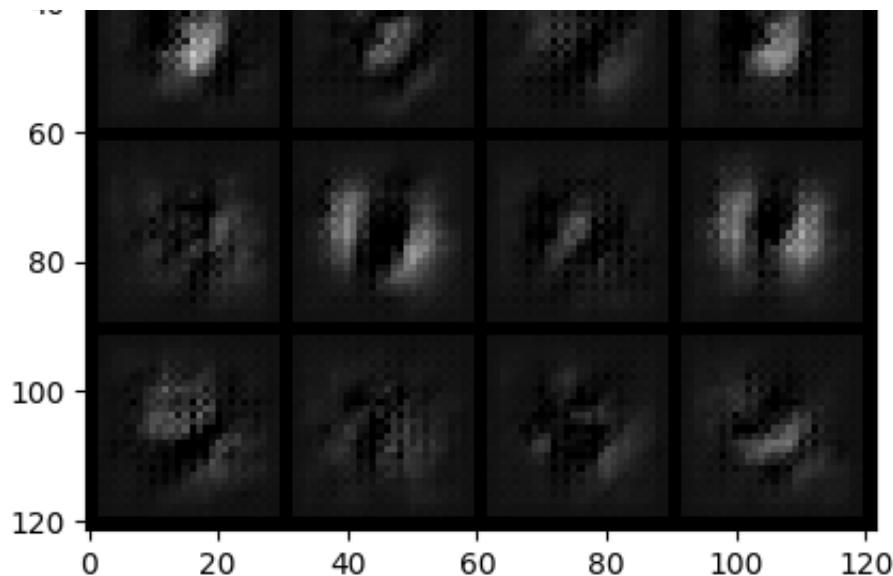


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6882, G_loss: 0.6714

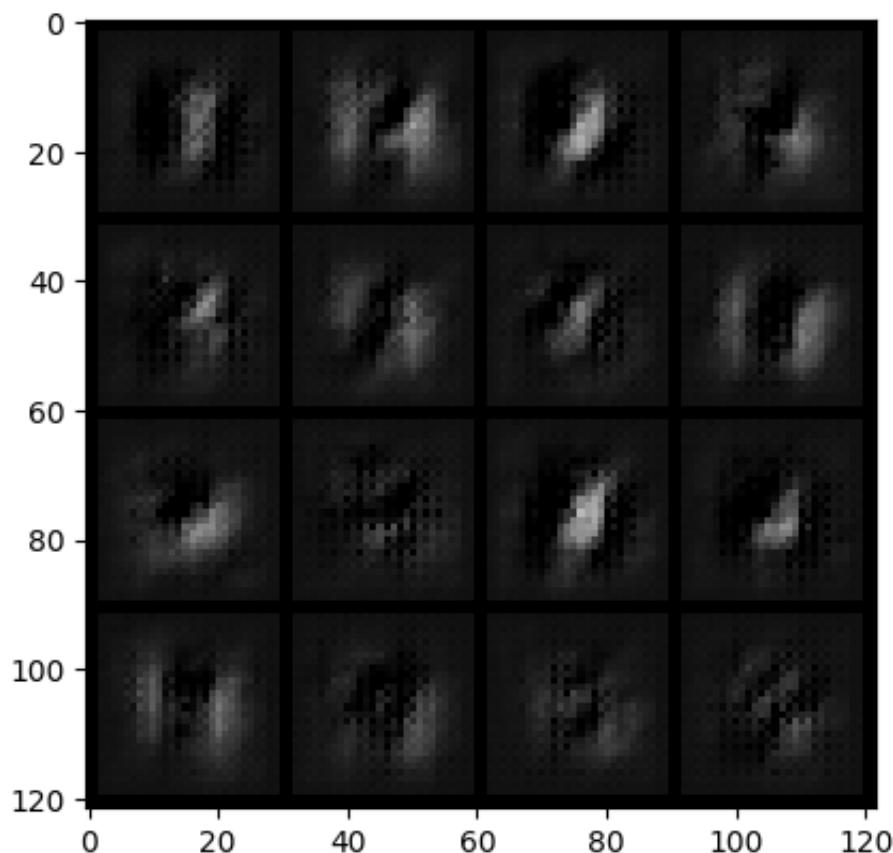


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6882, G_loss: 0.6715

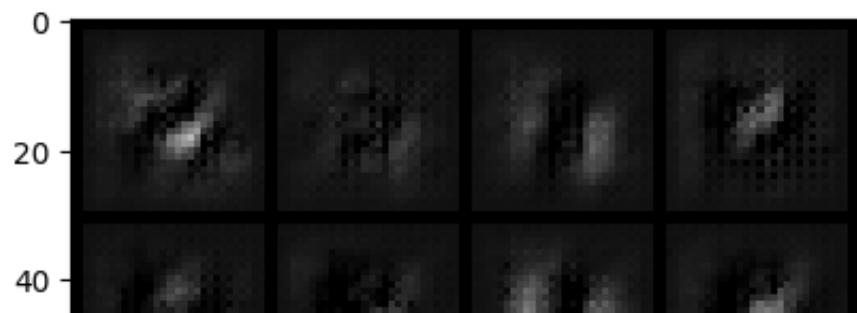


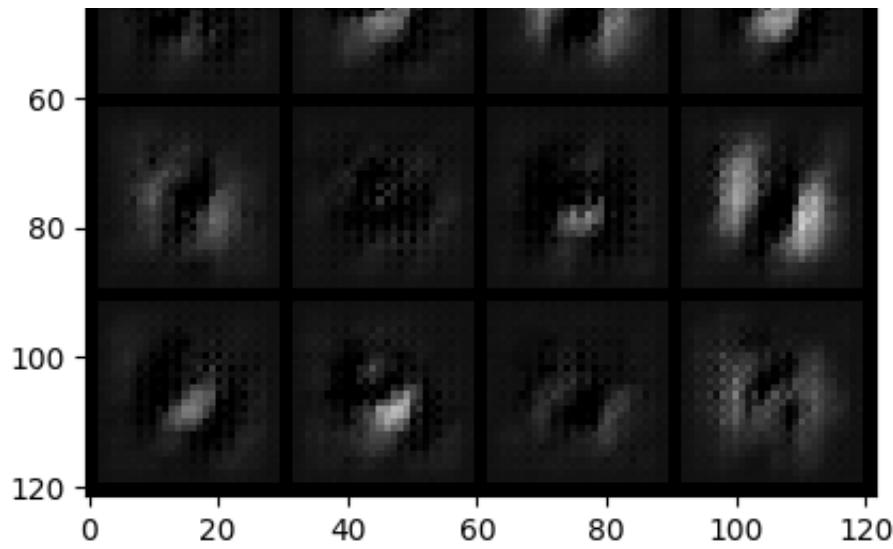


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6881, G_loss: 0.6716

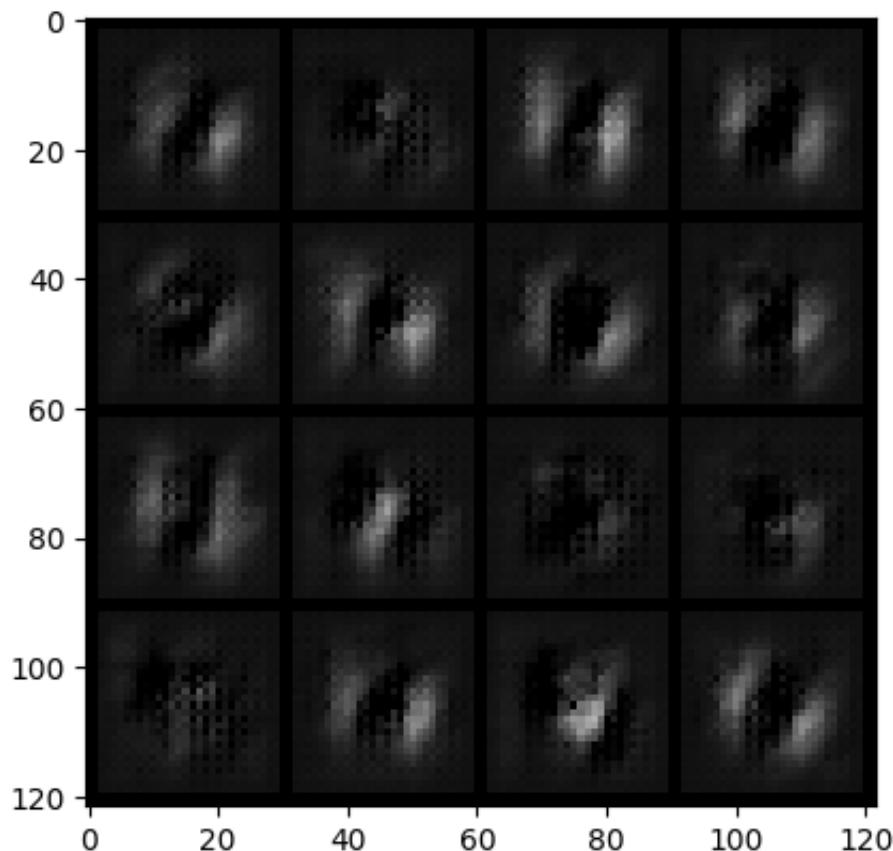


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6881, G_loss: 0.6717

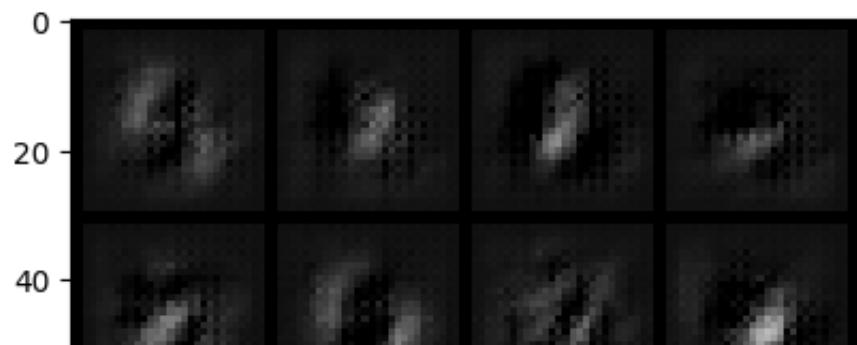


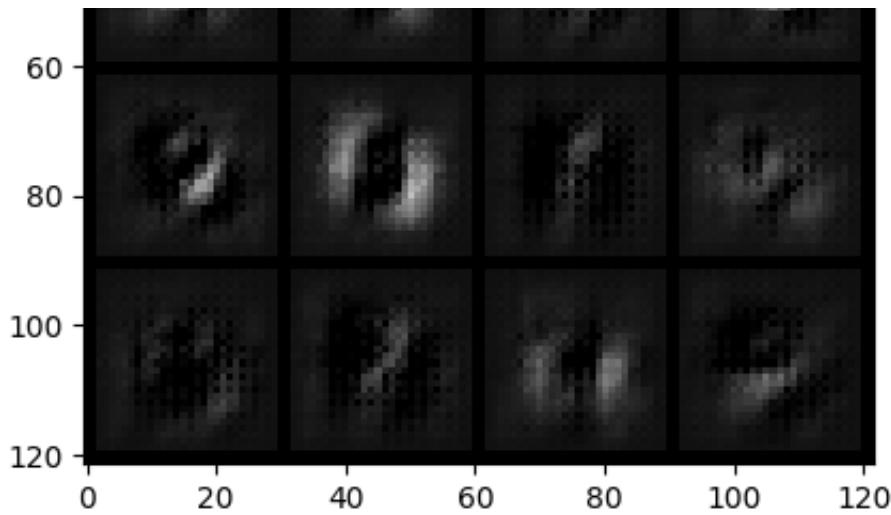


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6880, G_loss: 0.6718

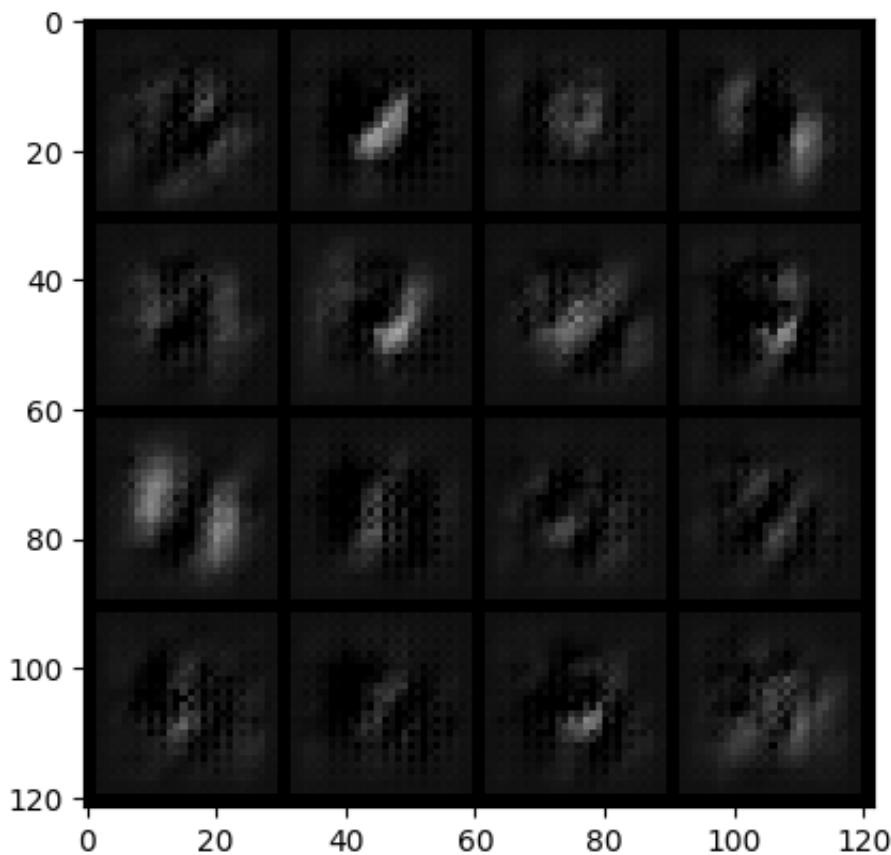


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6880, G_loss: 0.6719

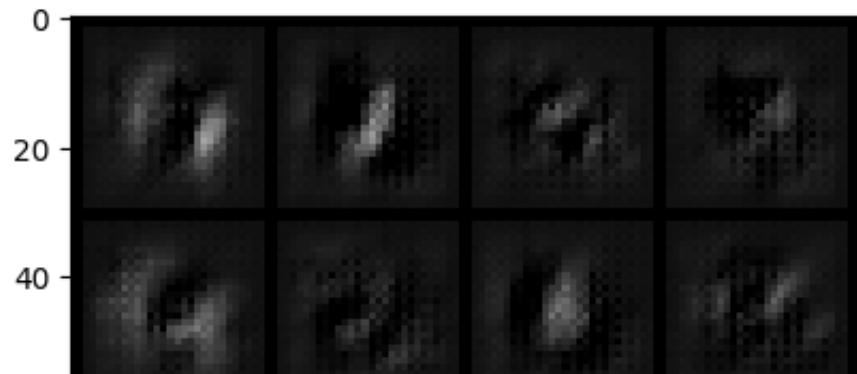


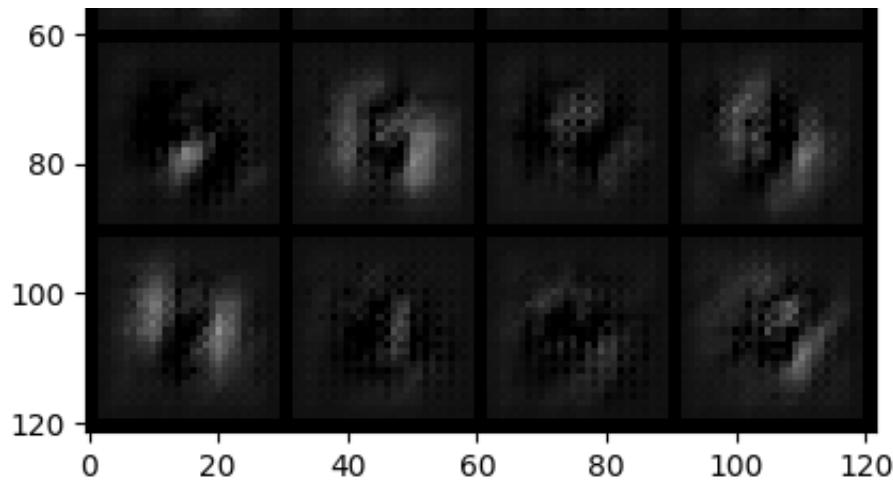


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6879, G_loss: 0.6721

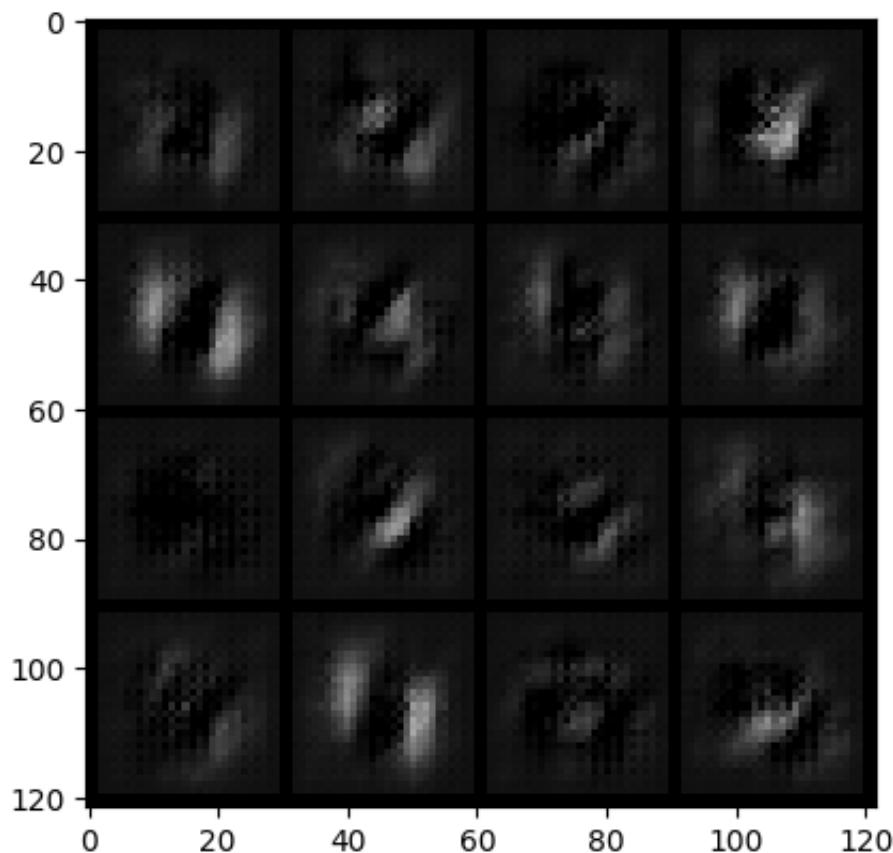


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6879, G_loss: 0.6722

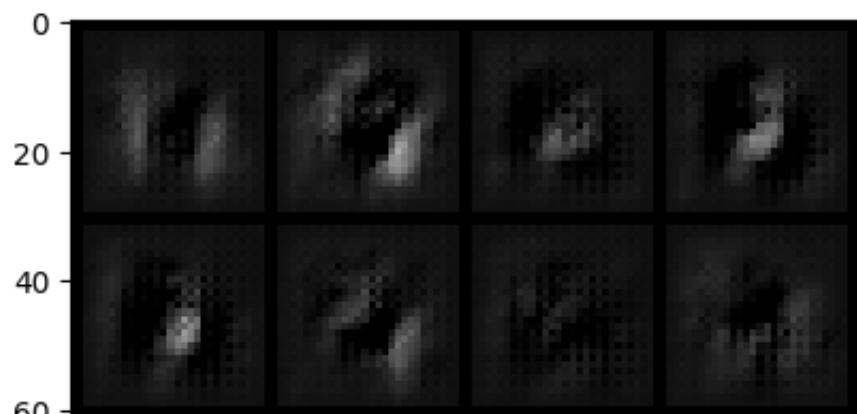


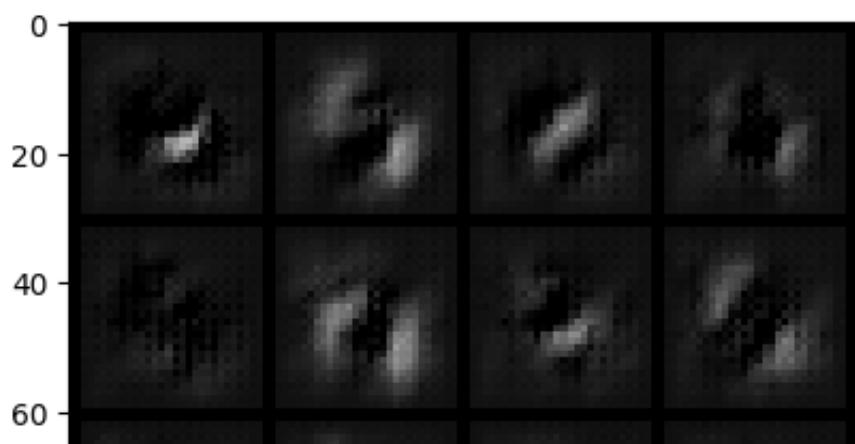
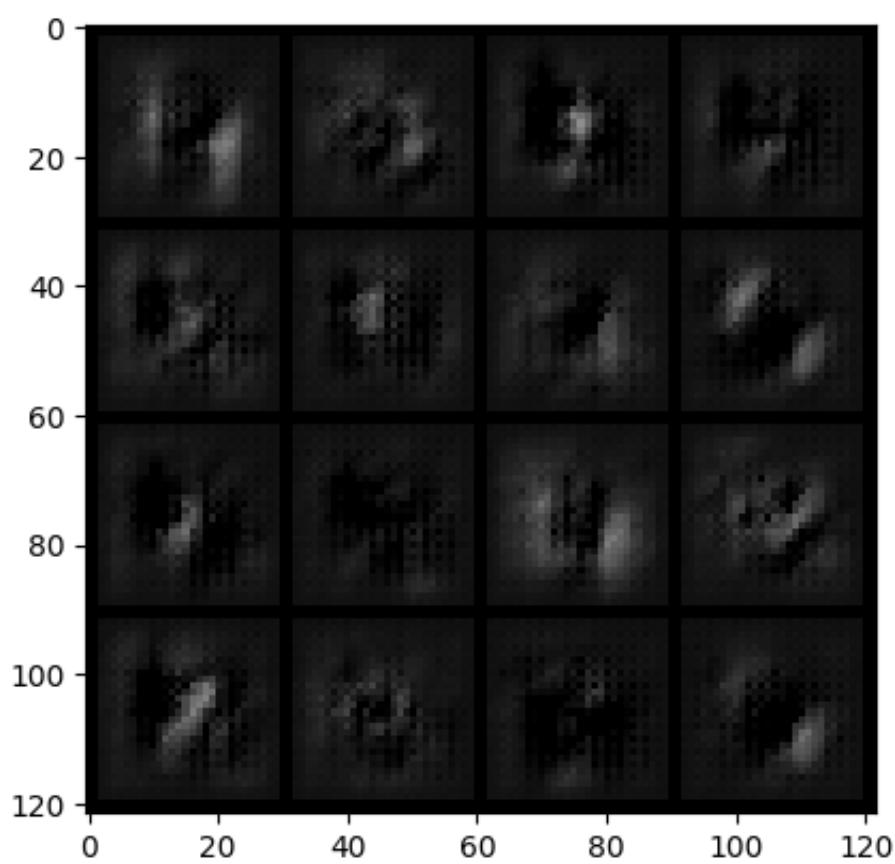
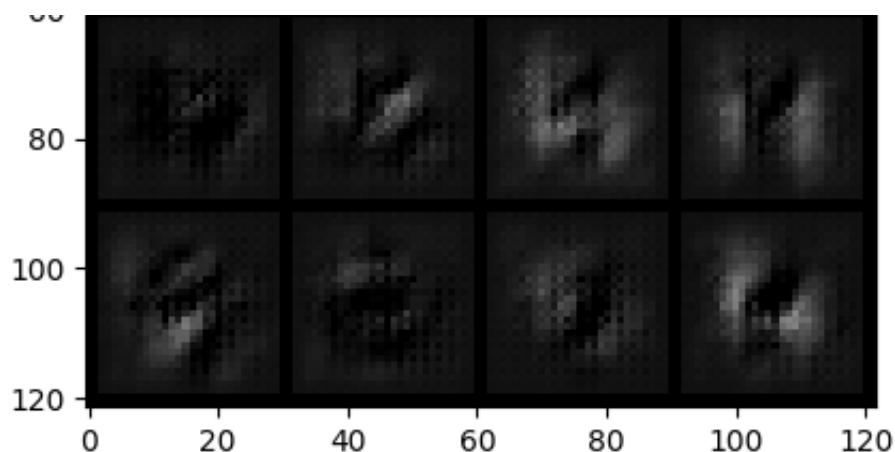


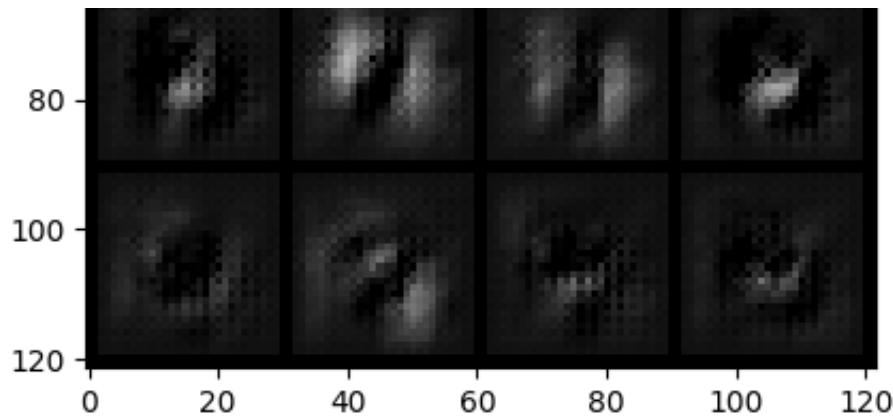
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6879, G_loss: 0.6723



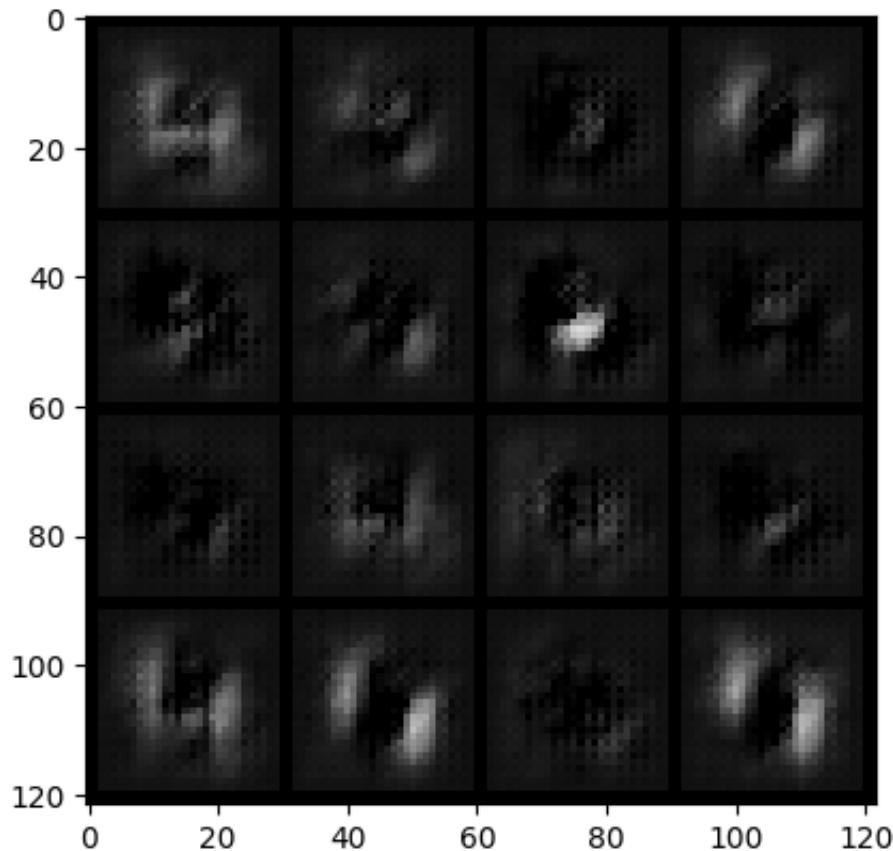
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6878, G_loss: 0.6724



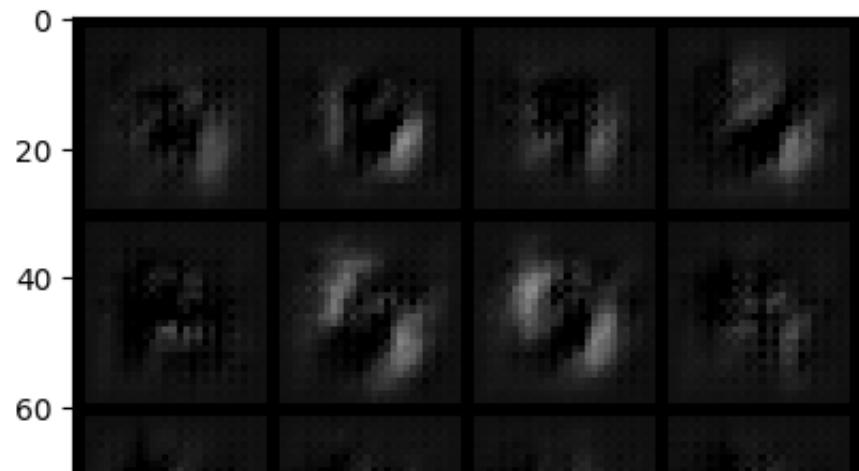


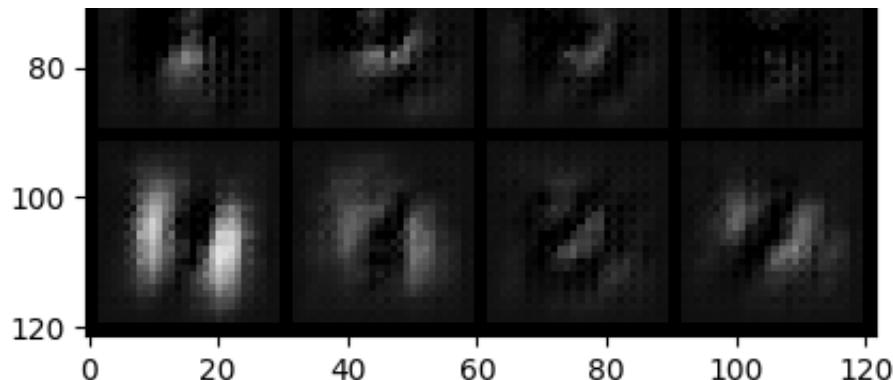


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6877, G_loss: 0.6727

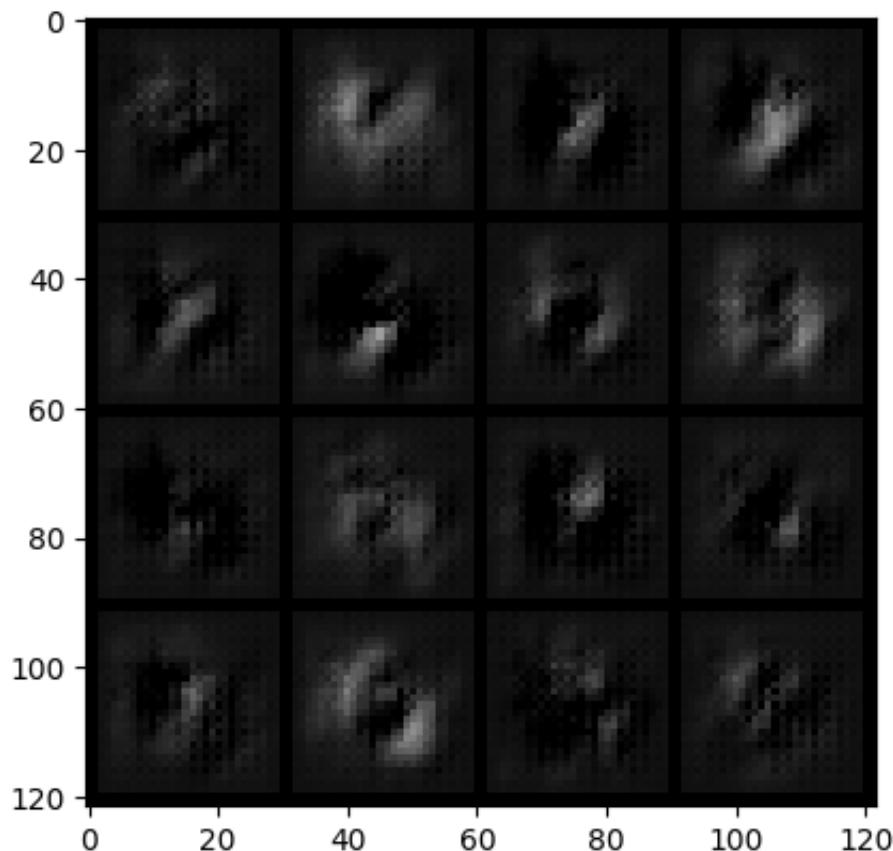


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6876, G_loss: 0.6728

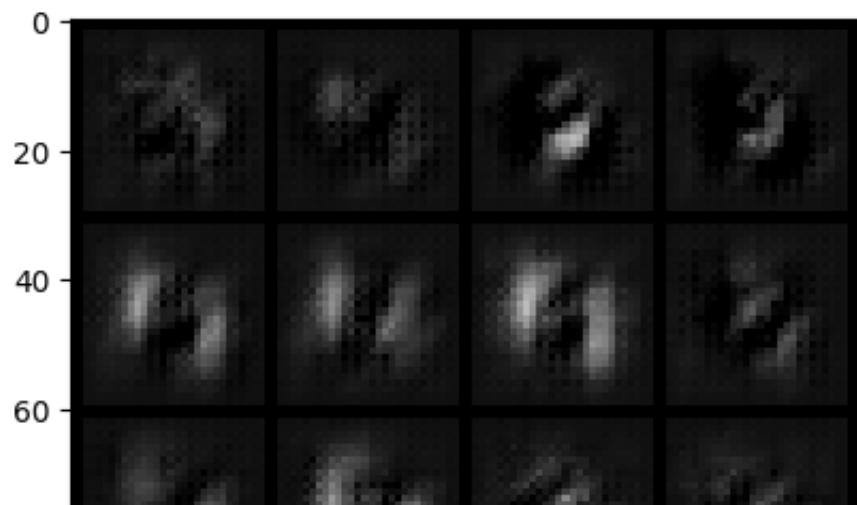


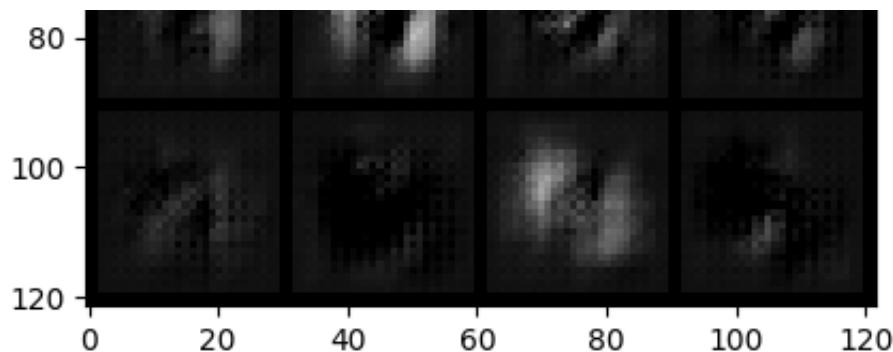


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6876, G_loss: 0.6729

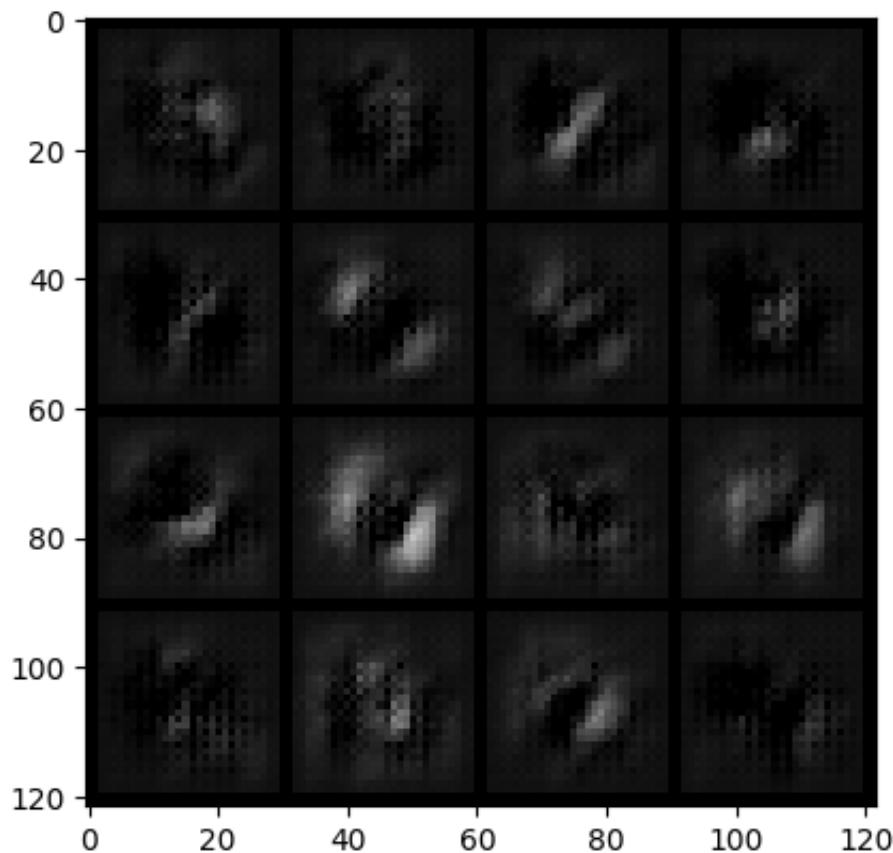


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6875, G_loss: 0.6731

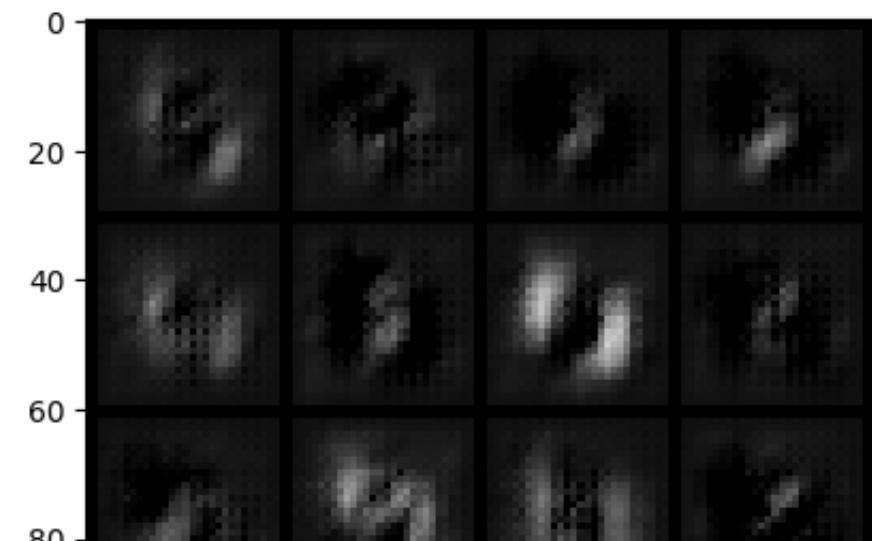


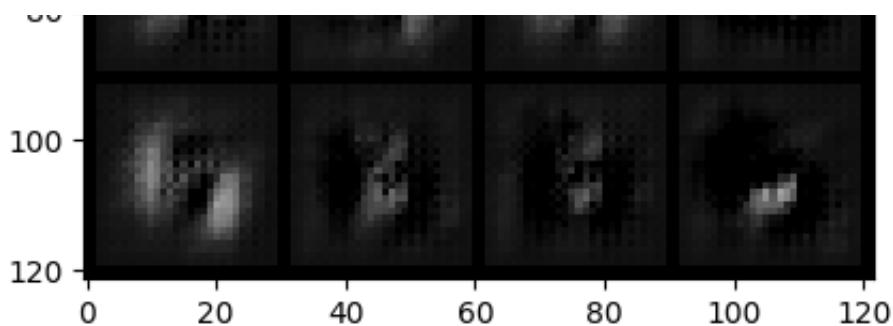


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6875, G_loss: 0.6732

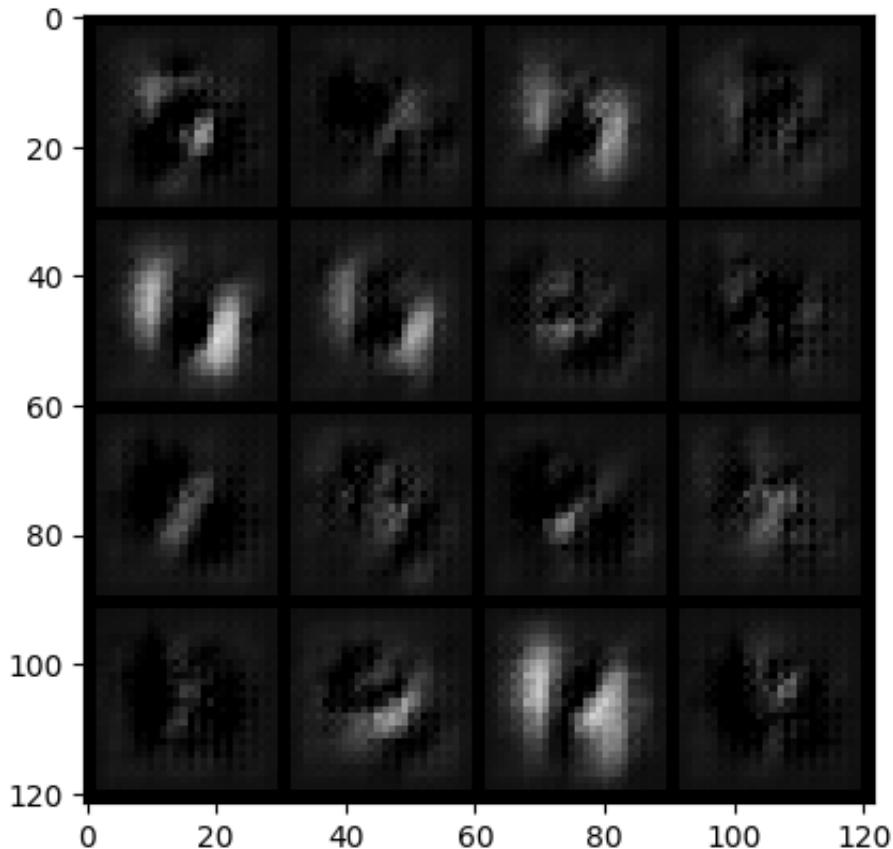


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6875, G_loss: 0.6733

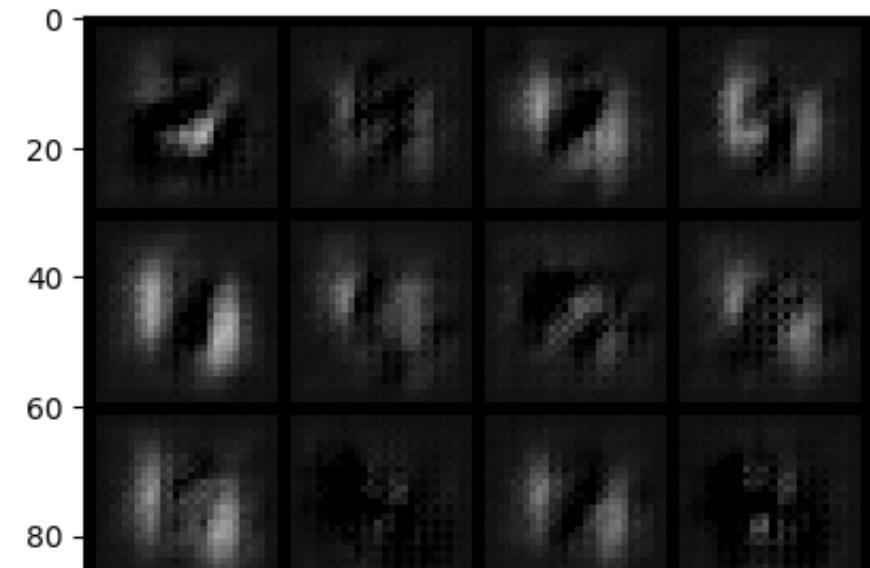


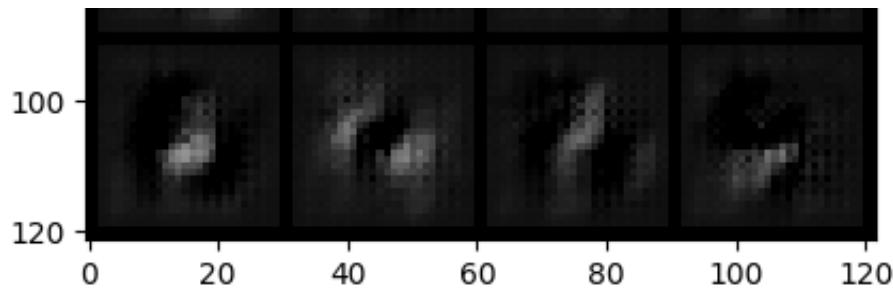


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6874, G_loss: 0.6734

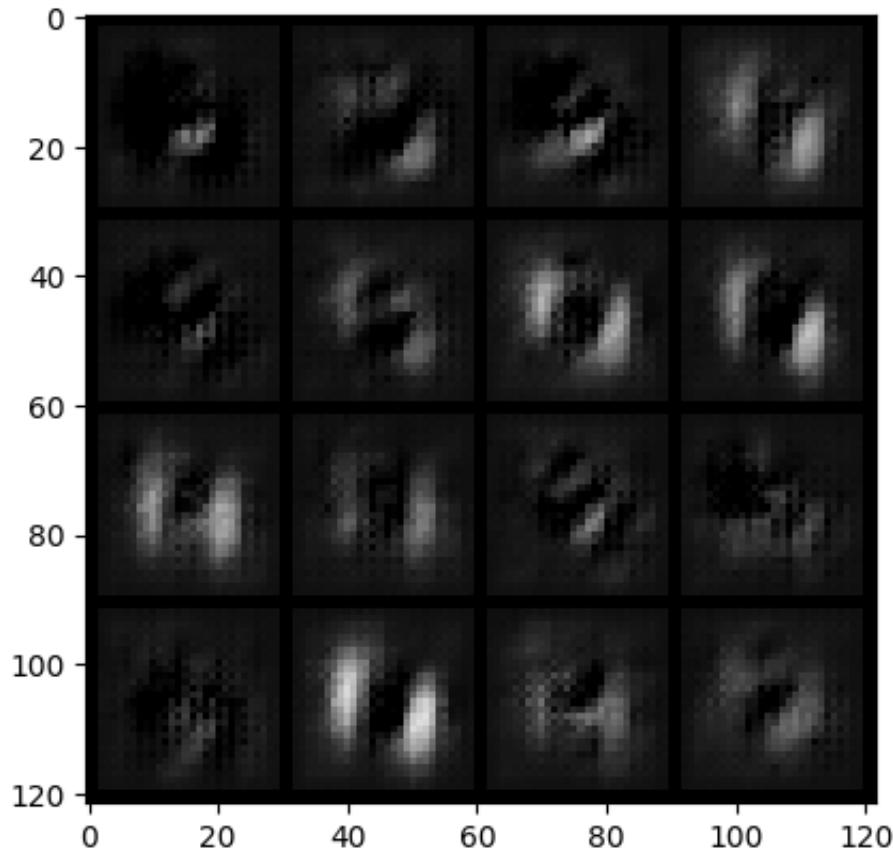


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6874, G_loss: 0.6735

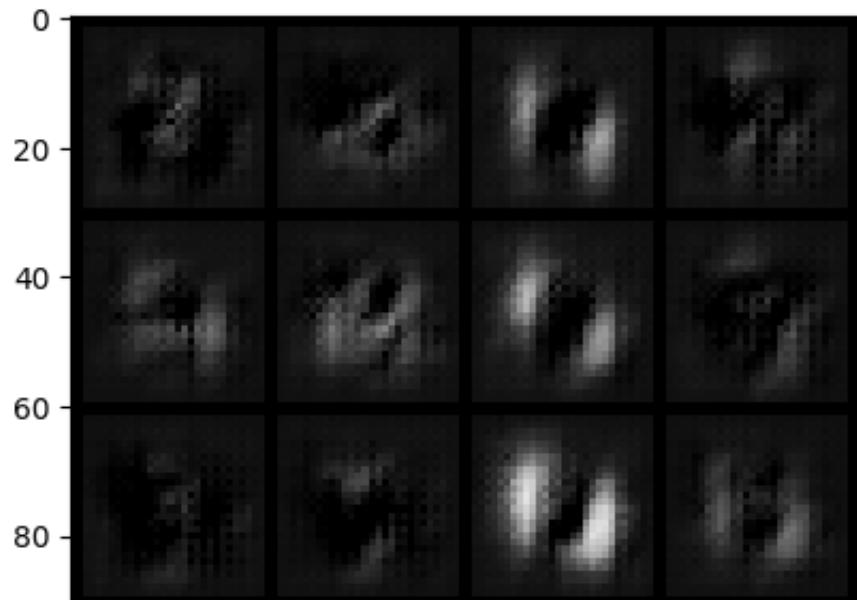


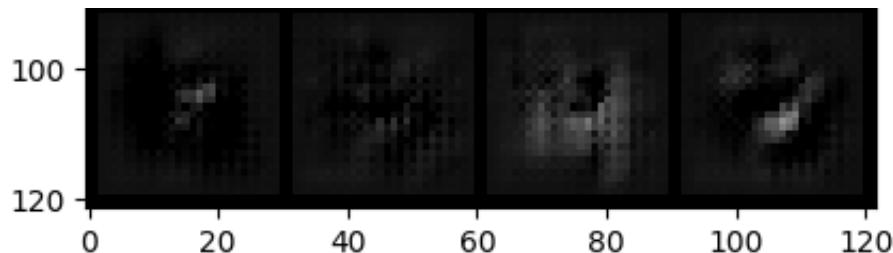


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6873, G_loss: 0.6736

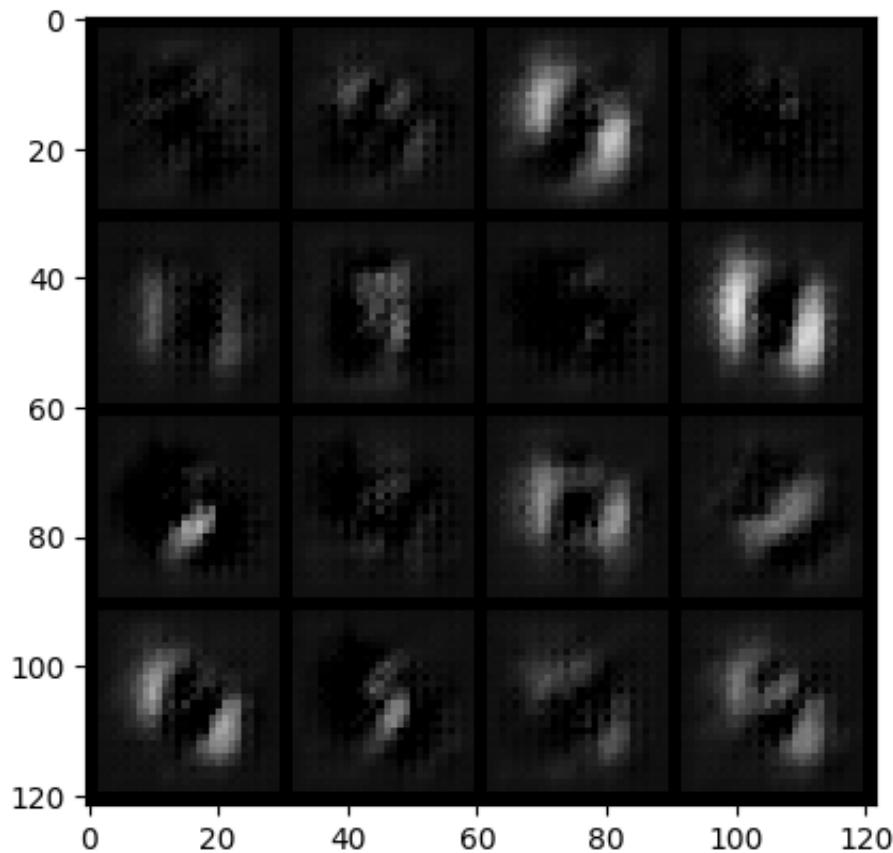


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6873, G_loss: 0.6737

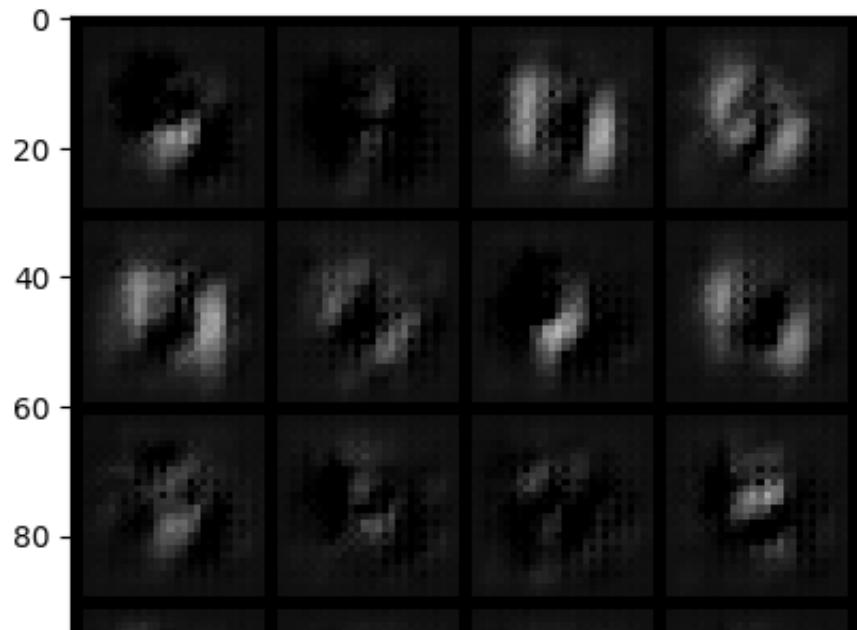


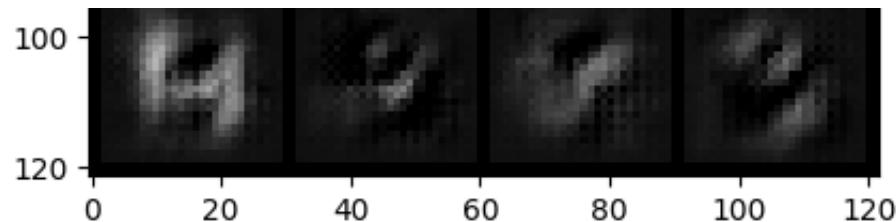


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6872, G_loss: 0.6738

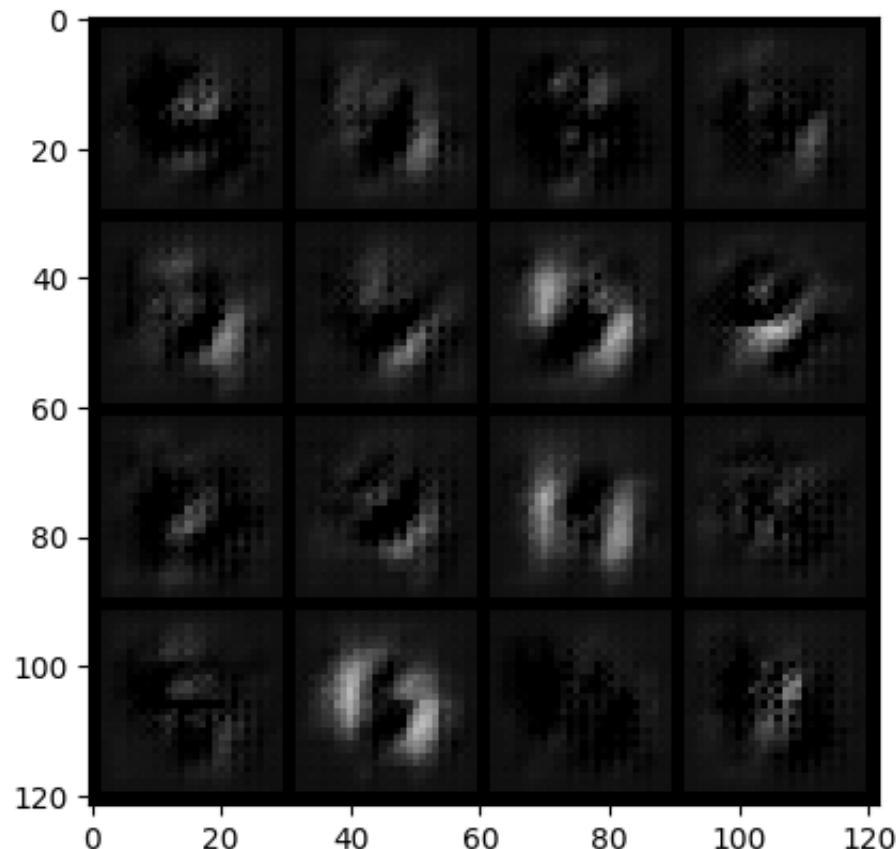


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6872, G_loss: 0.6740

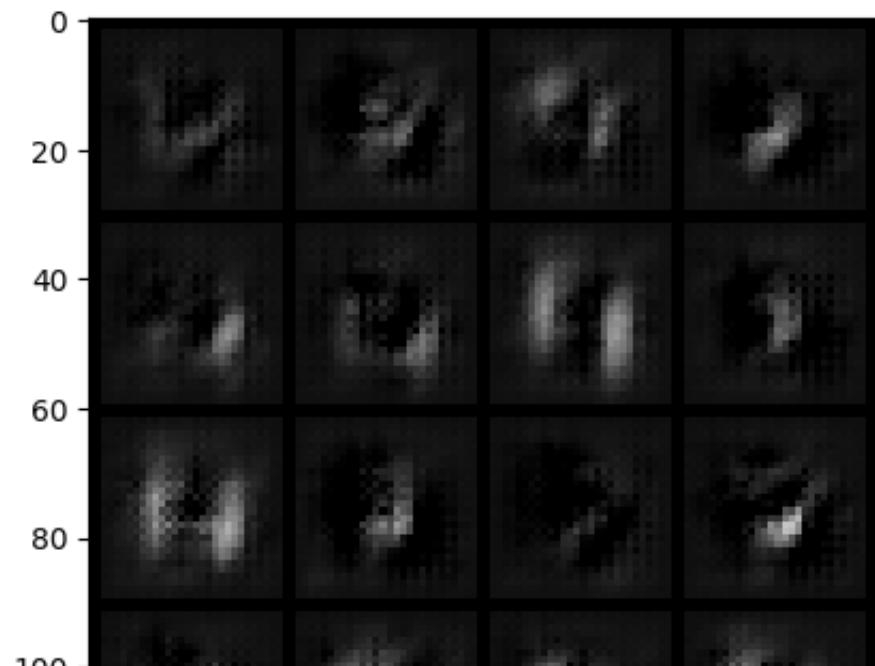


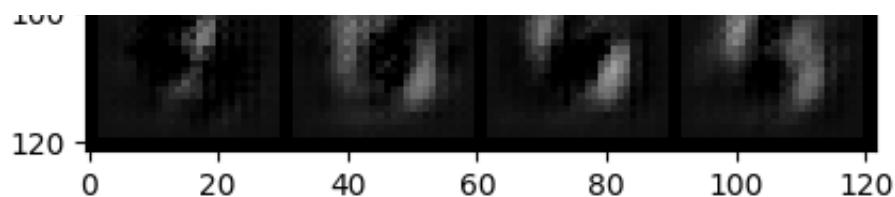


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6871, G_loss: 0.6741

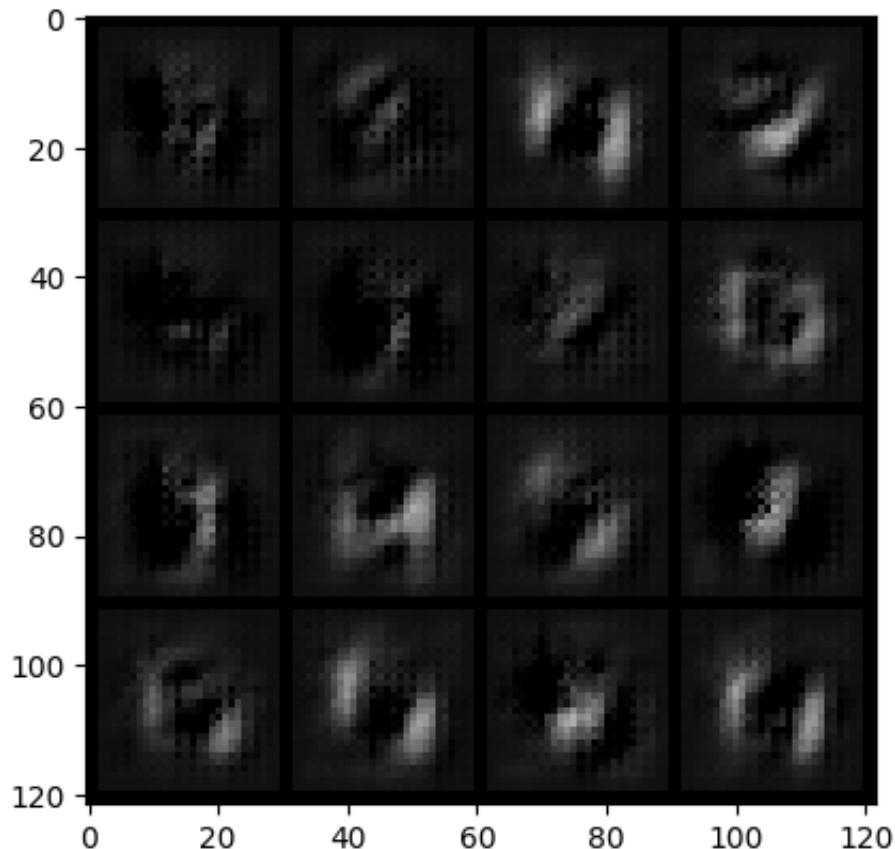


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6871, G_loss: 0.6742

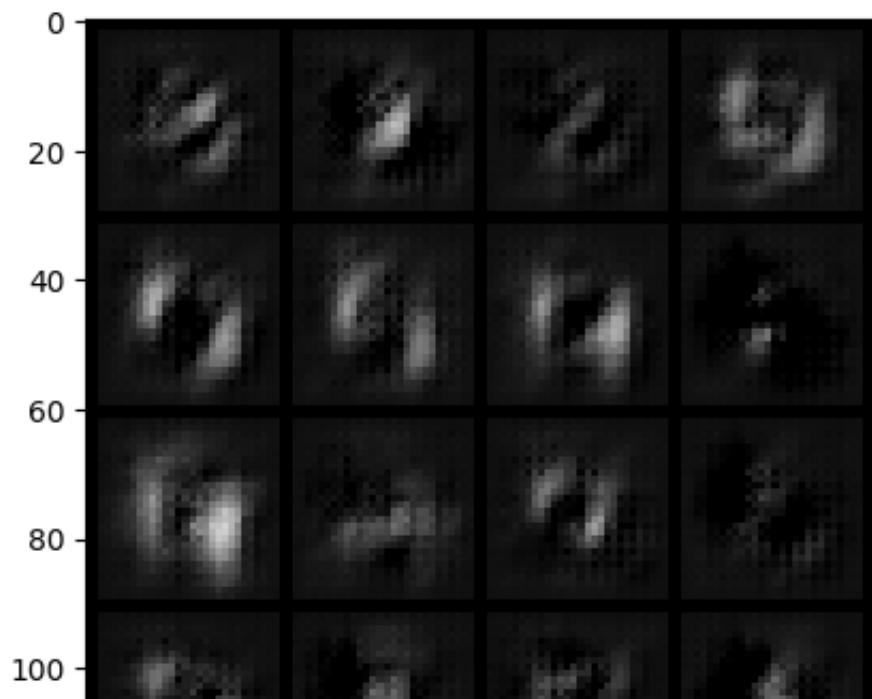


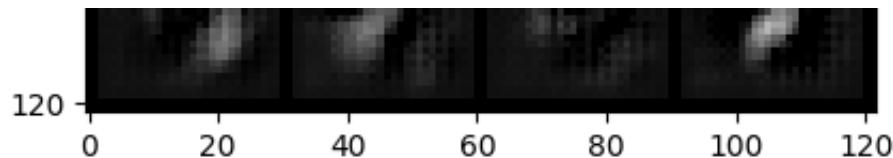


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6870, G_loss: 0.6743

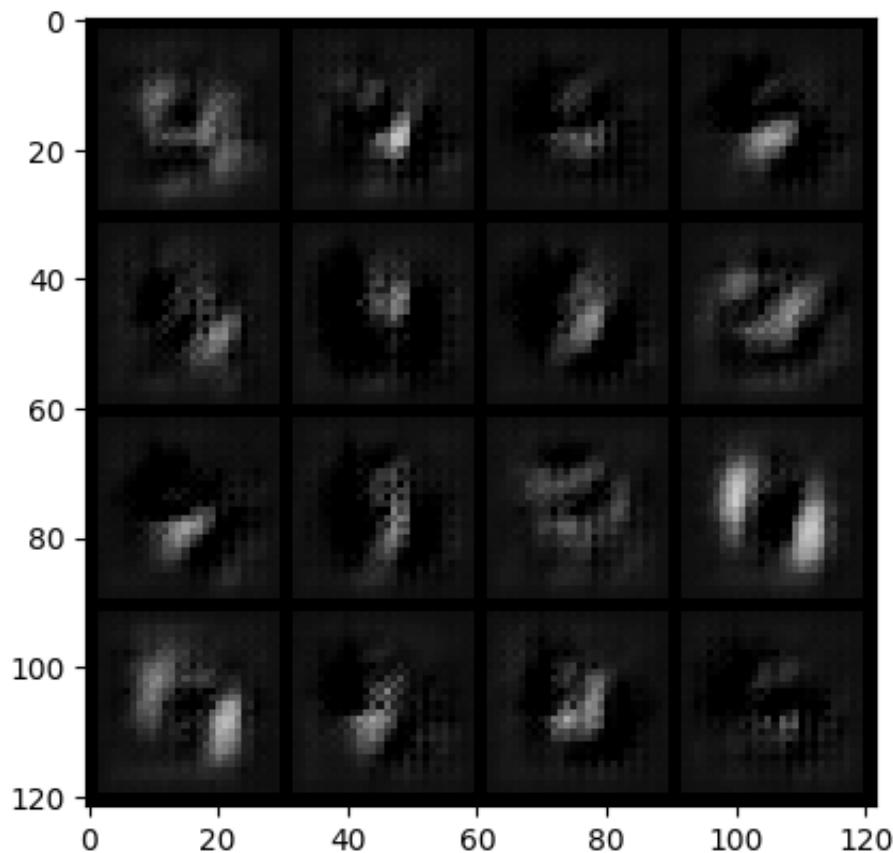


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6870, G_loss: 0.6744

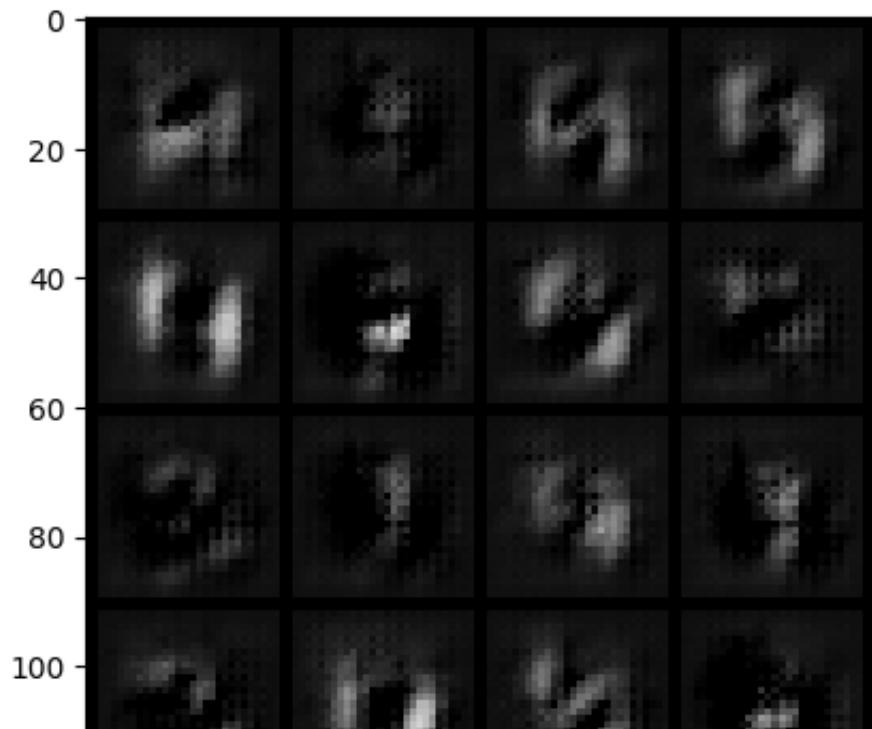


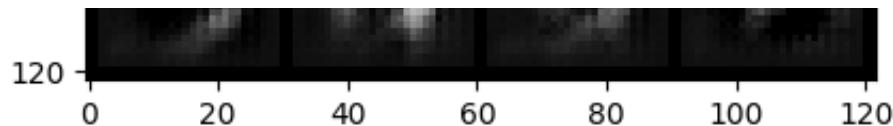


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6869, G_loss: 0.6745

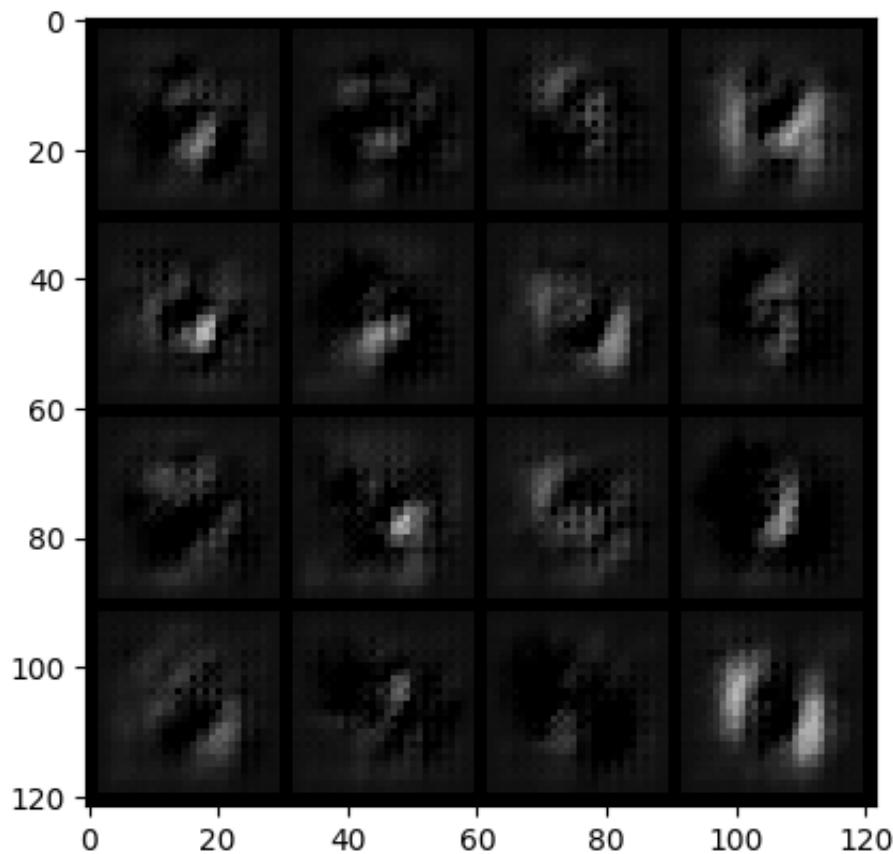


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6869, G_loss: 0.6746

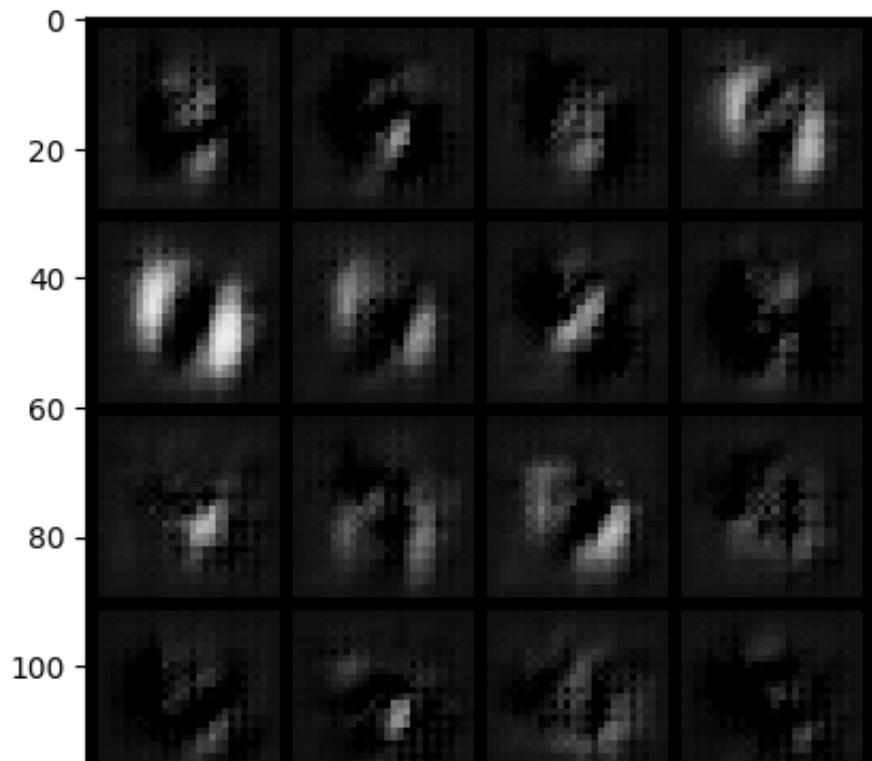




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6868, G_loss: 0.6747

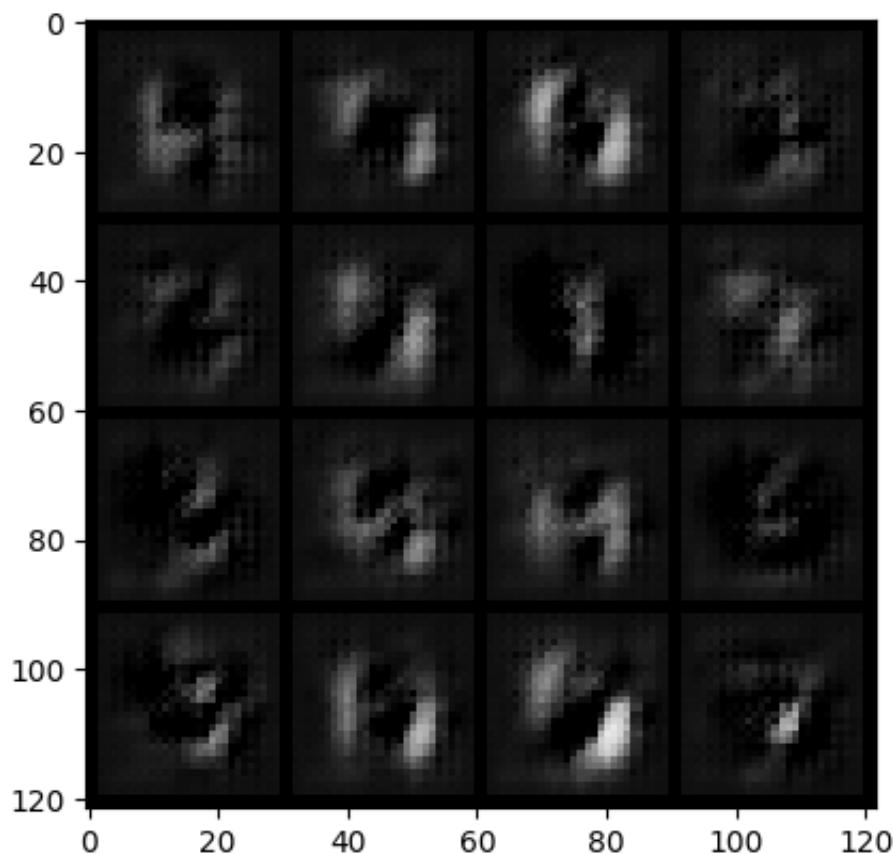


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6868, G_loss: 0.6748

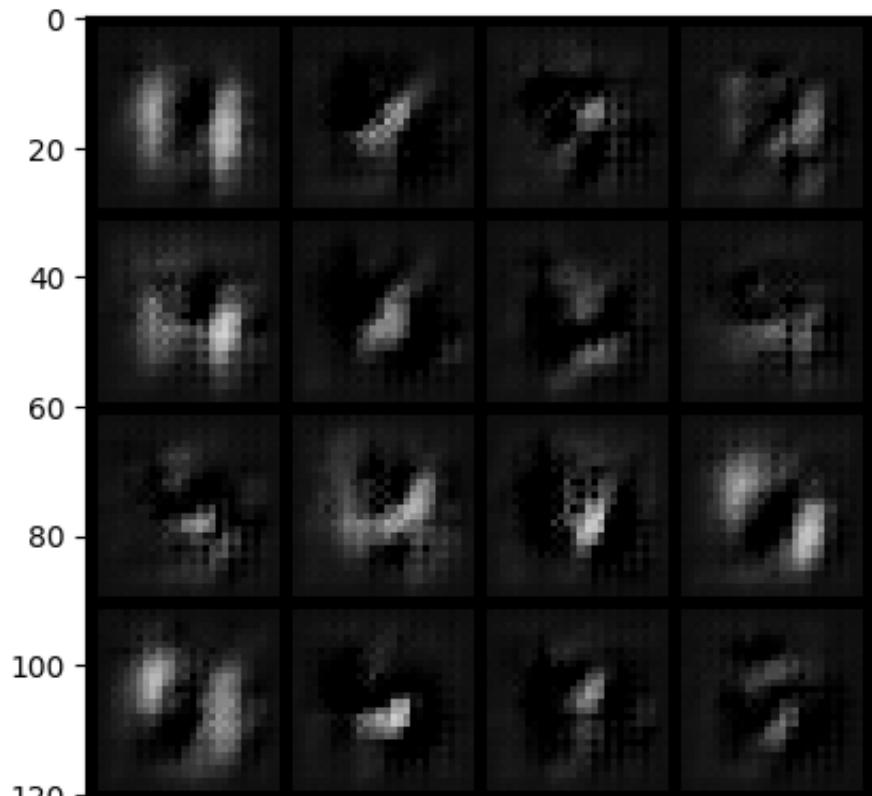


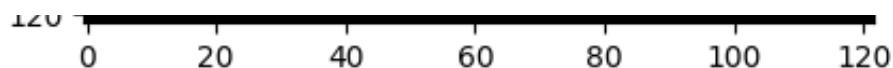


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clipping' set to True
D_loss: 0.6868, G_loss: 0.6750

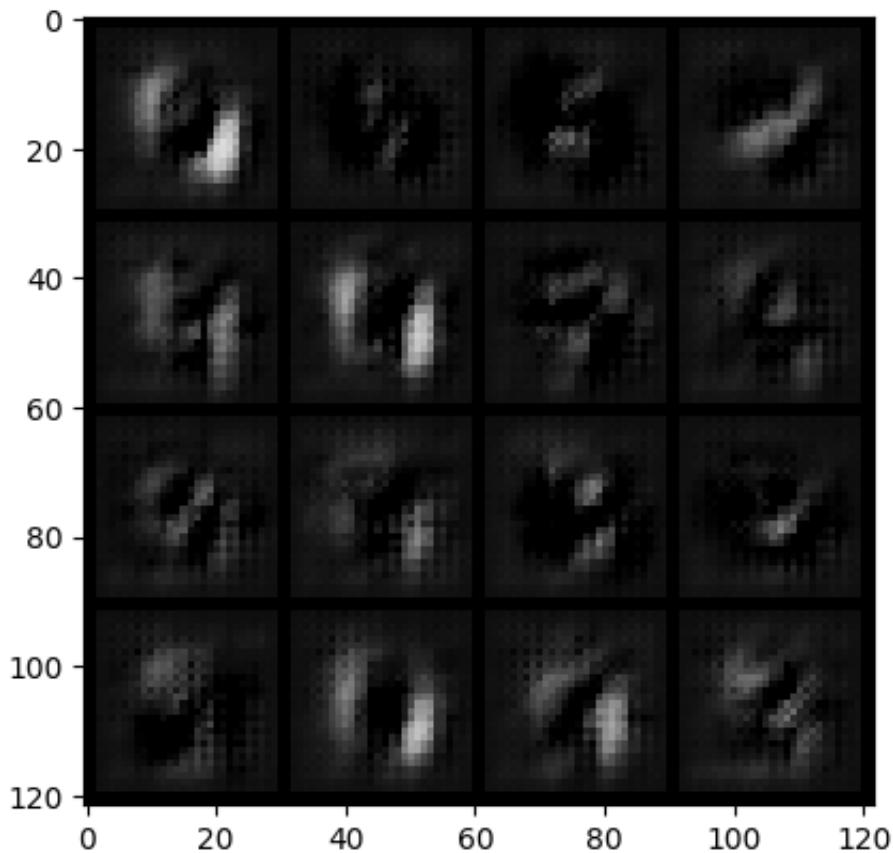


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clipping' set to True
D_loss: 0.6867, G_loss: 0.6751

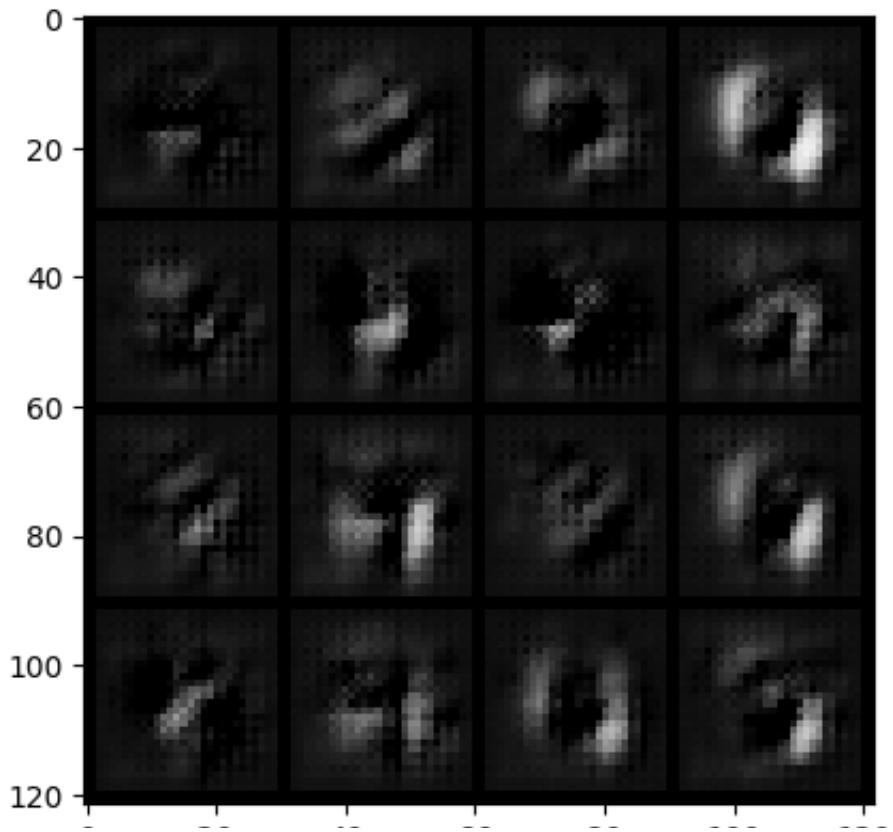




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6867, G_loss: 0.6752

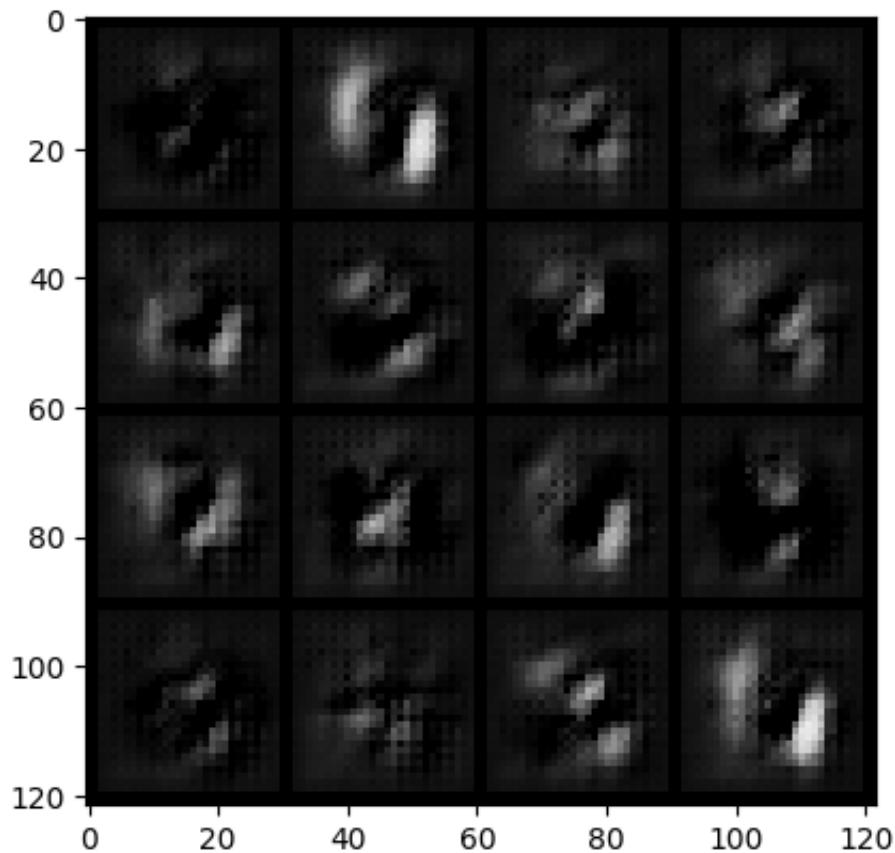


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6866, G_loss: 0.6753

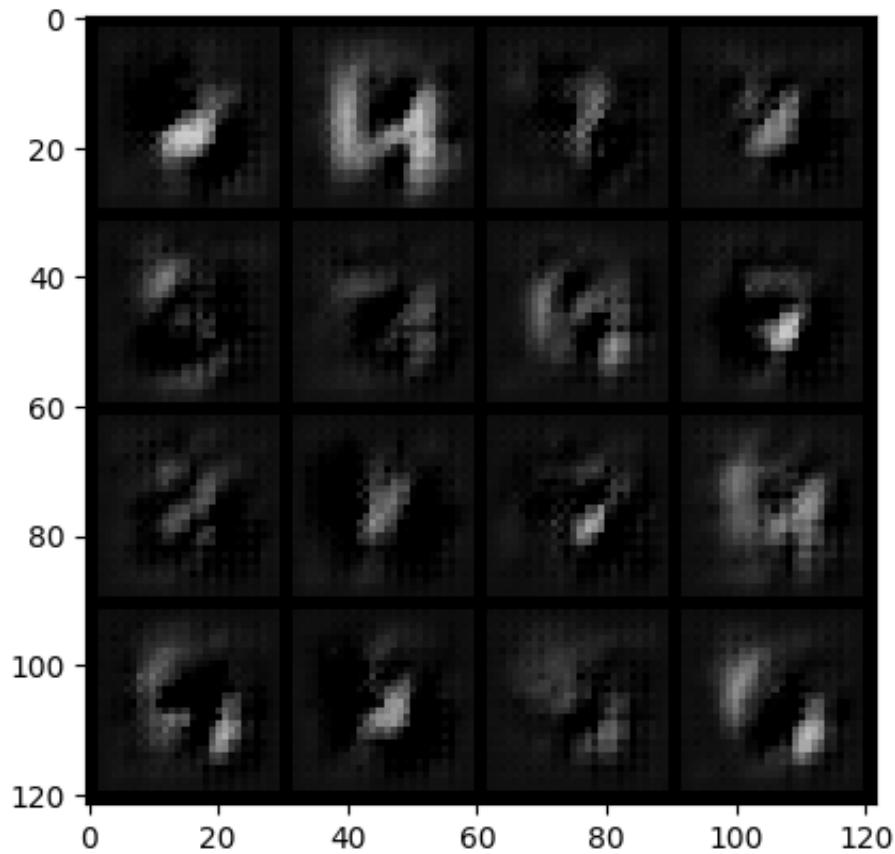


0 20 40 60 80 100 120

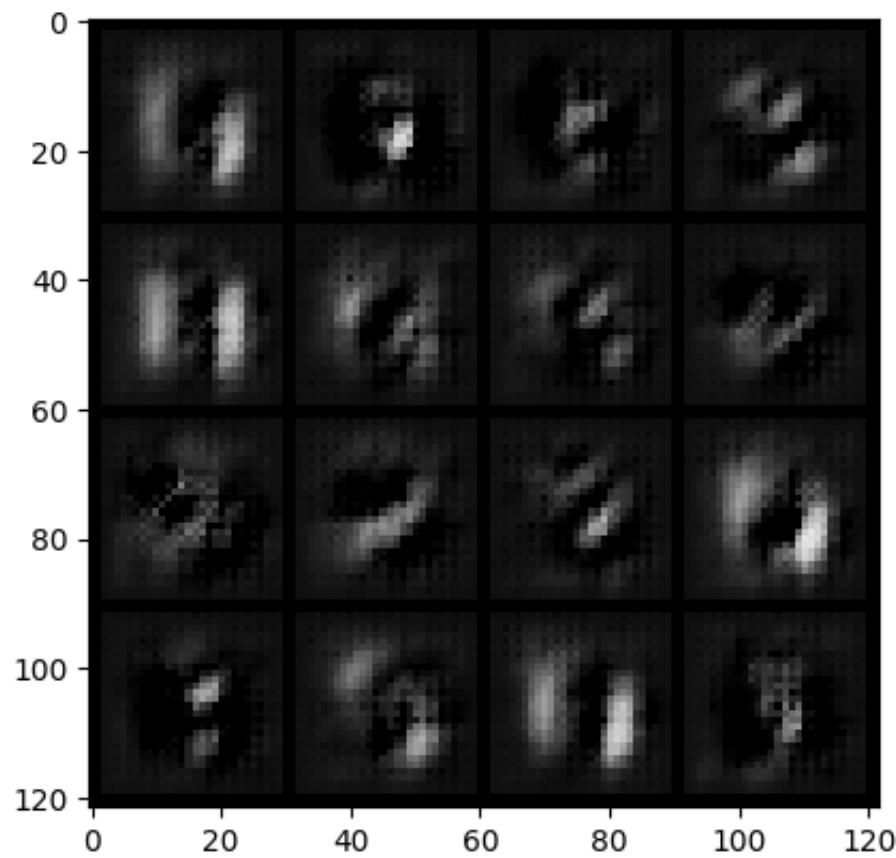
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6866, G_loss: 0.6754



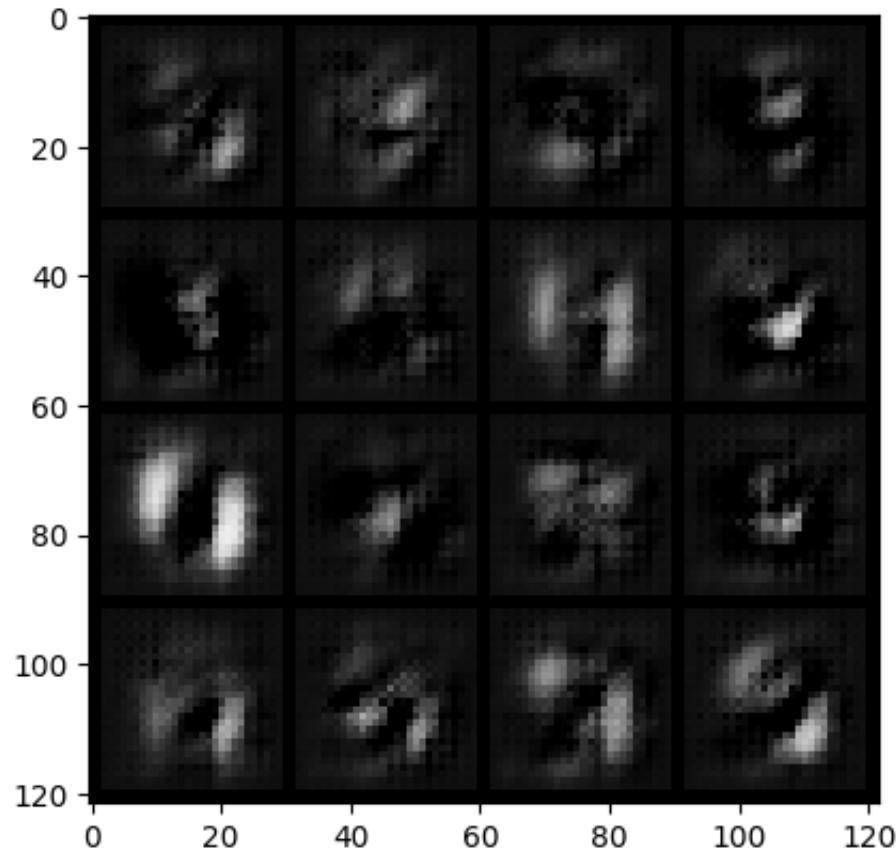
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6865, G_loss: 0.6755



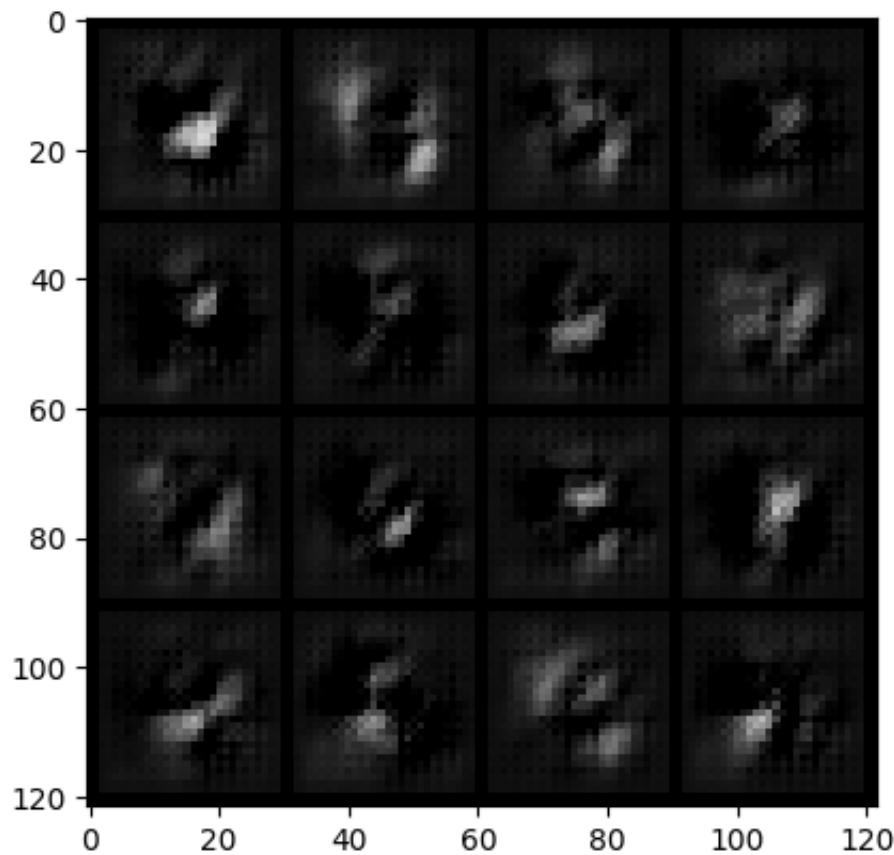
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6865, G_loss: 0.6756



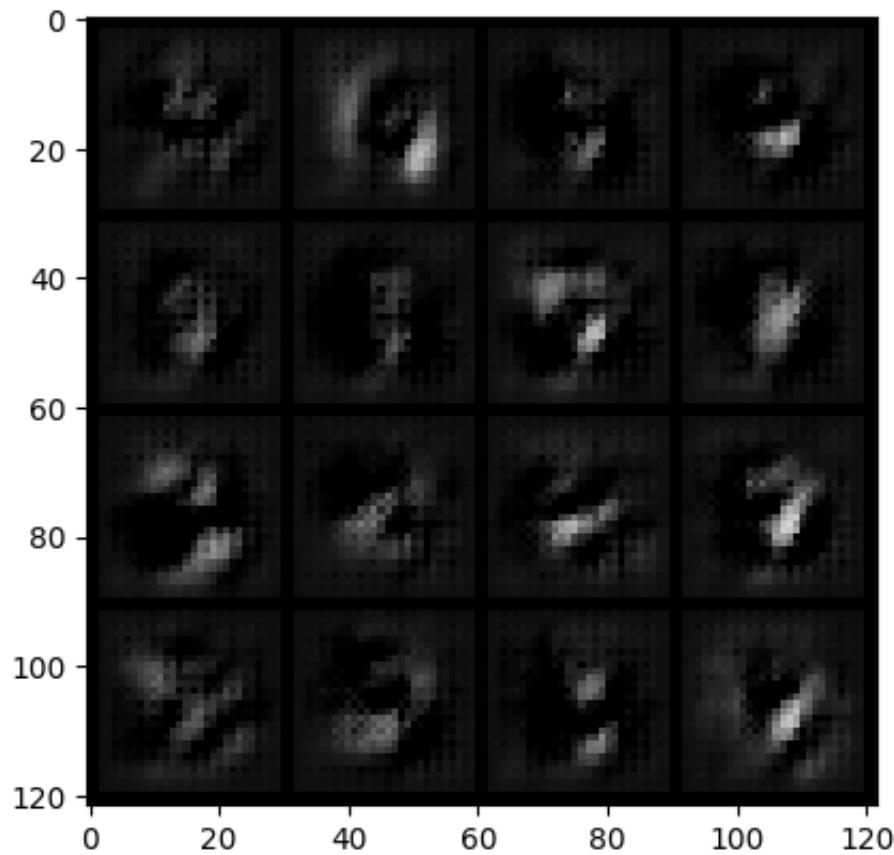
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6864, G_loss: 0.6757



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6864, G_loss: 0.6758

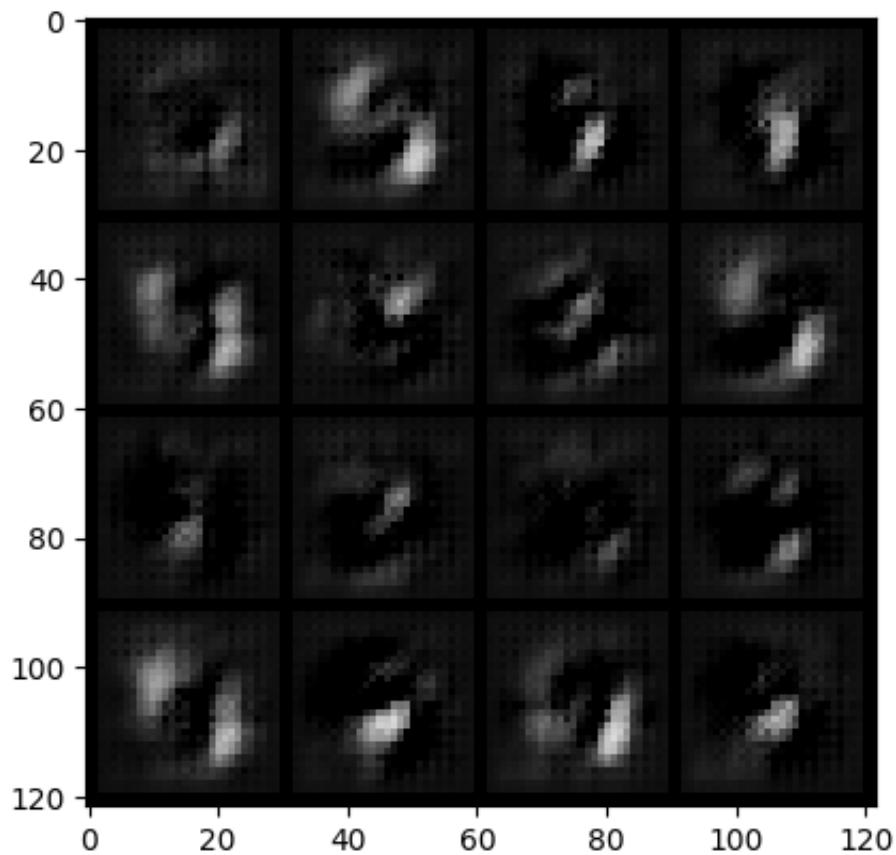


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6863, G_loss: 0.6759

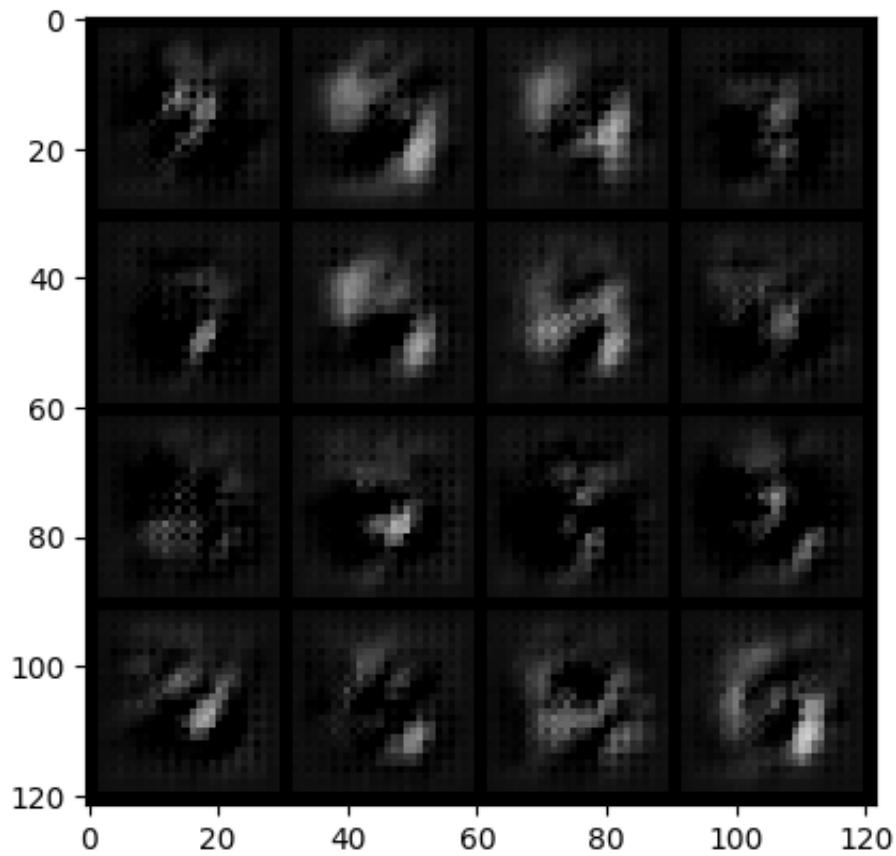


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6863, G_loss: 0.6759

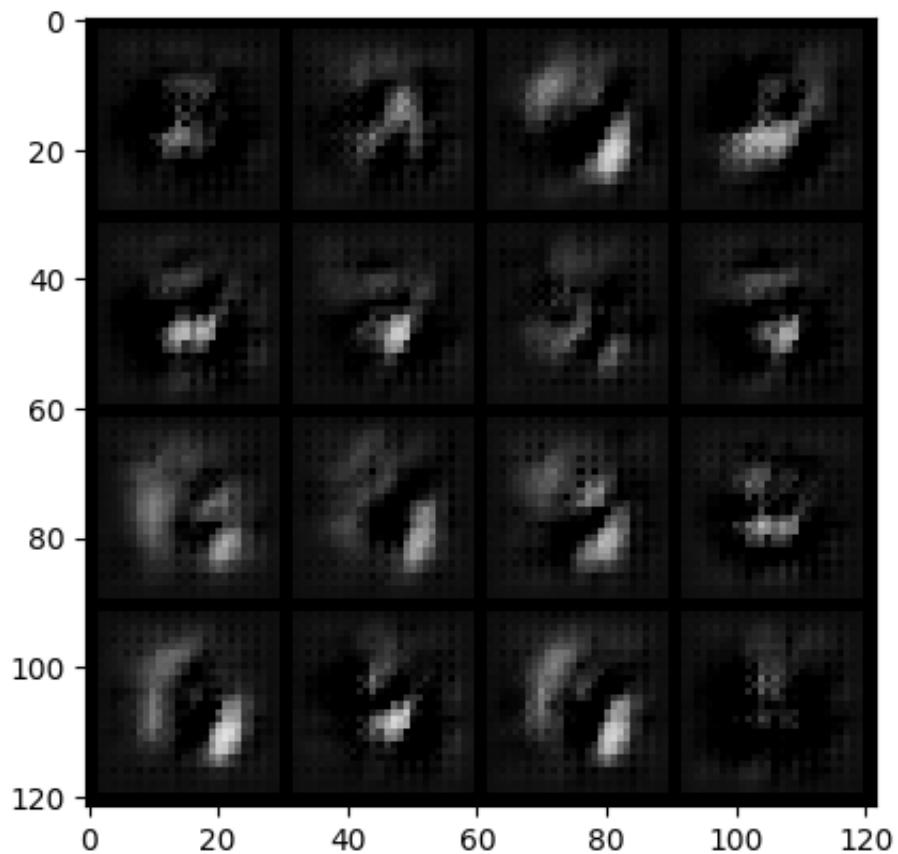
D_loss: 0.6863, G_loss: 0.6760



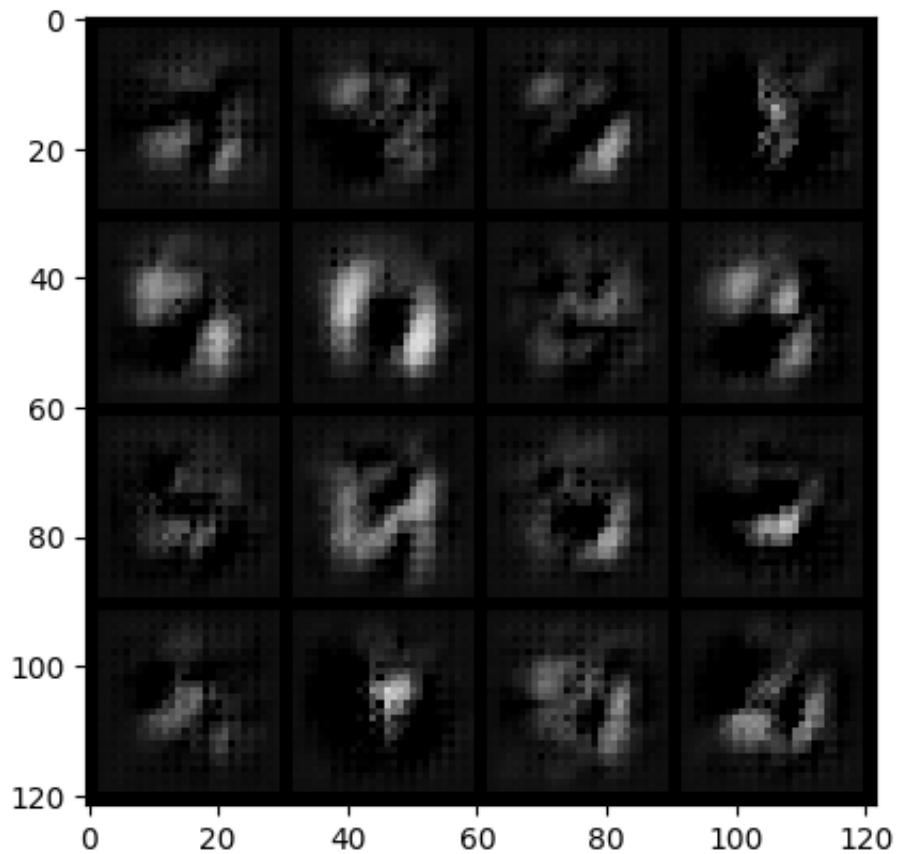
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6862, G_loss: 0.6762



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6862, G_loss: 0.6763

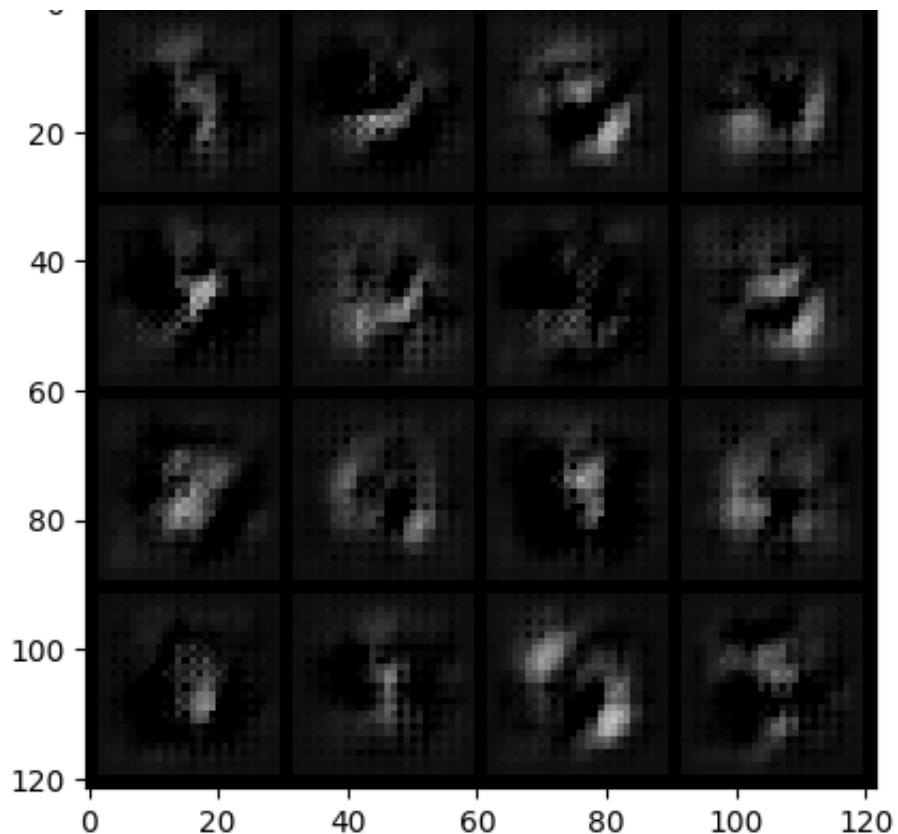


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6862, G_loss: 0.6764

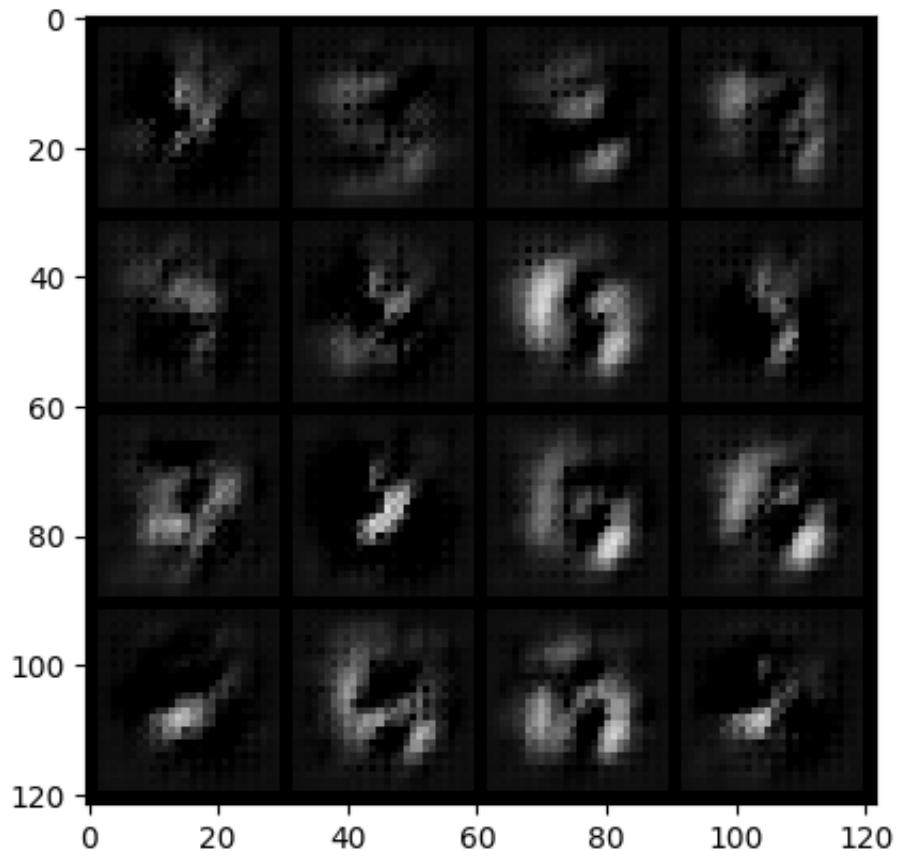


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6861, G_loss: 0.6765

0 ——————

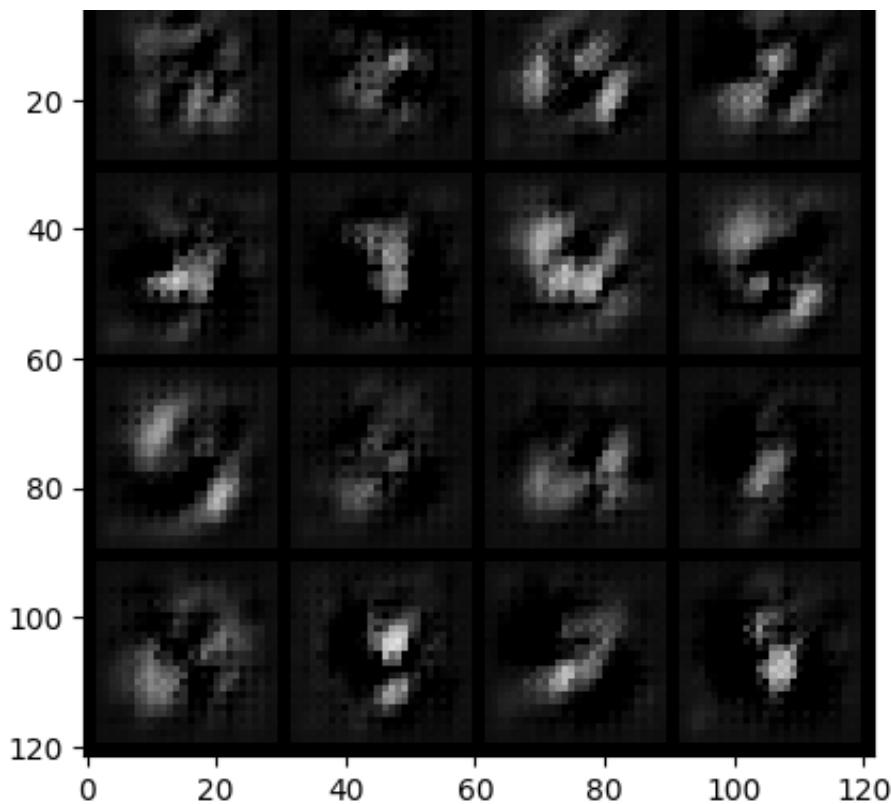


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6861, G_loss: 0.6766

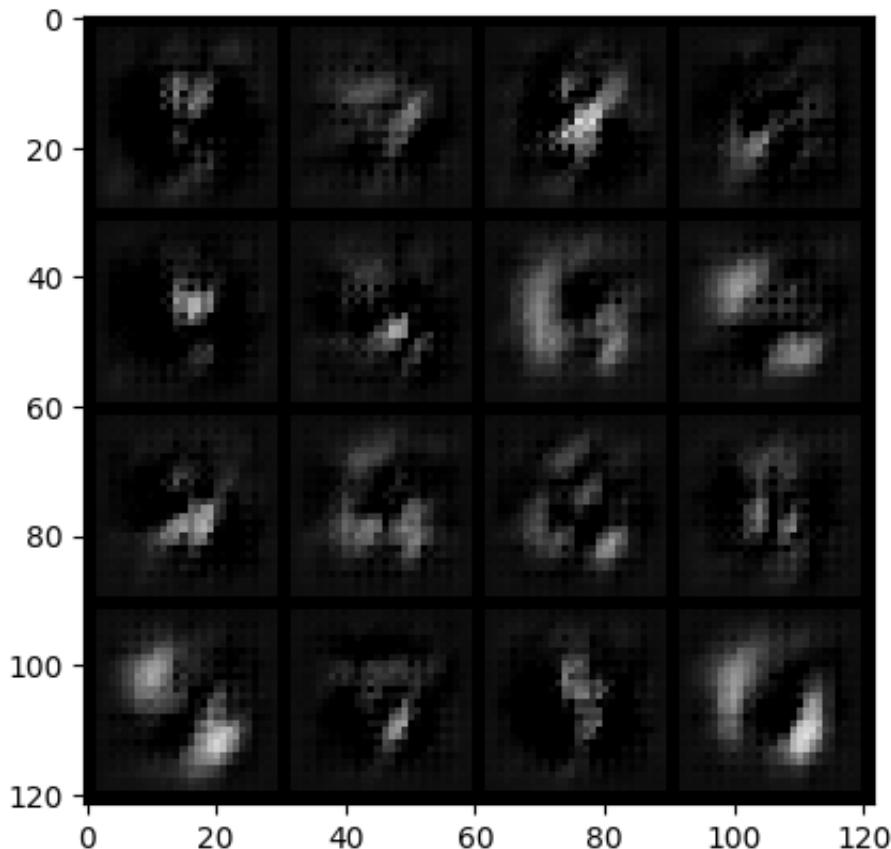


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6860, G_loss: 0.6767



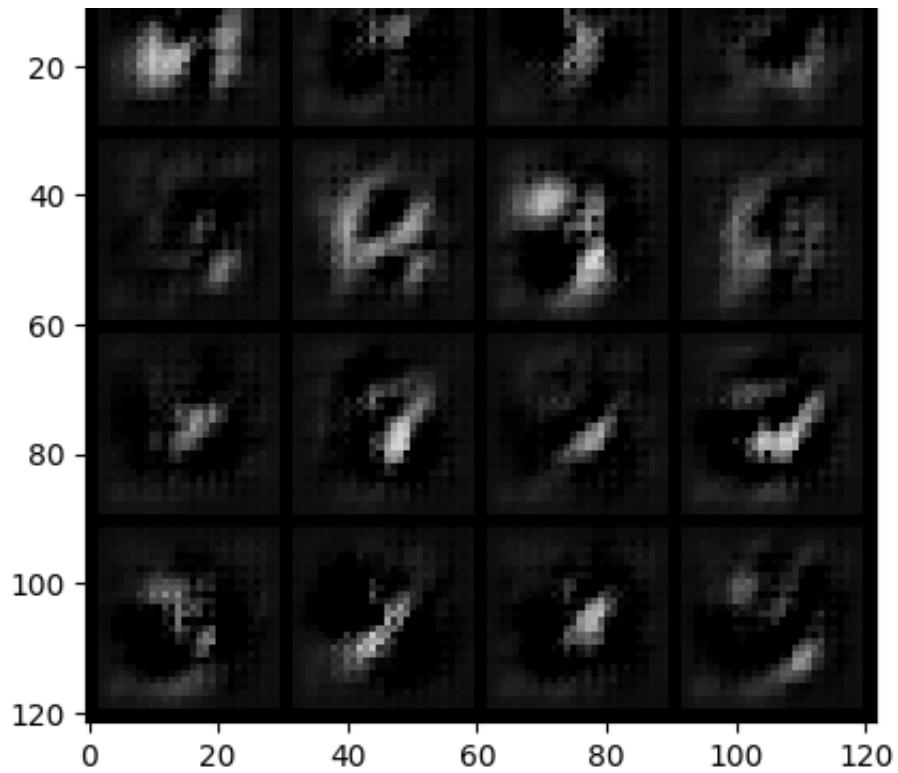


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6860, G_loss: 0.6768

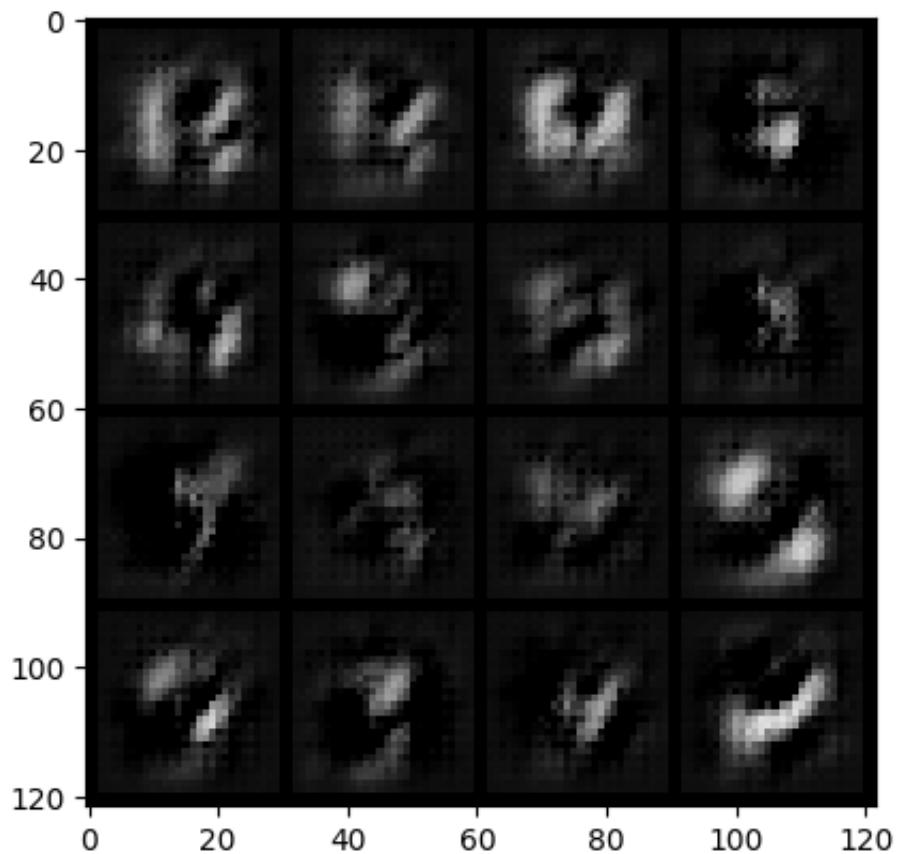


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6859, G_loss: 0.6769



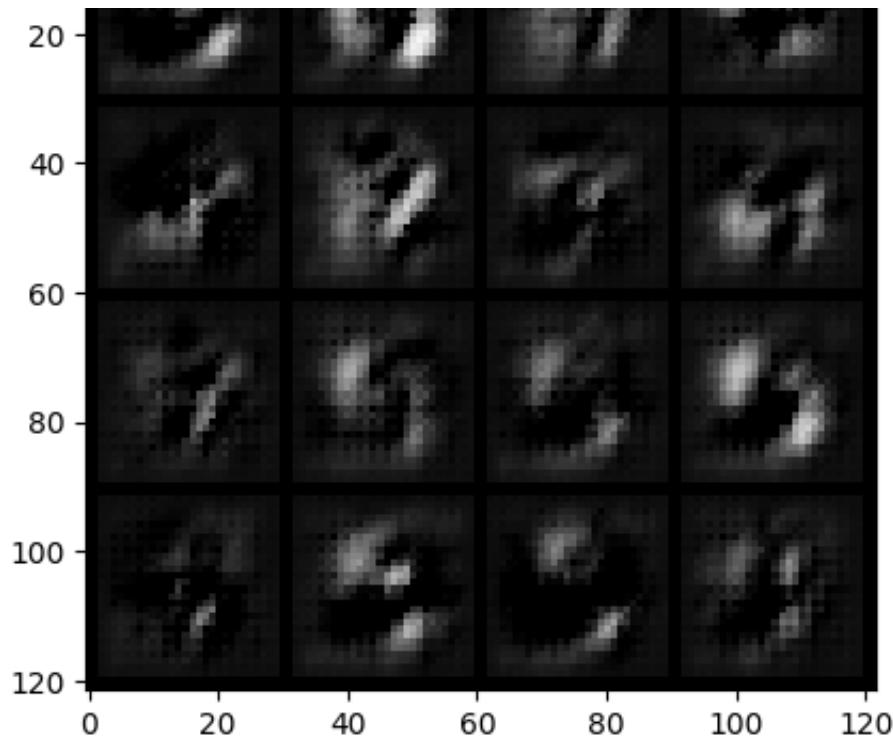


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6859, G_loss: 0.6770

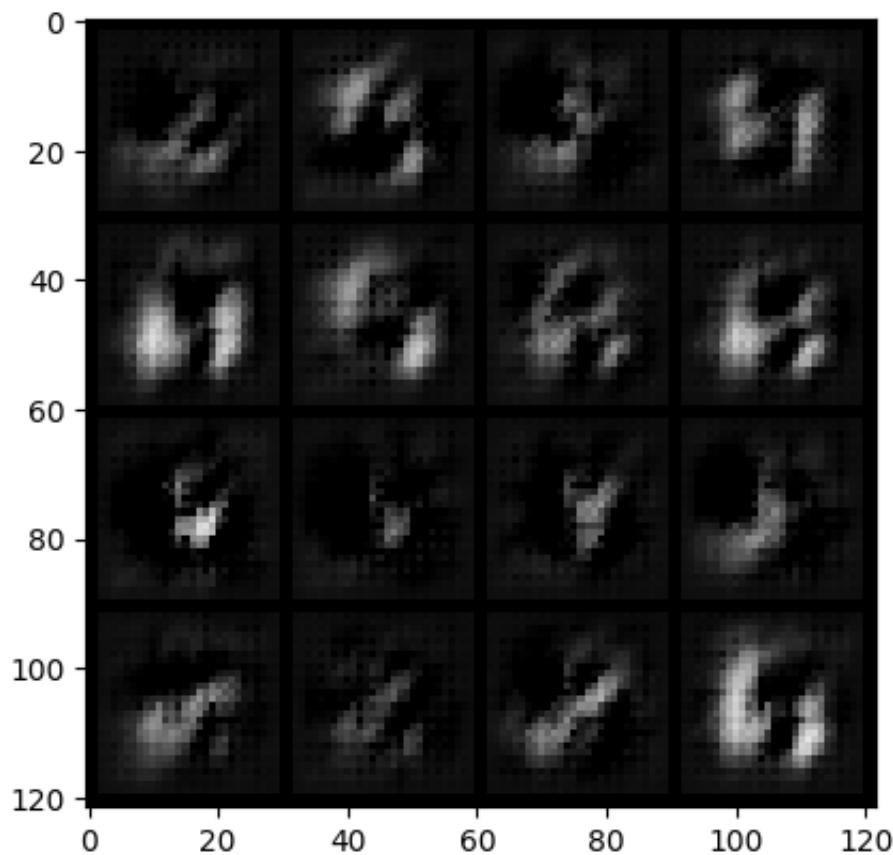


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6859, G_loss: 0.6771



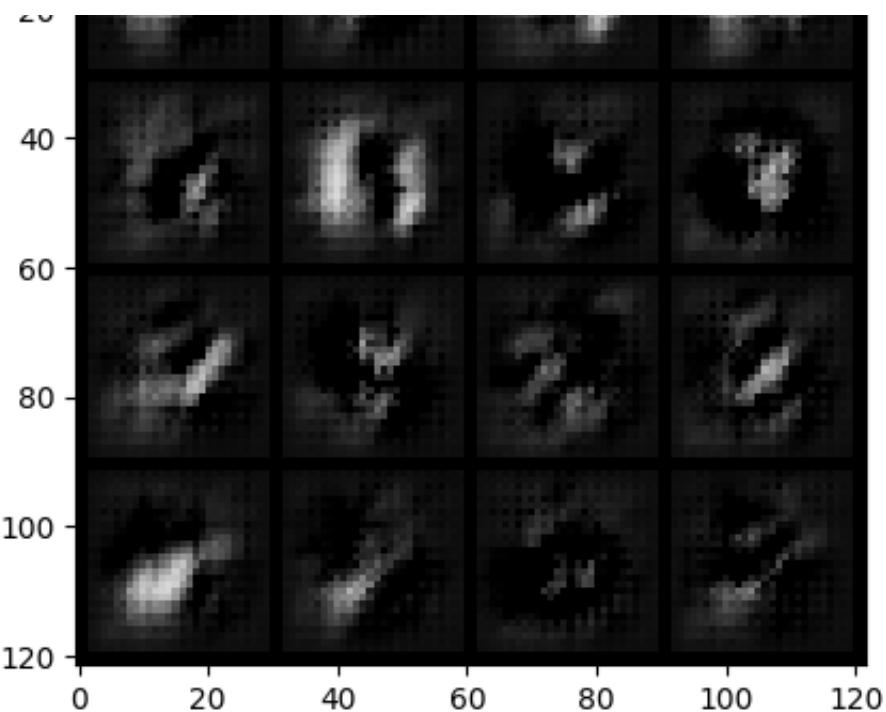


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6858, G_loss: 0.6772

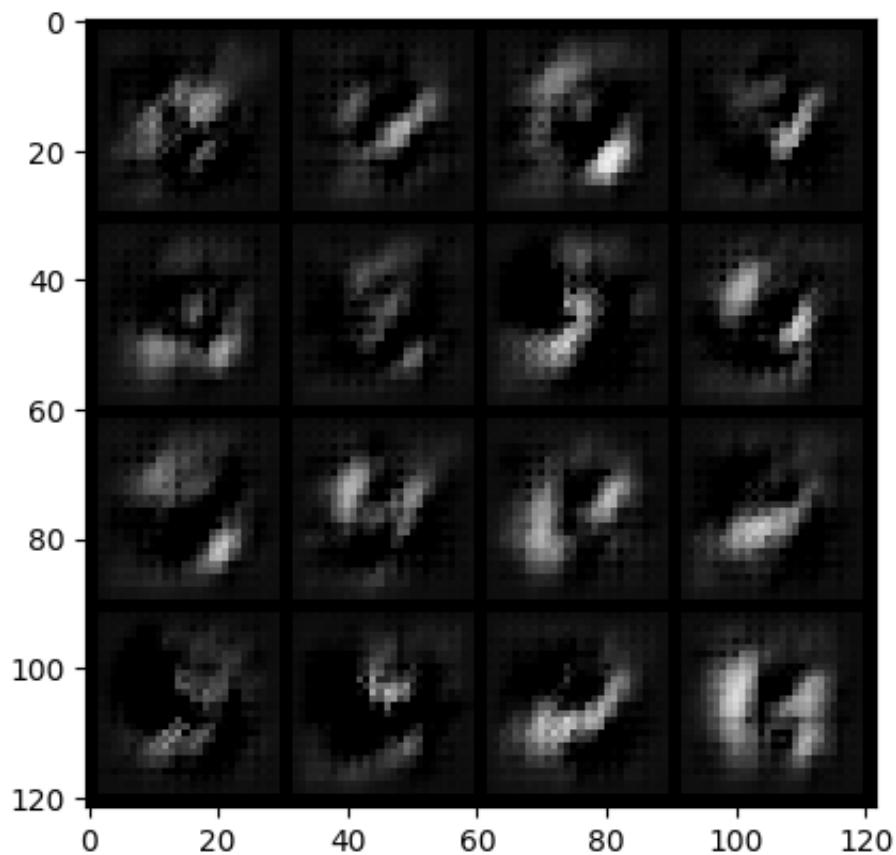


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6858, G_loss: 0.6773



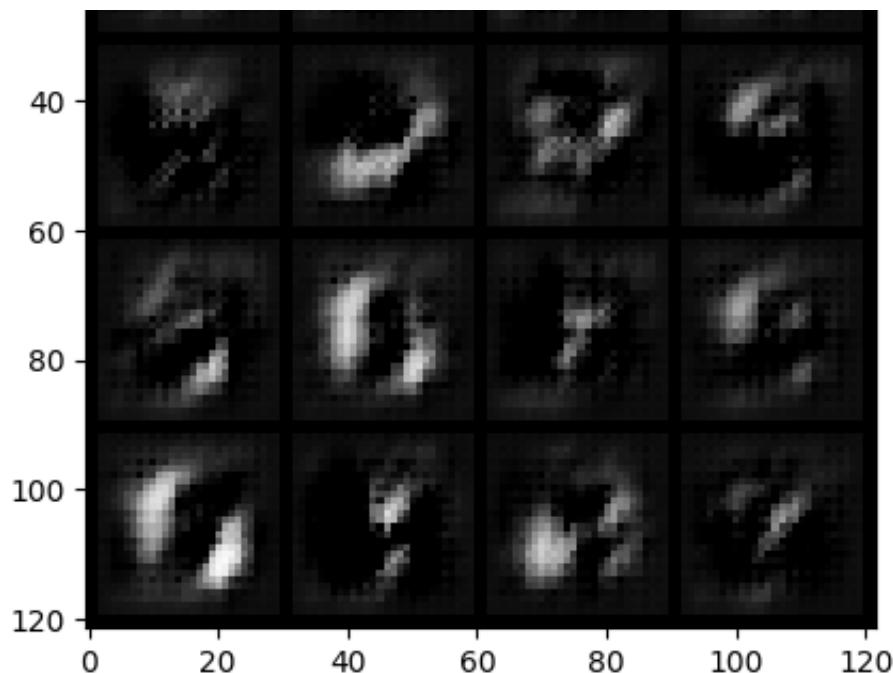


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6857, G_loss: 0.6774

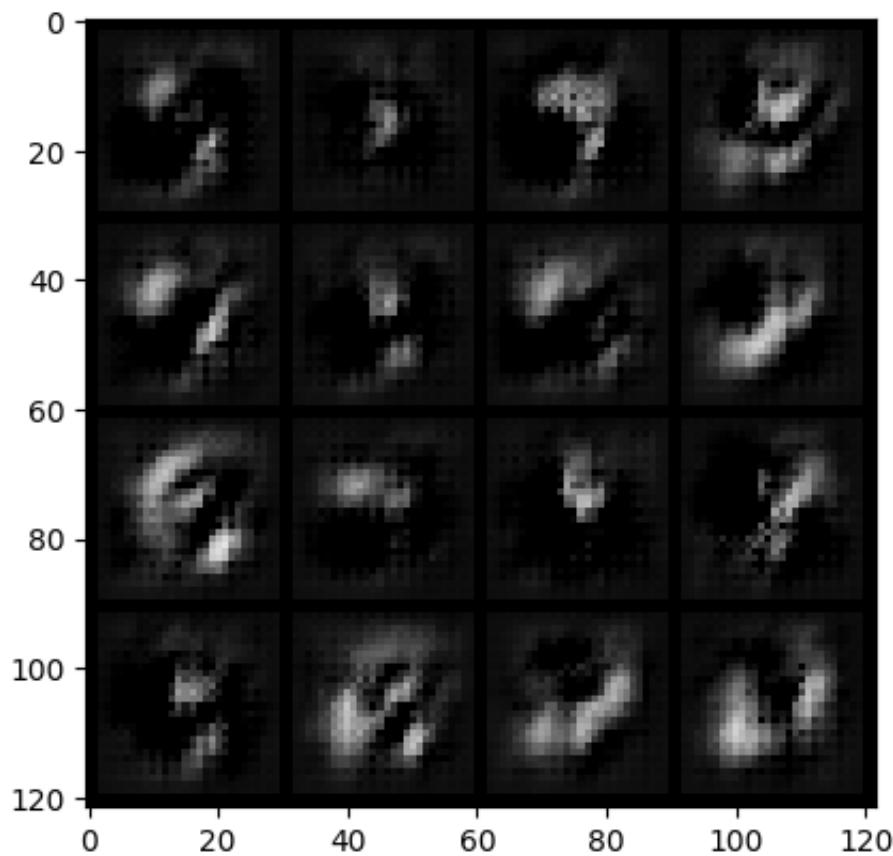


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6857, G_loss: 0.6775

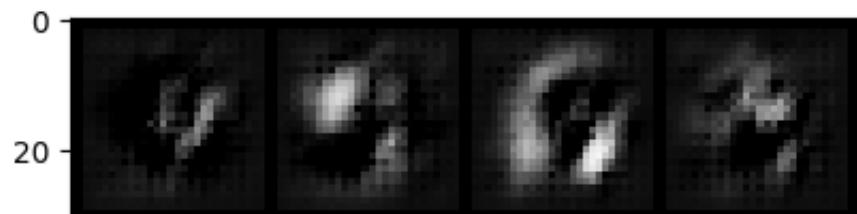


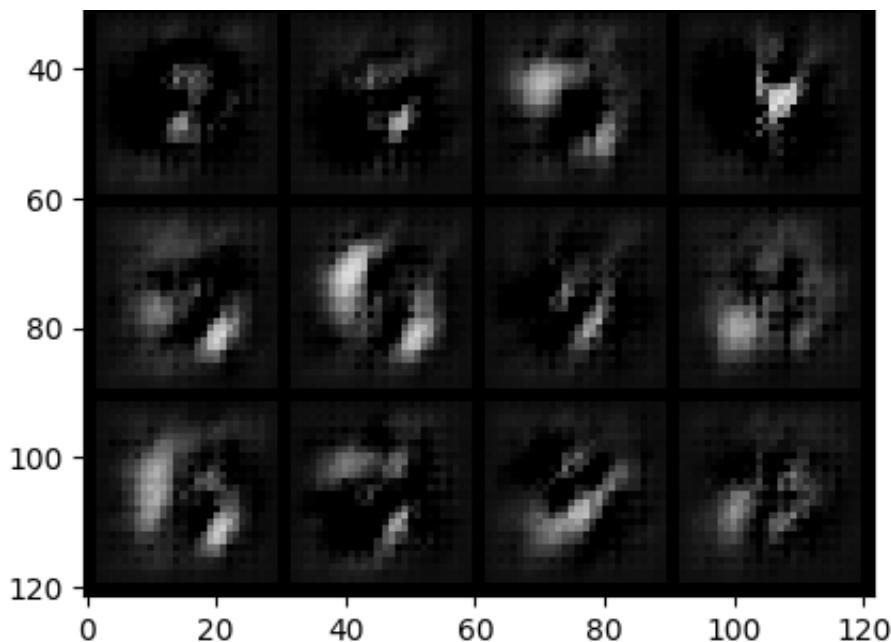


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6857, G_loss: 0.6776

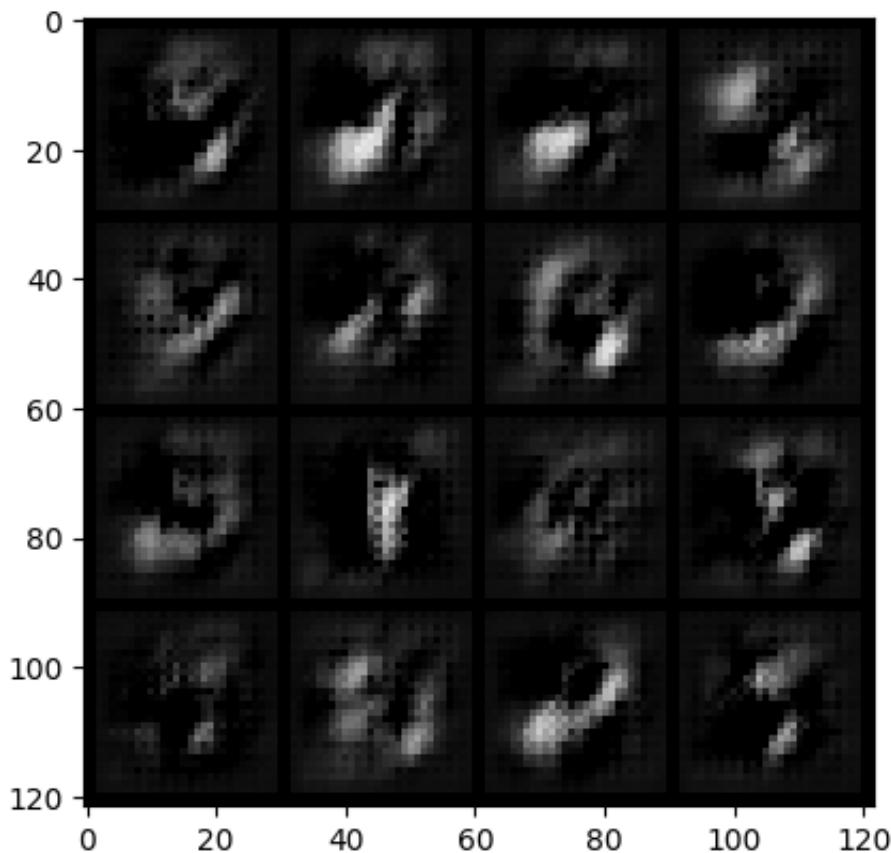


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6856, G_loss: 0.6777

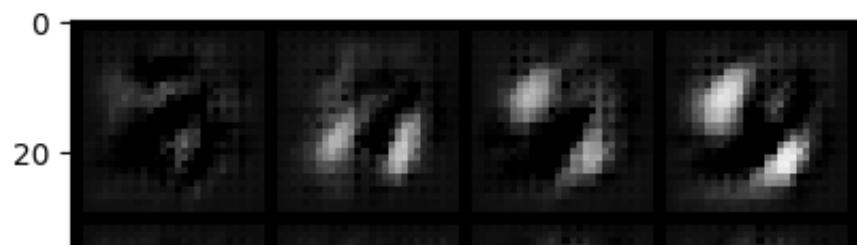


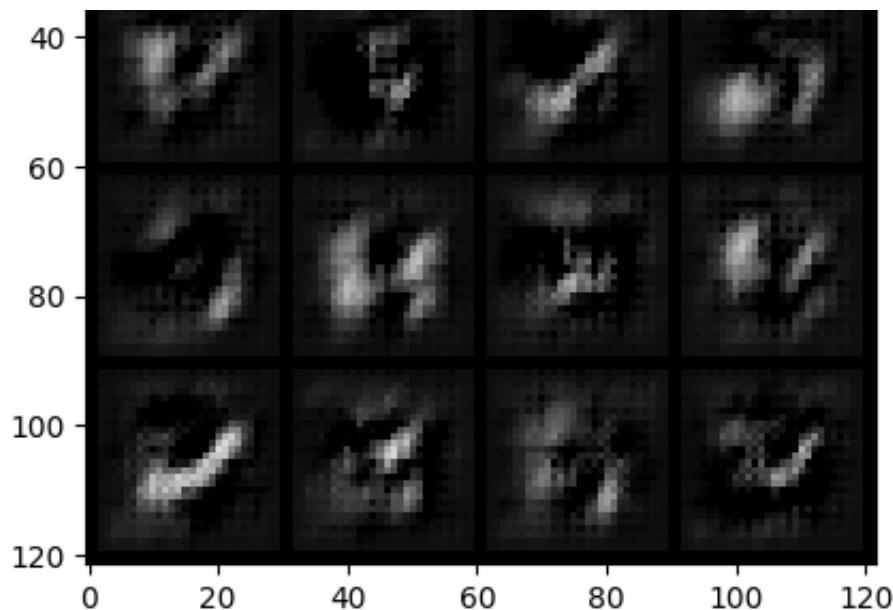


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6856, G_loss: 0.6778

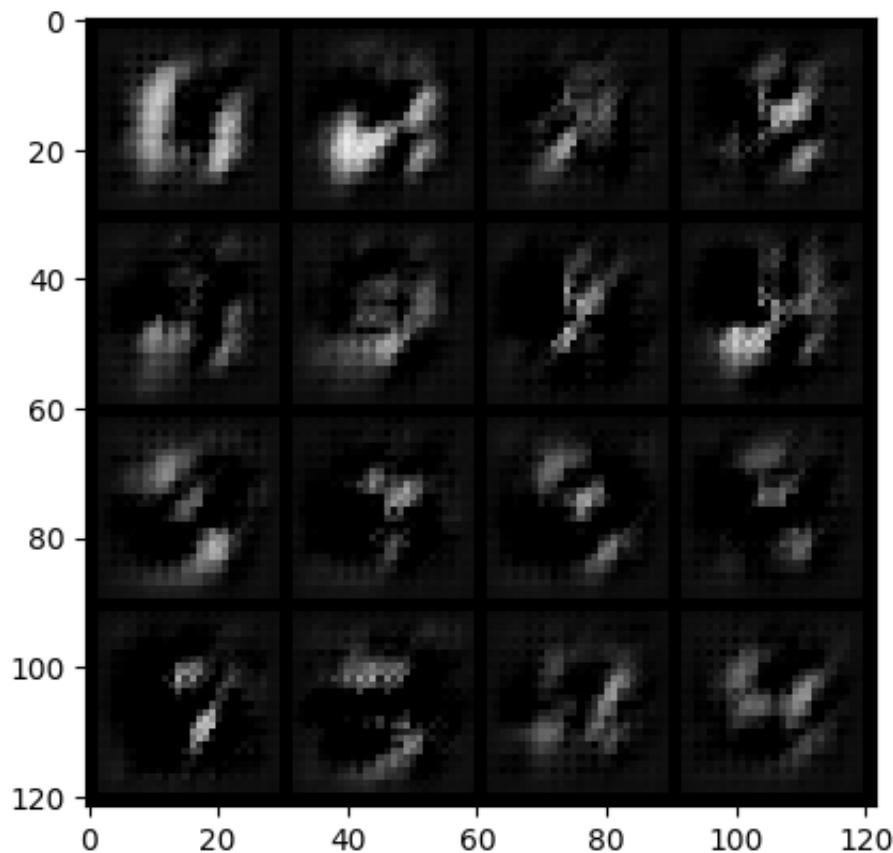


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6855, G_loss: 0.6779

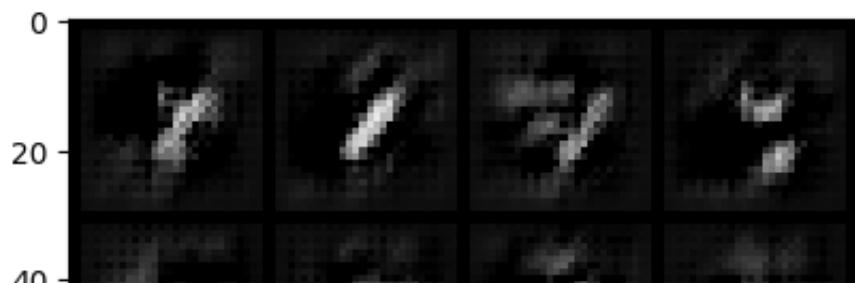


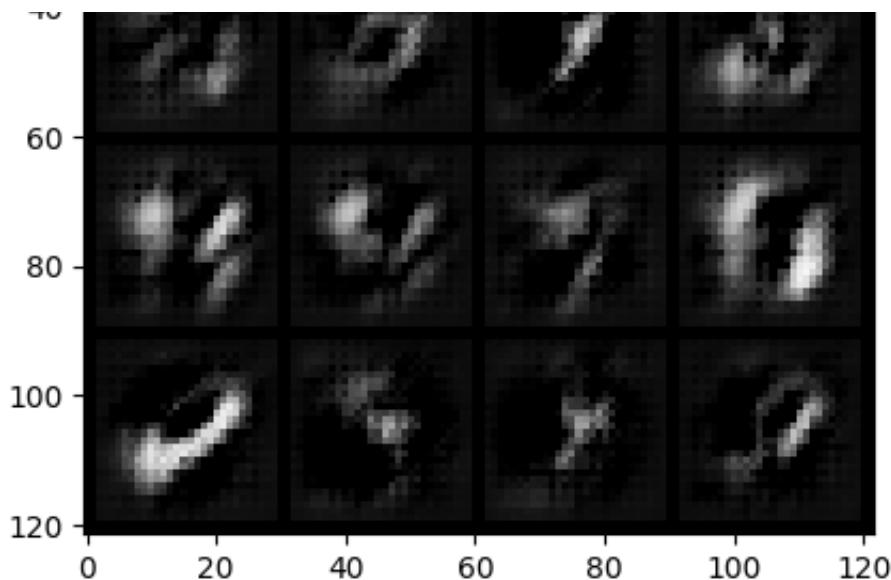


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6855, G_loss: 0.6780

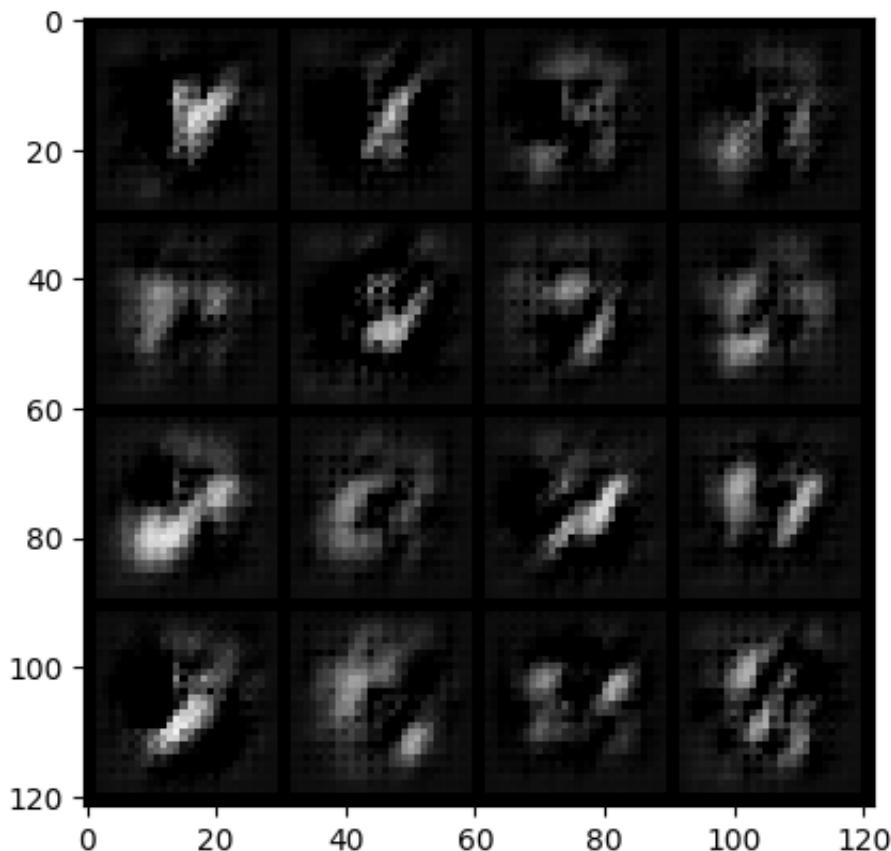


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6855, G_loss: 0.6781

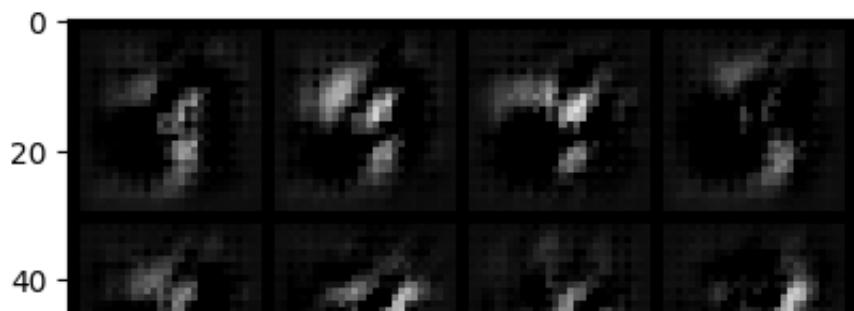


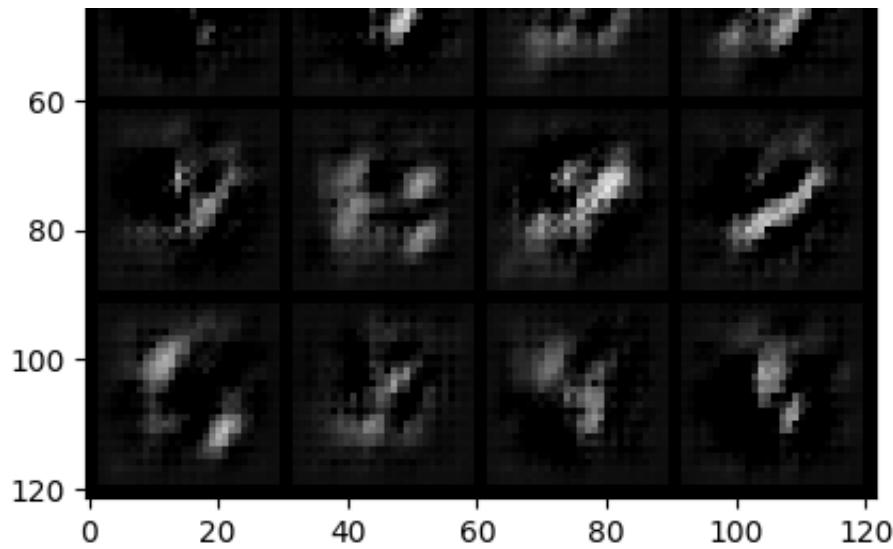


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6854, G_loss: 0.6782

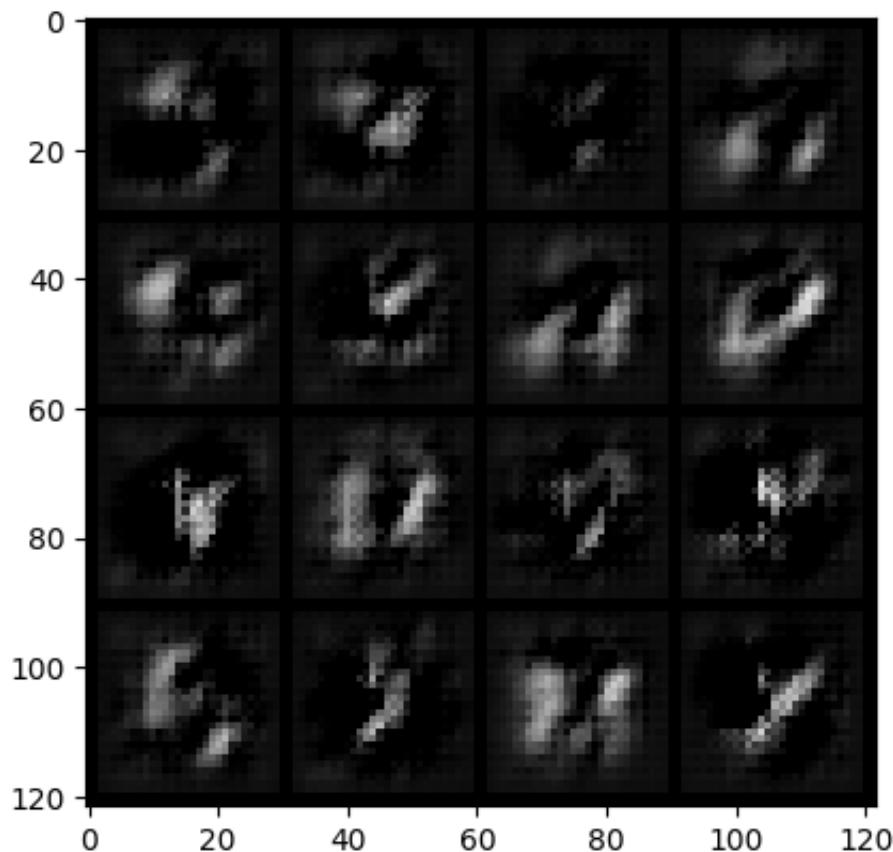


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6854, G_loss: 0.6783

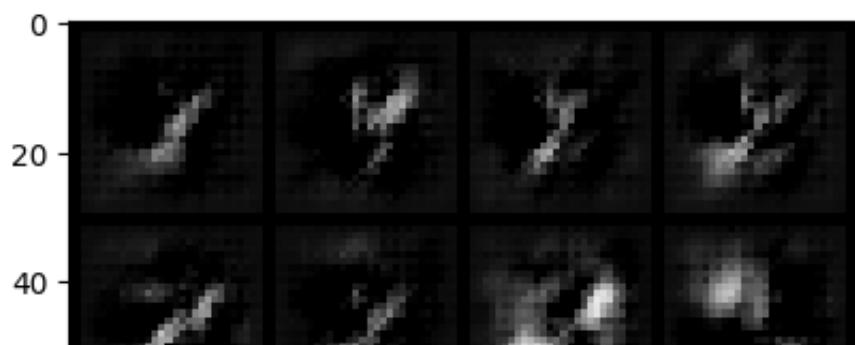


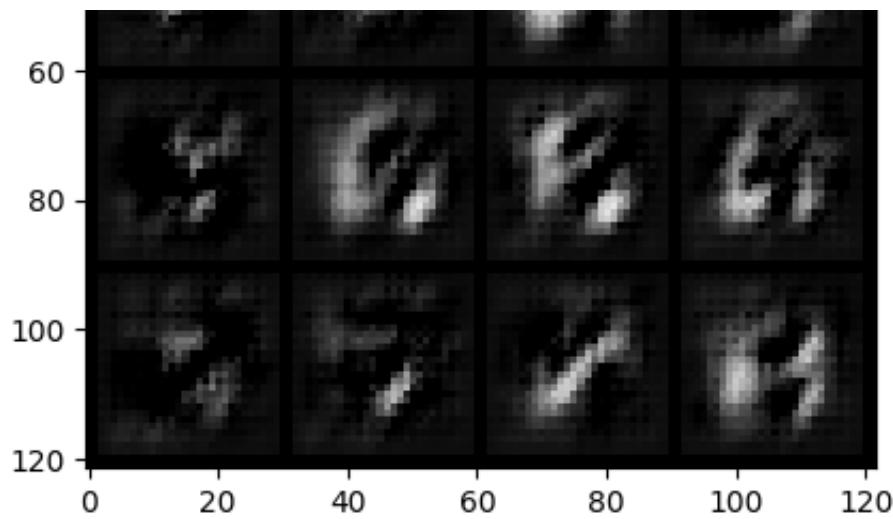


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6853, G_loss: 0.6784

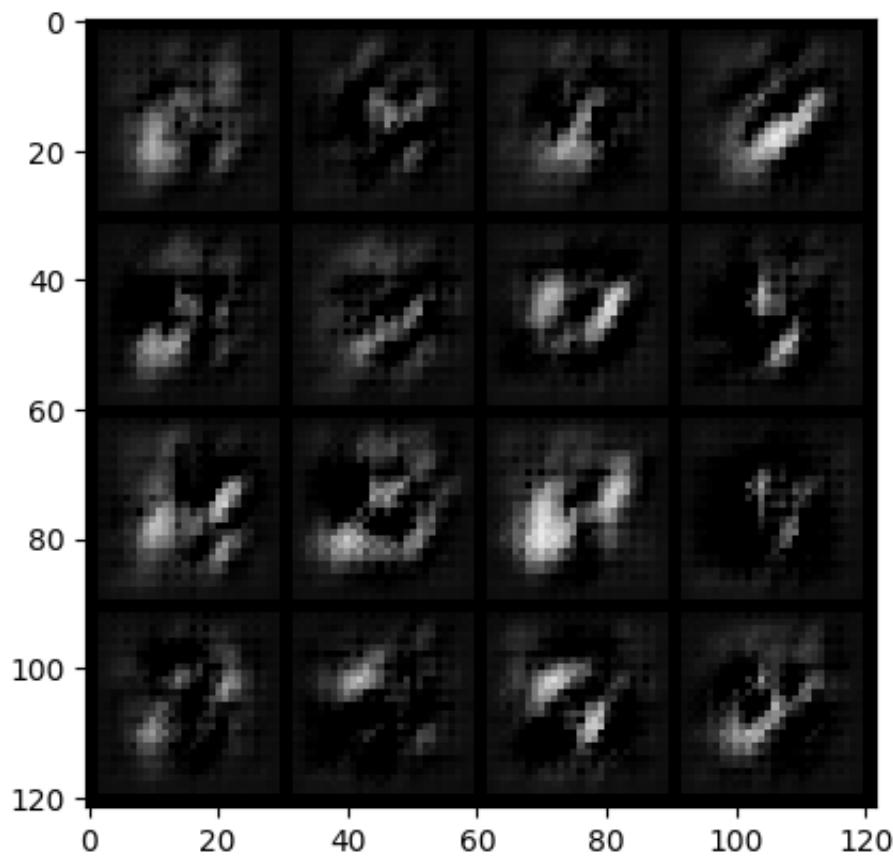


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6853, G_loss: 0.6785

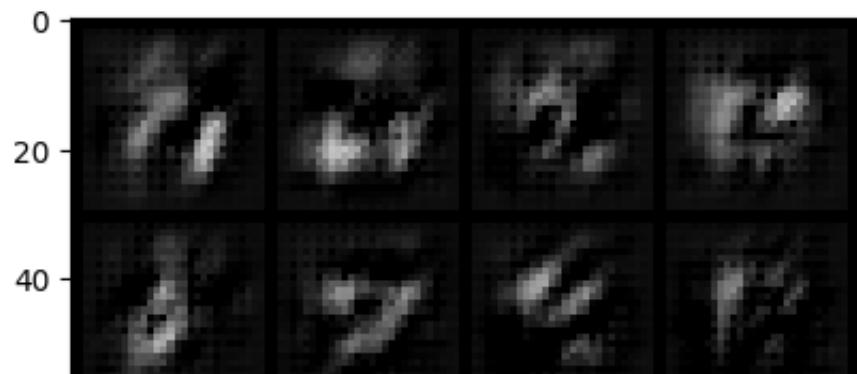


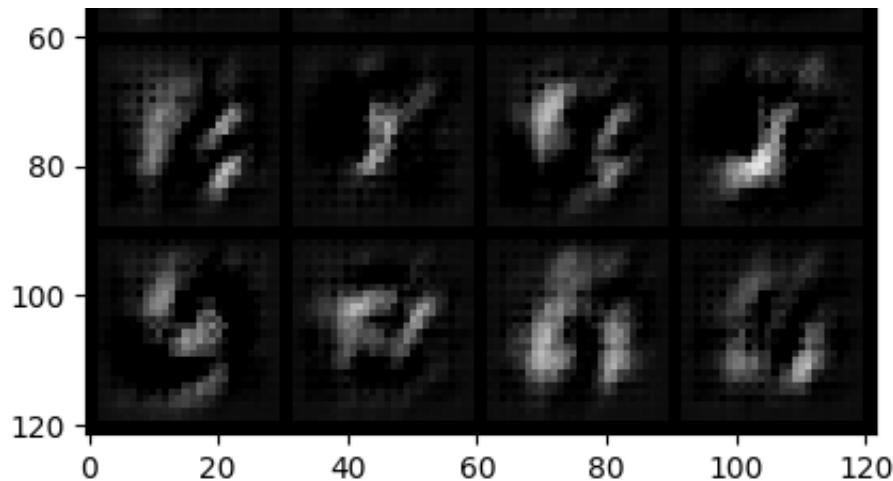


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6852, G_loss: 0.6786

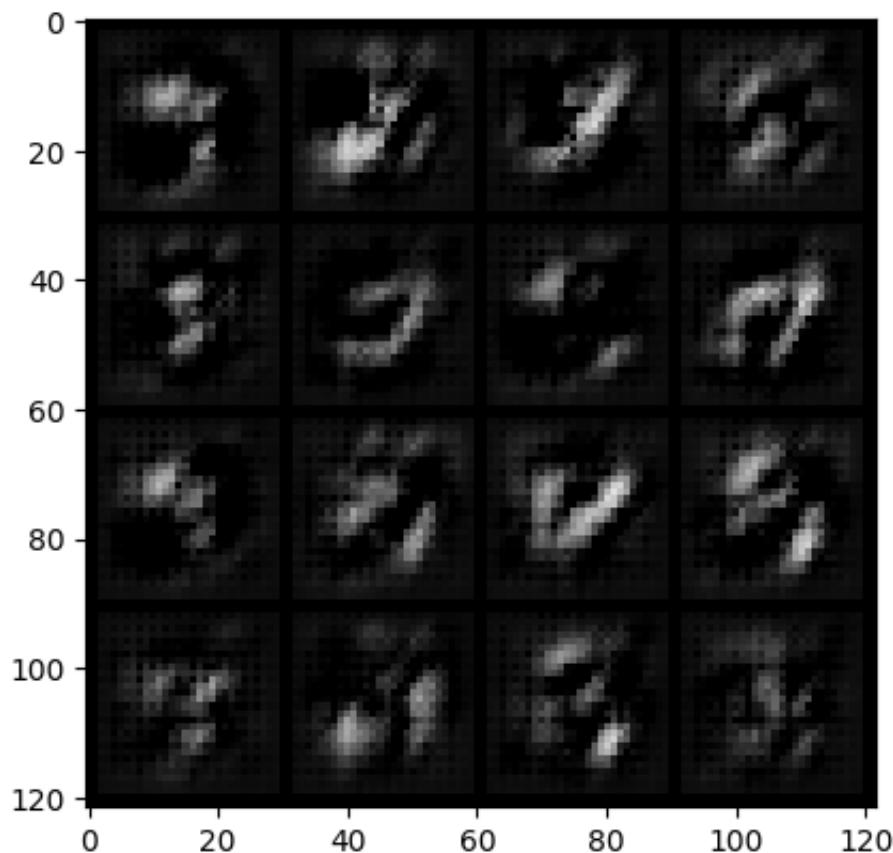


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6852, G_loss: 0.6787

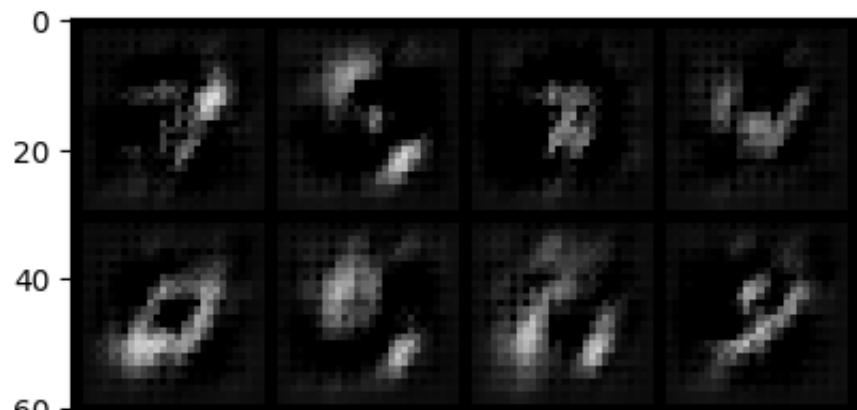


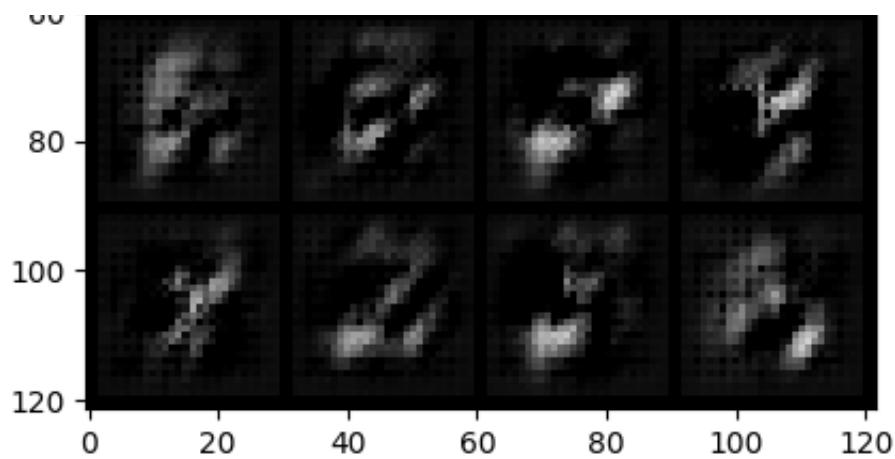


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6852, G_loss: 0.6788

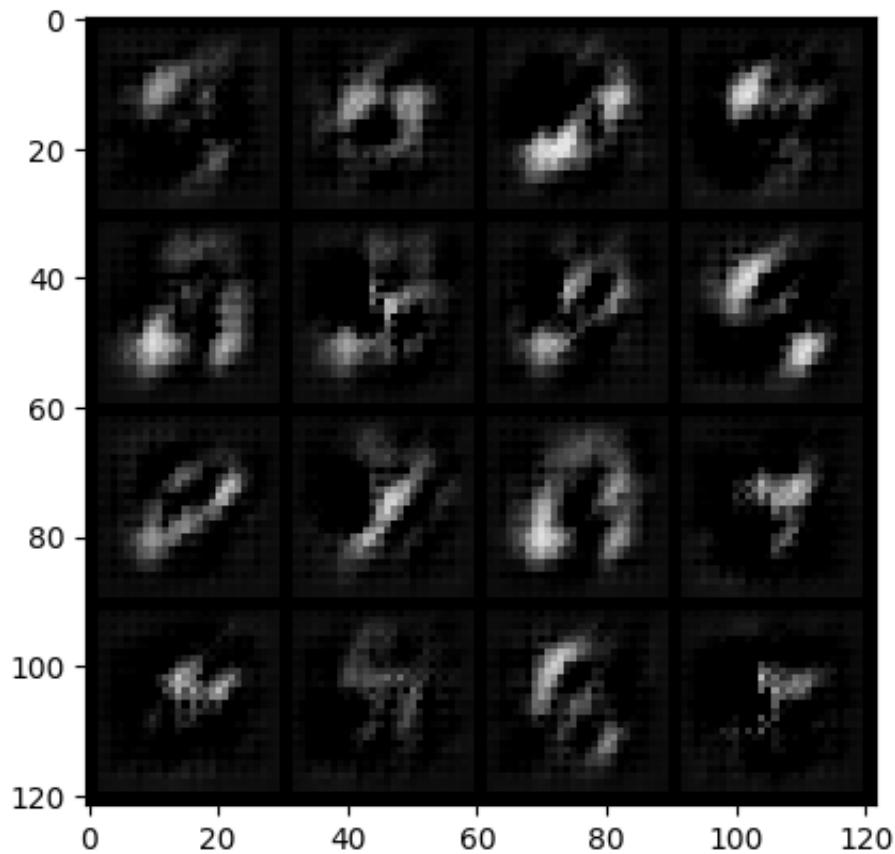


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6851, G_loss: 0.6789



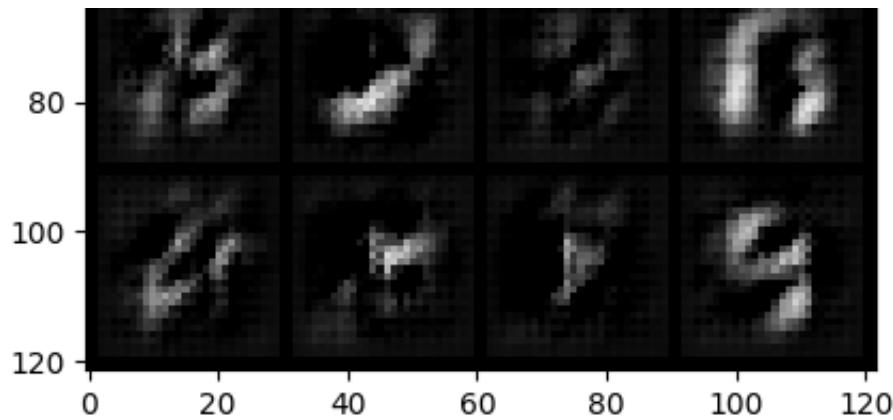


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0000
D_loss: 0.6851, G_loss: 0.6790

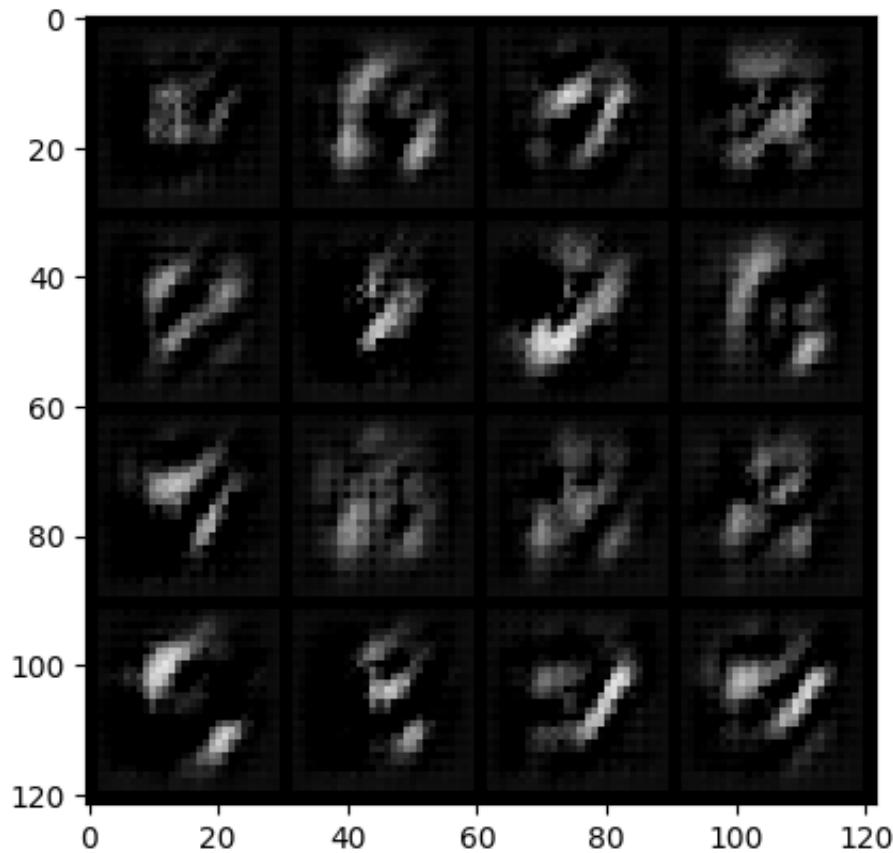


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0000
D_loss: 0.6850, G_loss: 0.6791



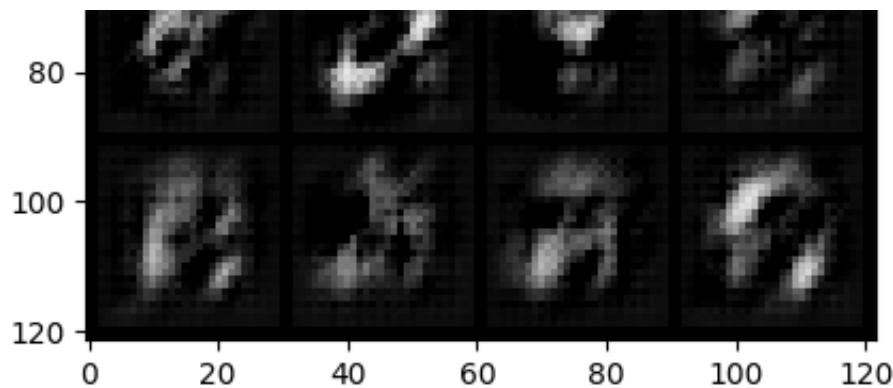


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6792

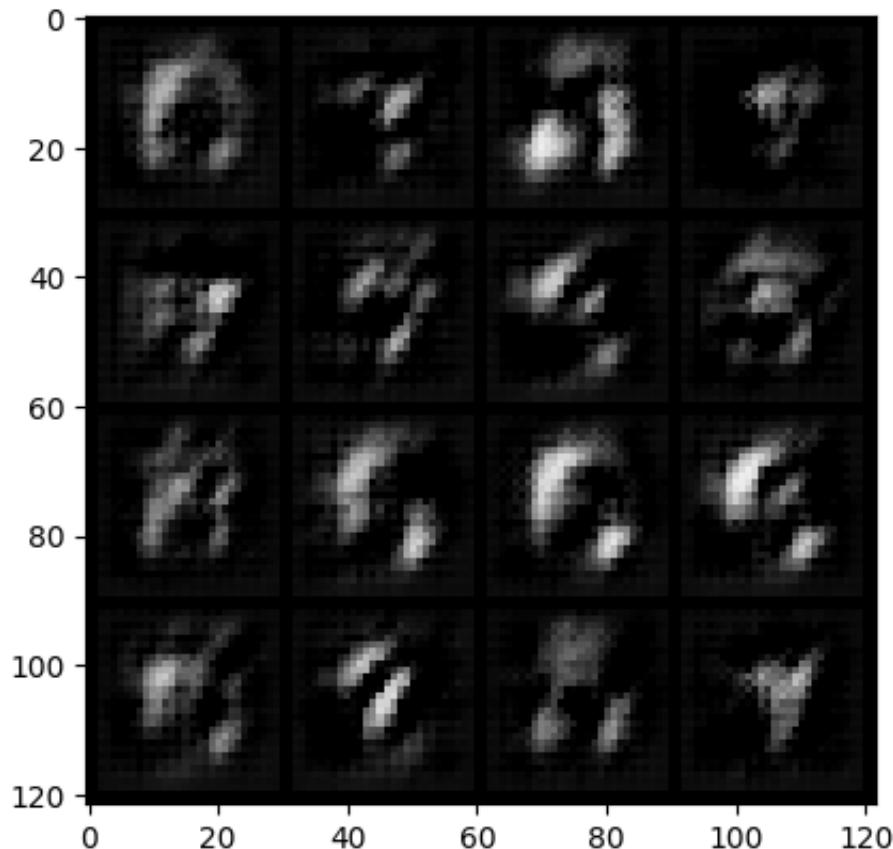


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6793



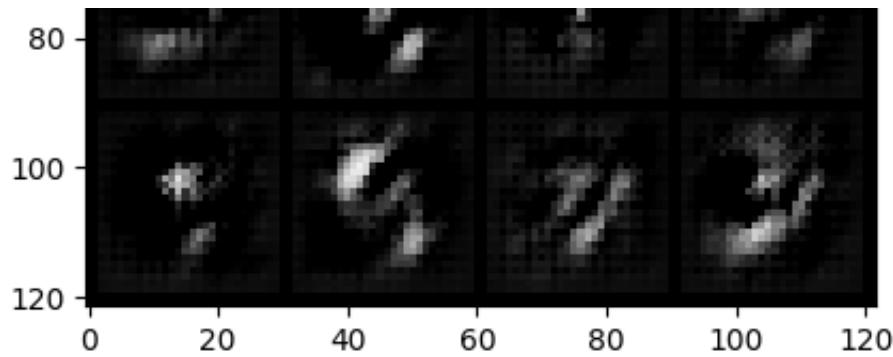


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6794

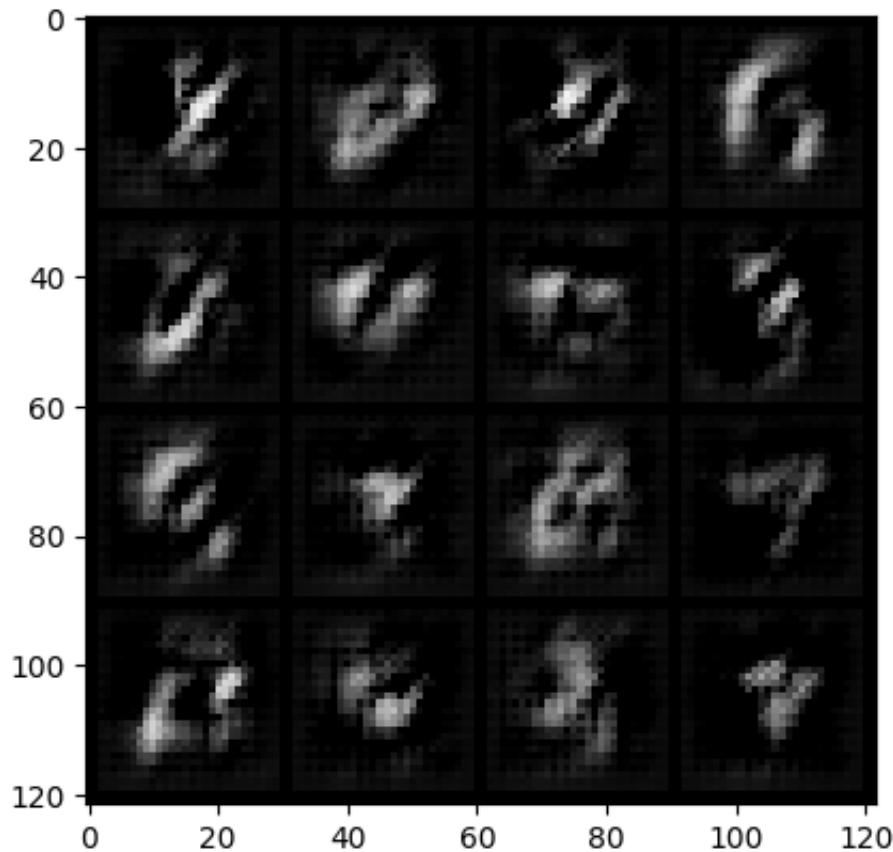


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6795



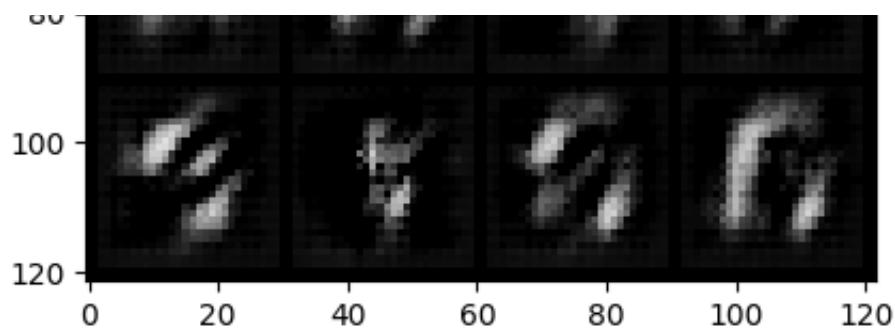


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.125, max=1.0
D_loss: 0.6849, G_loss: 0.6796

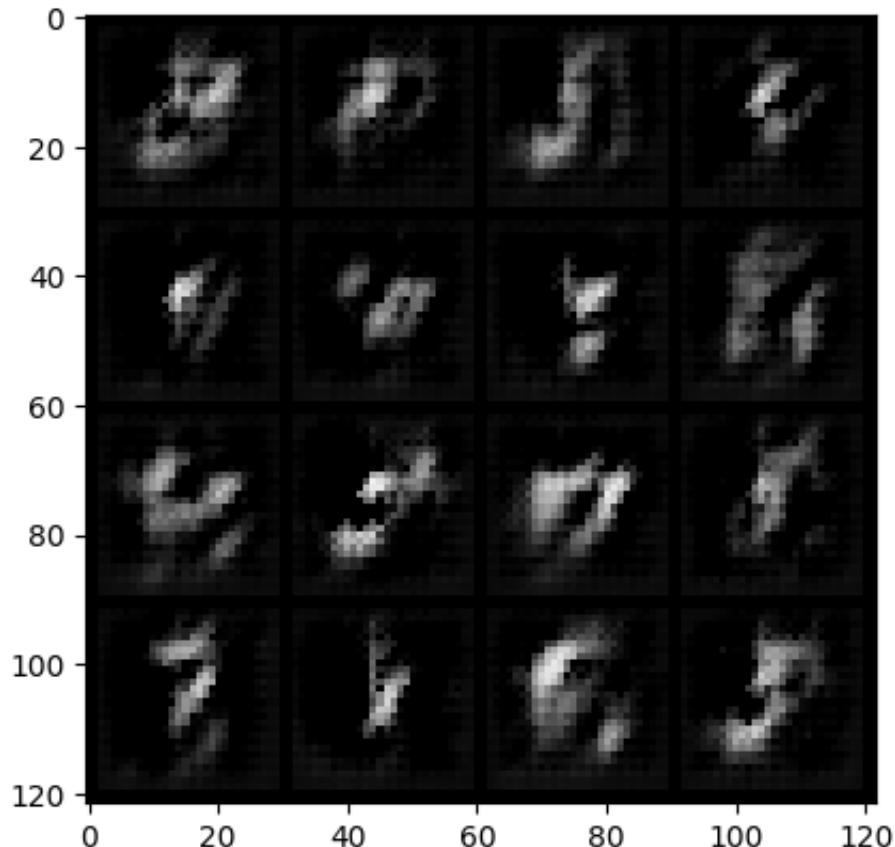


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.125, max=1.0
D_loss: 0.6848, G_loss: 0.6797

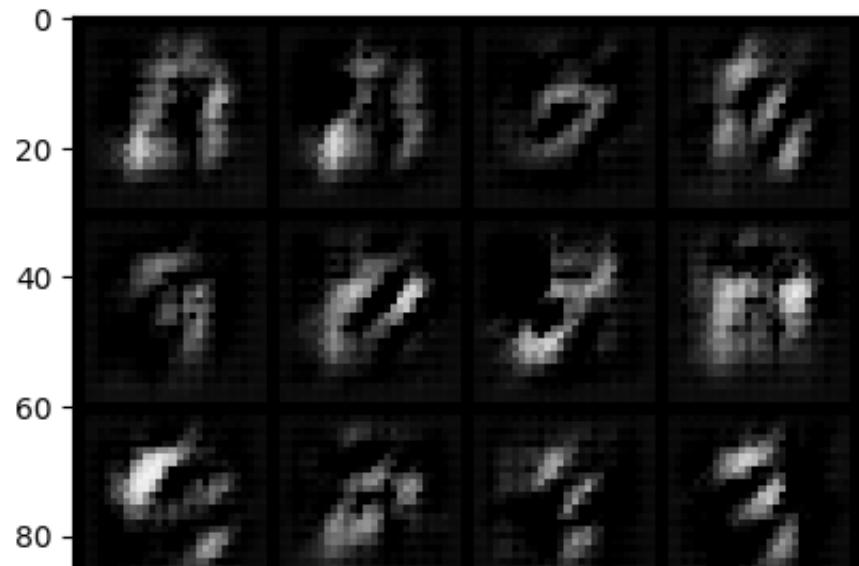


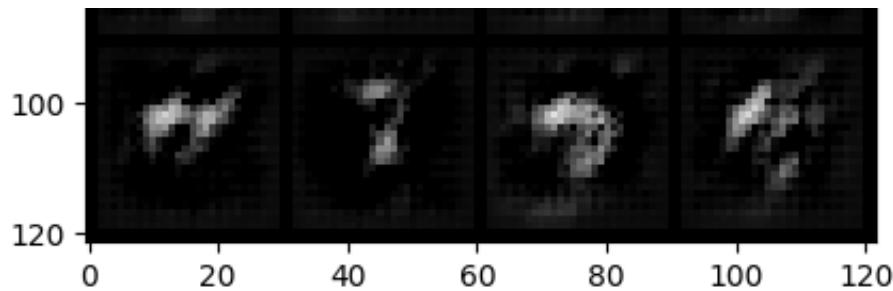


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0000
D_loss: 0.6848, G_loss: 0.6798

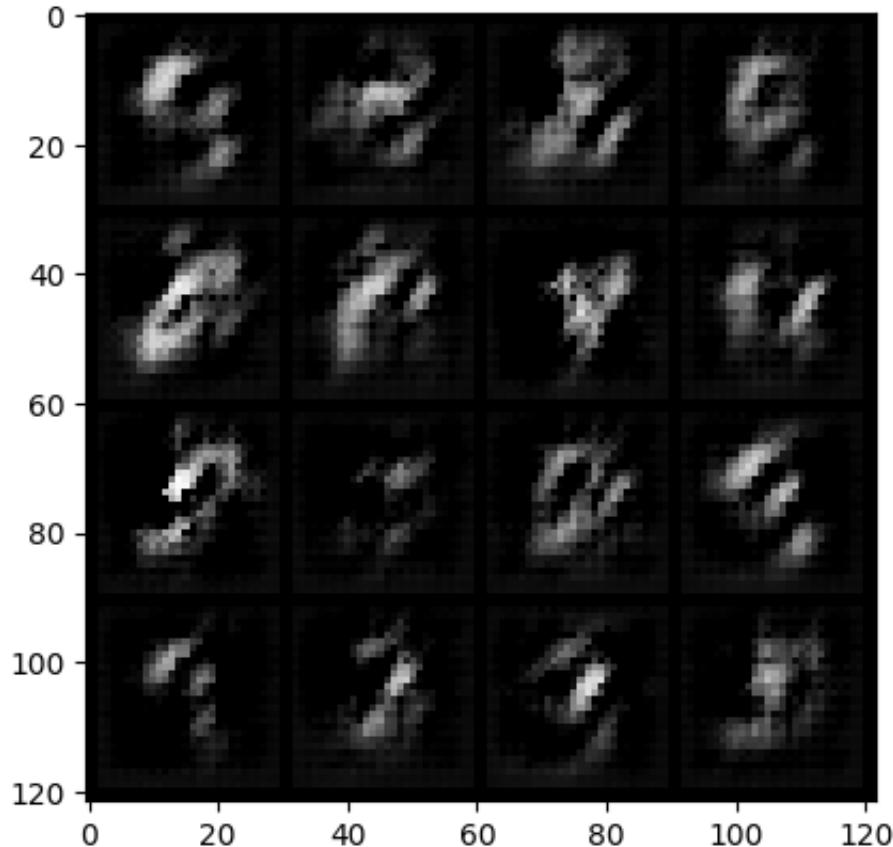


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0000
D_loss: 0.6847, G_loss: 0.6799

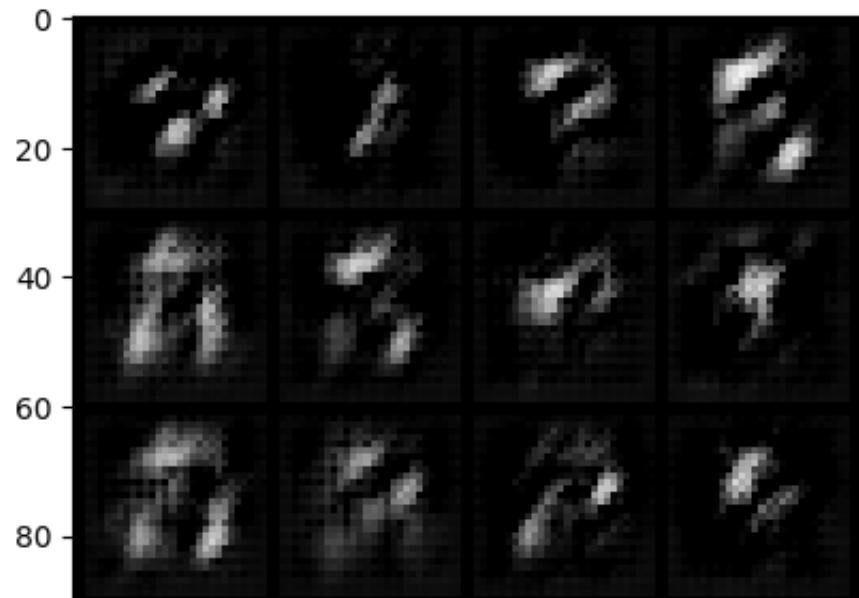


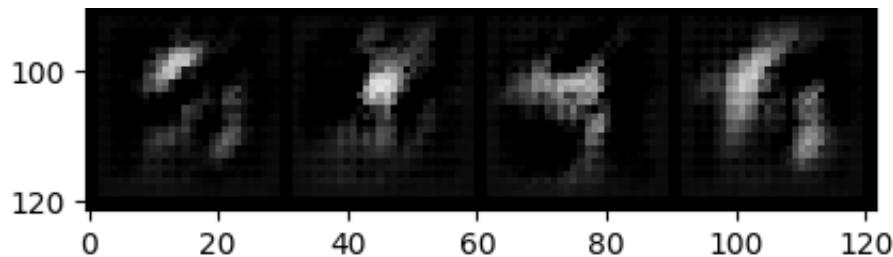


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6847, G_loss: 0.6800

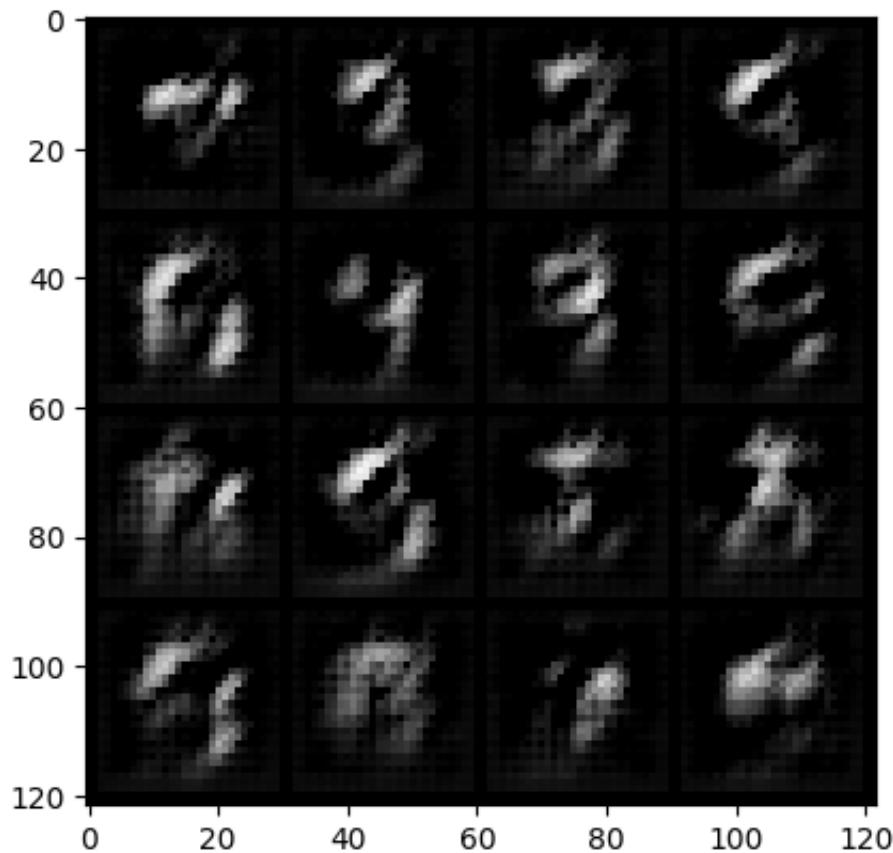


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6847, G_loss: 0.6800



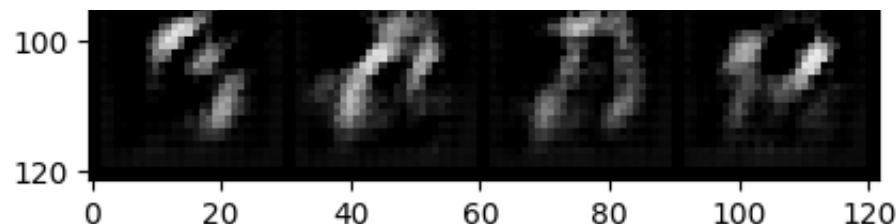


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6847, G_loss: 0.6802

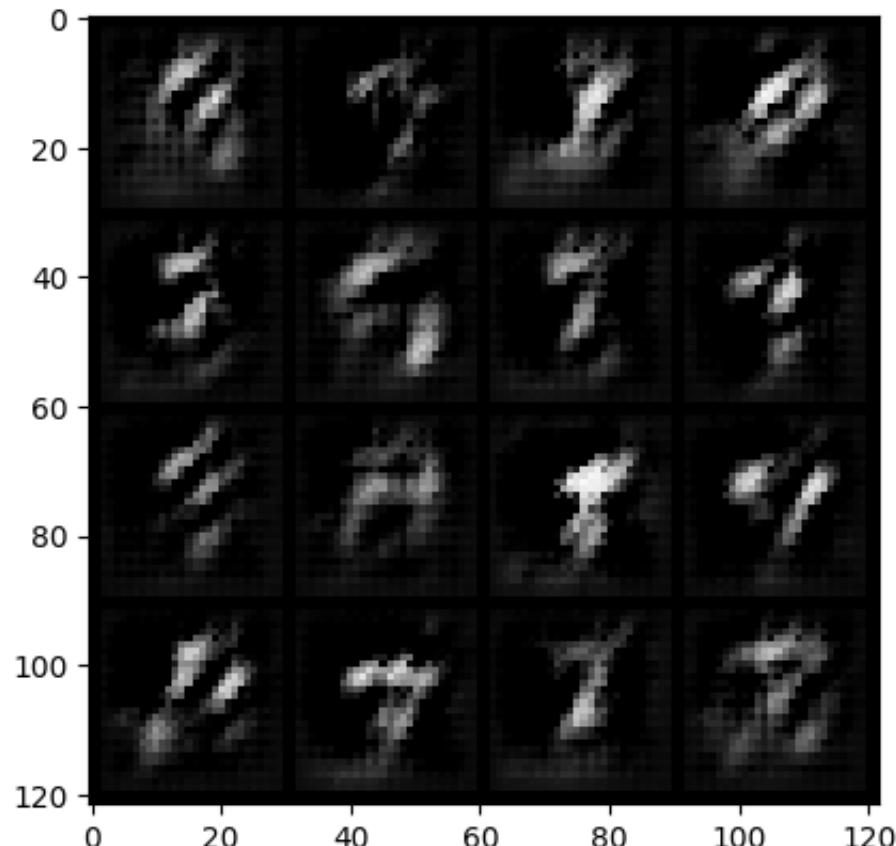


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6846, G_loss: 0.6803

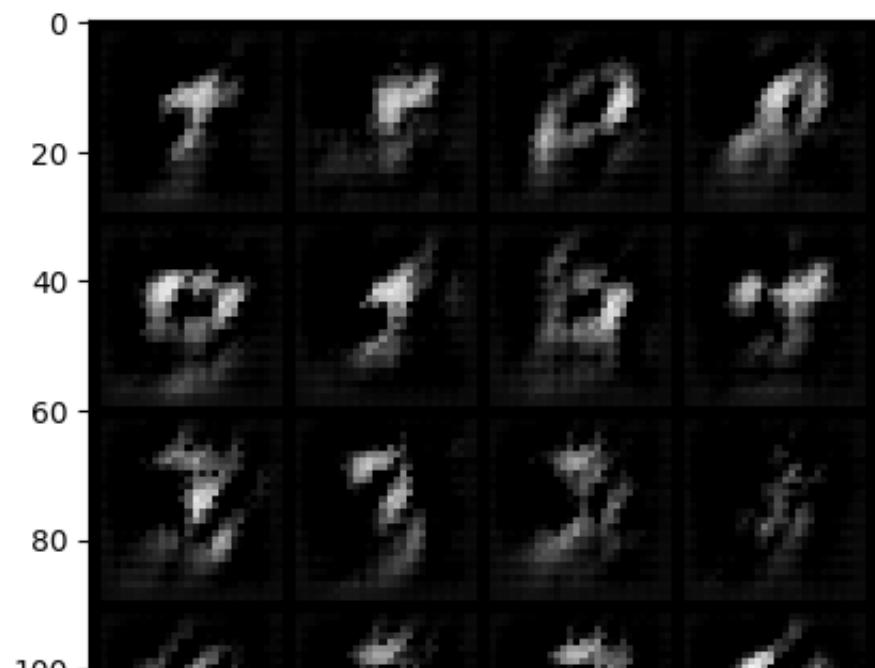


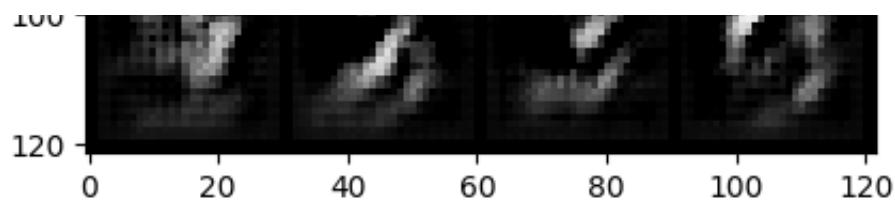


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6846, G_loss: 0.6803

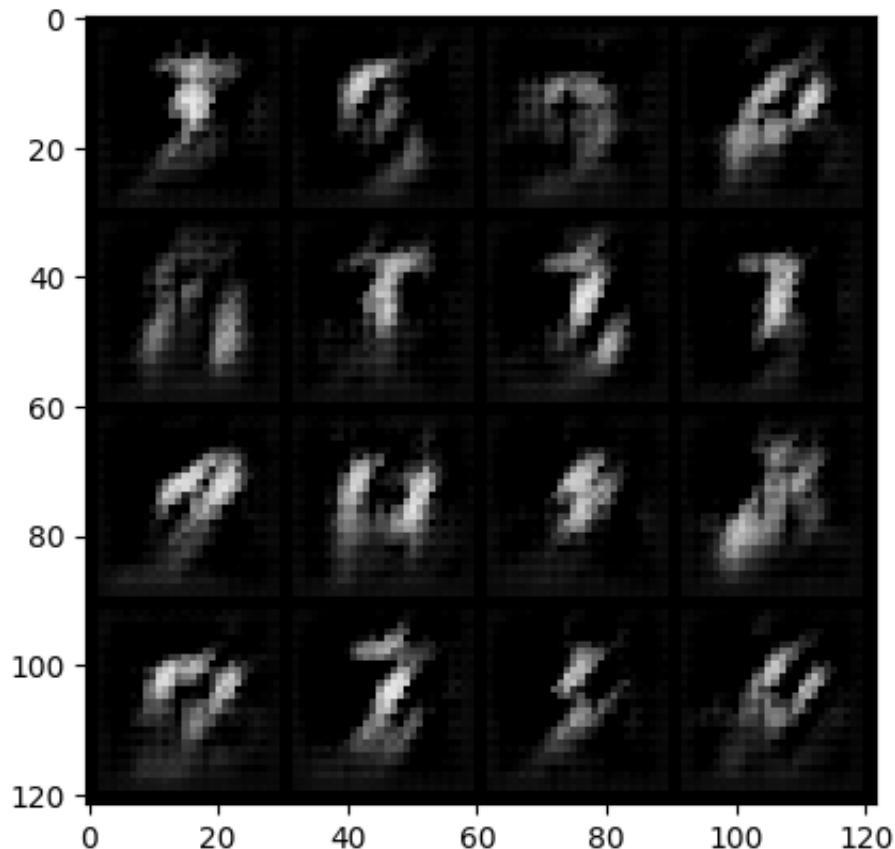


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6846, G_loss: 0.6804

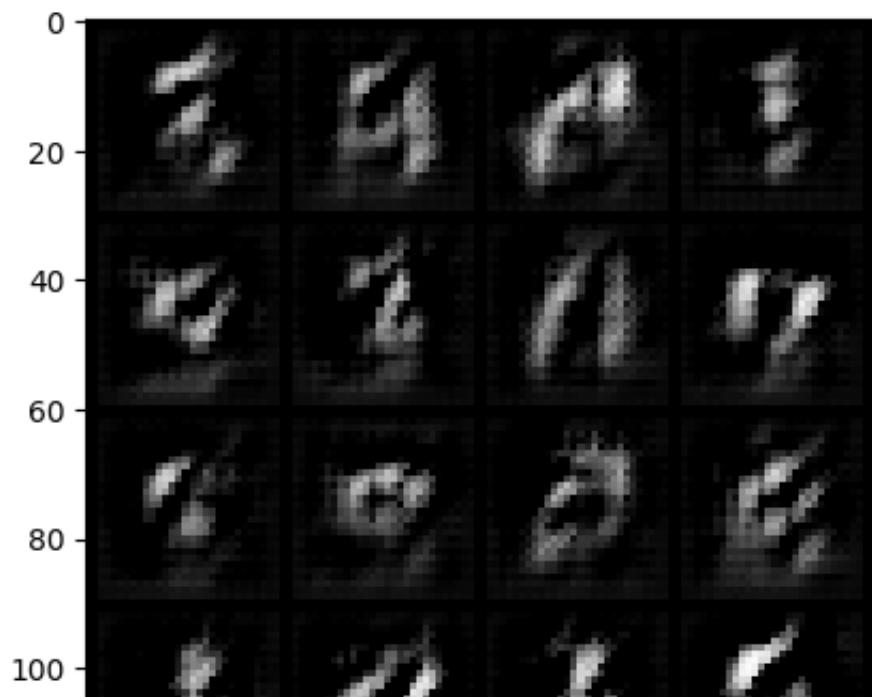


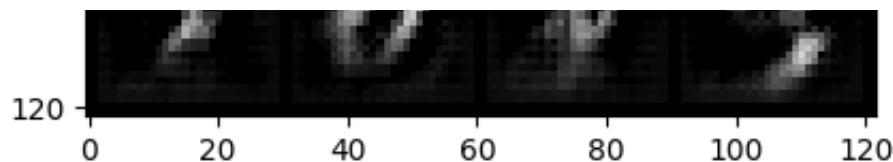


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6846, G_loss: 0.6805

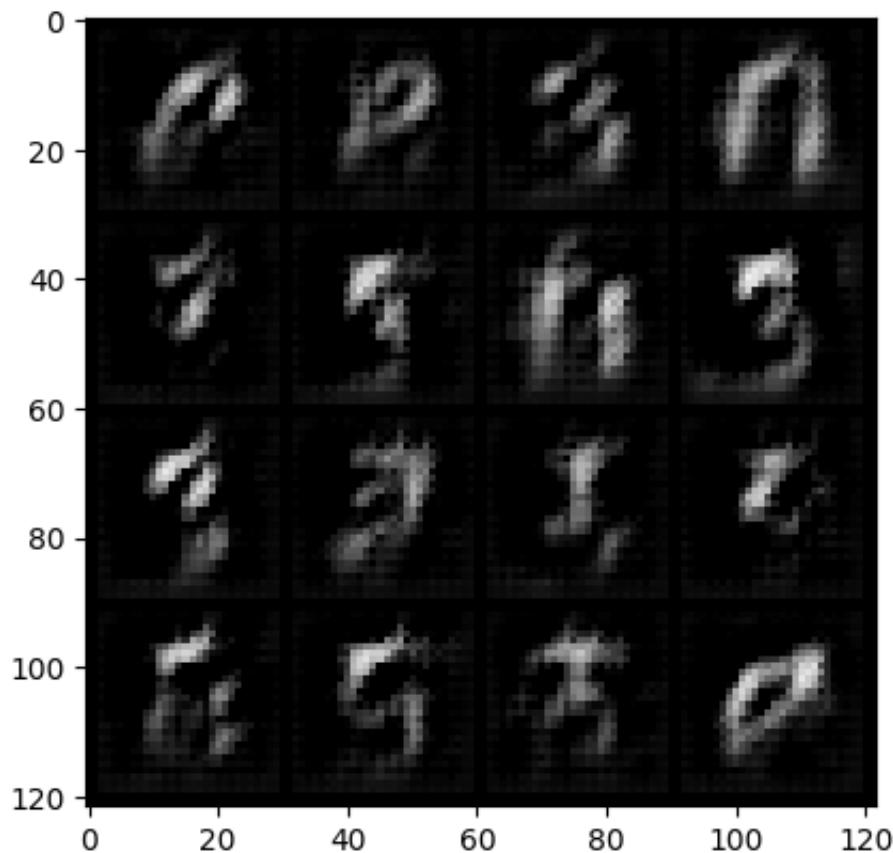


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6845, G_loss: 0.6806

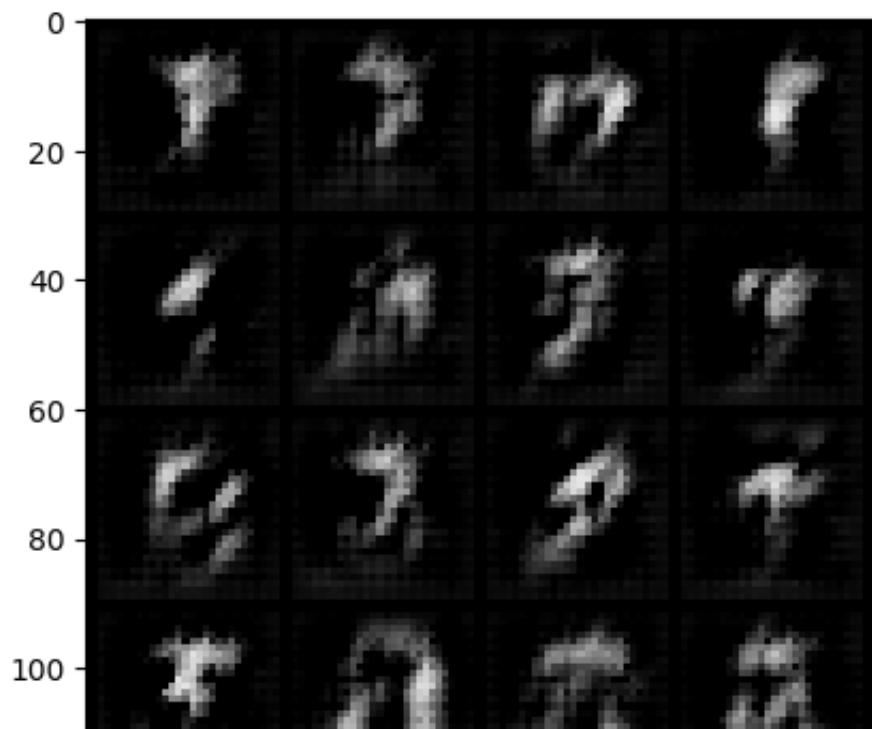


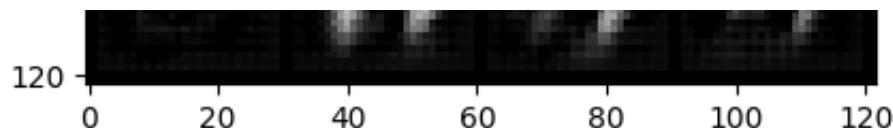


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6845, G_loss: 0.6807

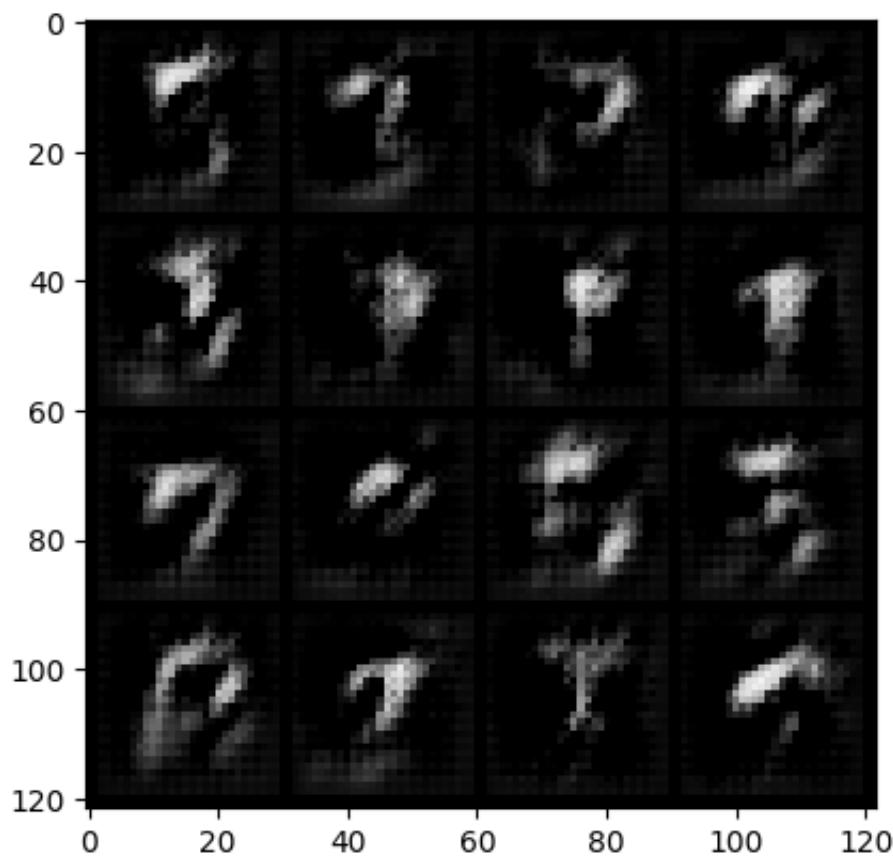


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6845, G_loss: 0.6808

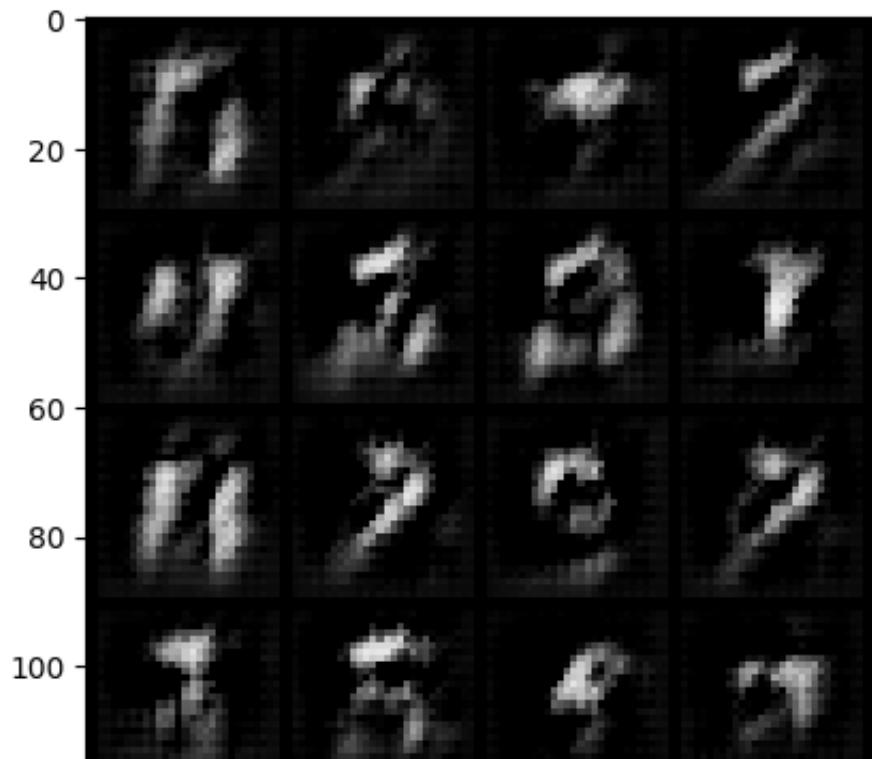


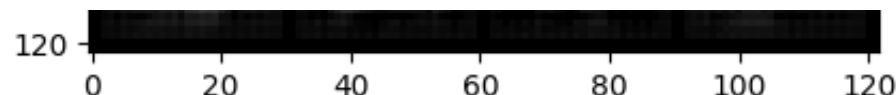


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6844, G_loss: 0.6808

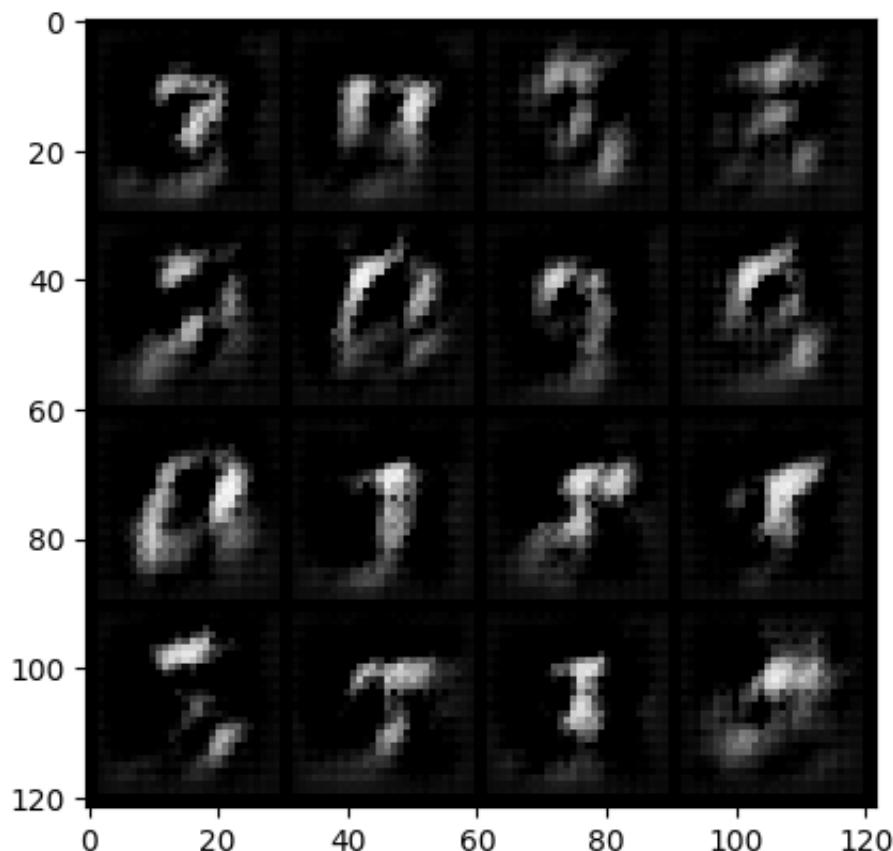


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6844, G_loss: 0.6809

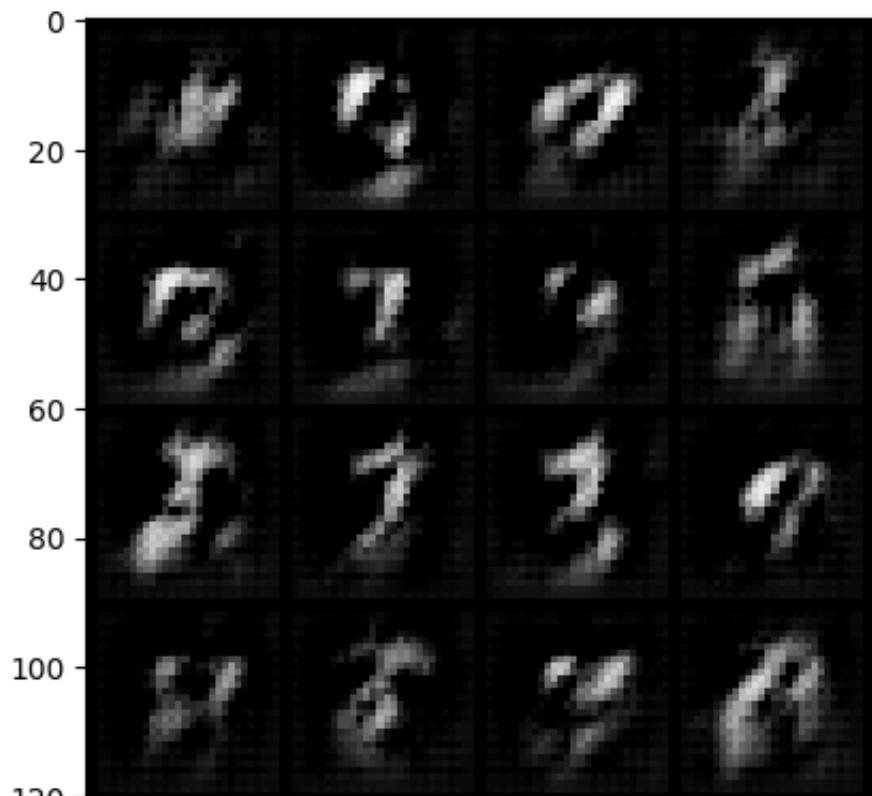


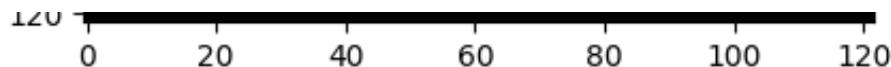


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6844, G_loss: 0.6810

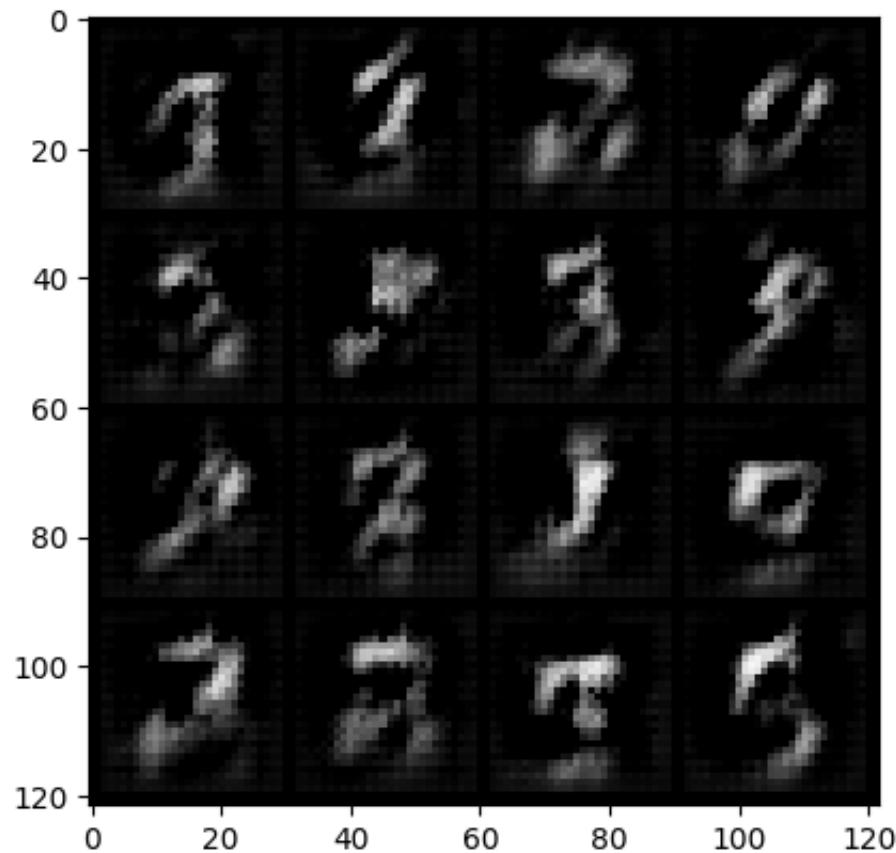


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6844, G_loss: 0.6811

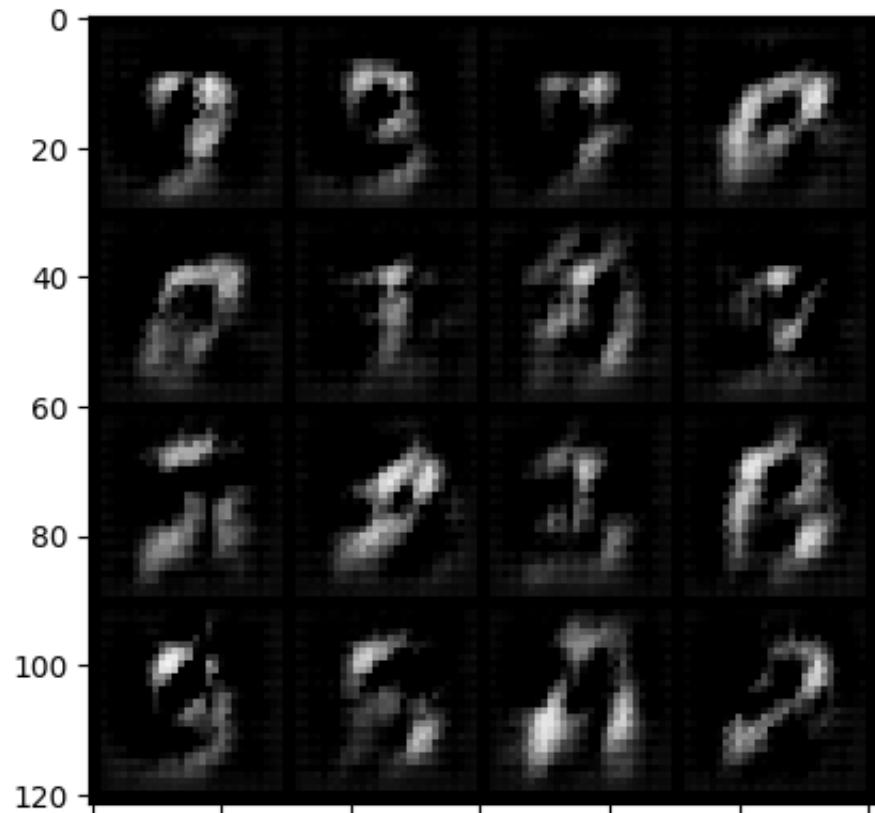




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6843, G_loss: 0.6812

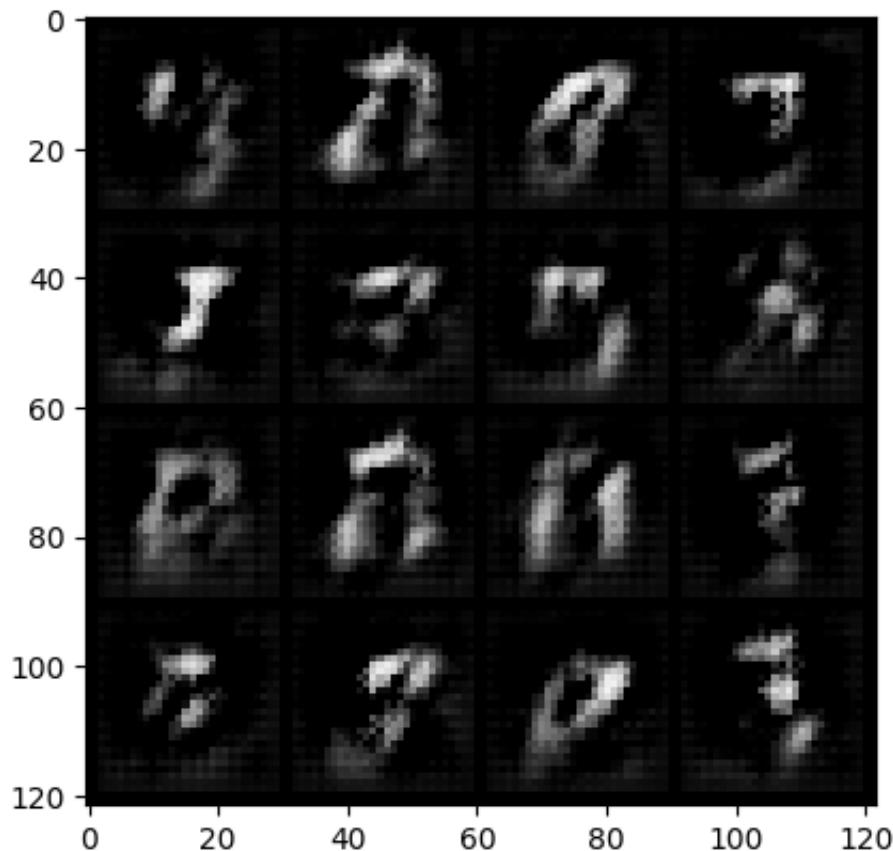


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6843, G_loss: 0.6813

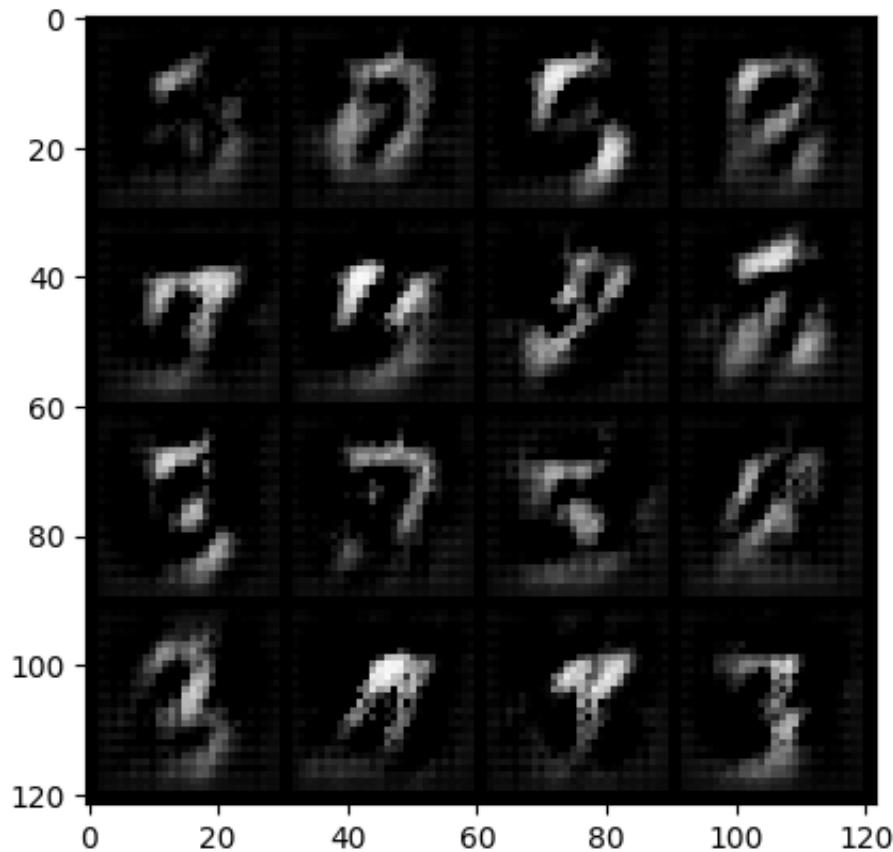


0 20 40 60 80 100 120

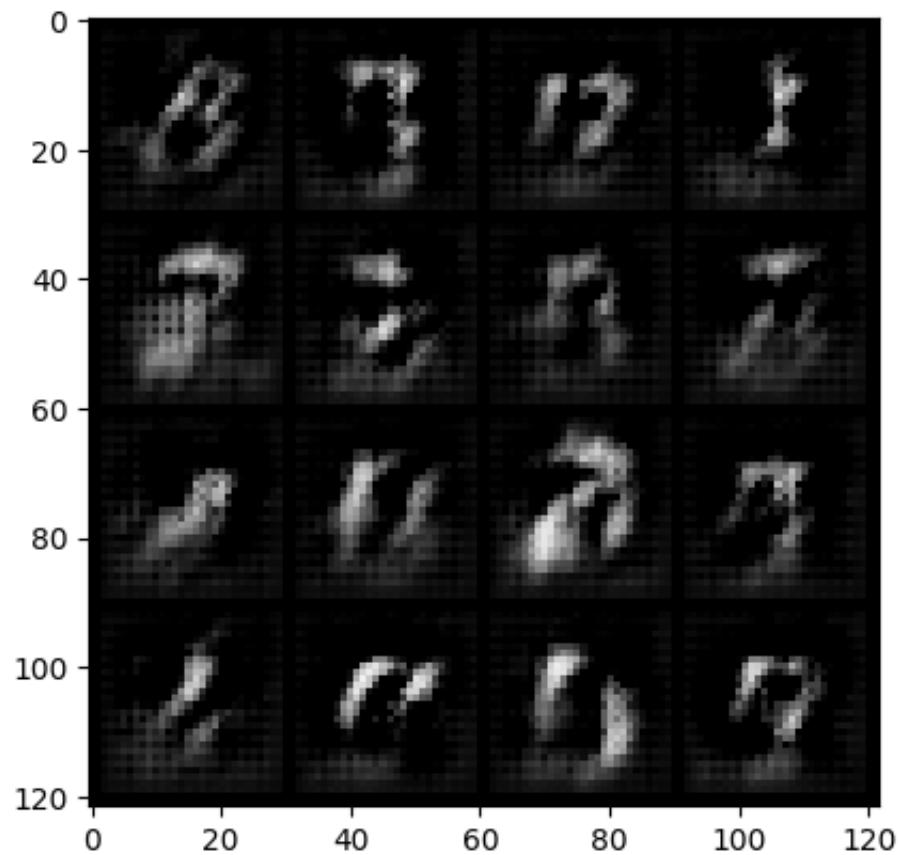
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6843, G_loss: 0.6814



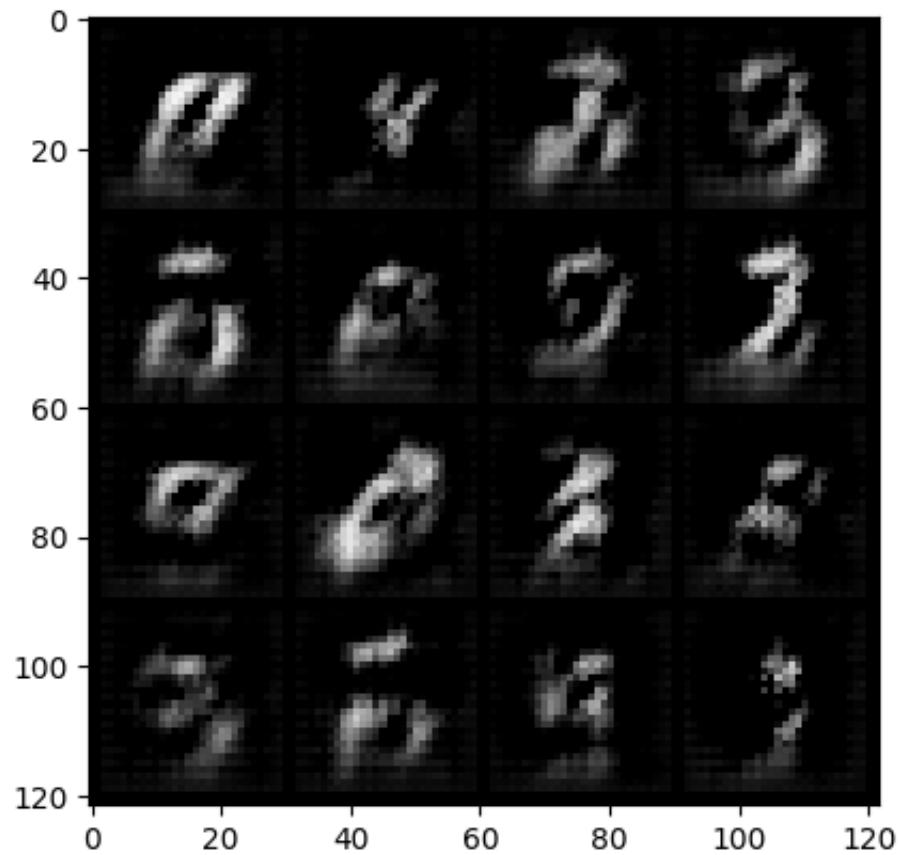
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6842, G_loss: 0.6815



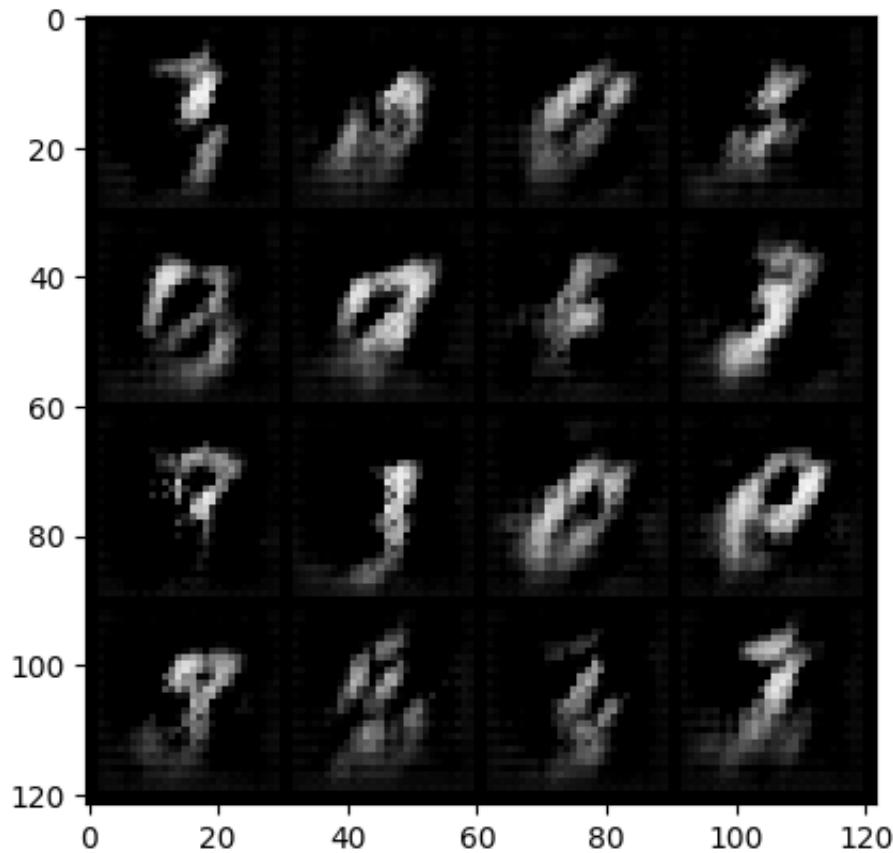
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6842, G_loss: 0.6816



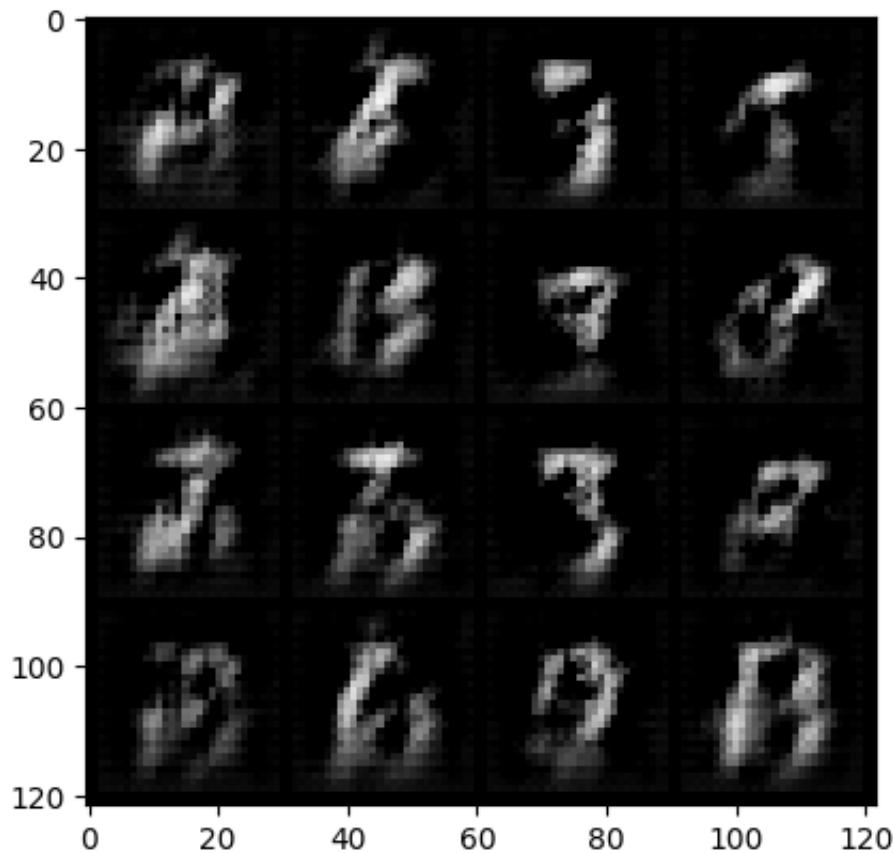
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6842, G_loss: 0.6817



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6842, G_loss: 0.6817

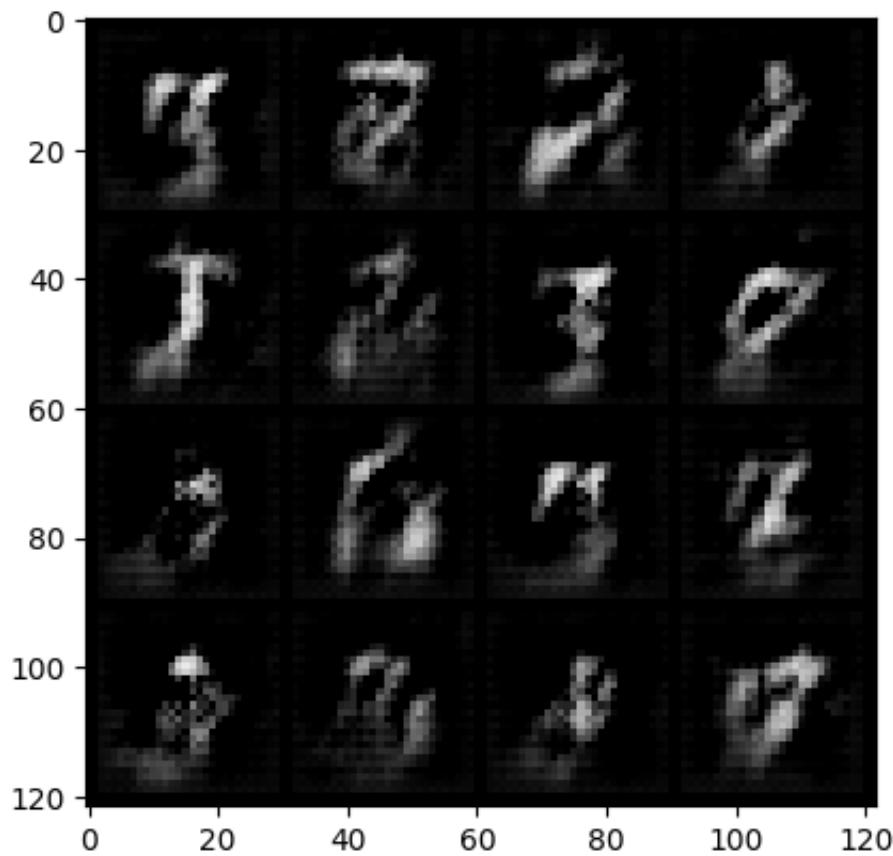


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6841, G_loss: 0.6819

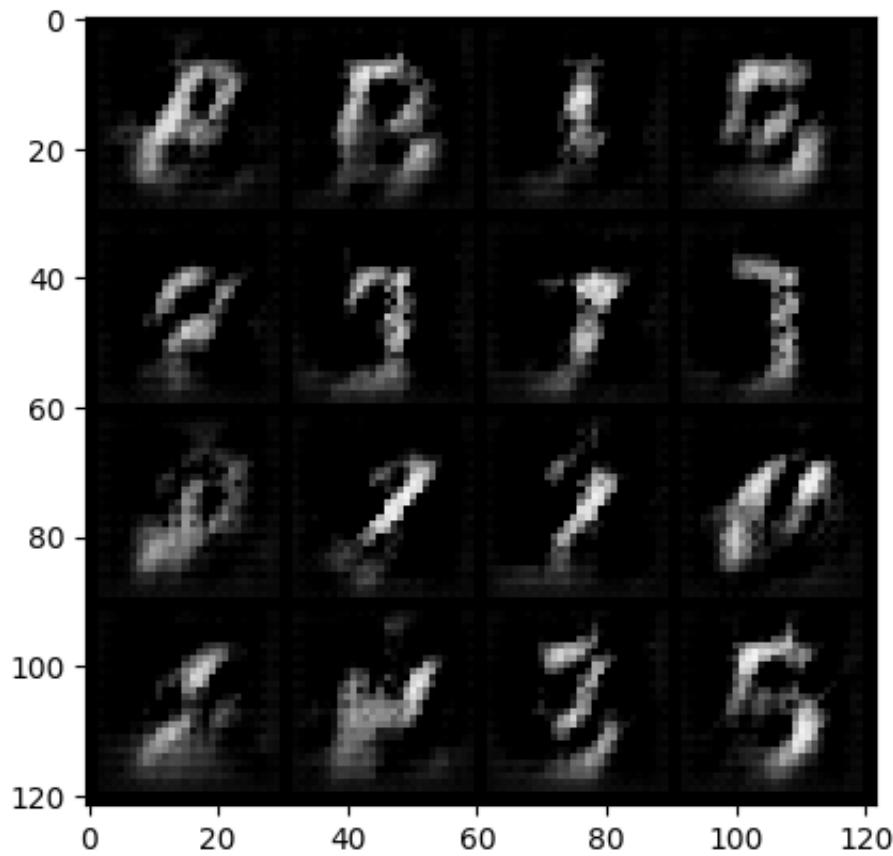


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

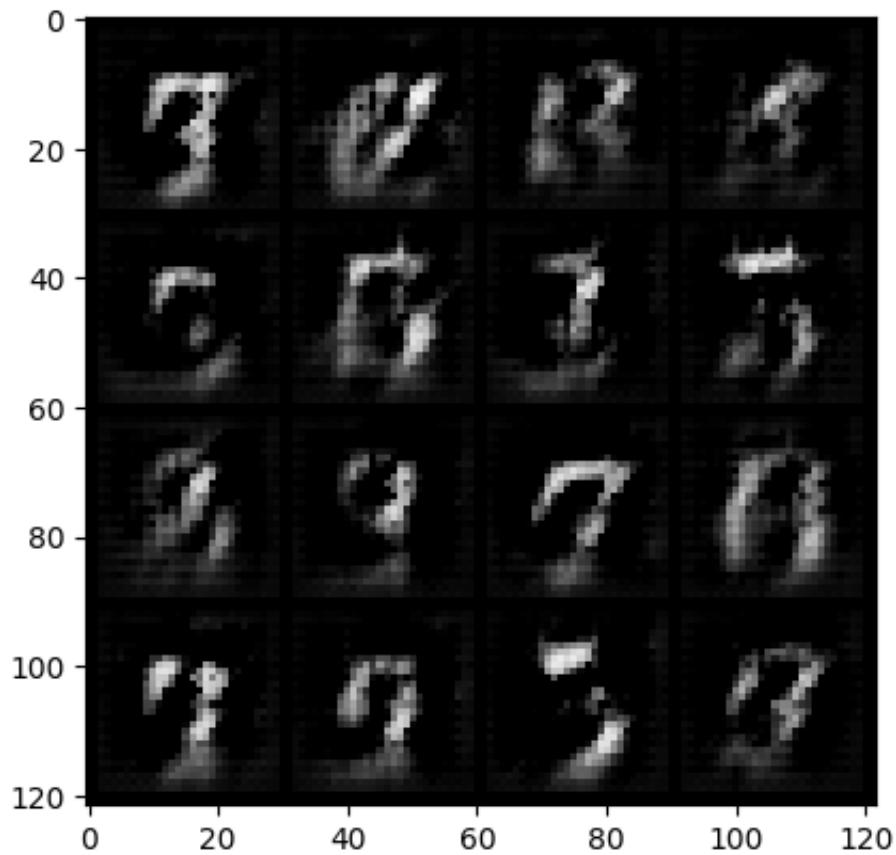
D_loss: 0.6841, G_loss: 0.6819



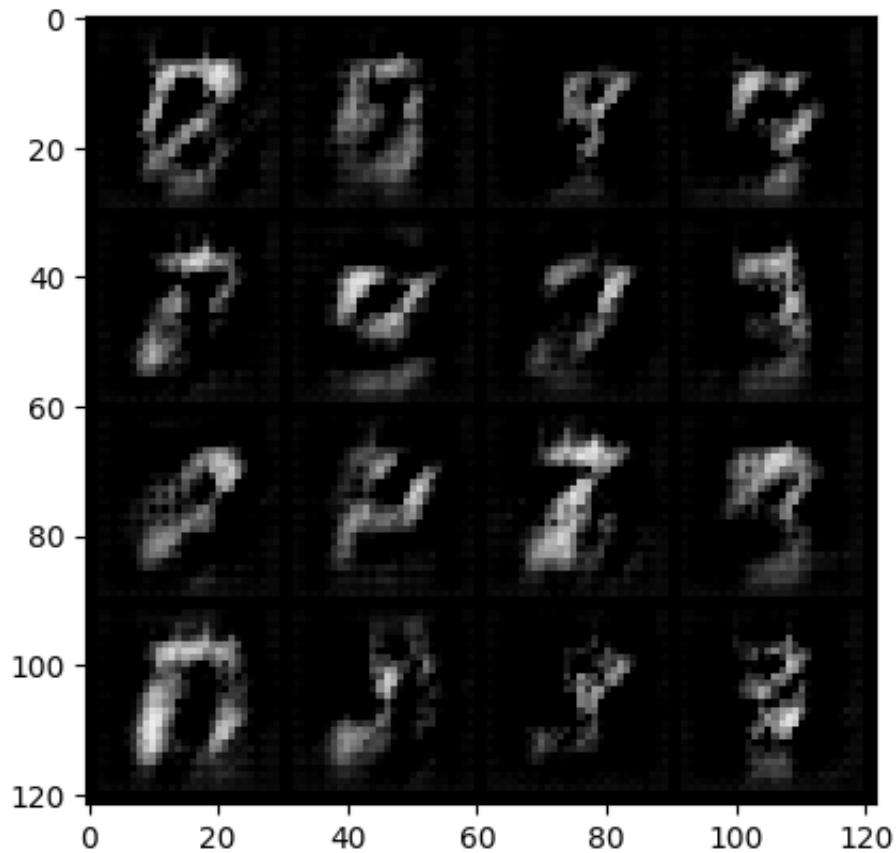
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6820



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6821

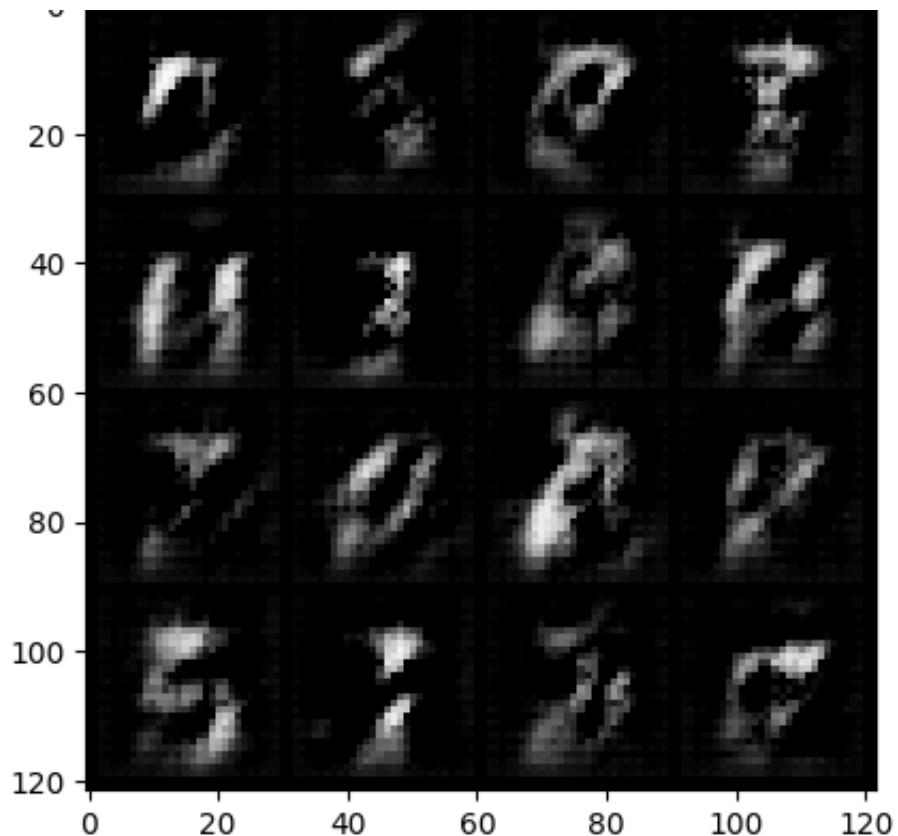


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6822

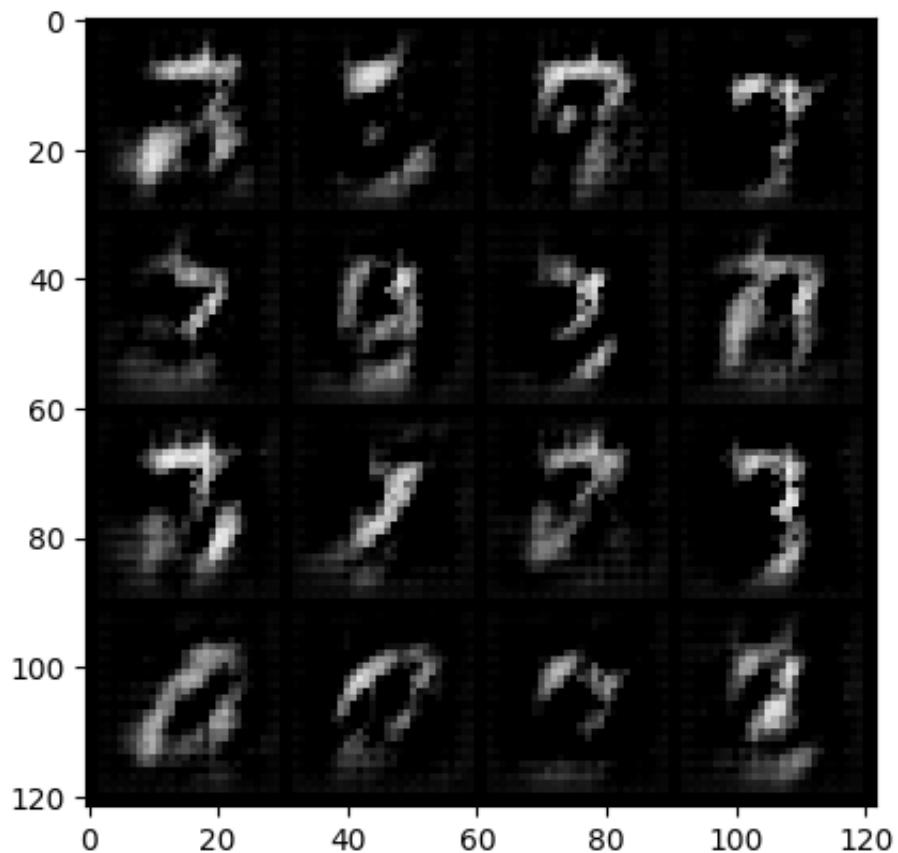


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6823

0 ——————

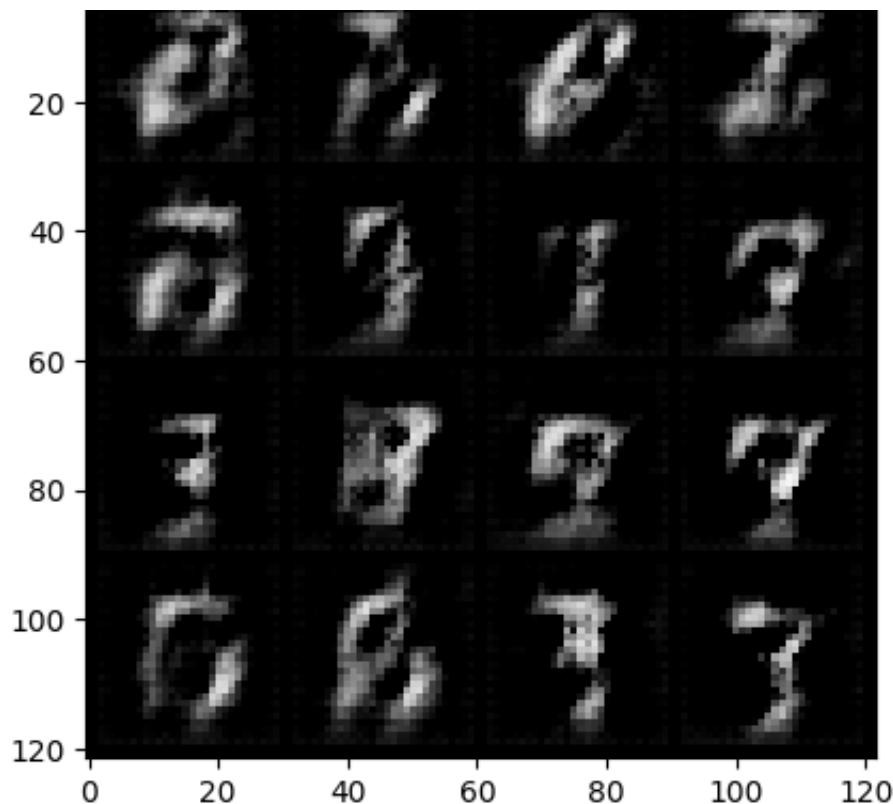


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6823

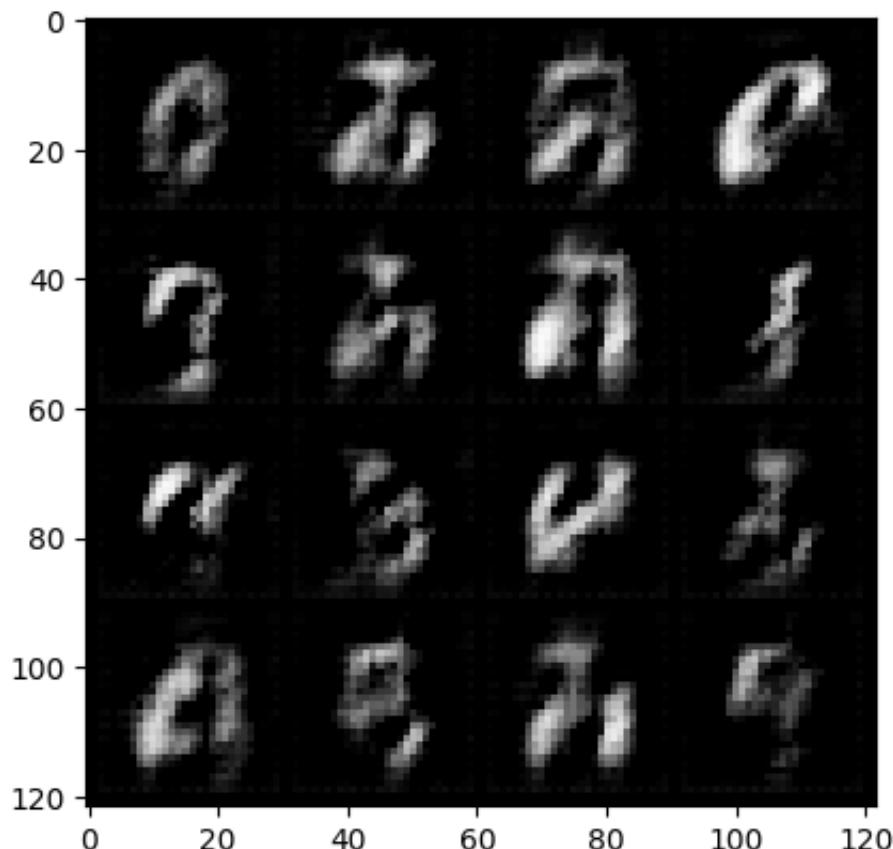


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6823



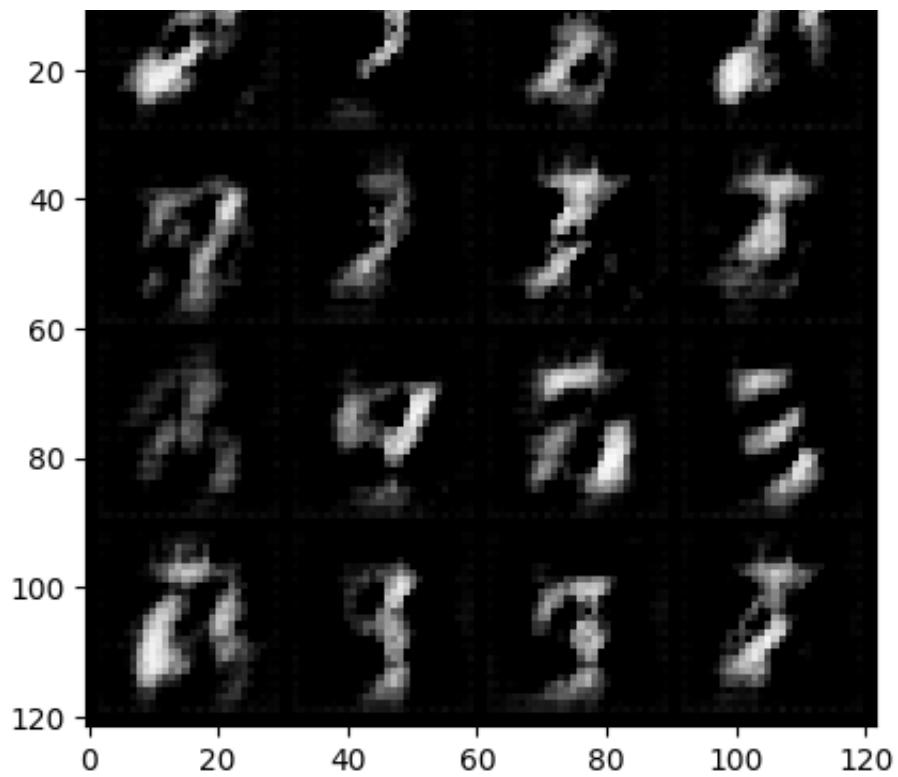


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6824

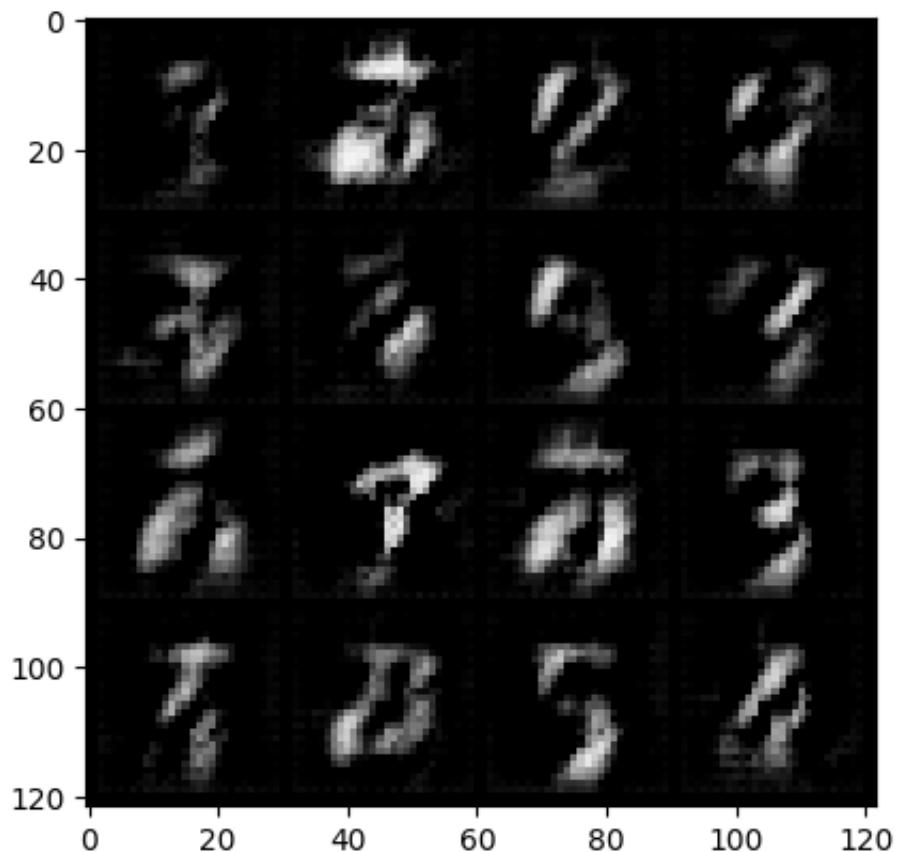


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6825



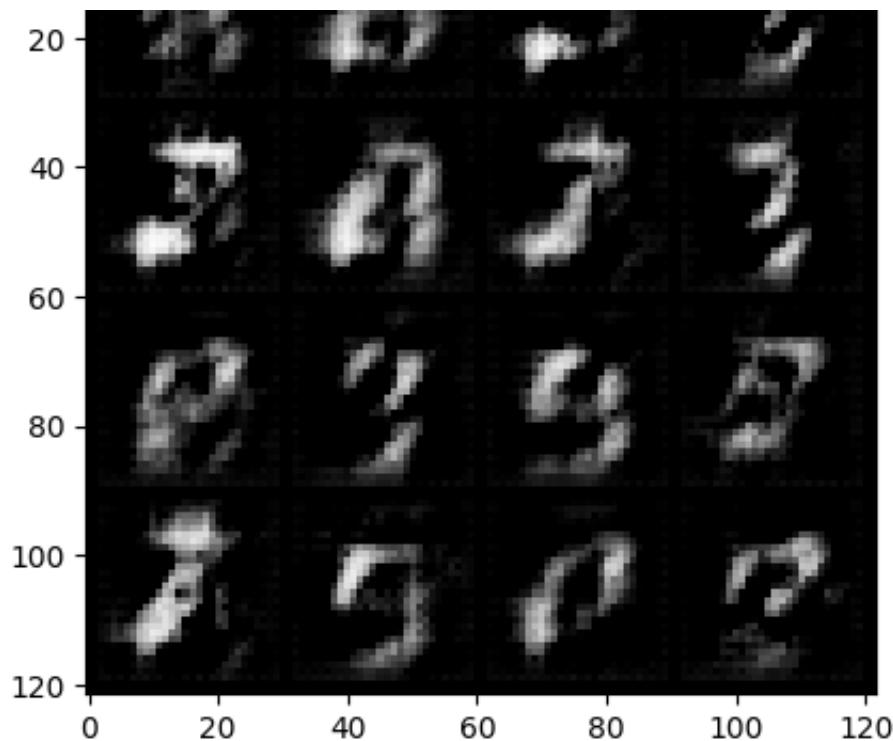


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6840, G_loss: 0.6825

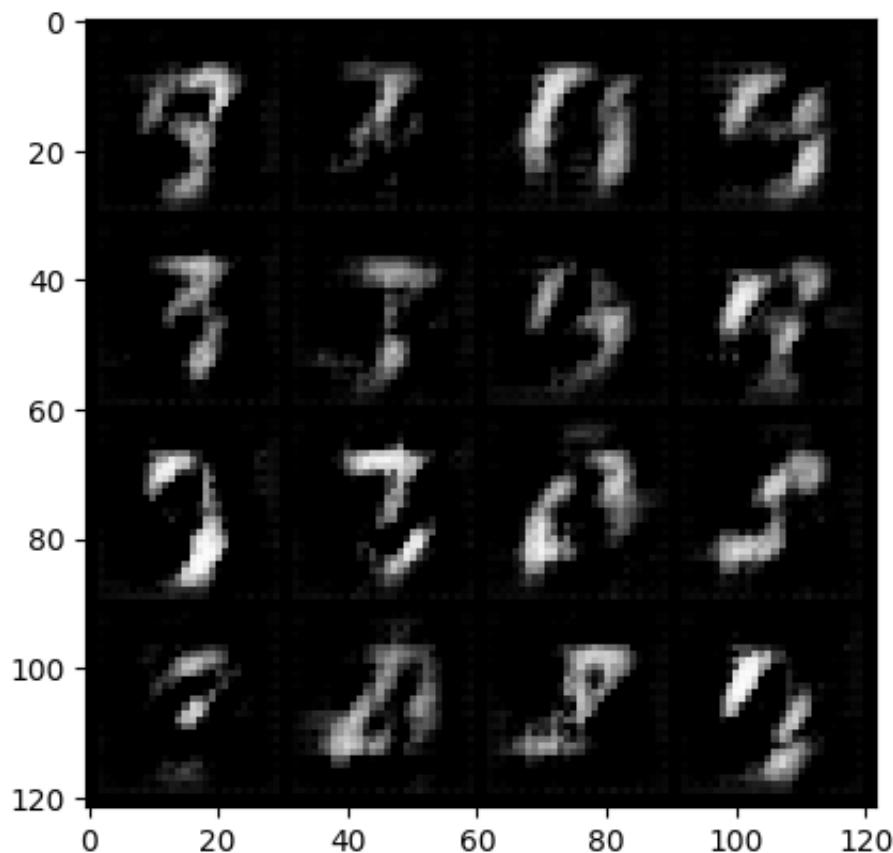


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6840, G_loss: 0.6826



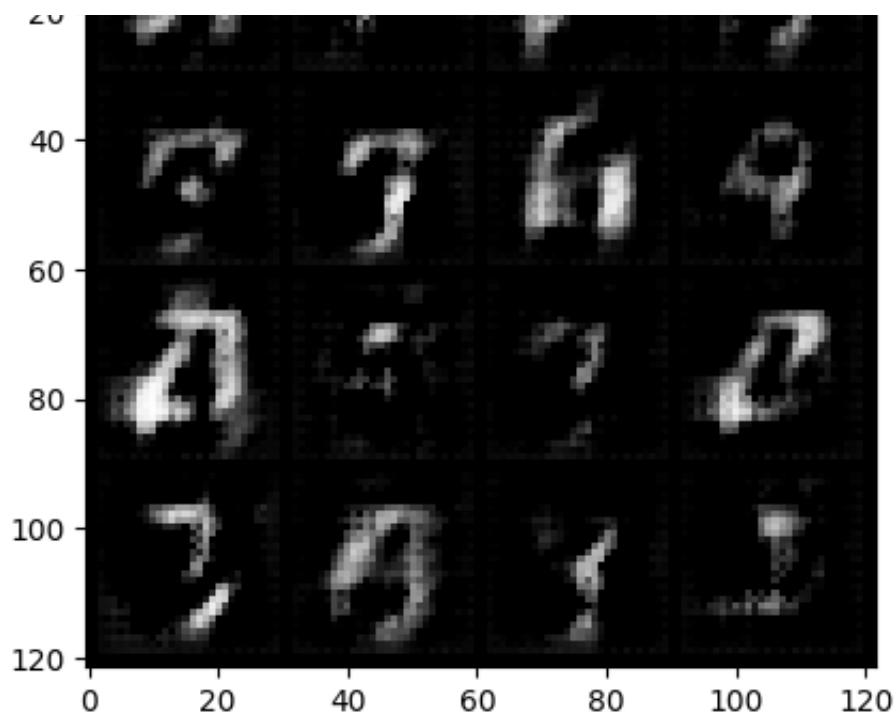


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6839, G_loss: 0.6827

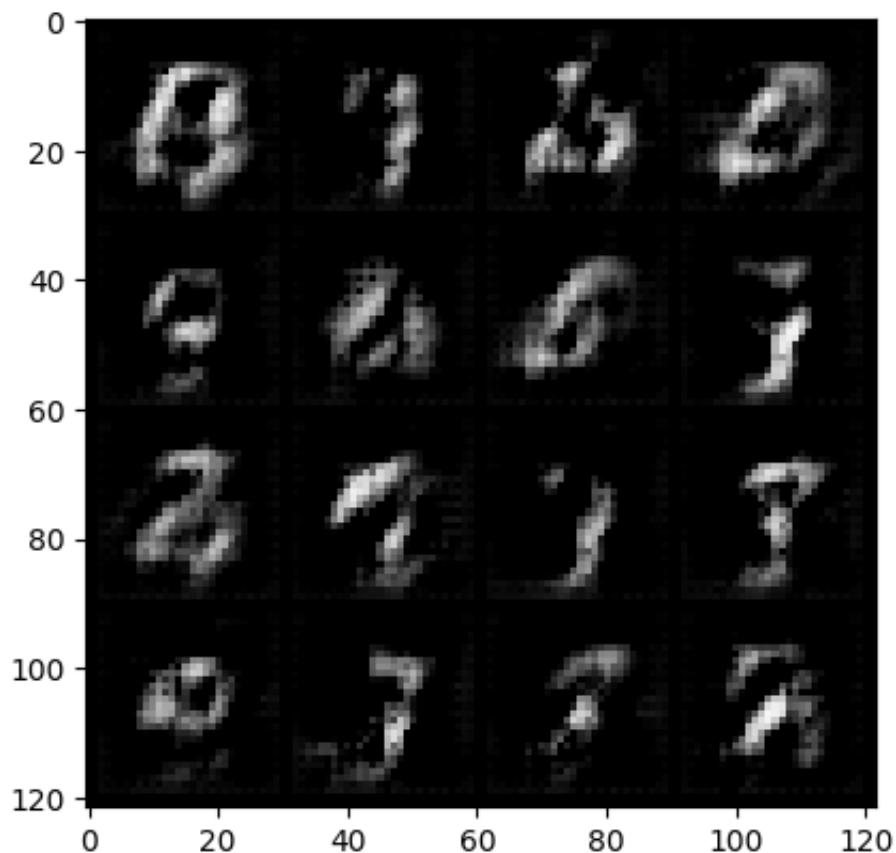


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6839, G_loss: 0.6827



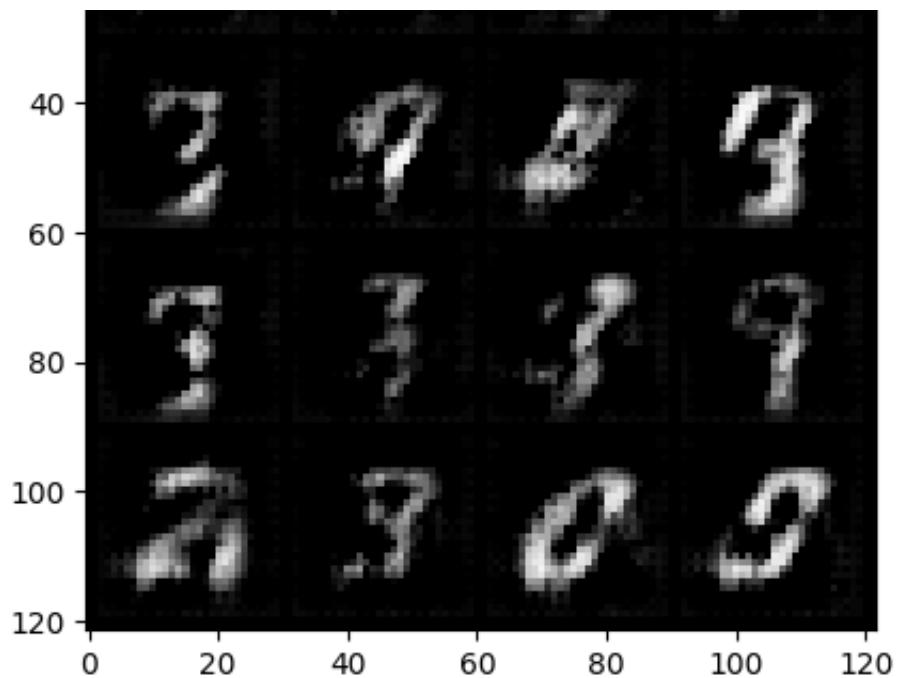


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6839, G_loss: 0.6828

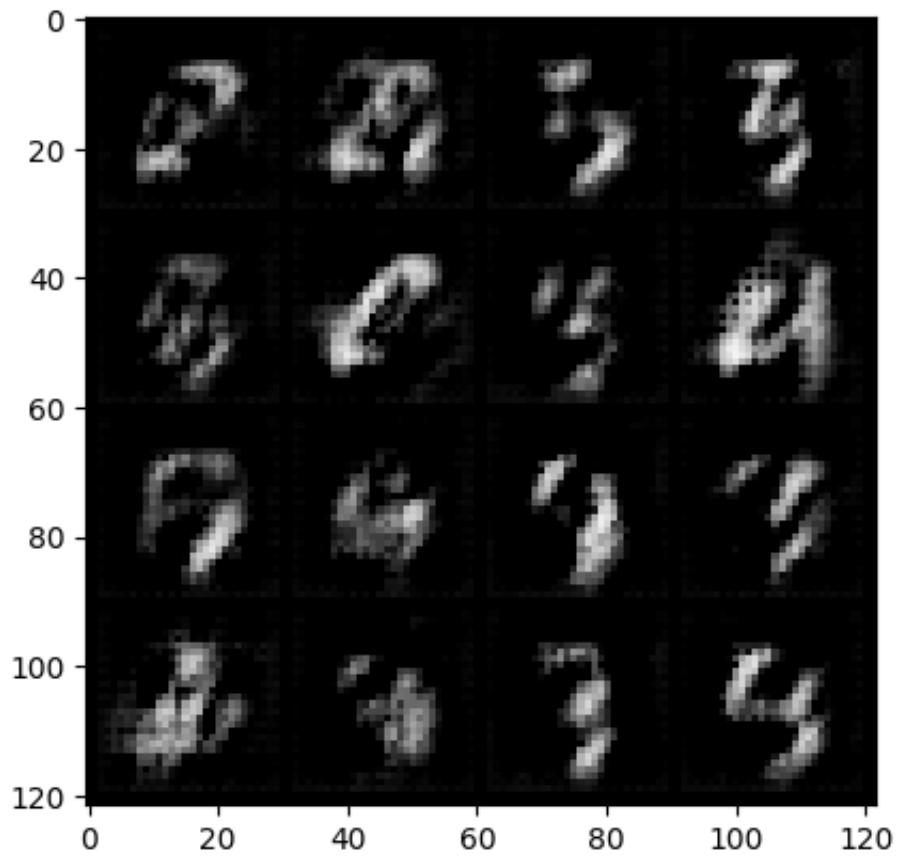


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6839, G_loss: 0.6829



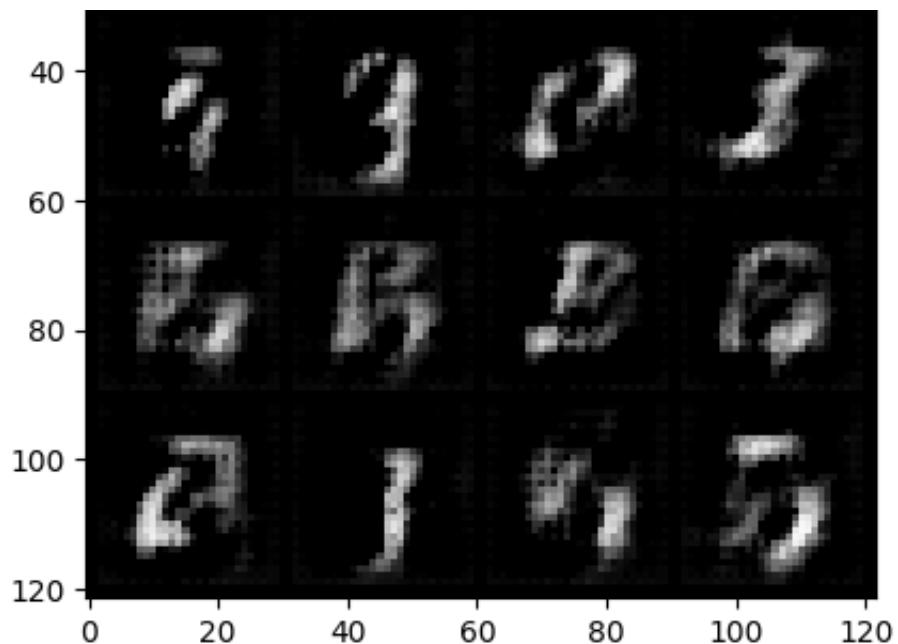


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6839, G_loss: 0.6830

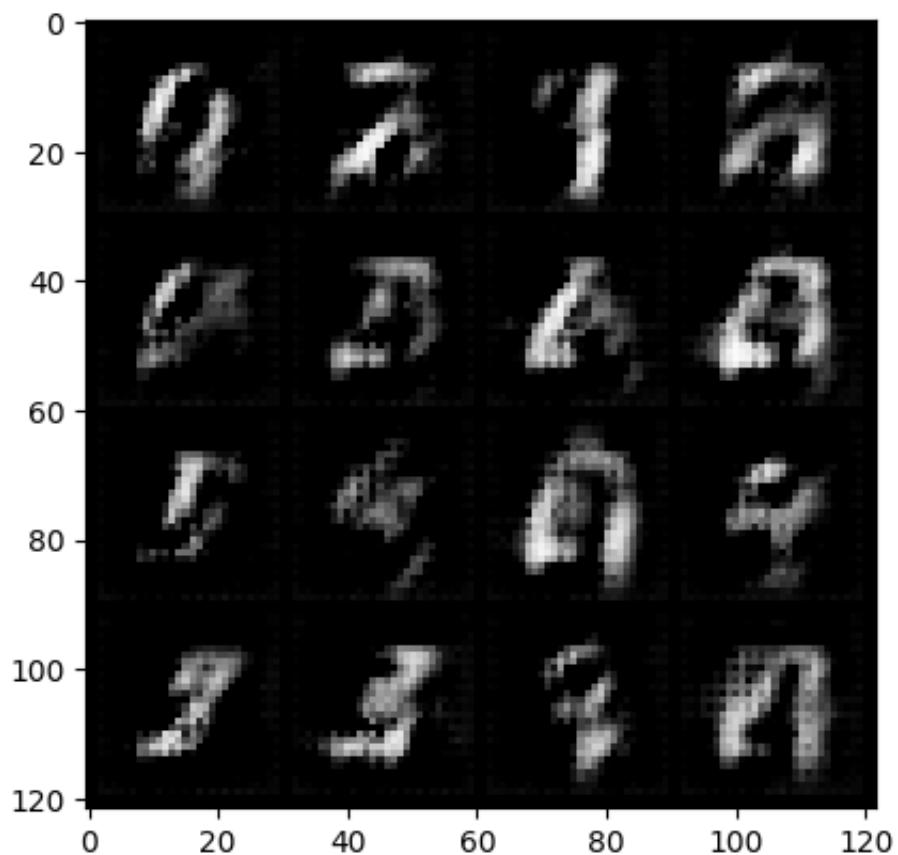


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6831



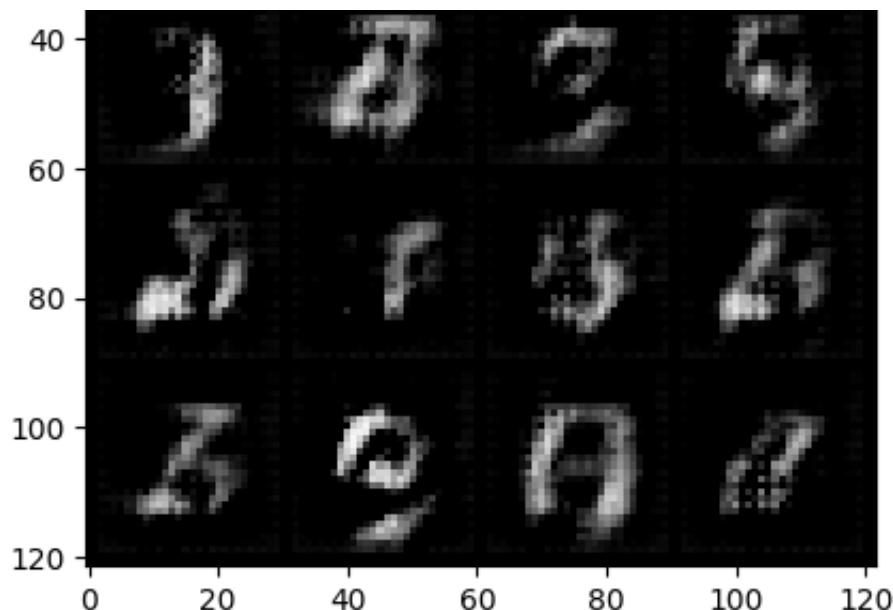


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6832

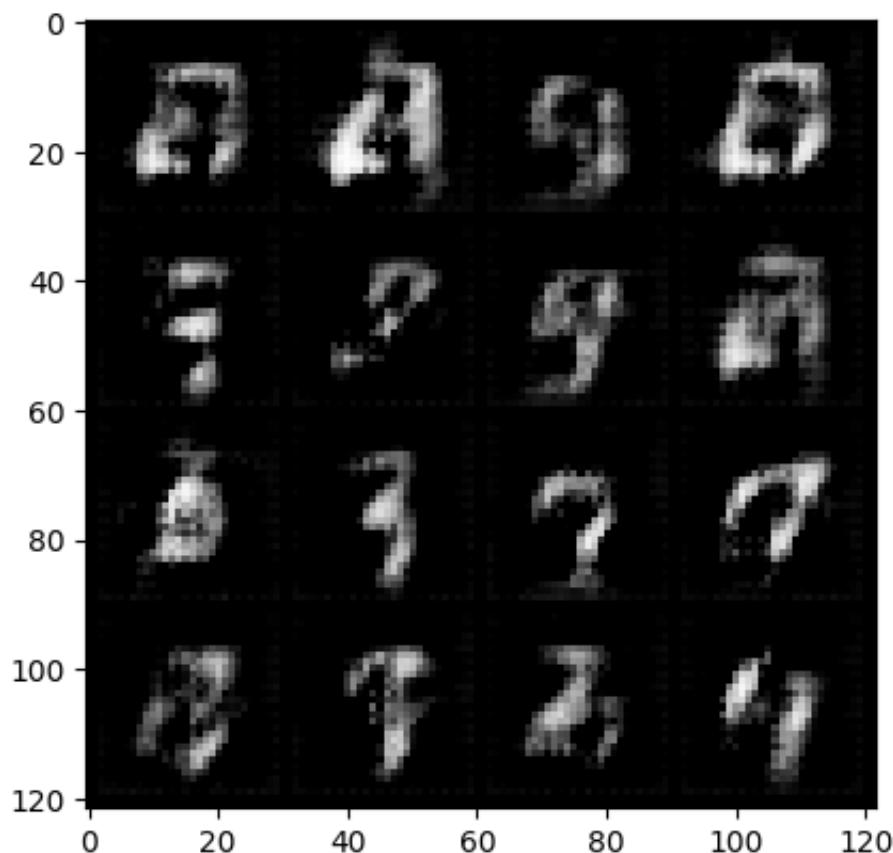


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6832



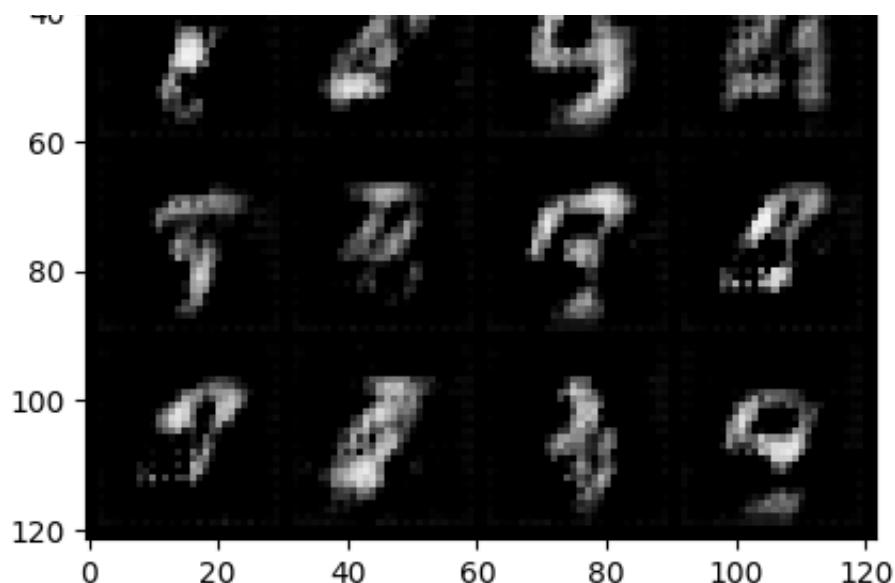


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.6838, max=0.6833

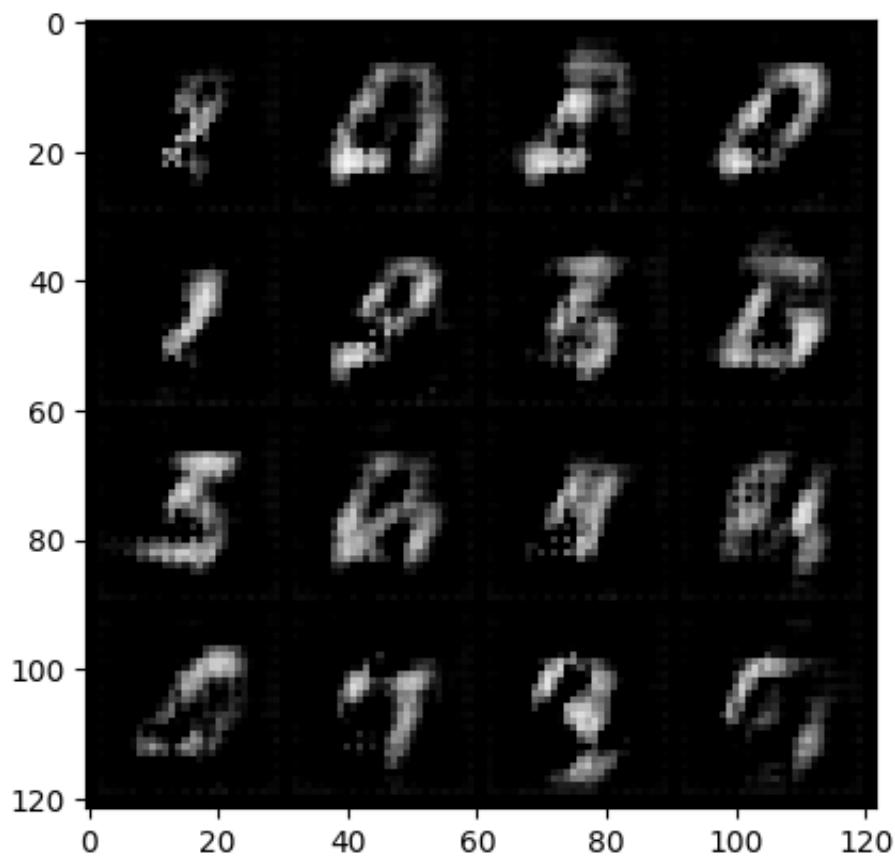


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.6838, max=0.6834



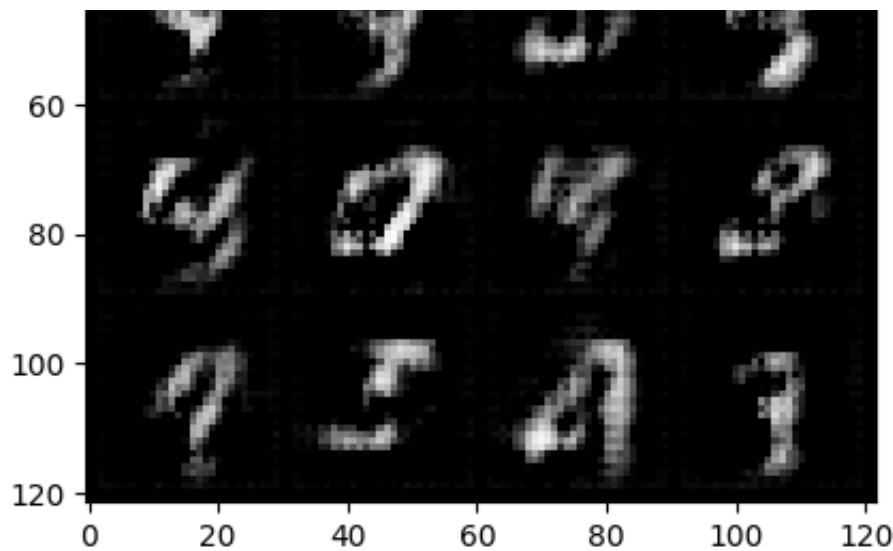


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6837, G_loss: 0.6835

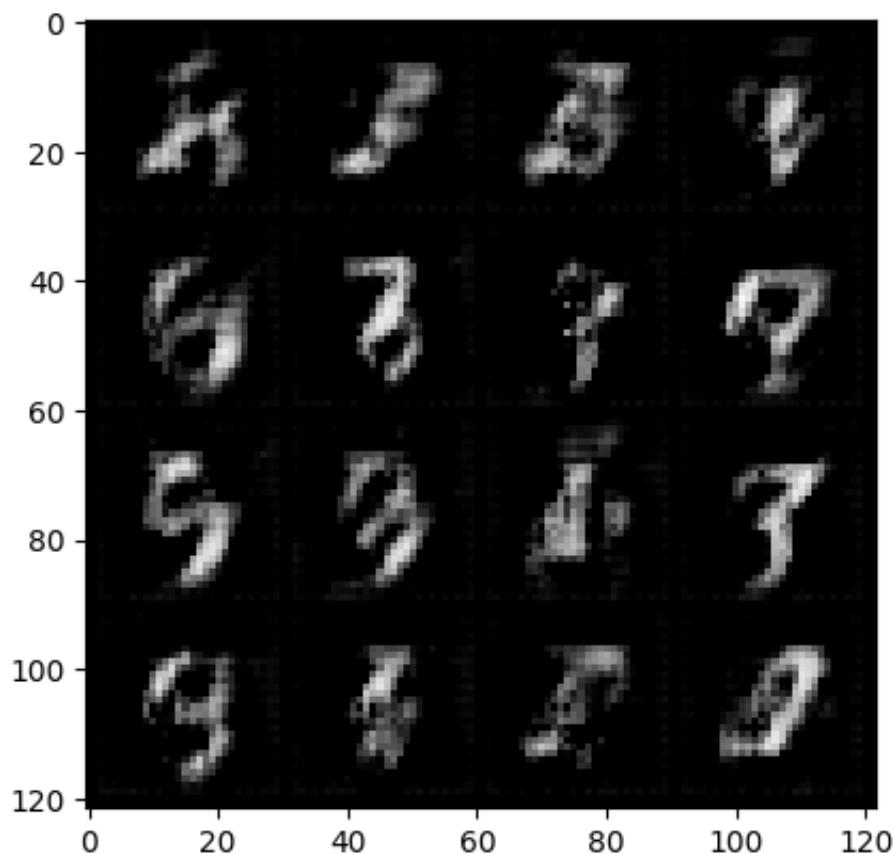


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6837, G_loss: 0.6836



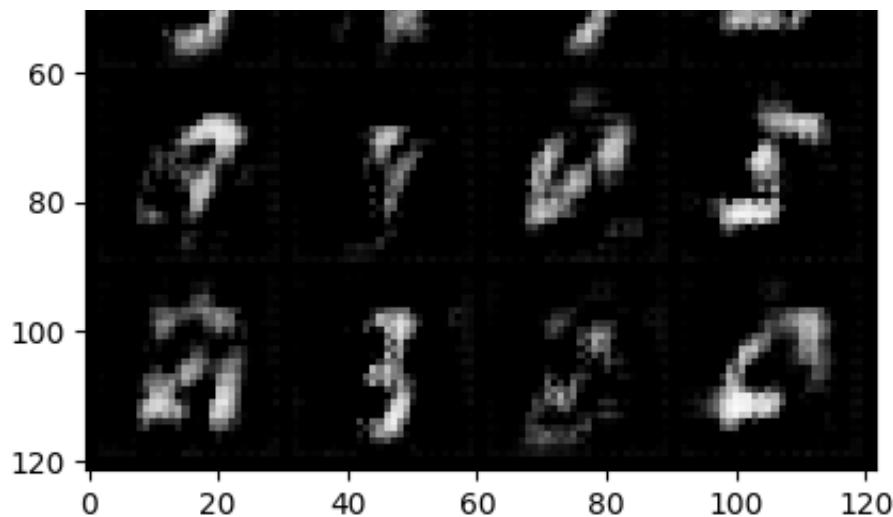


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6837, G_loss: 0.6837

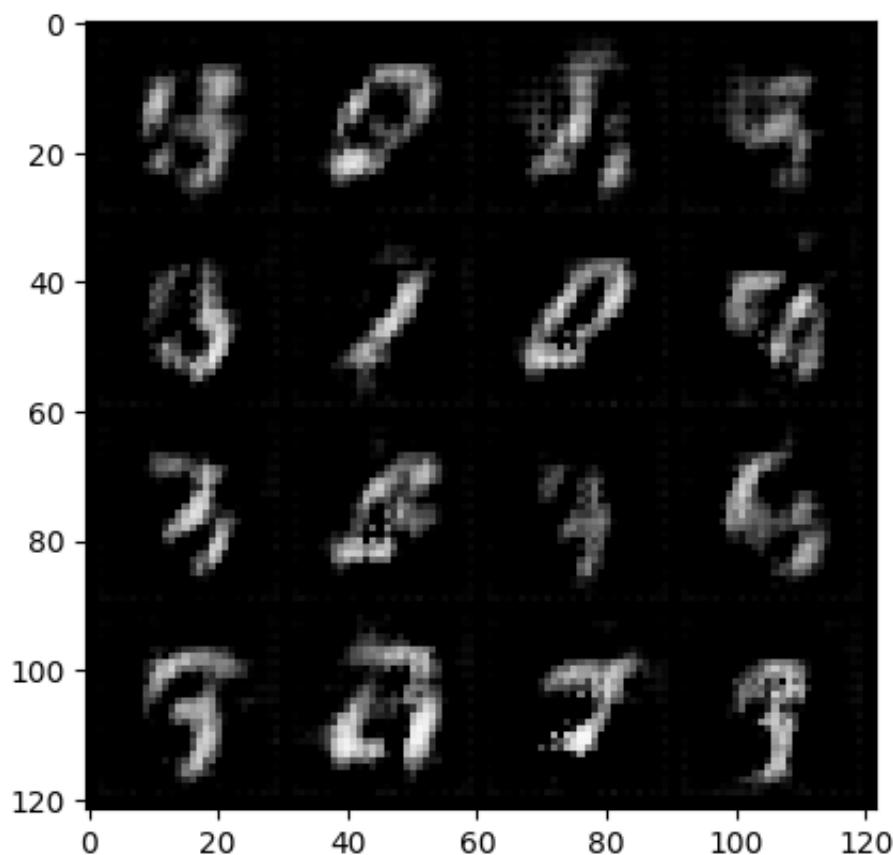


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6837, G_loss: 0.6837



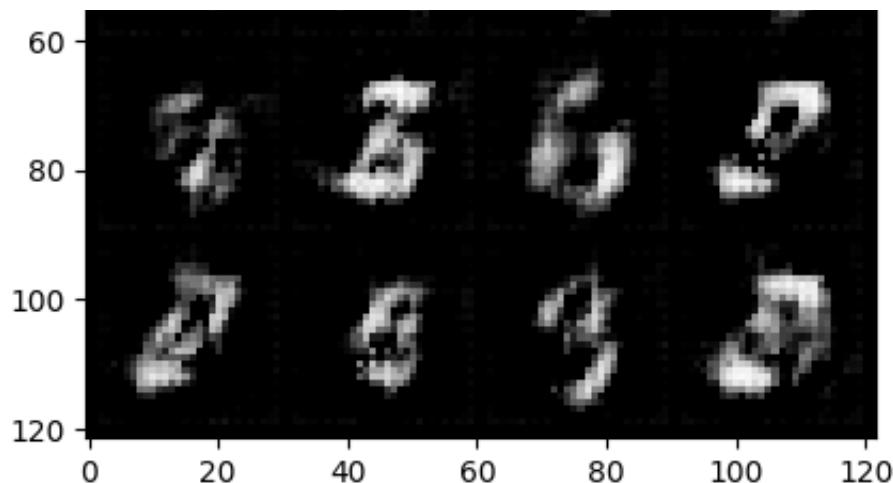


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6837, G_loss: 0.6838

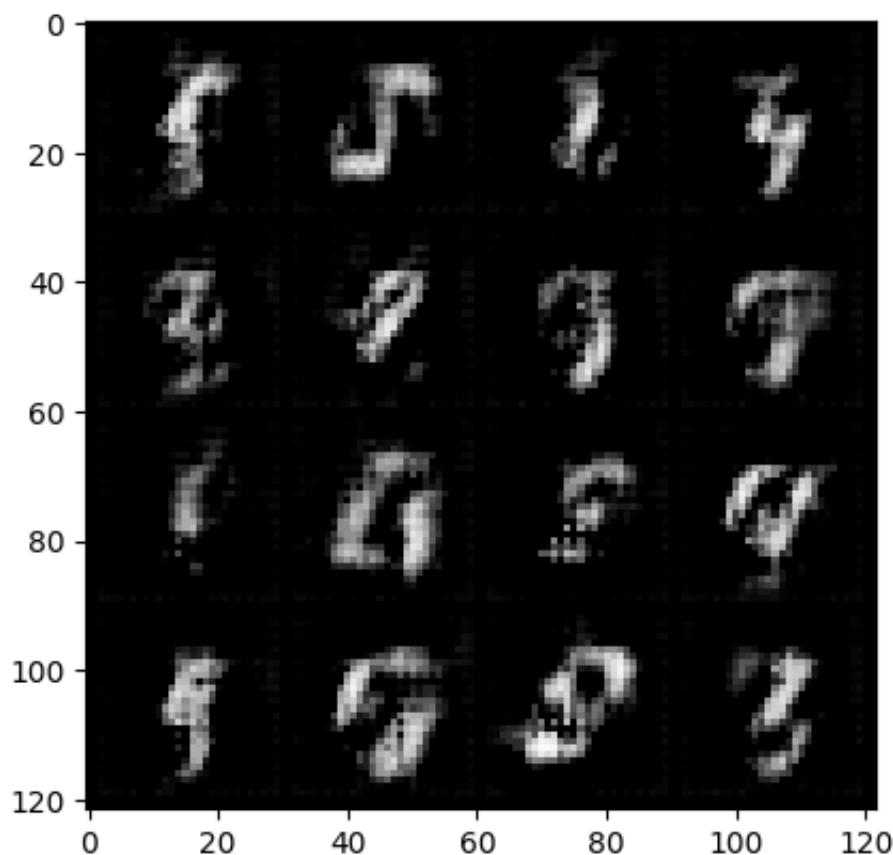


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6839





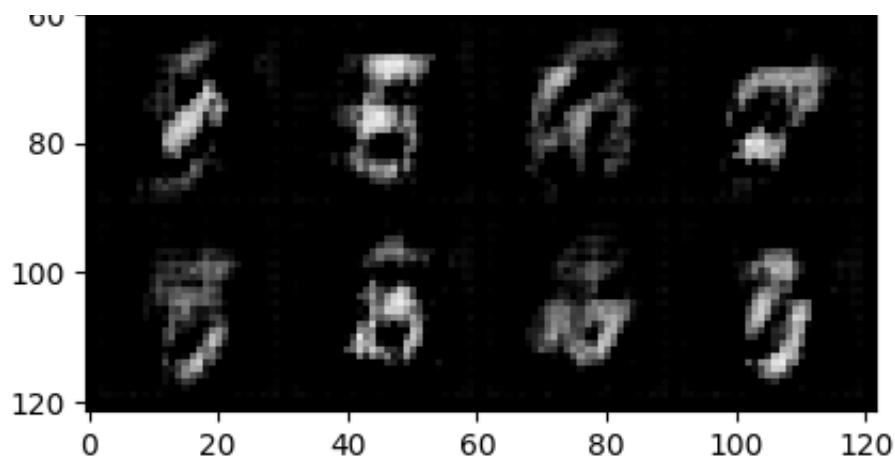
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0
D_loss: 0.6836, G_loss: 0.6840



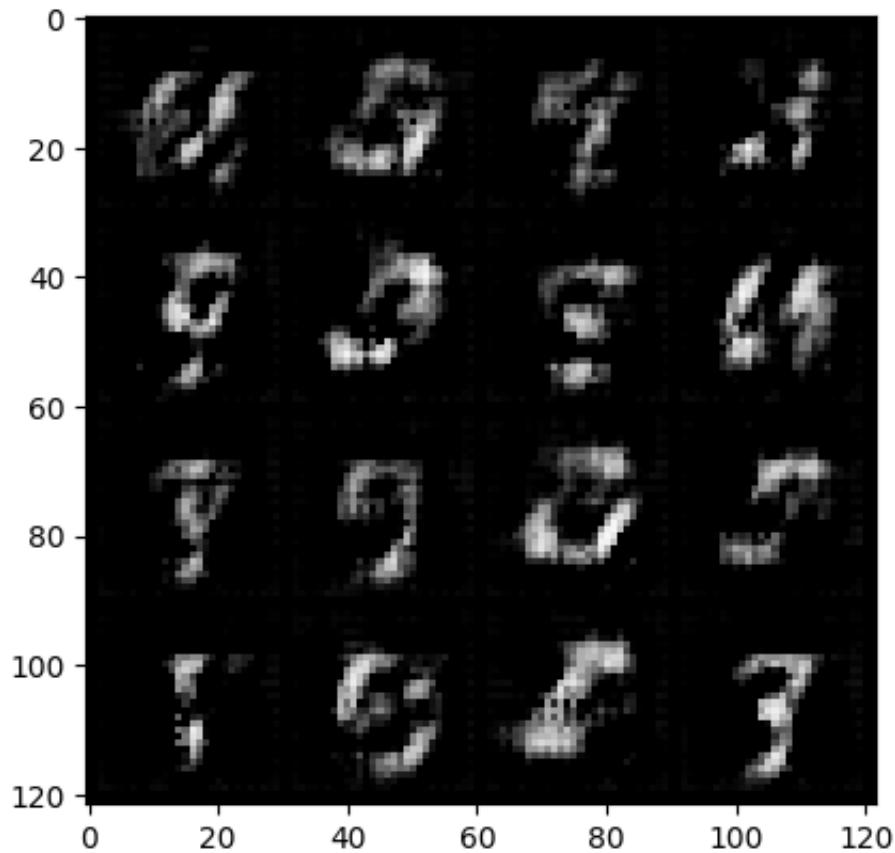
D_loss: 0.6836, G_loss: 0.6841

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0



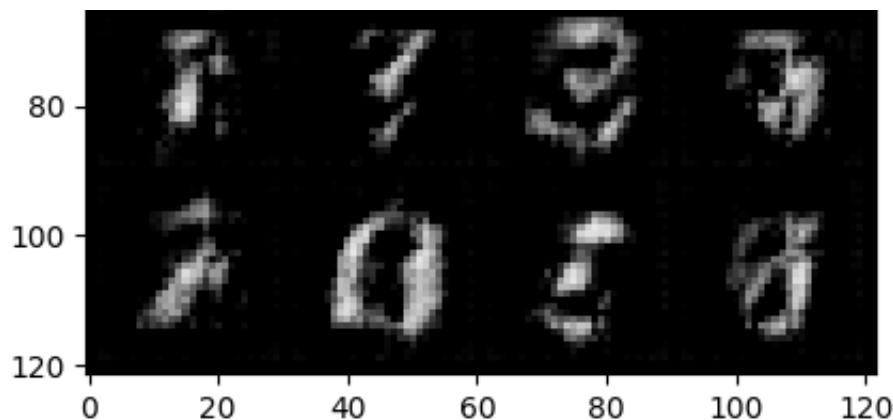


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6841

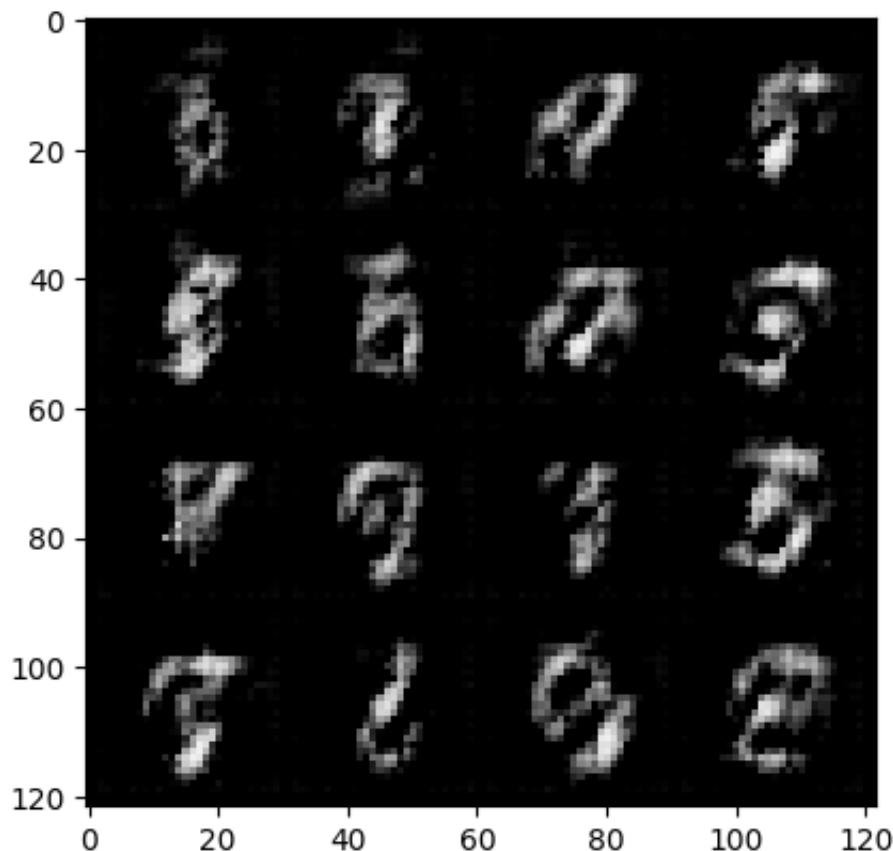


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6842



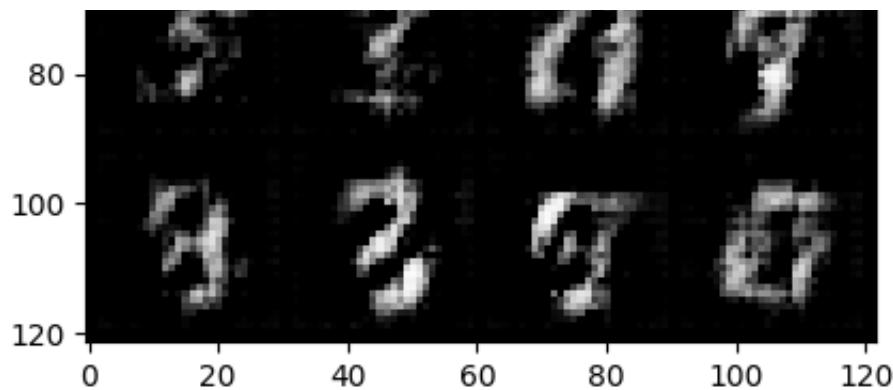


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6843

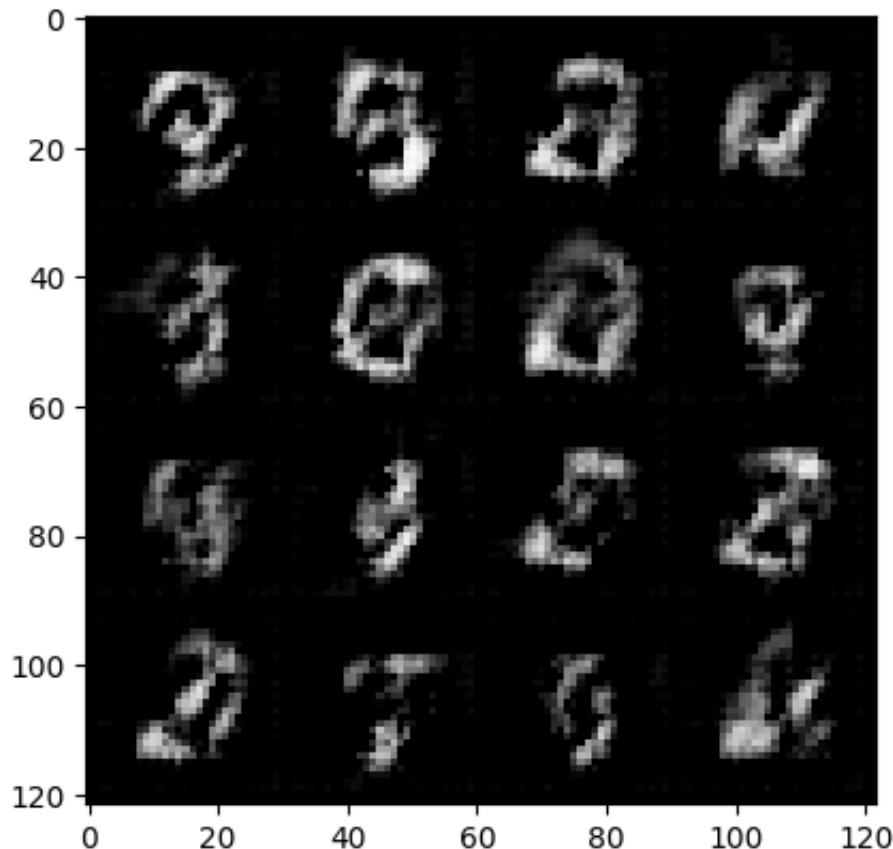


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6843



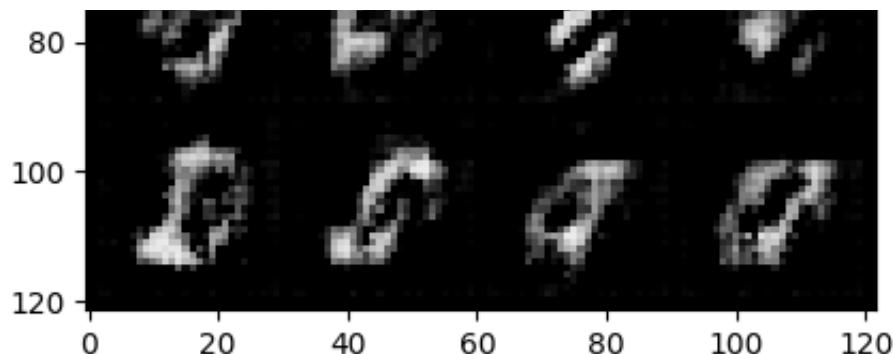


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0000
D_loss: 0.6836, G_loss: 0.6844

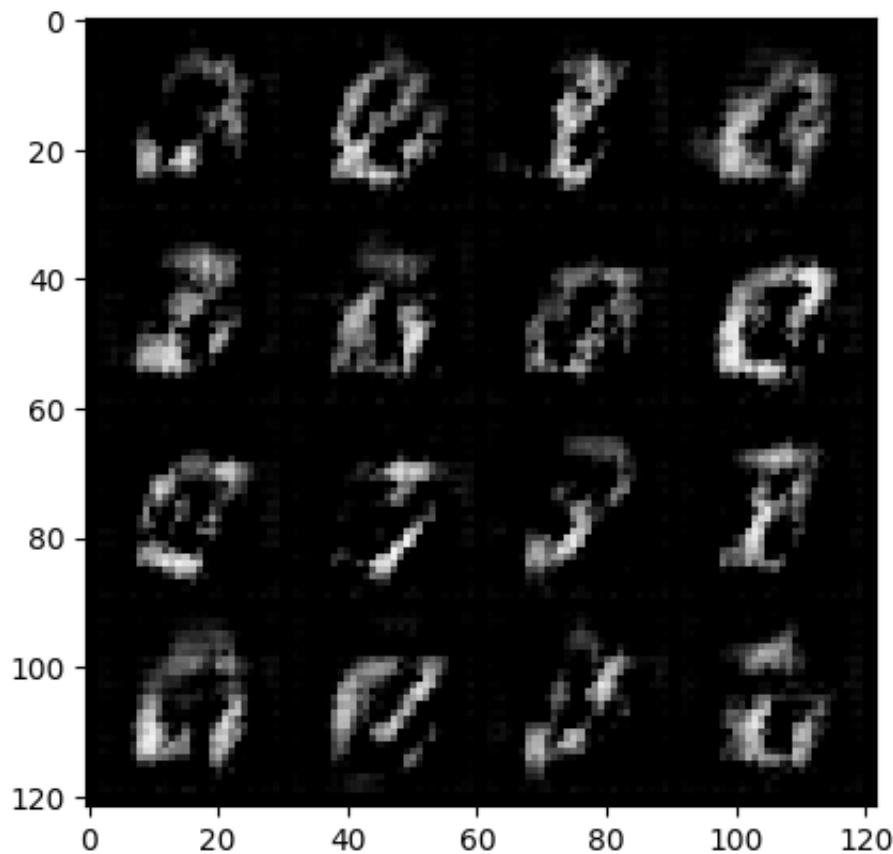


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0000
D_loss: 0.6836, G_loss: 0.6845

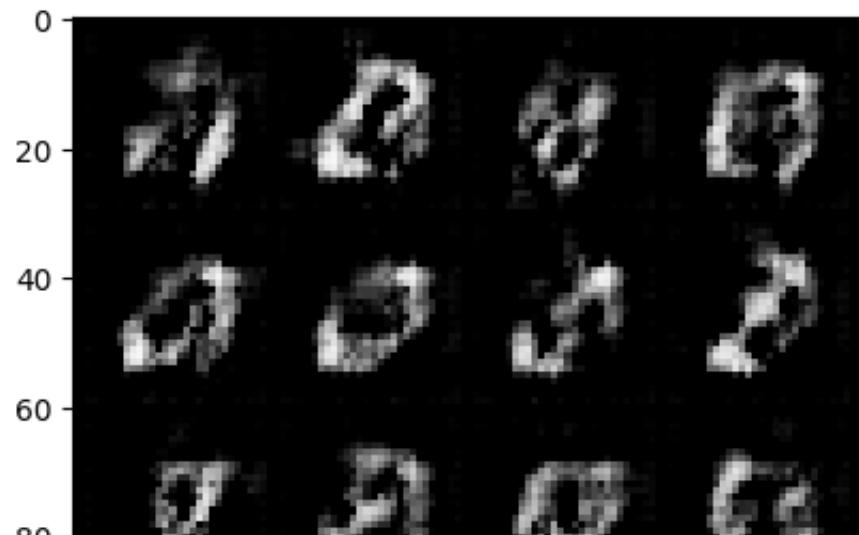


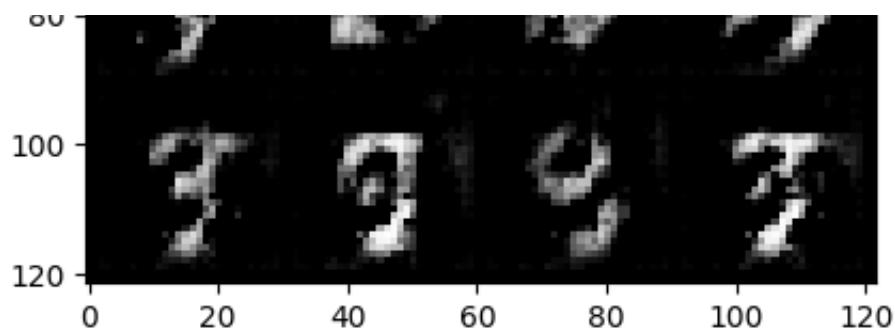


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0000
D_loss: 0.6836, G_loss: 0.6845

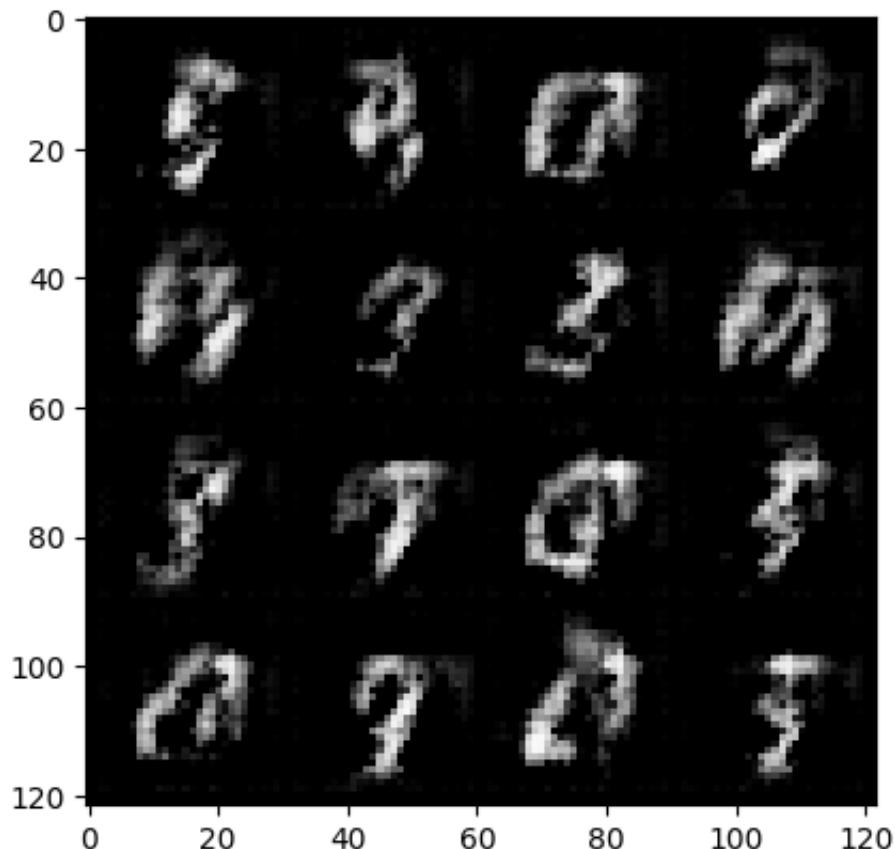


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0000
D_loss: 0.6836, G_loss: 0.6846



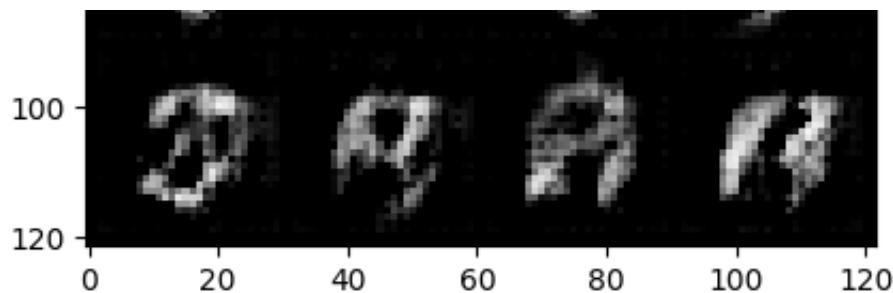


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6846

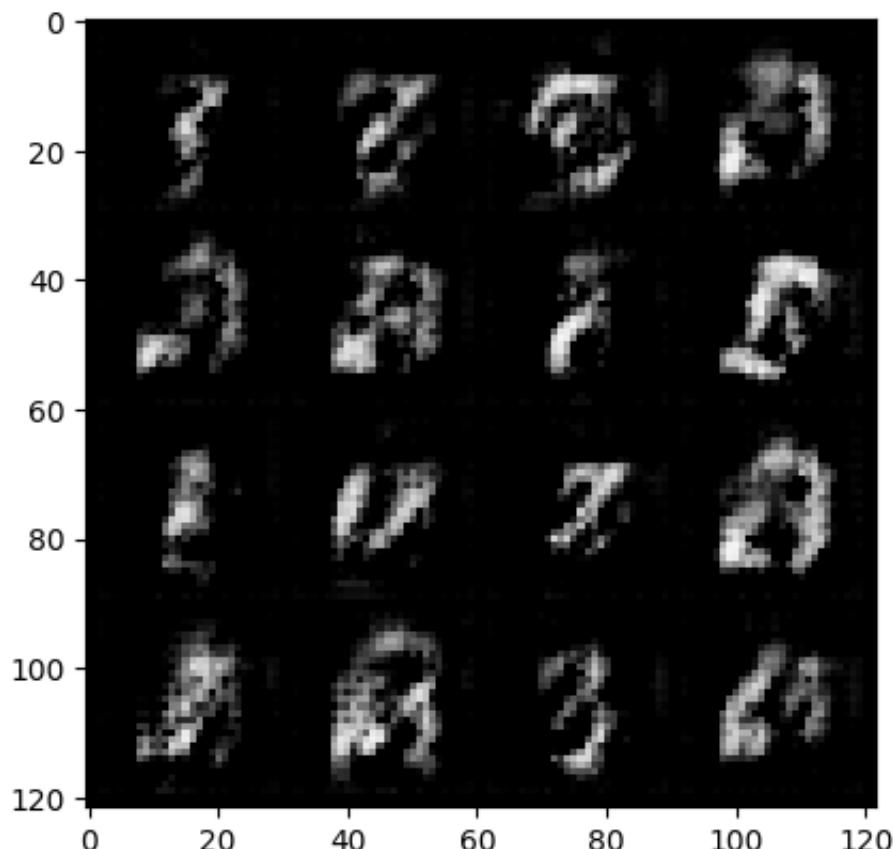


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6847

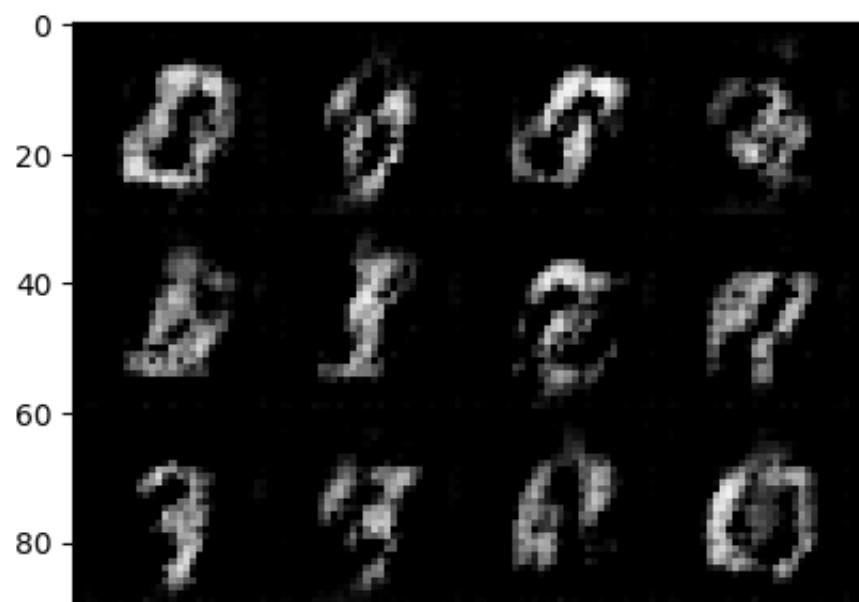


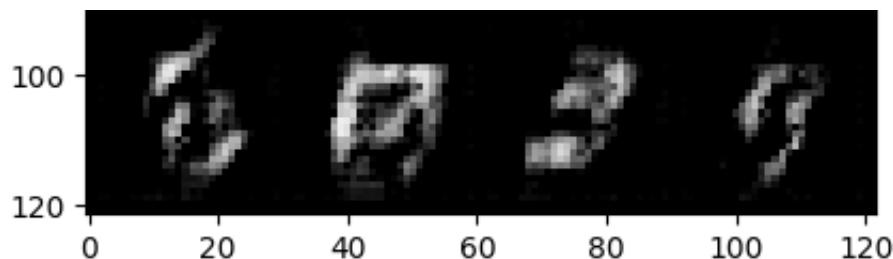


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0
D_loss: 0.6835, G_loss: 0.6847

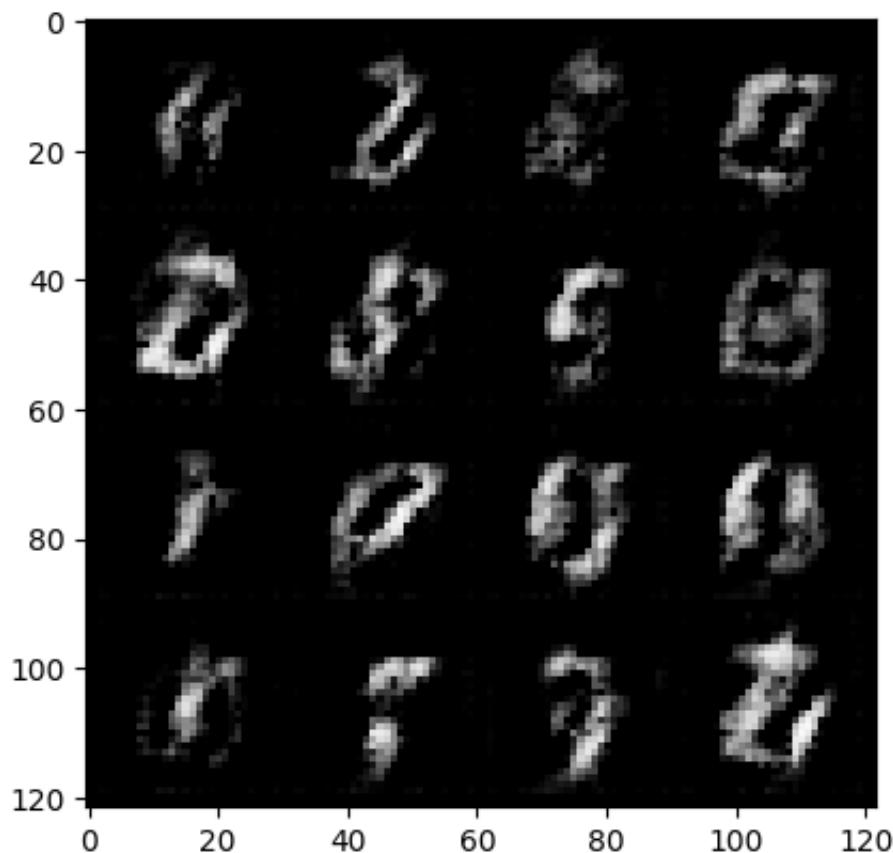


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0
D_loss: 0.6835, G_loss: 0.6848

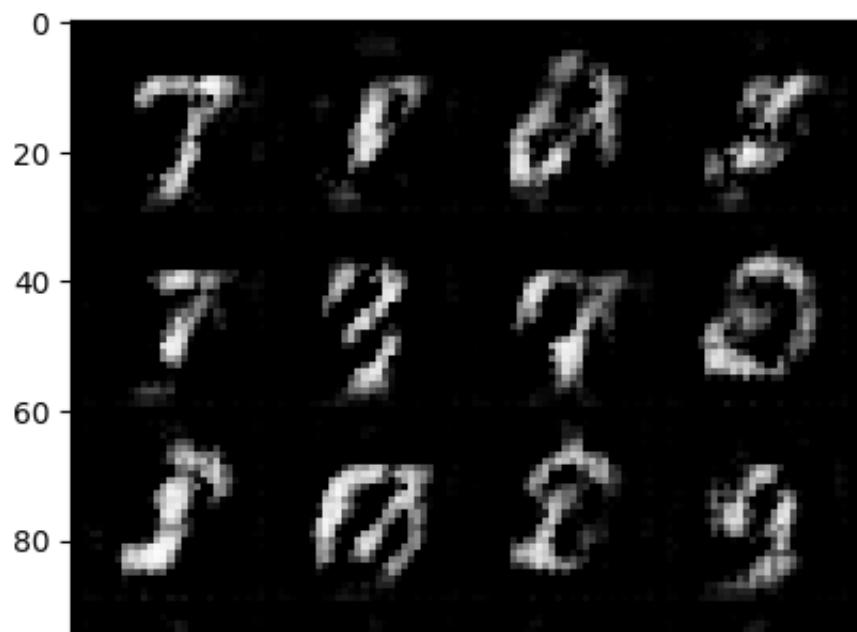


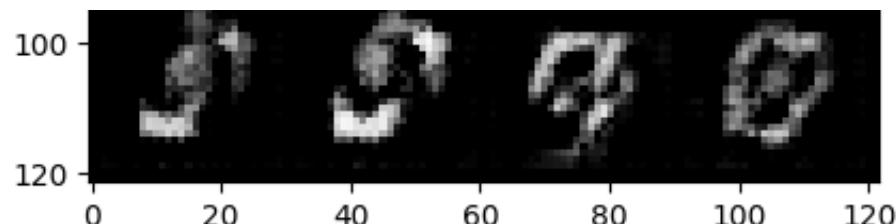


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6849

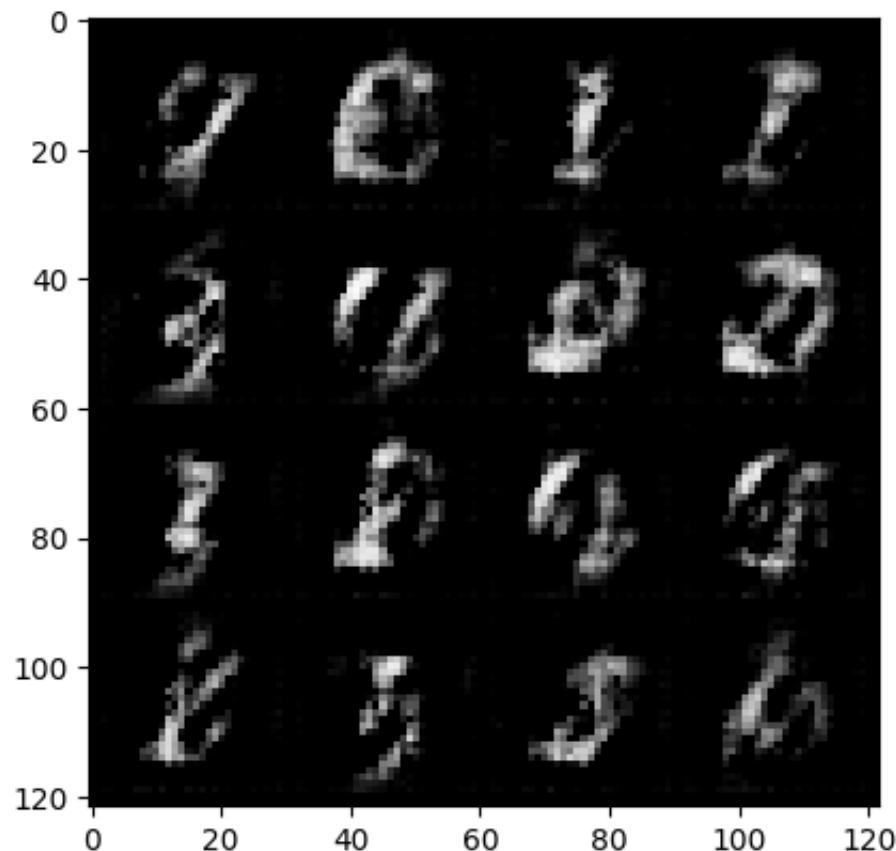


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6849



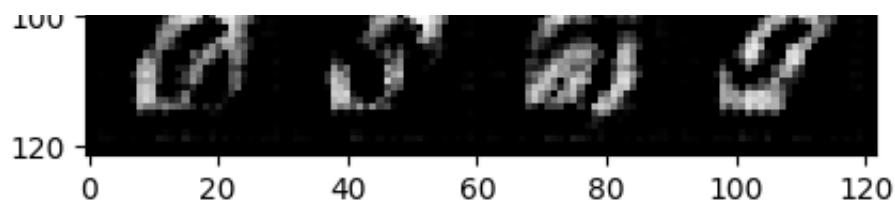


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6850

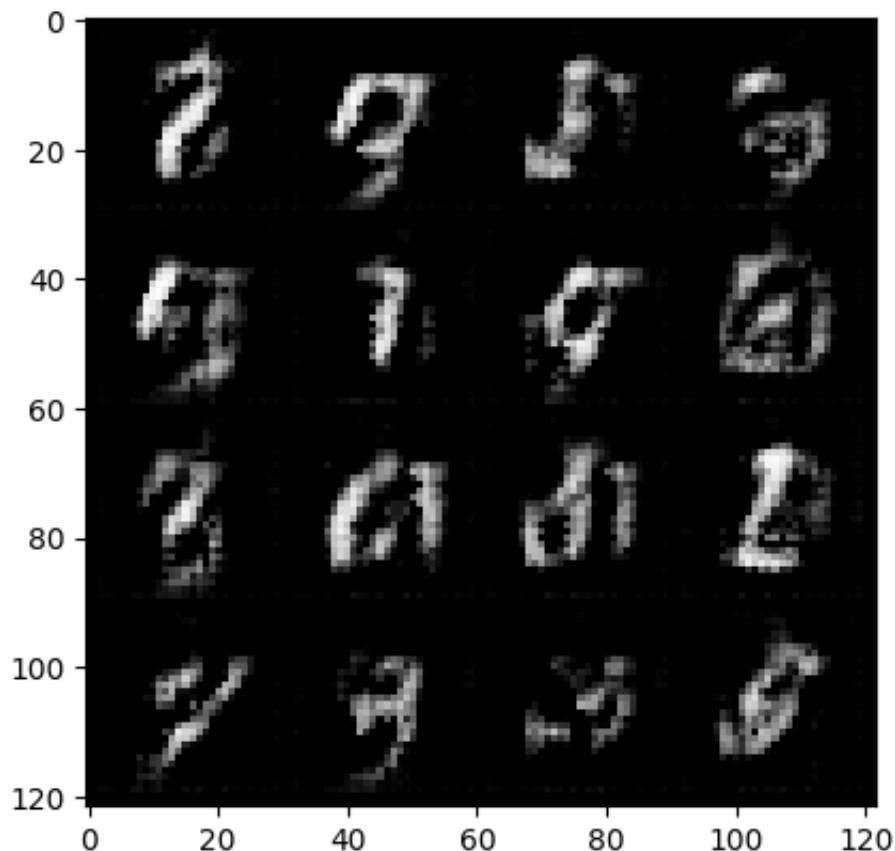


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6851



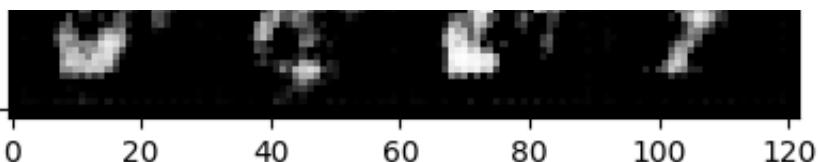


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6851

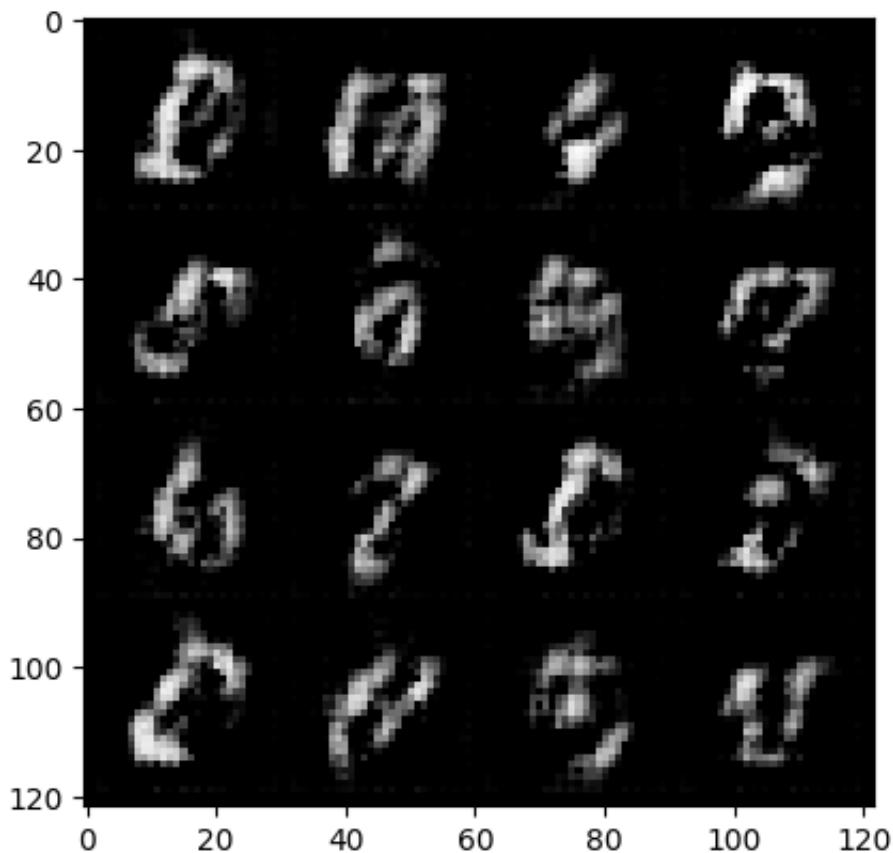


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6852

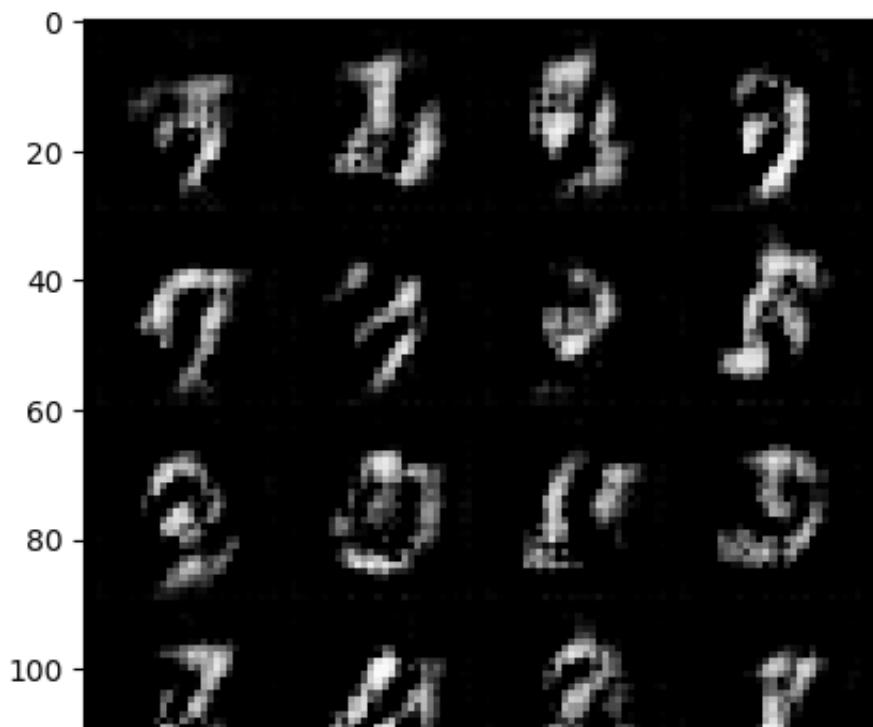




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6853

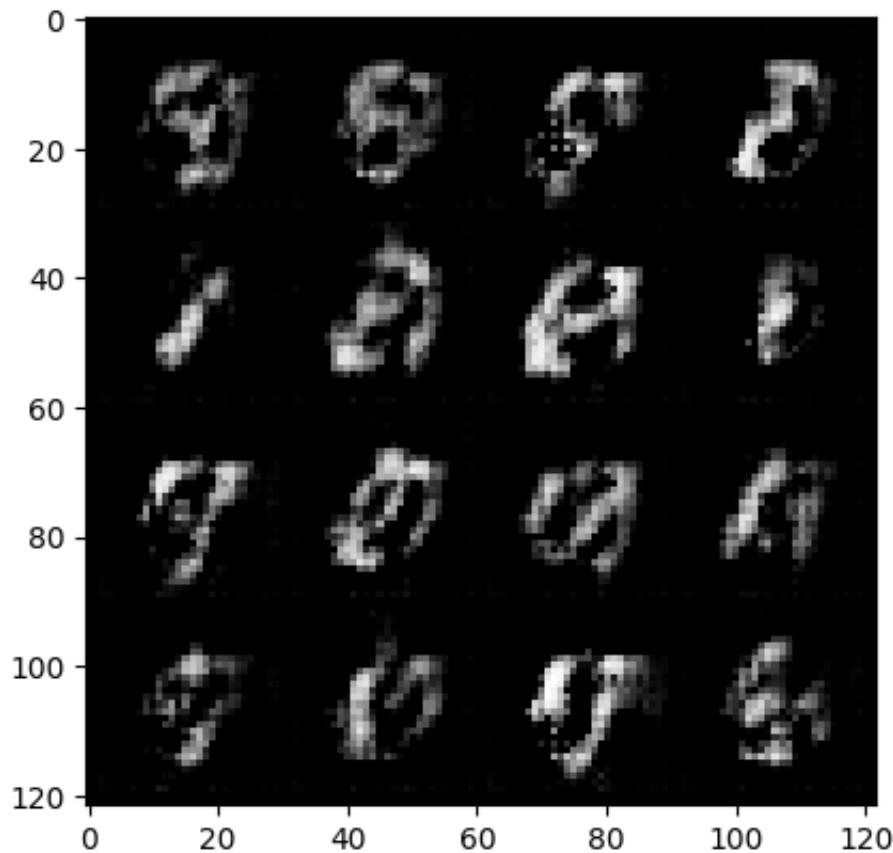


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6853

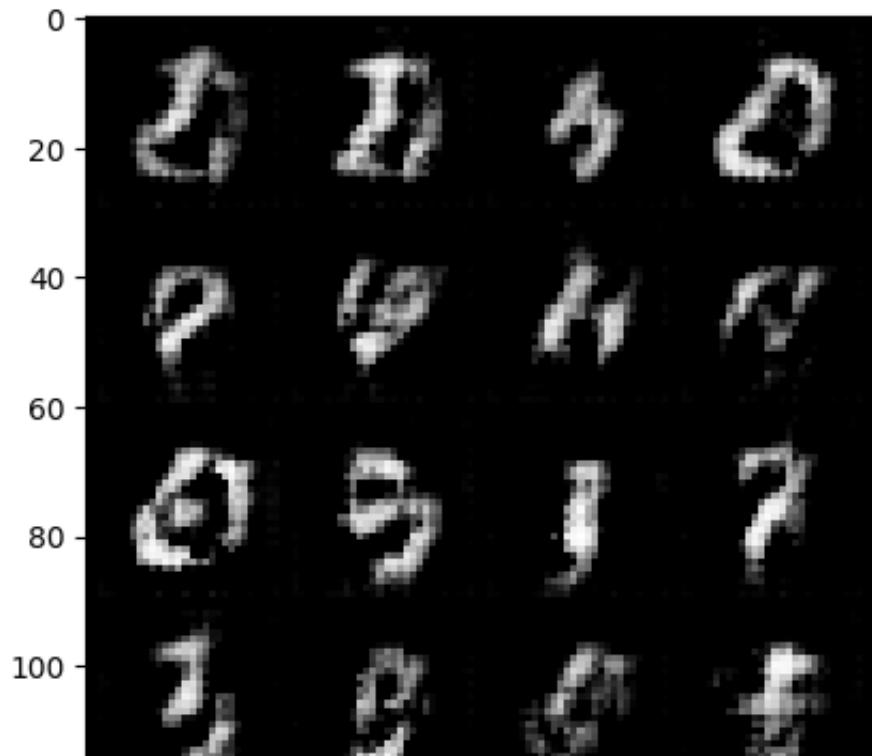


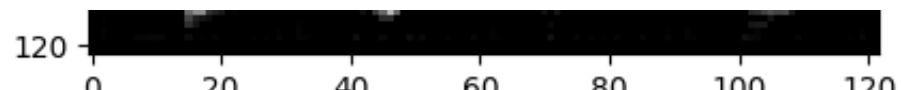


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clip' set to True
D_loss: 0.6834, G_loss: 0.6854

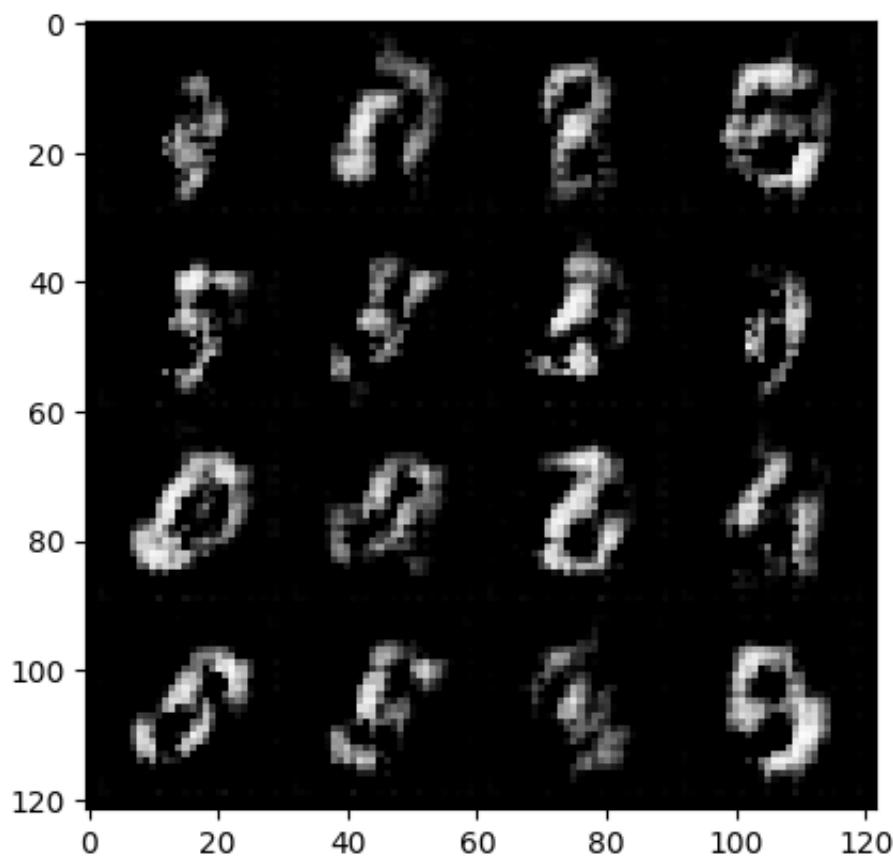


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clip' set to True
D_loss: 0.6834, G_loss: 0.6855

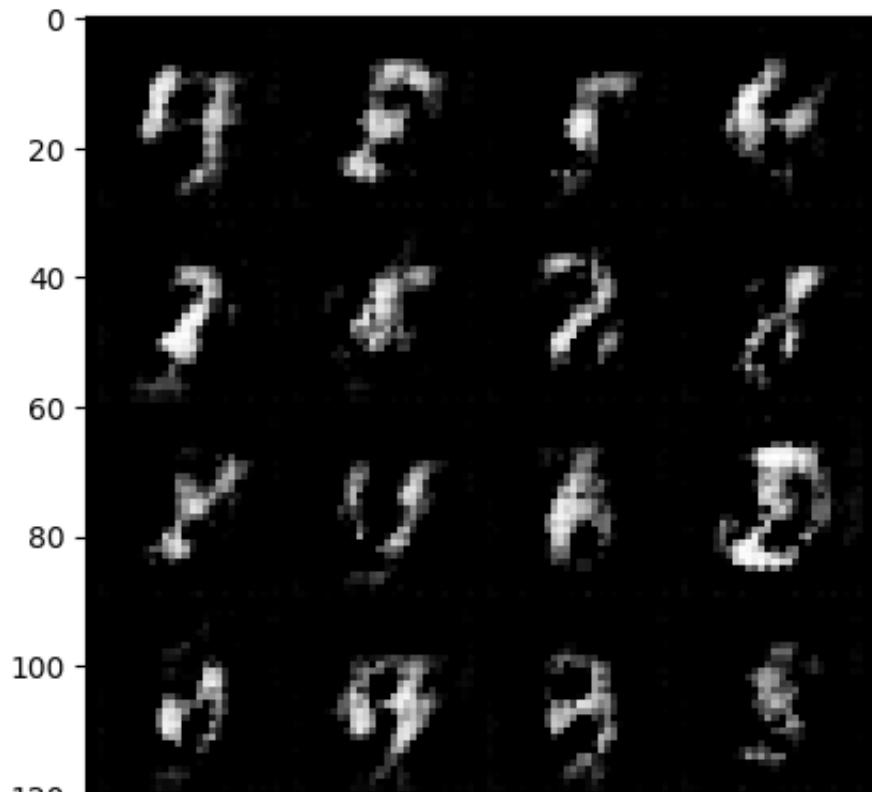


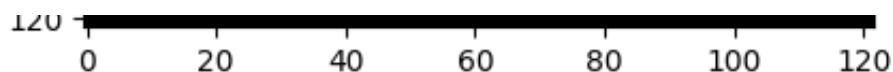


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6855

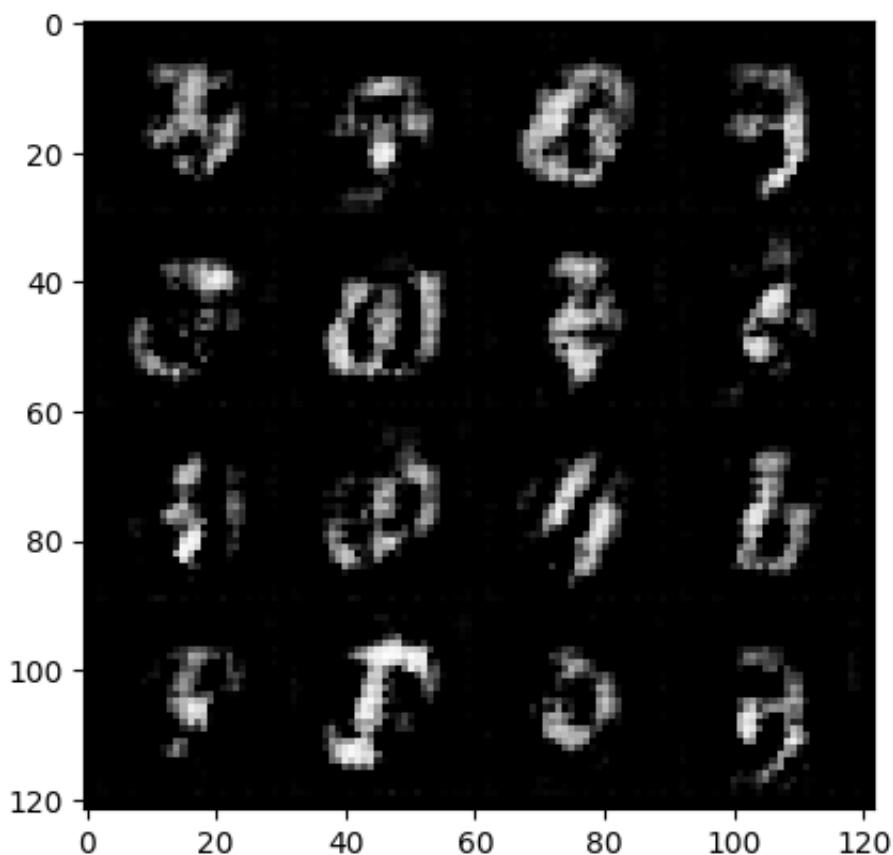


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6856

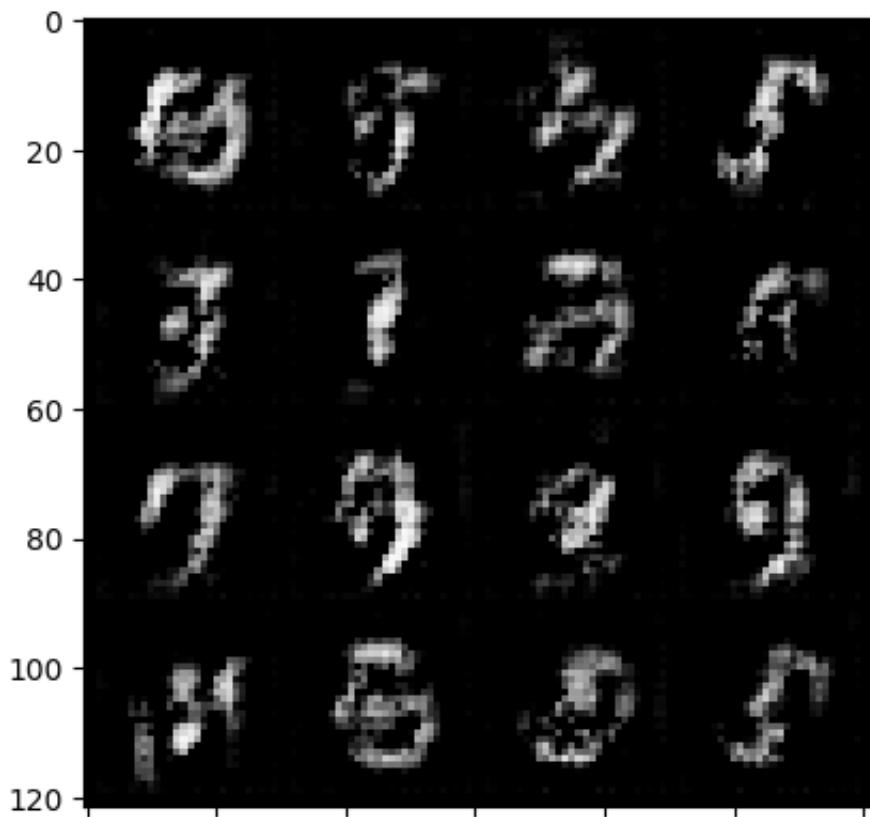




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6834, G_loss: 0.6857

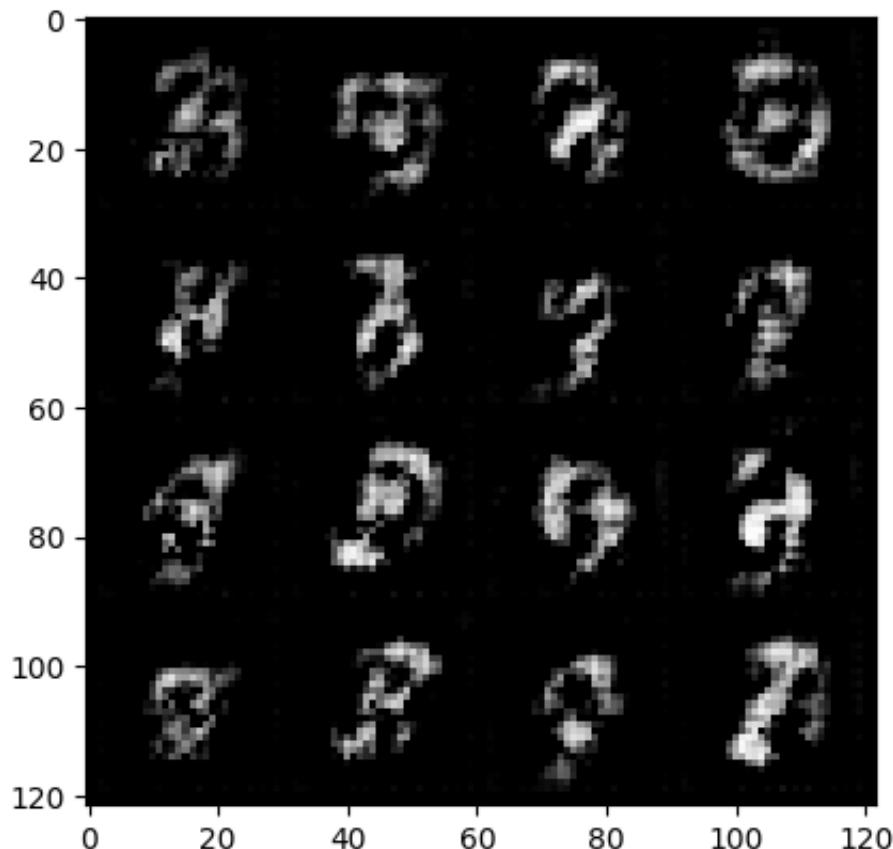


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6834, G_loss: 0.6857

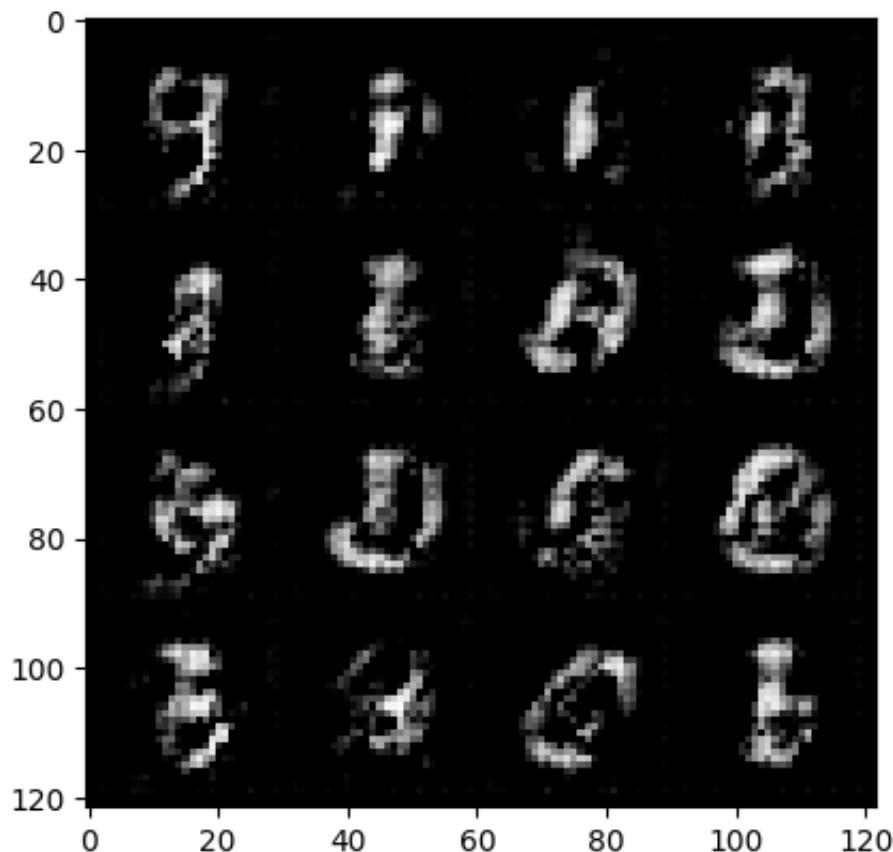


0 20 40 60 80 100 120

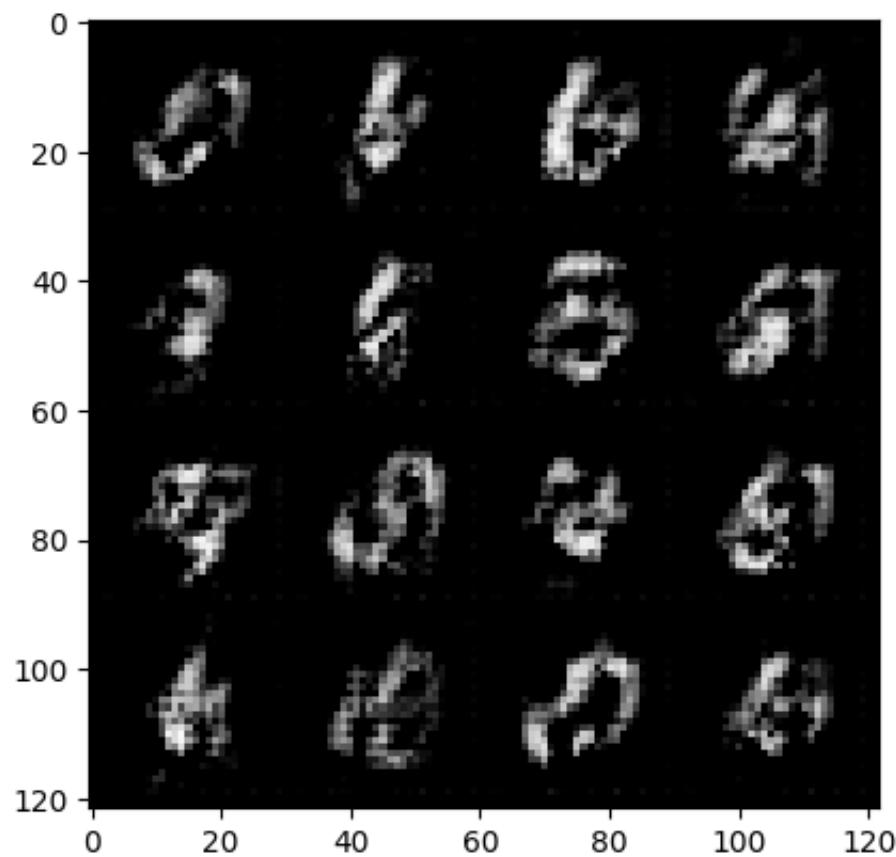
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6858



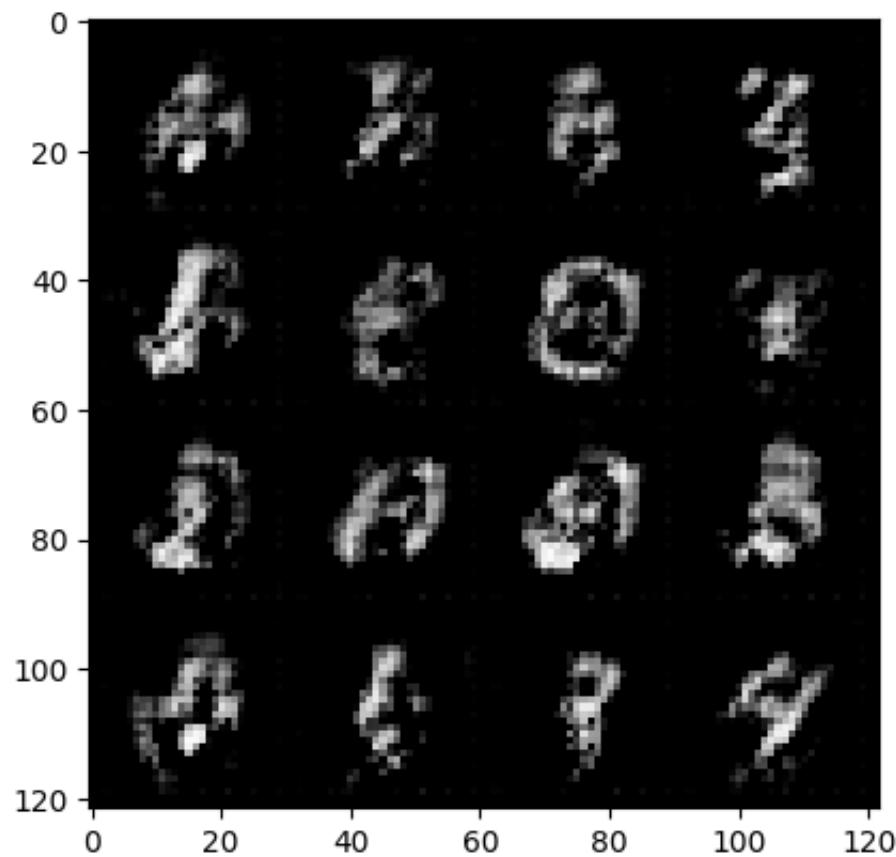
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6858



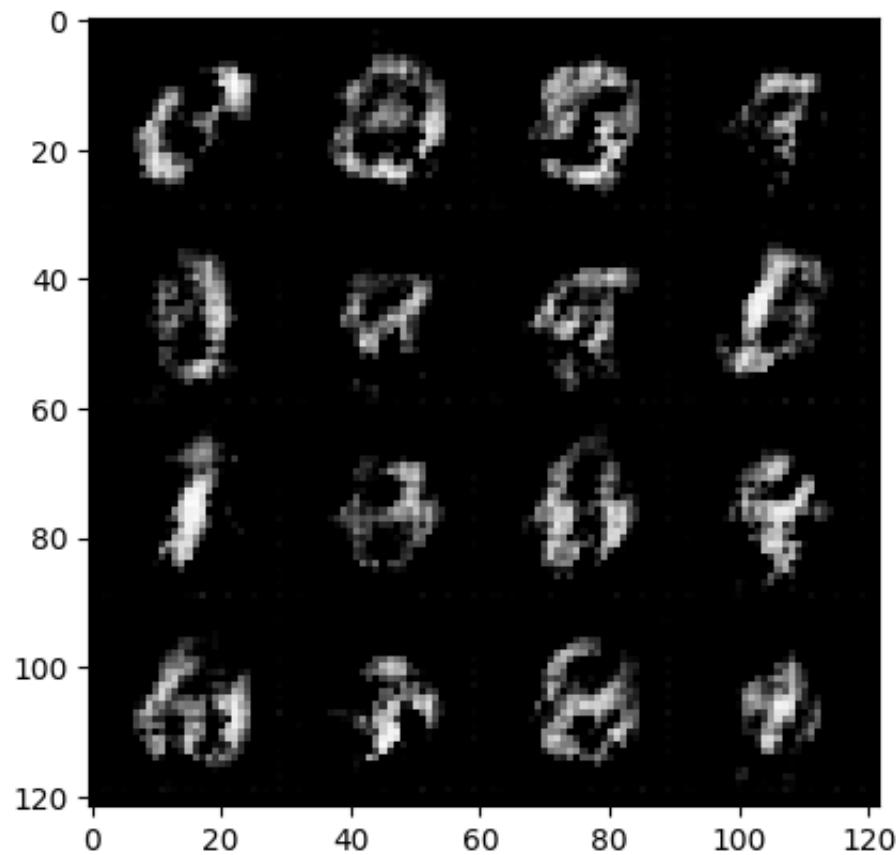
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6859



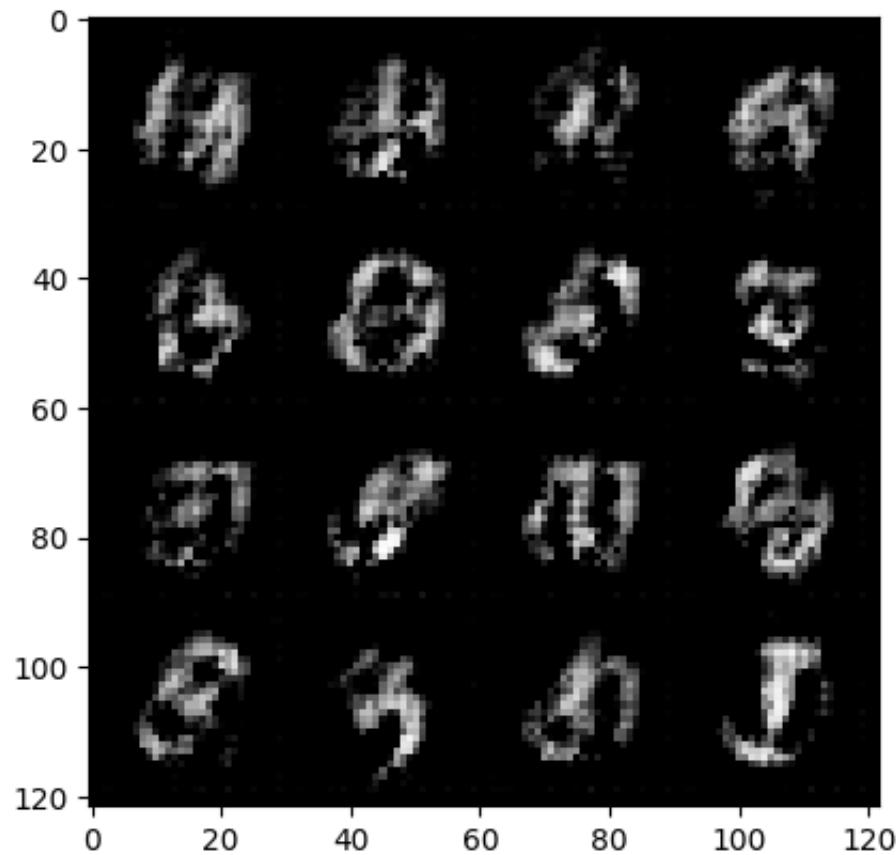
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6859



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6860

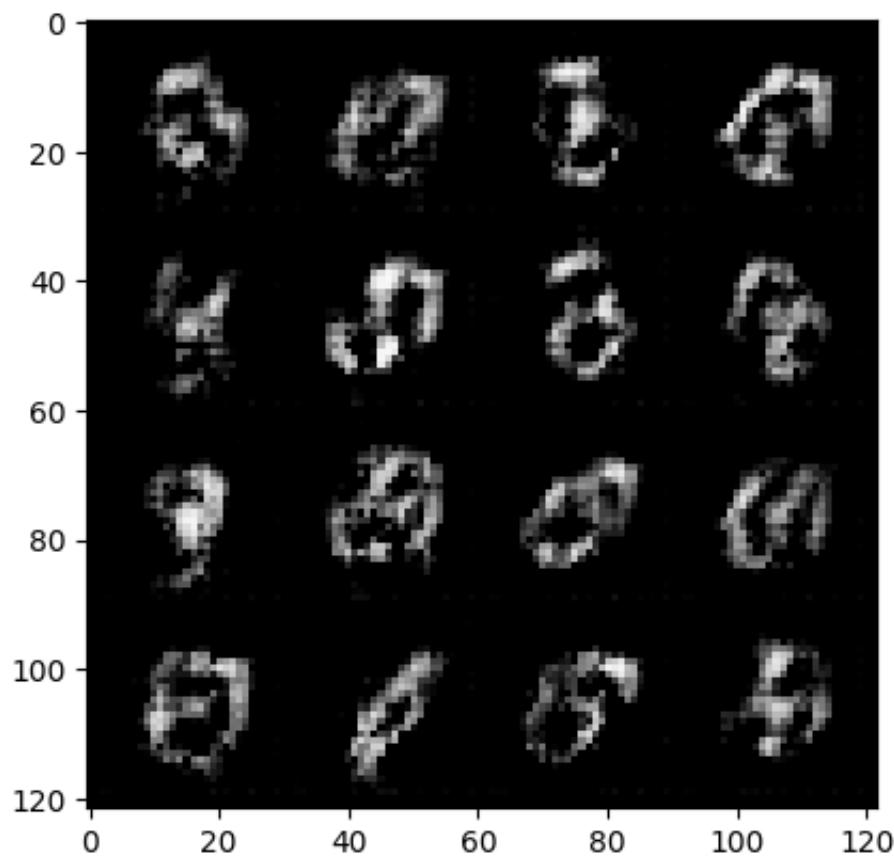


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6861

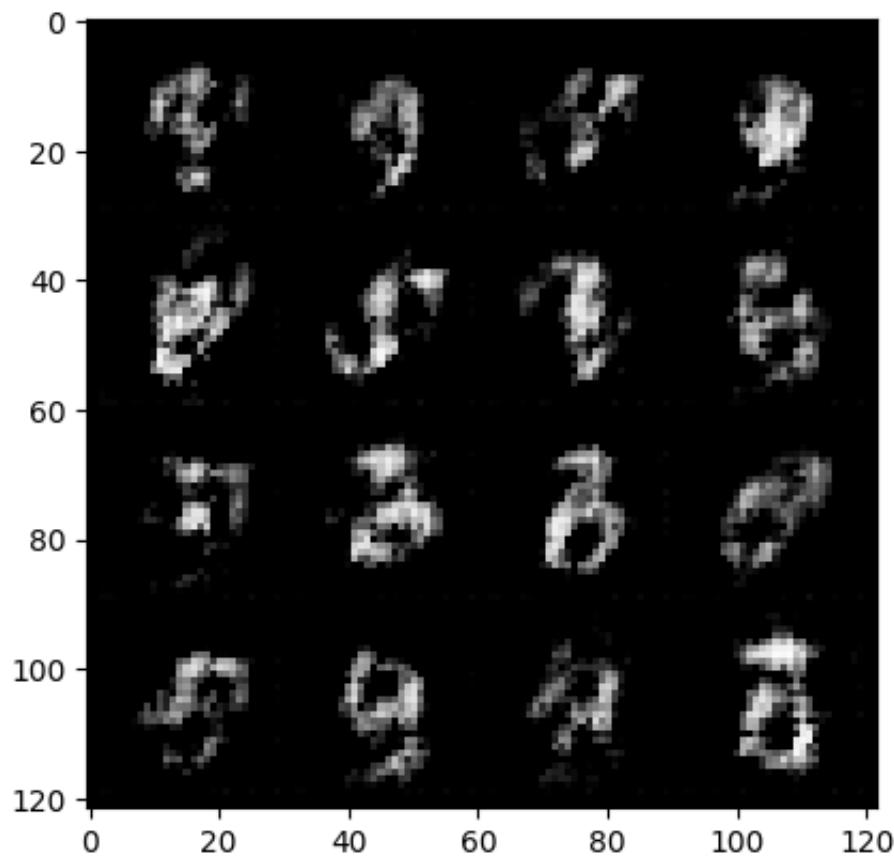


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

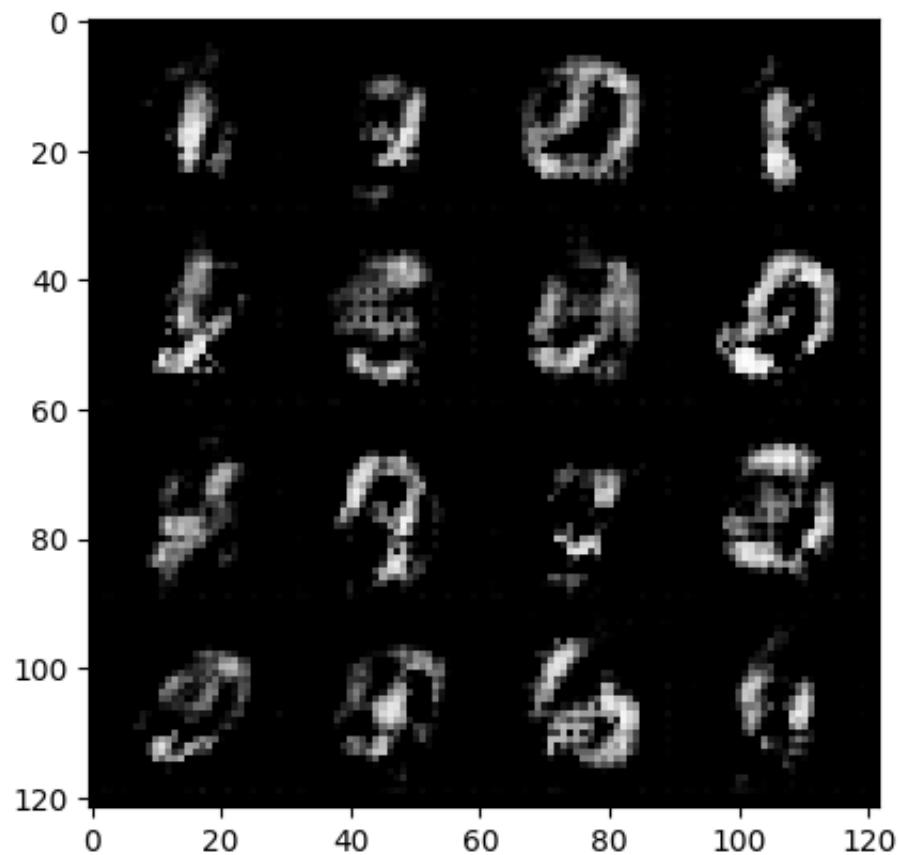
D_loss: 0.6834, G_loss: 0.6861



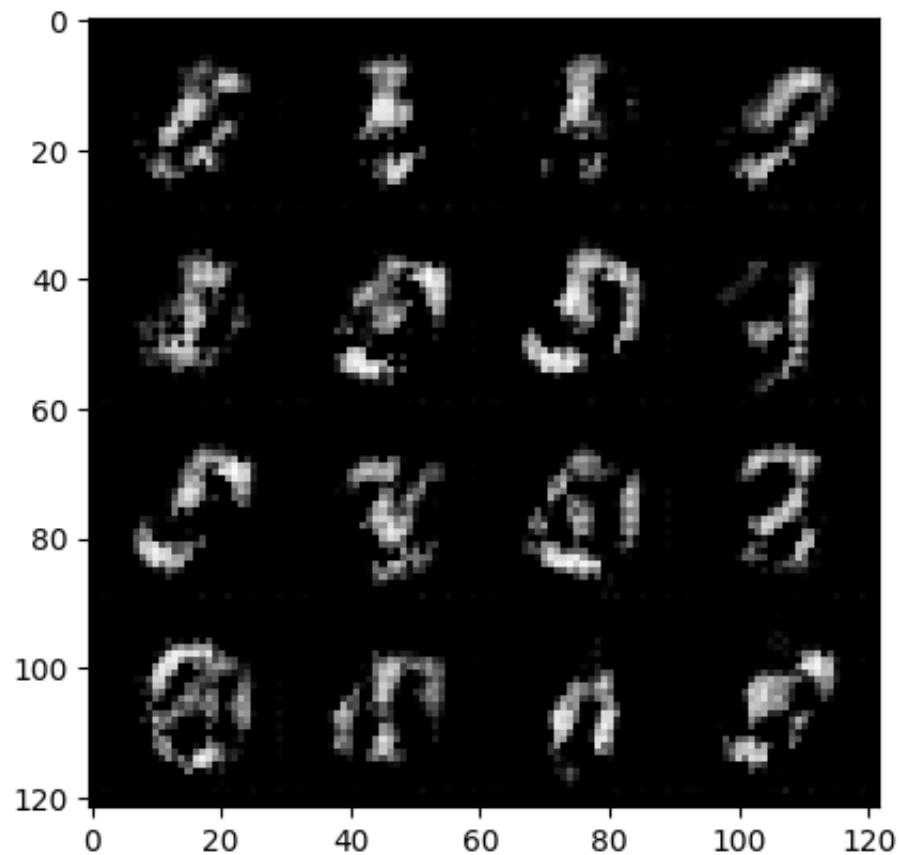
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6834, G_loss: 0.6862



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6834, G_loss: 0.6862

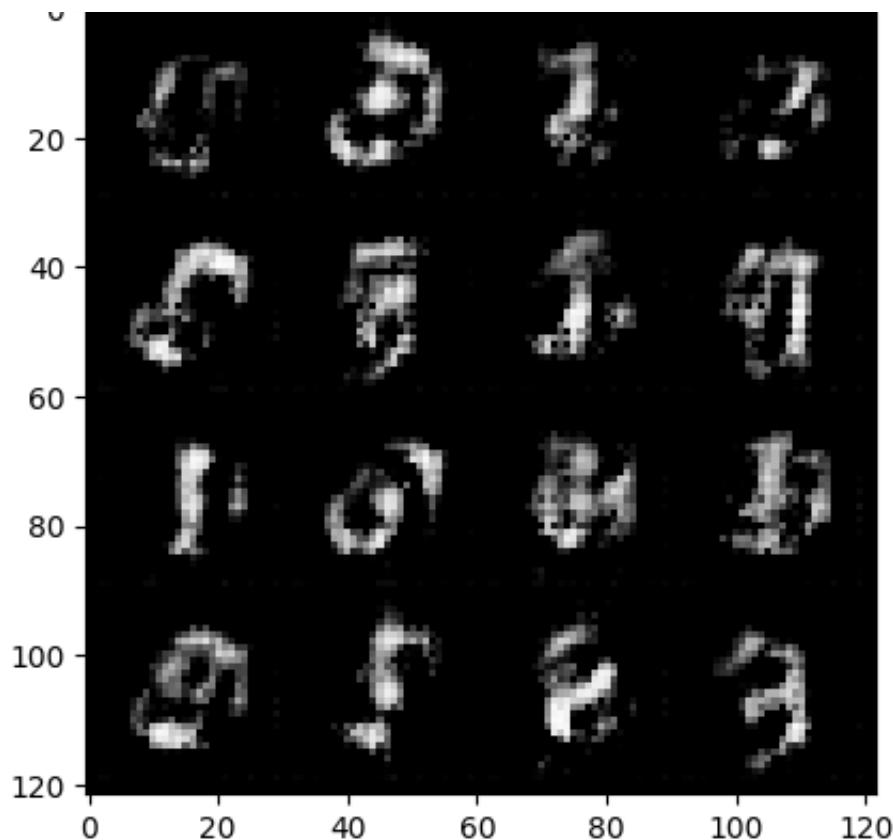


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6863

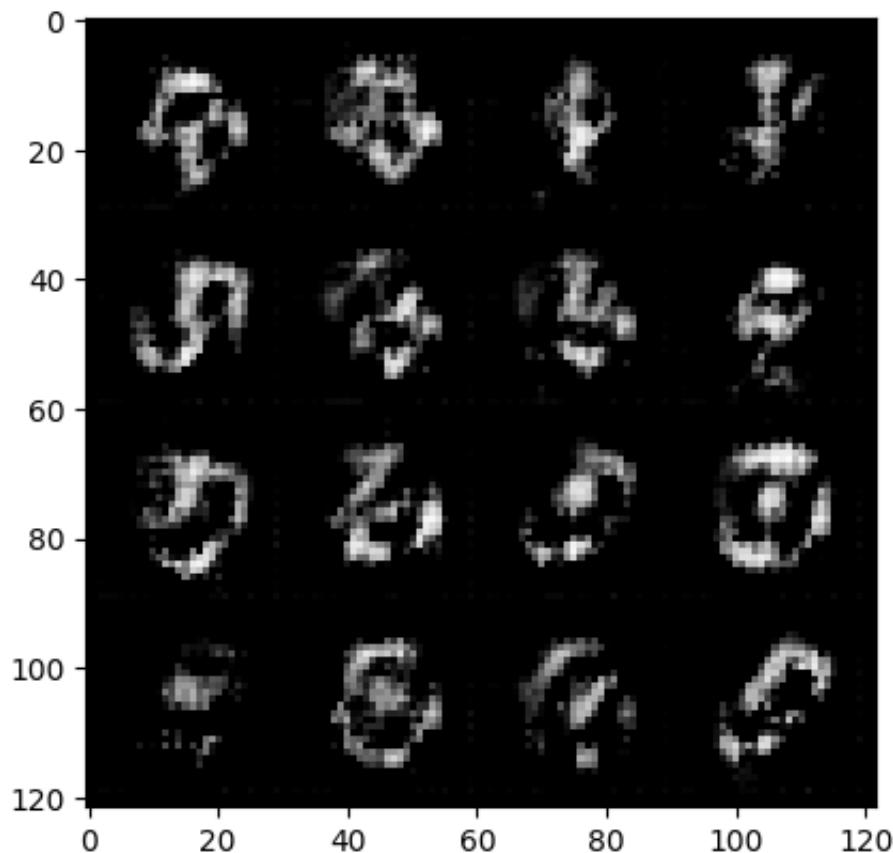


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6863

0 —————

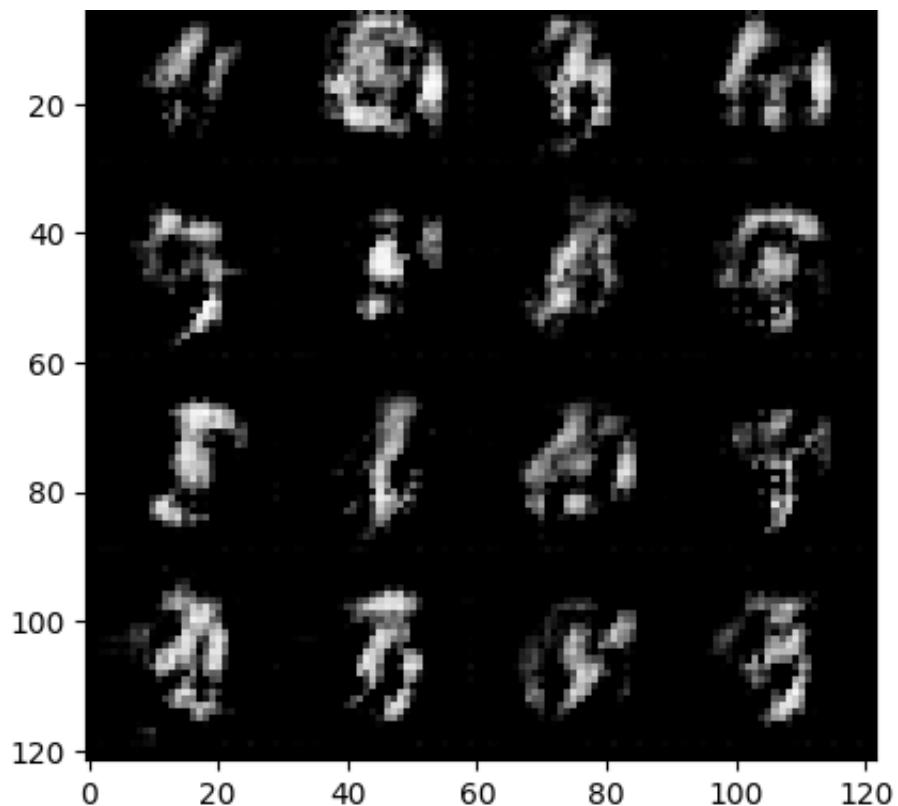


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.6834, max=0.6863

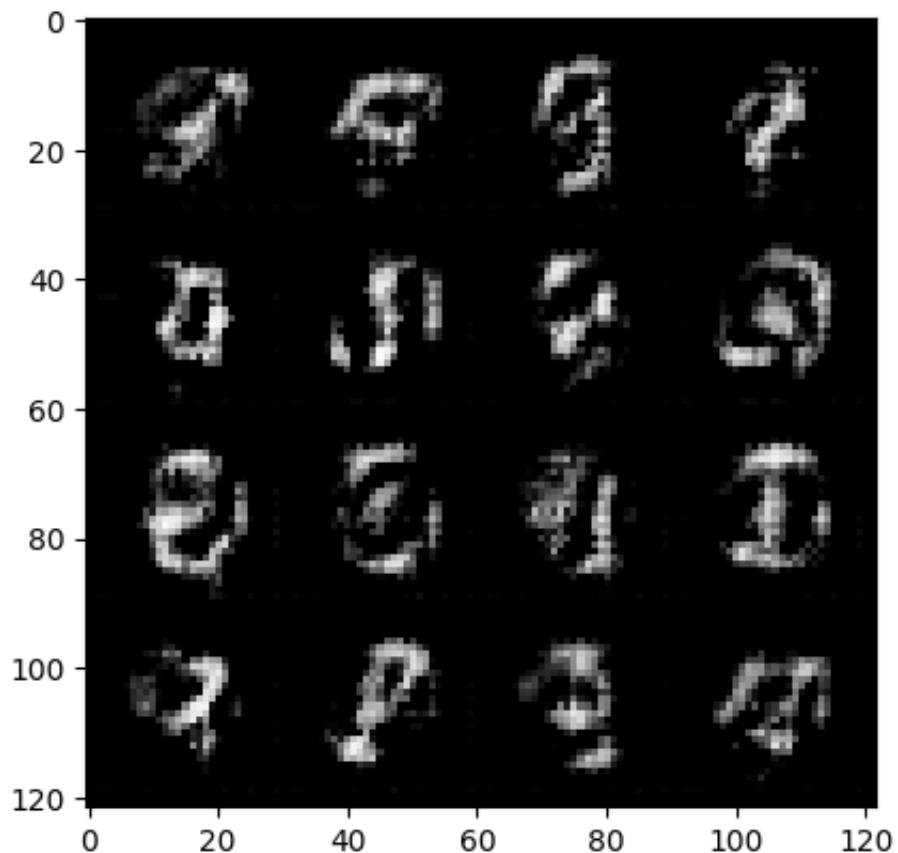


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.6834, max=0.6864



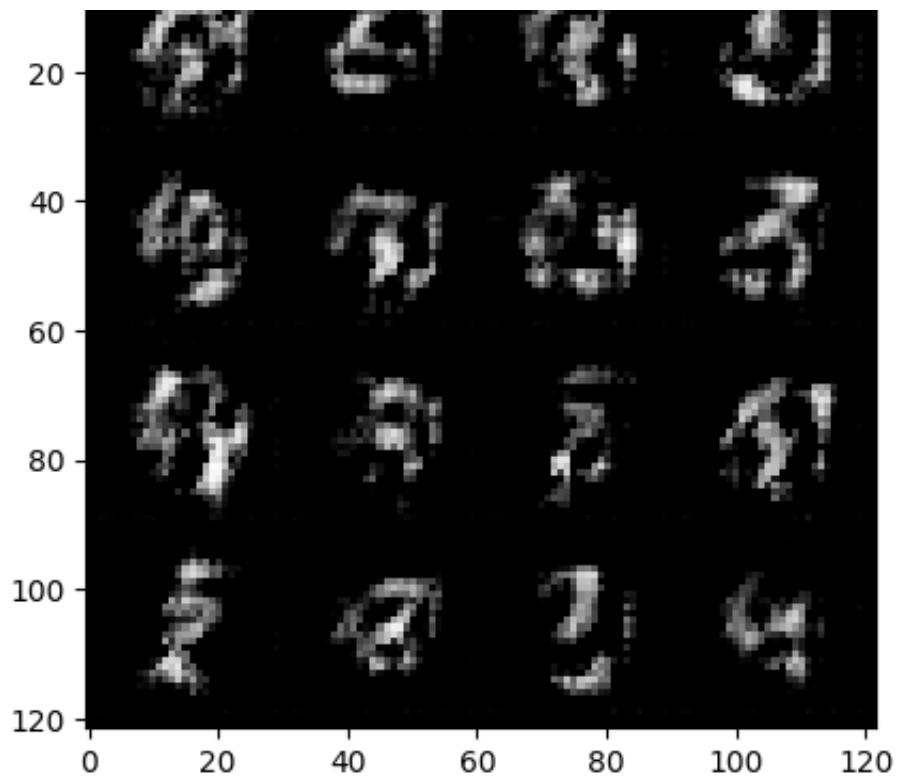


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6834, G_loss: 0.6865

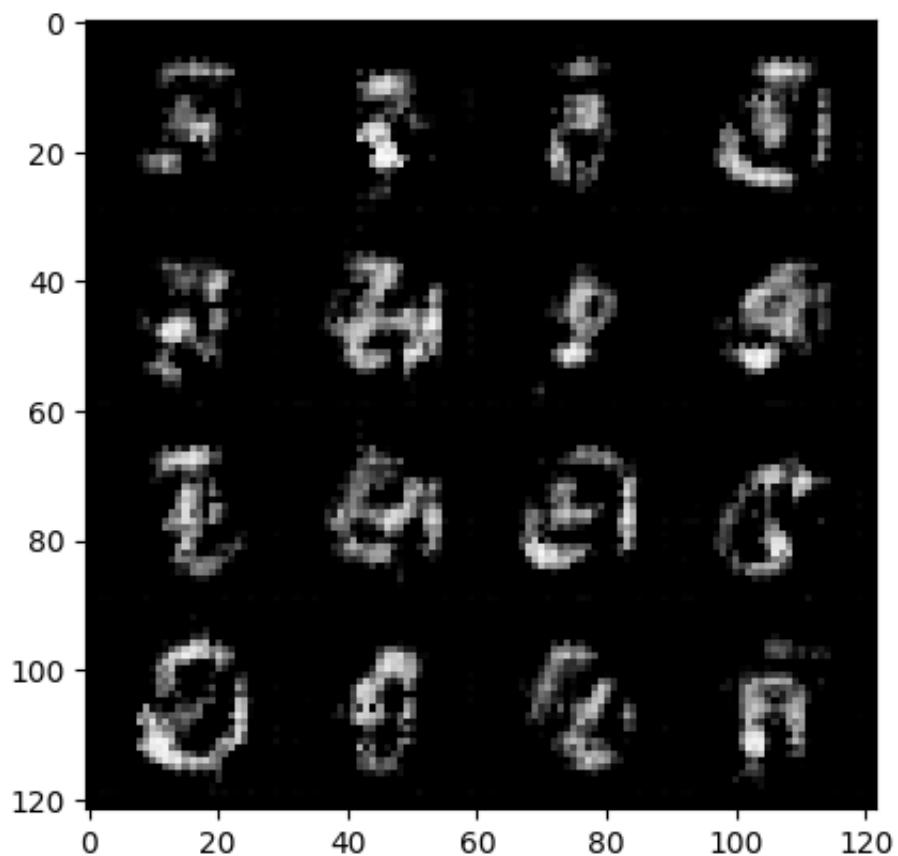


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6834, G_loss: 0.6865



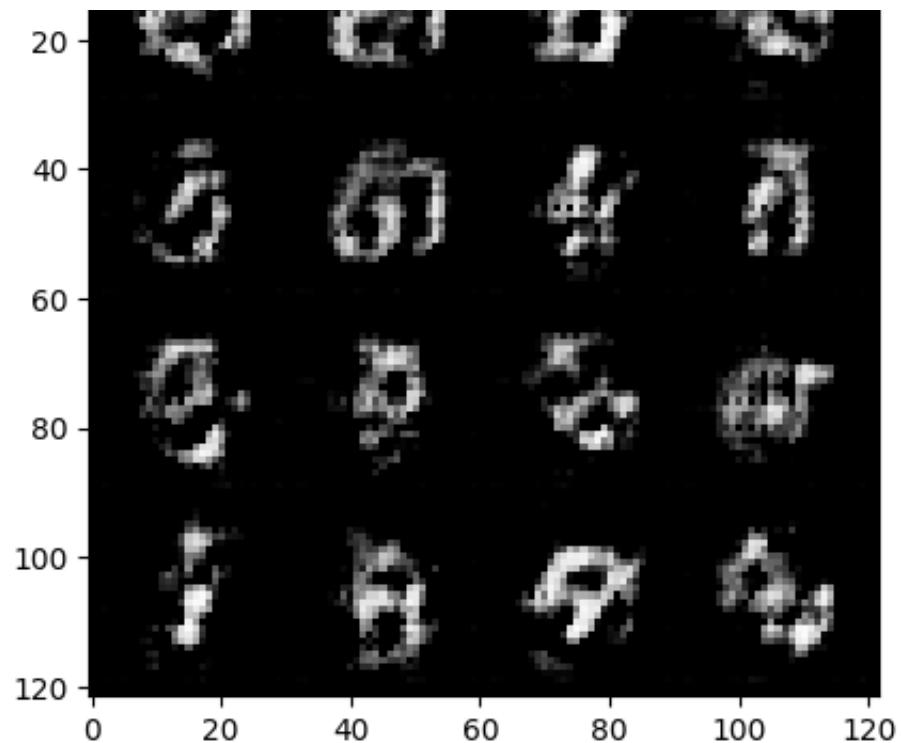


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6866

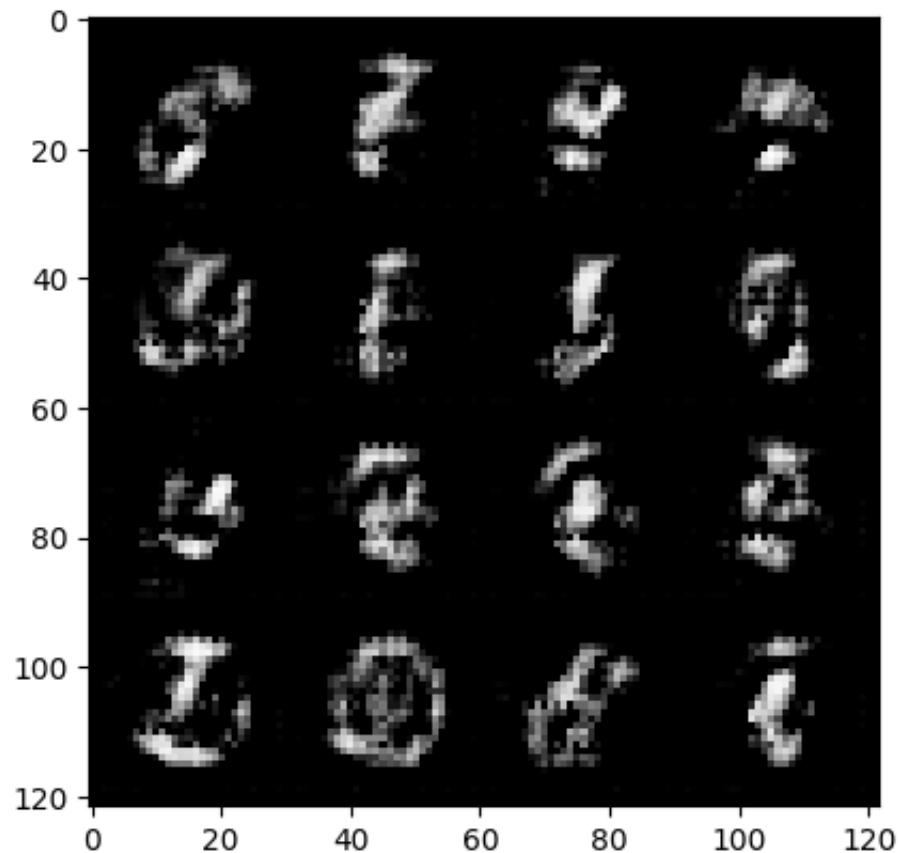


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6866





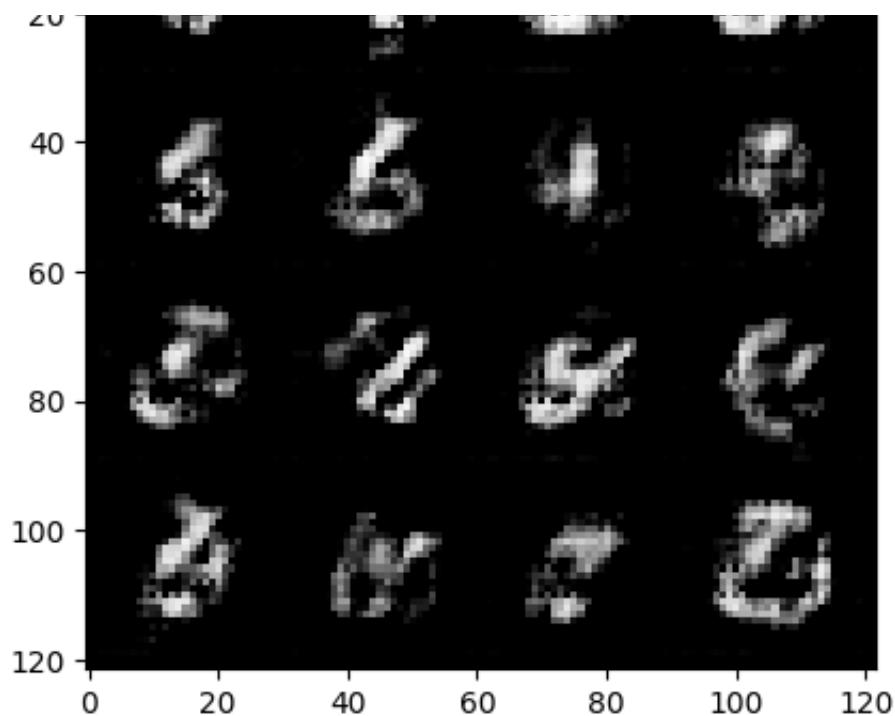
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6834, G_loss: 0.6867



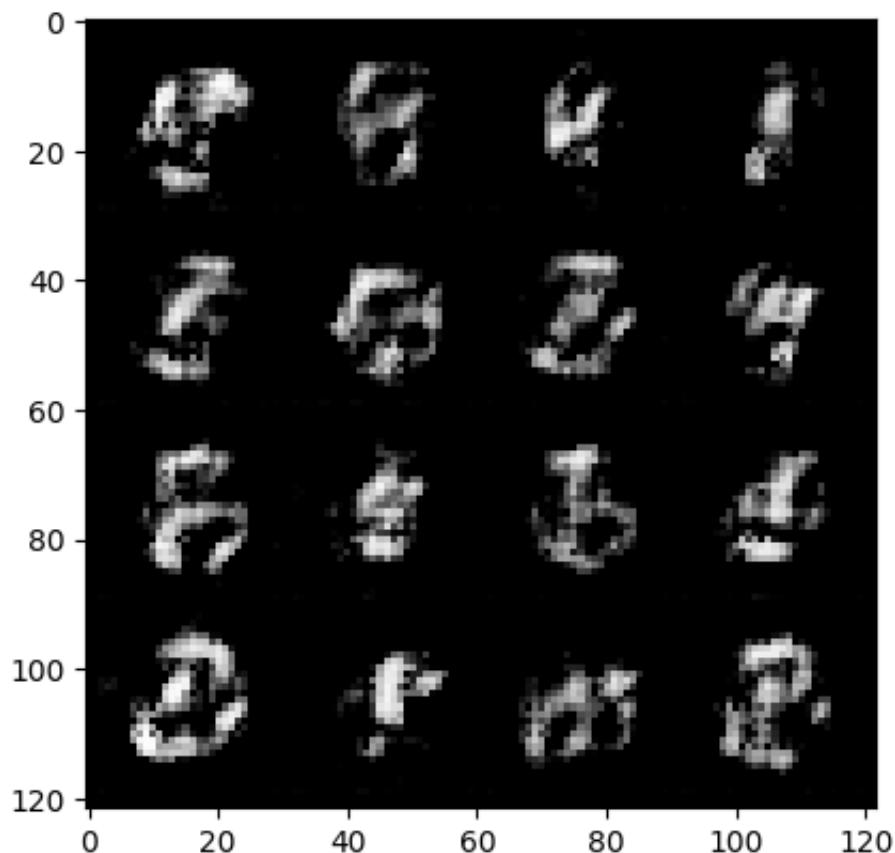
D_loss: 0.6834, G_loss: 0.6867

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32



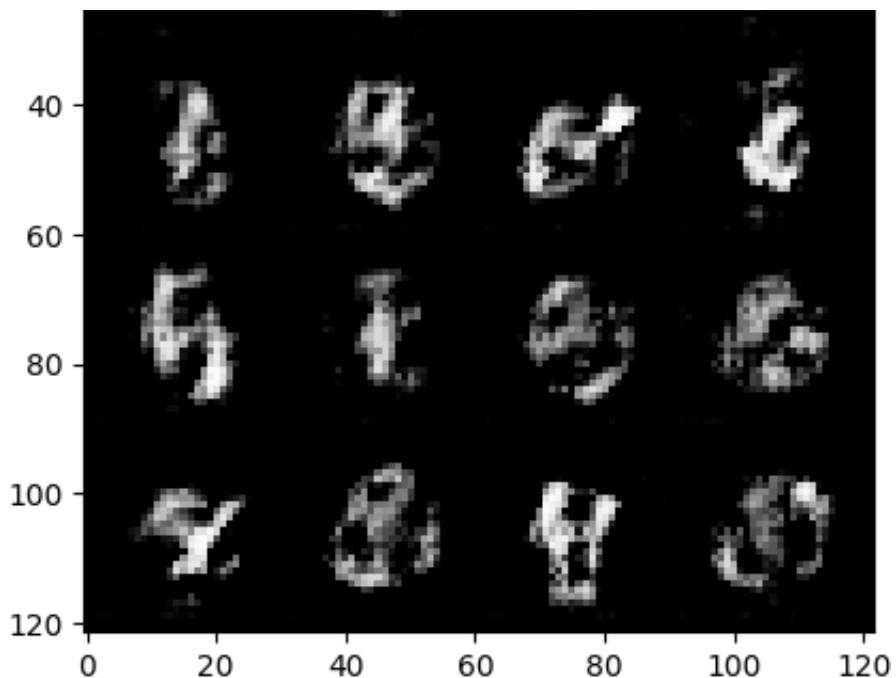


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6868

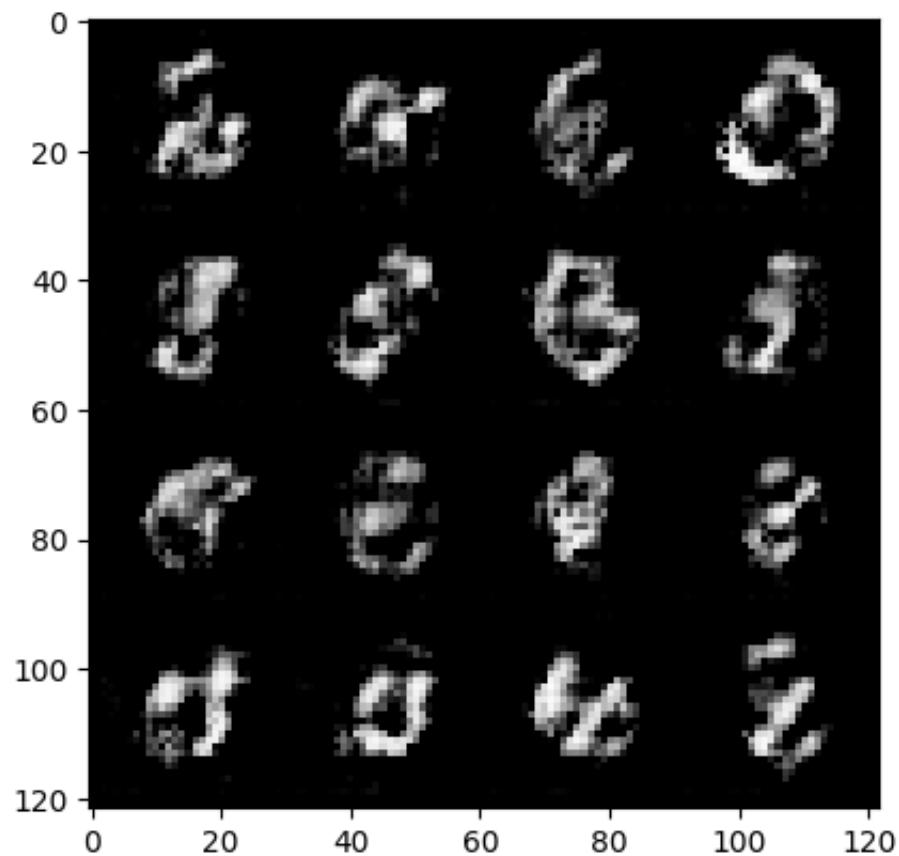


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6868



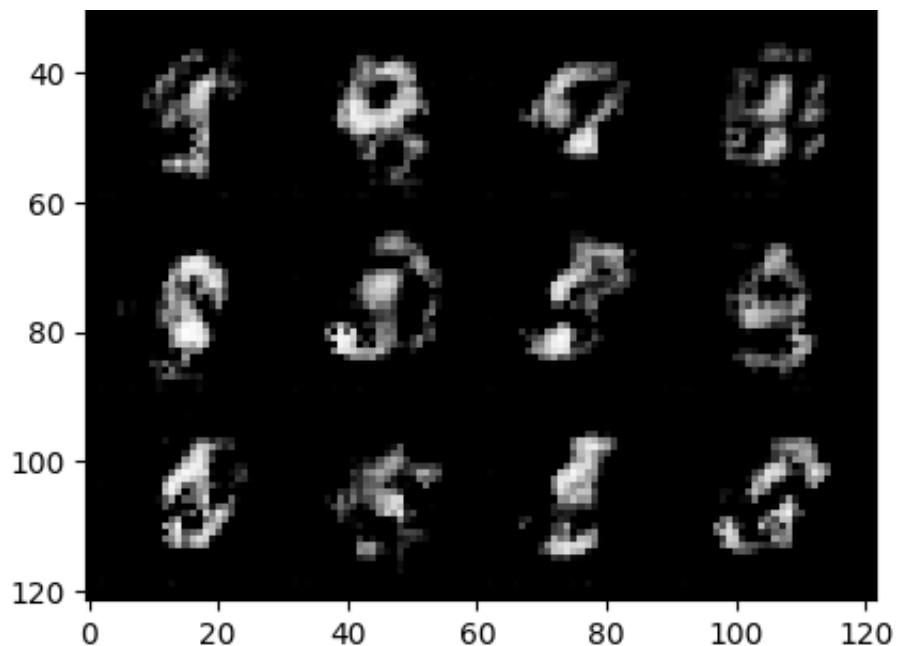


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6869

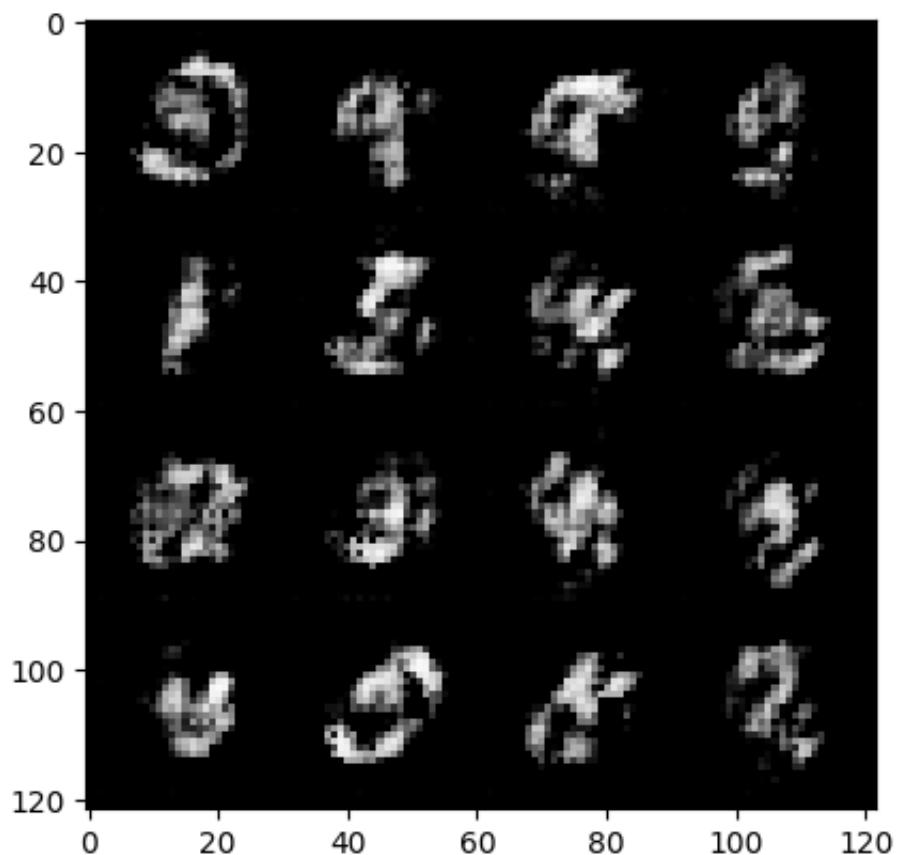


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6869



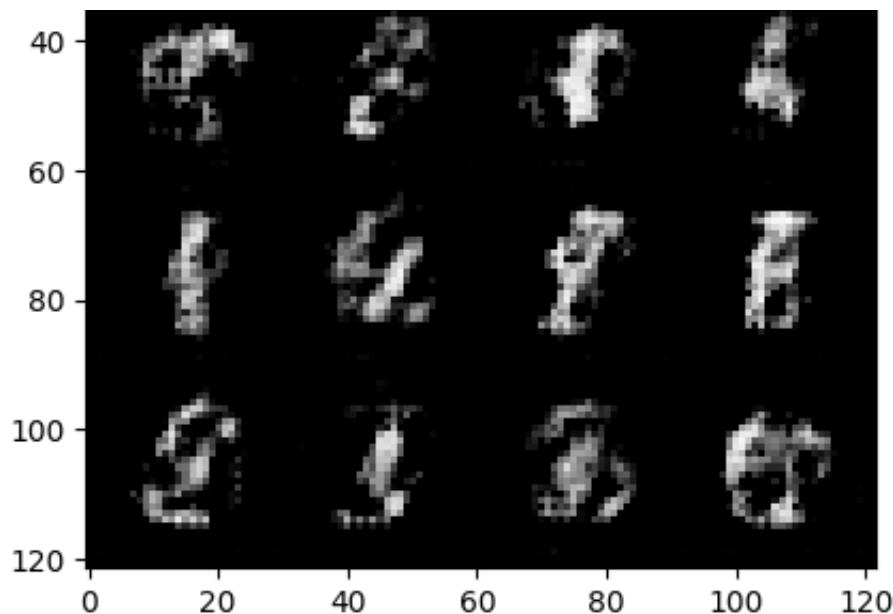


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6870

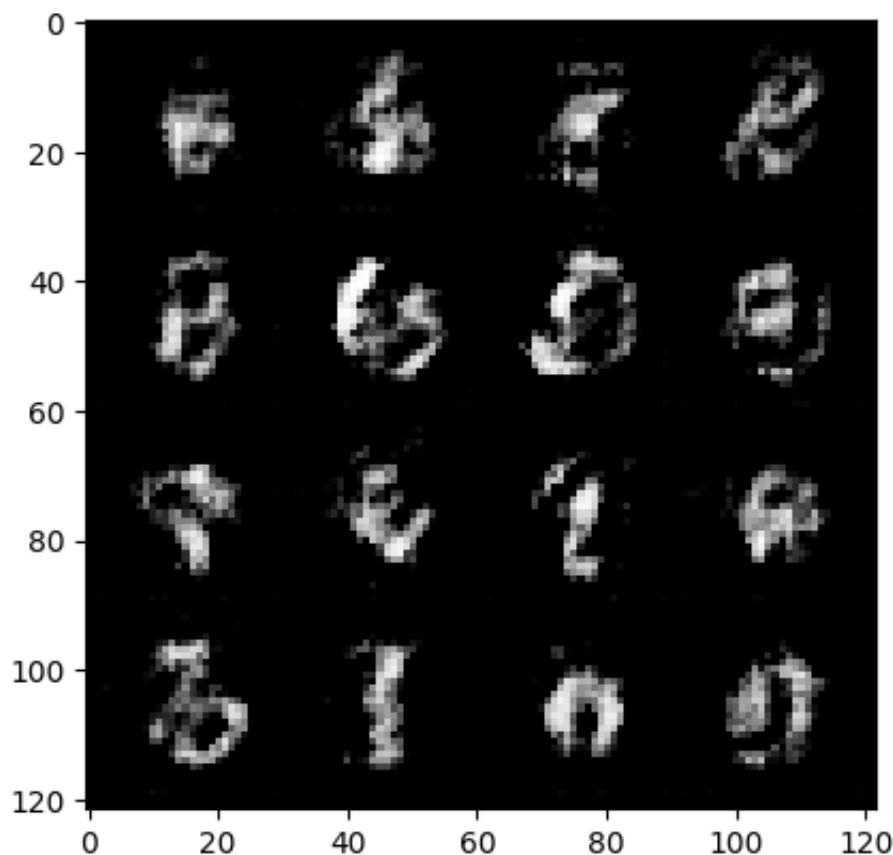


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6870



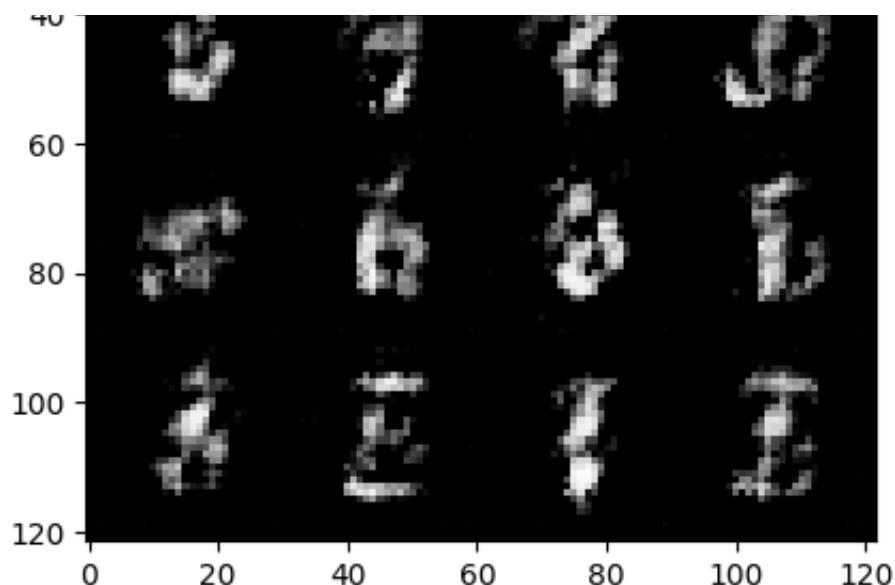


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6870

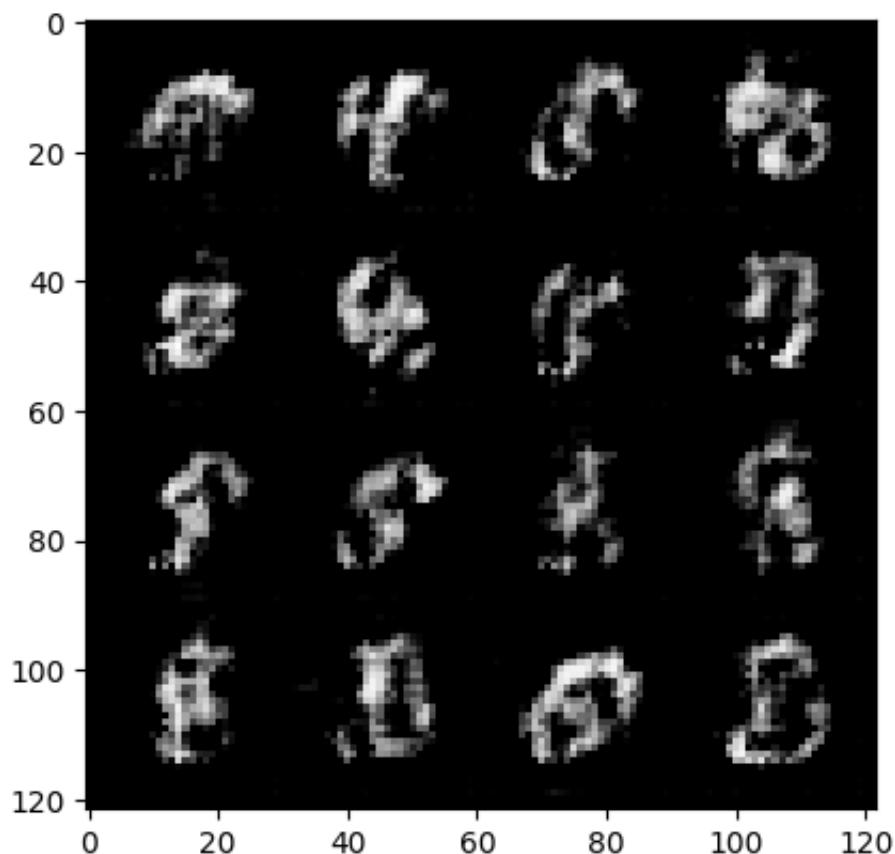


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6871



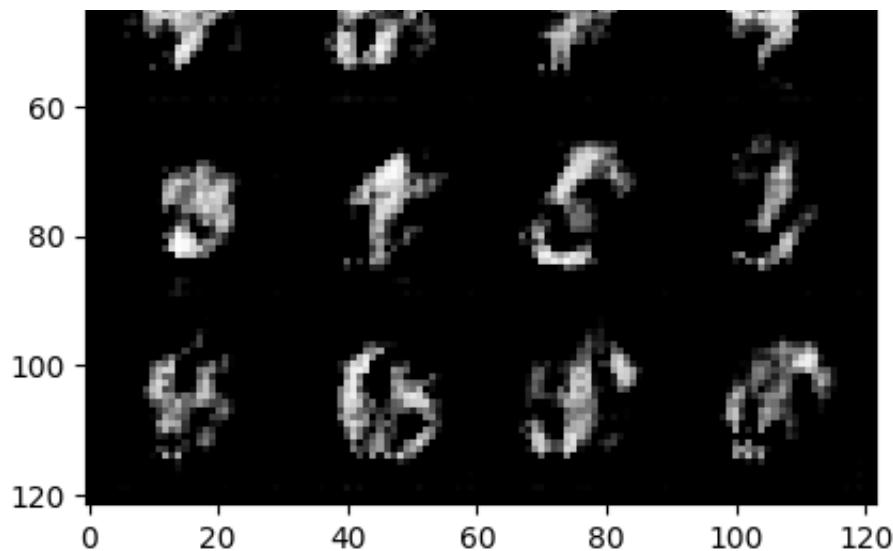


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6871

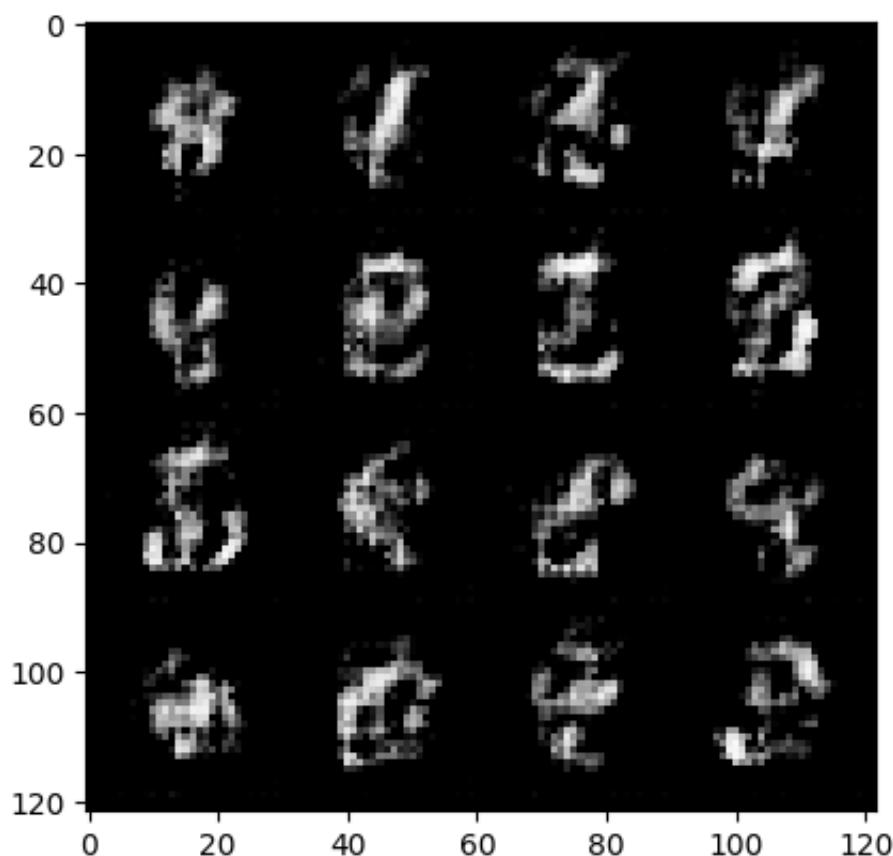


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6872



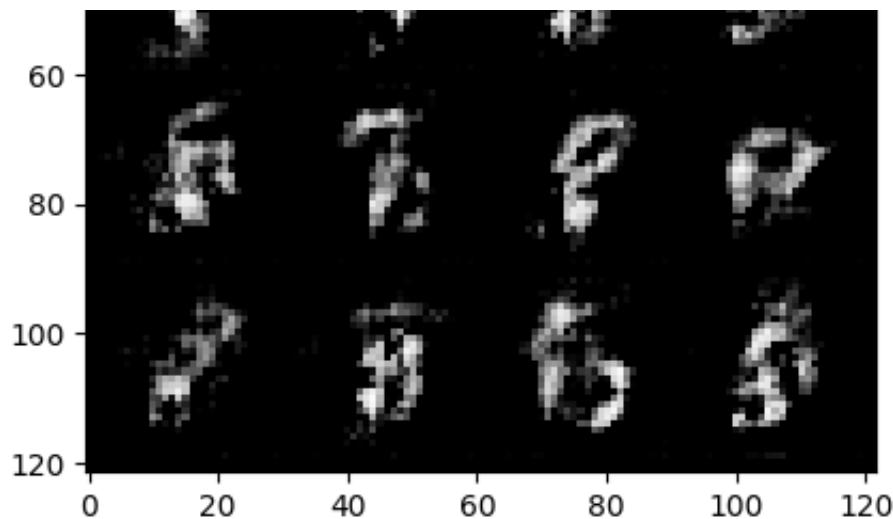


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6872

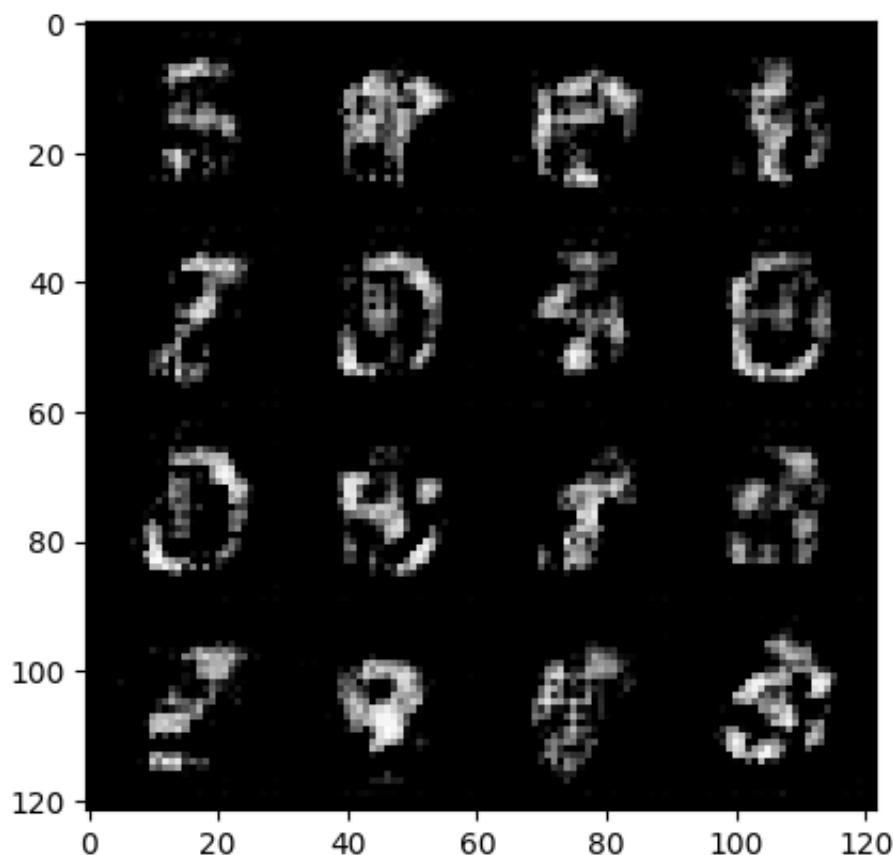


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6872



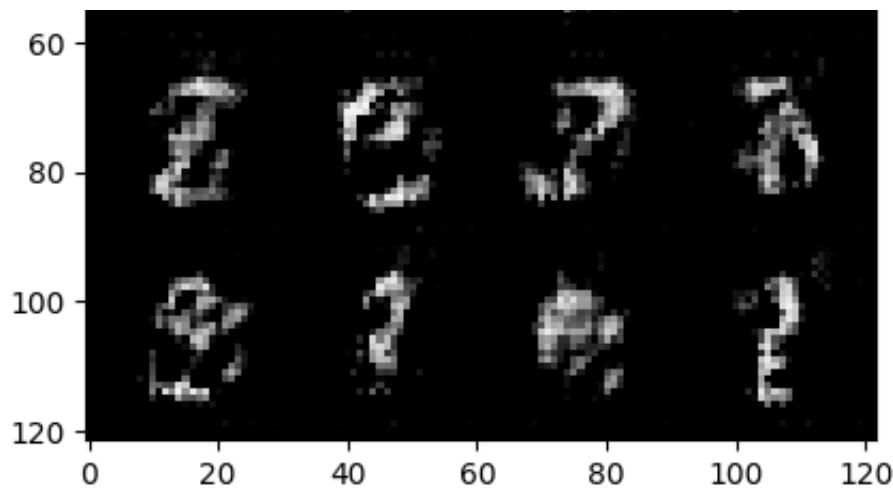


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.6873

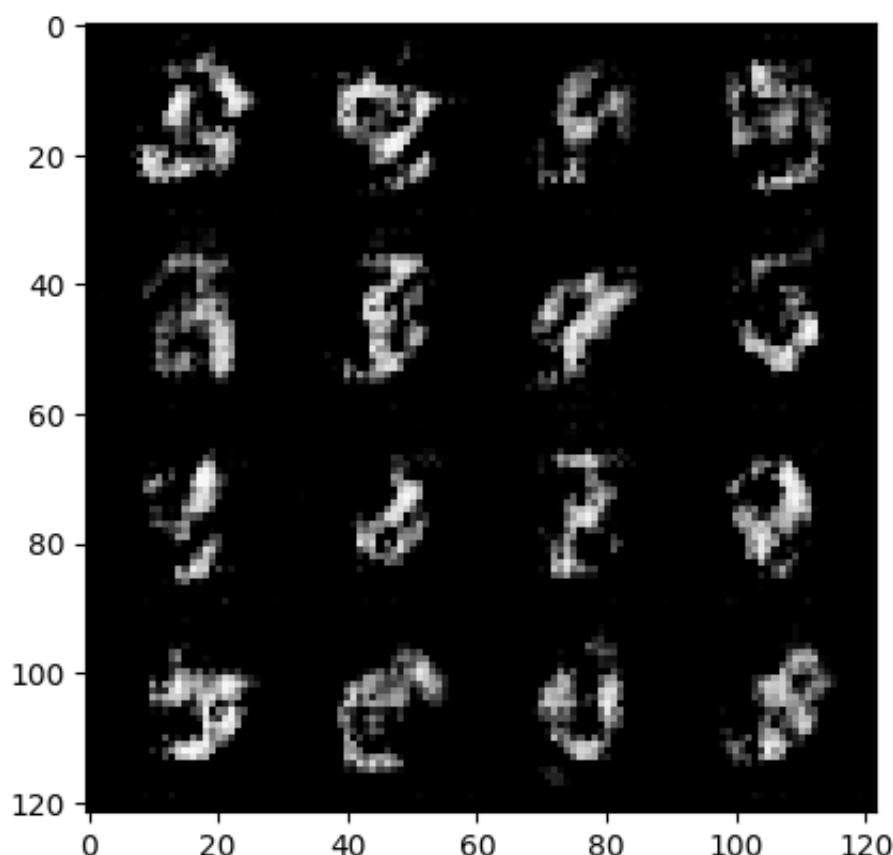


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6873



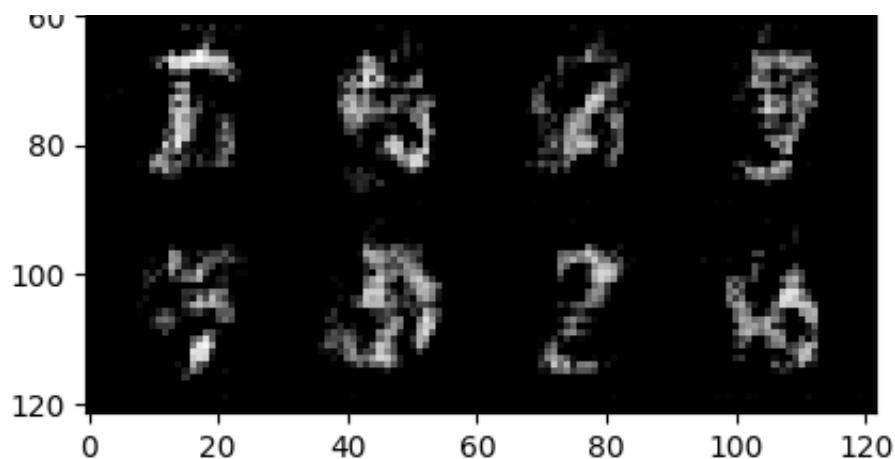


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6874

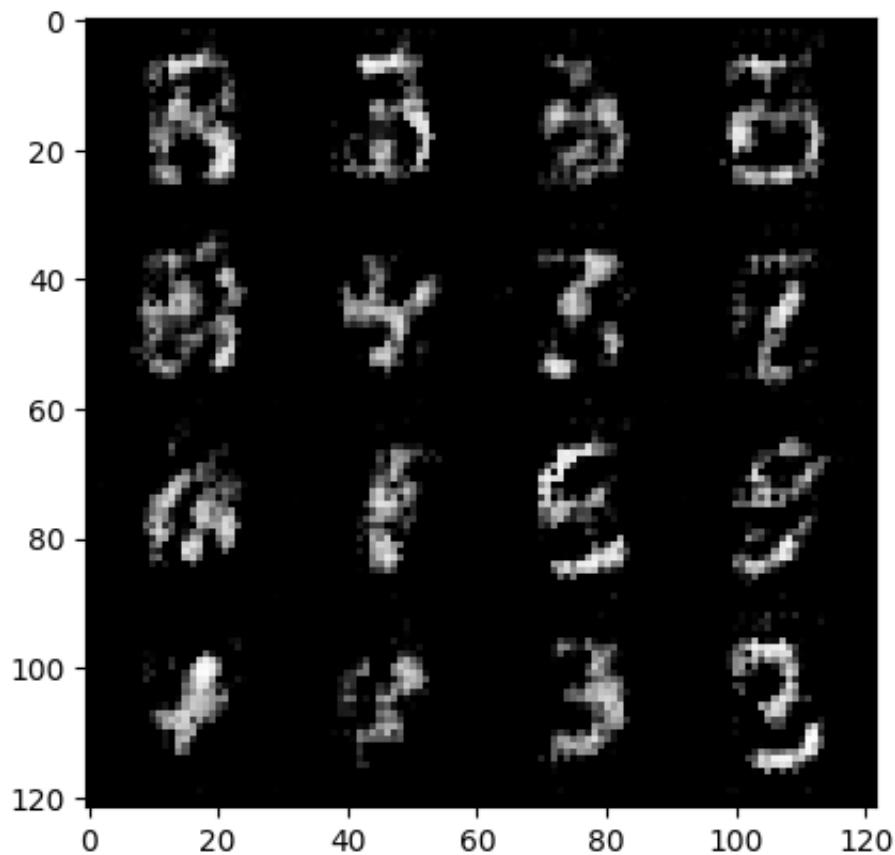


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6874



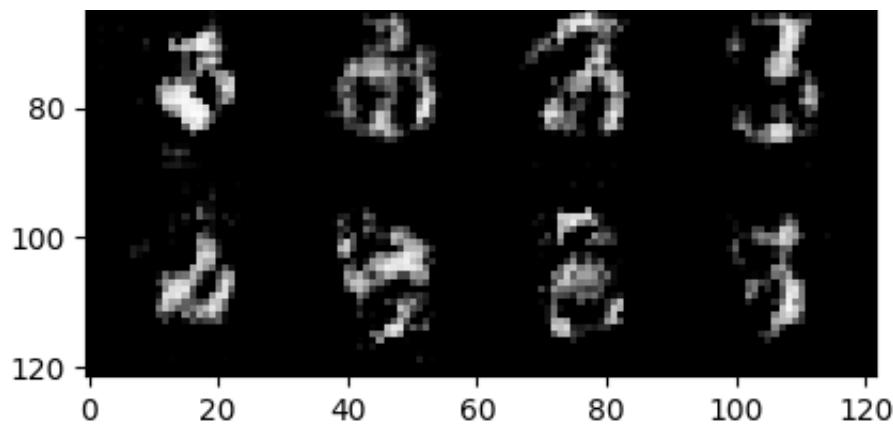


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6874

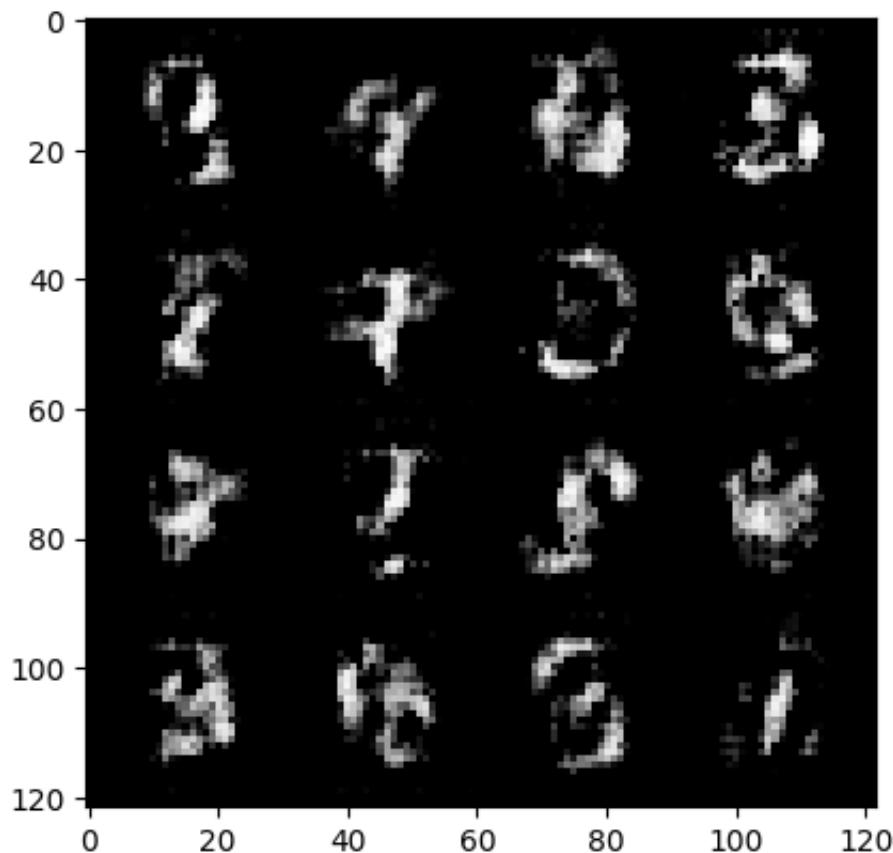


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6875



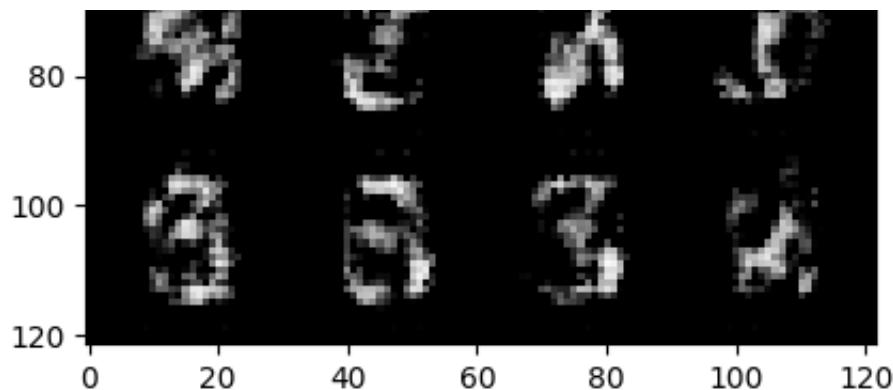


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6875

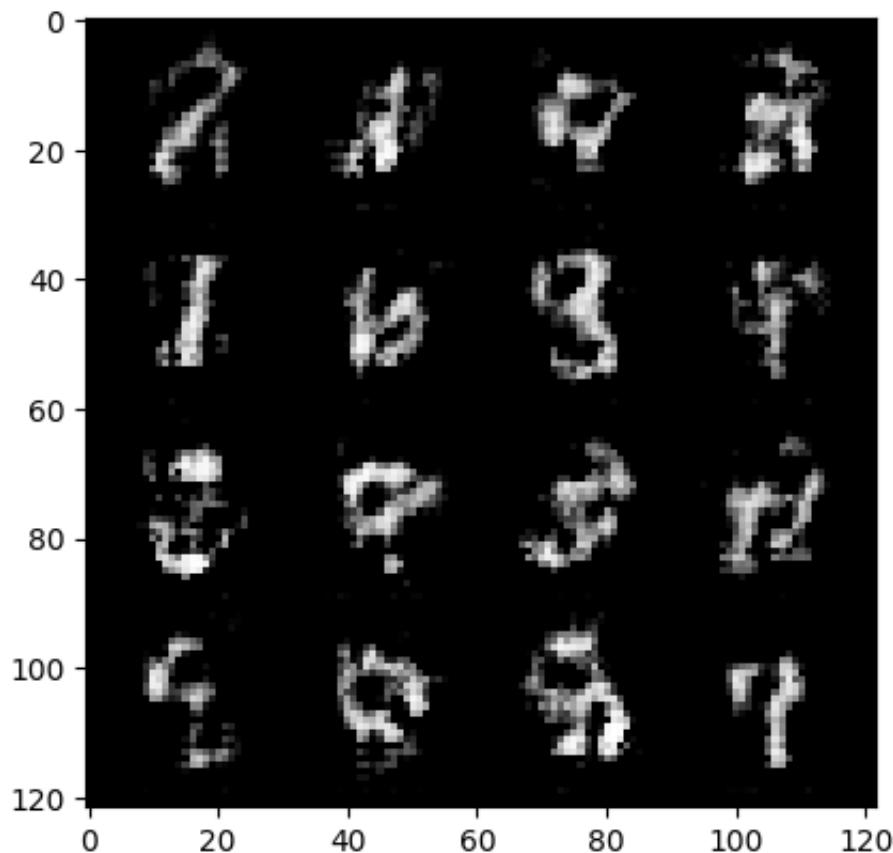


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6876



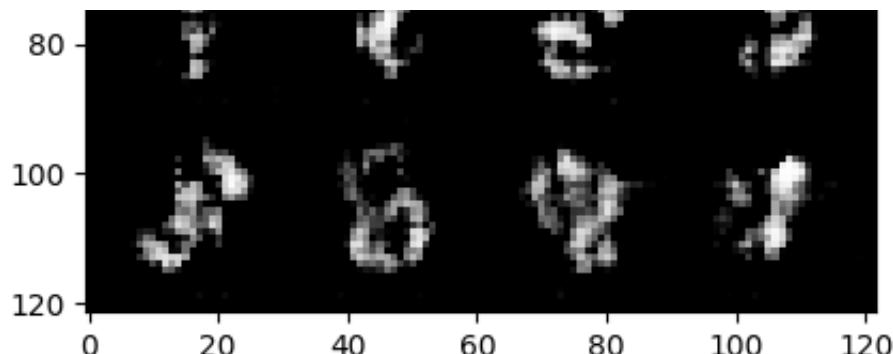


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6876

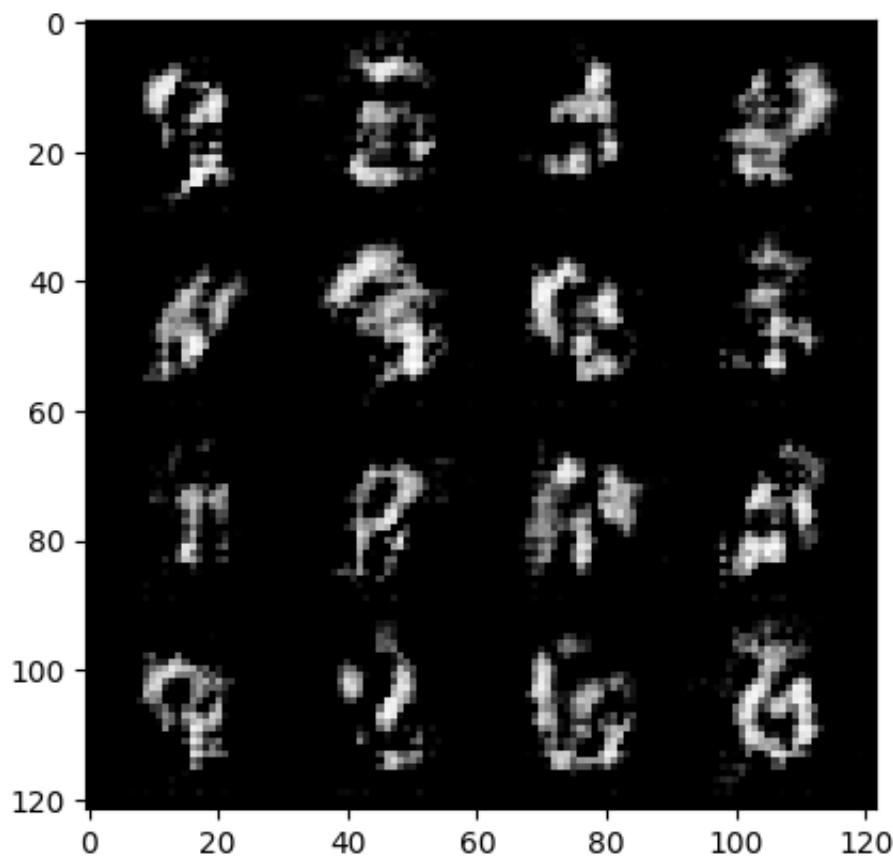


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.6876



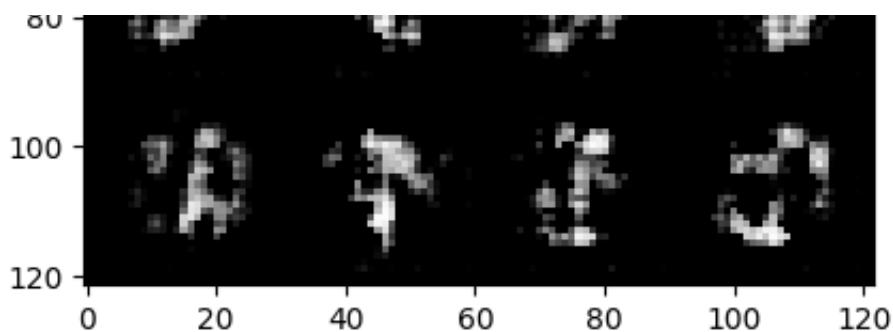


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6835, G_loss: 0.6876

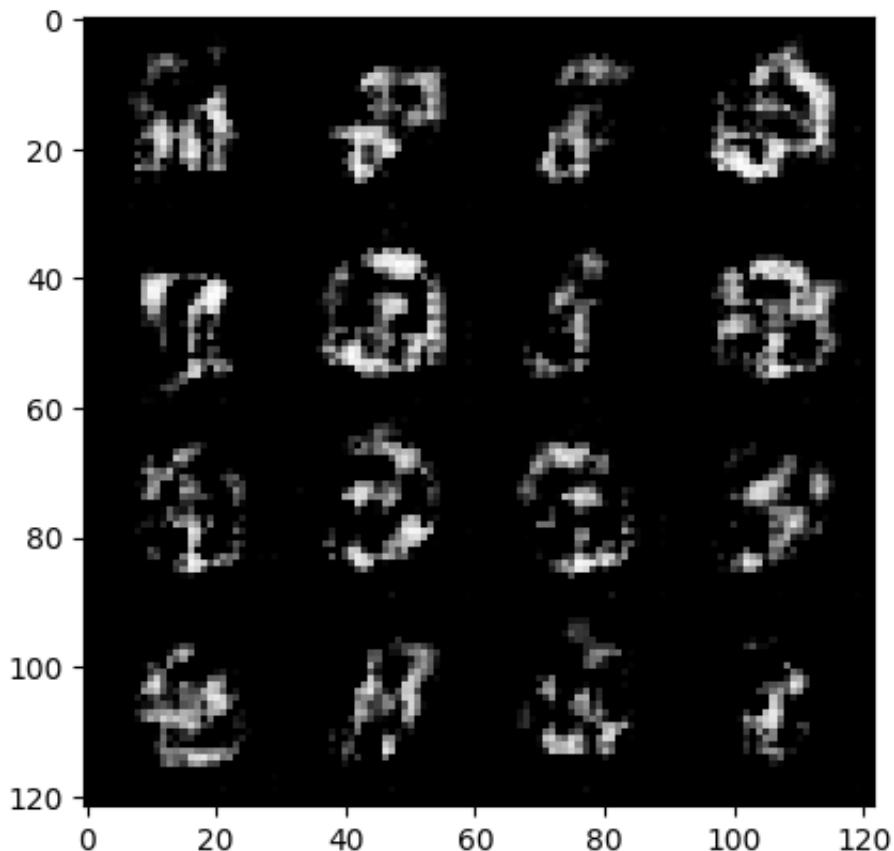


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6835, G_loss: 0.6877



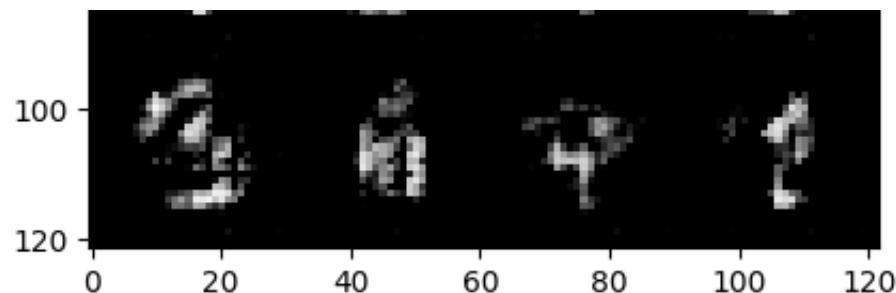


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6877

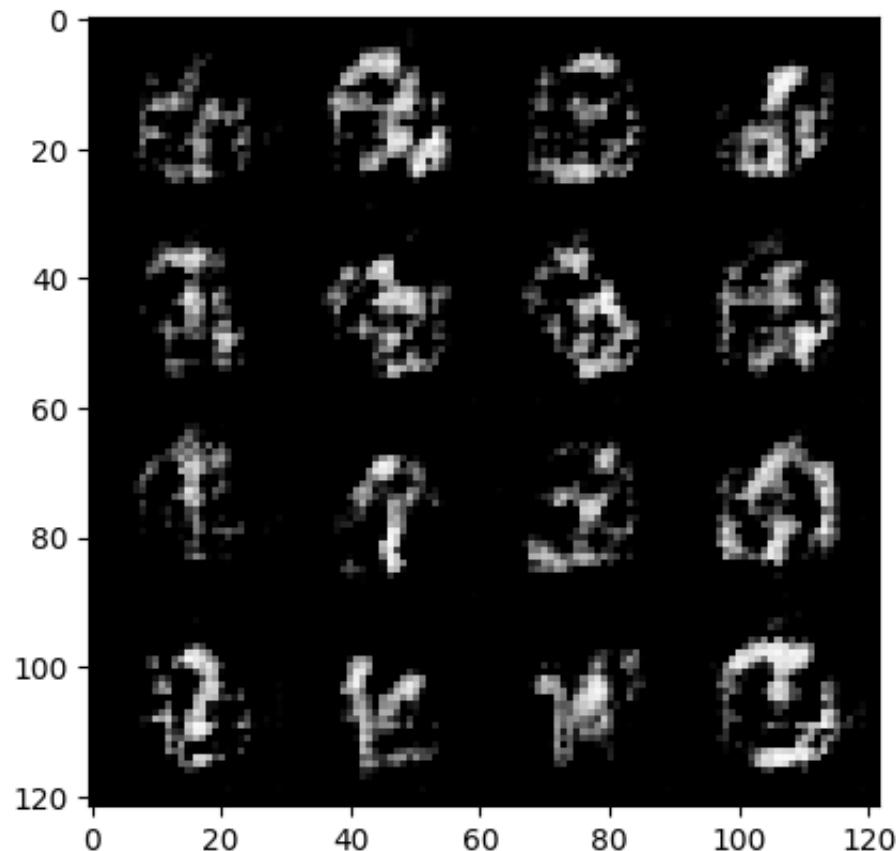


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6877

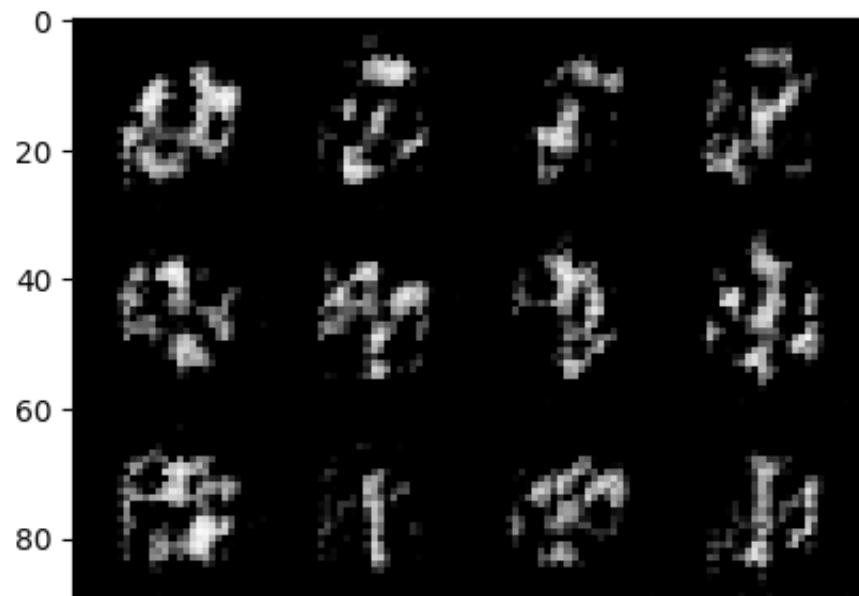


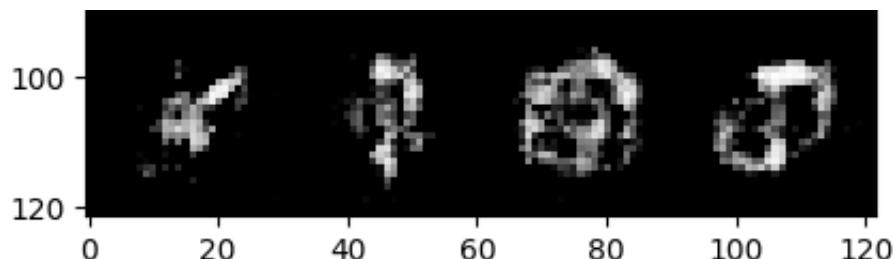


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6877

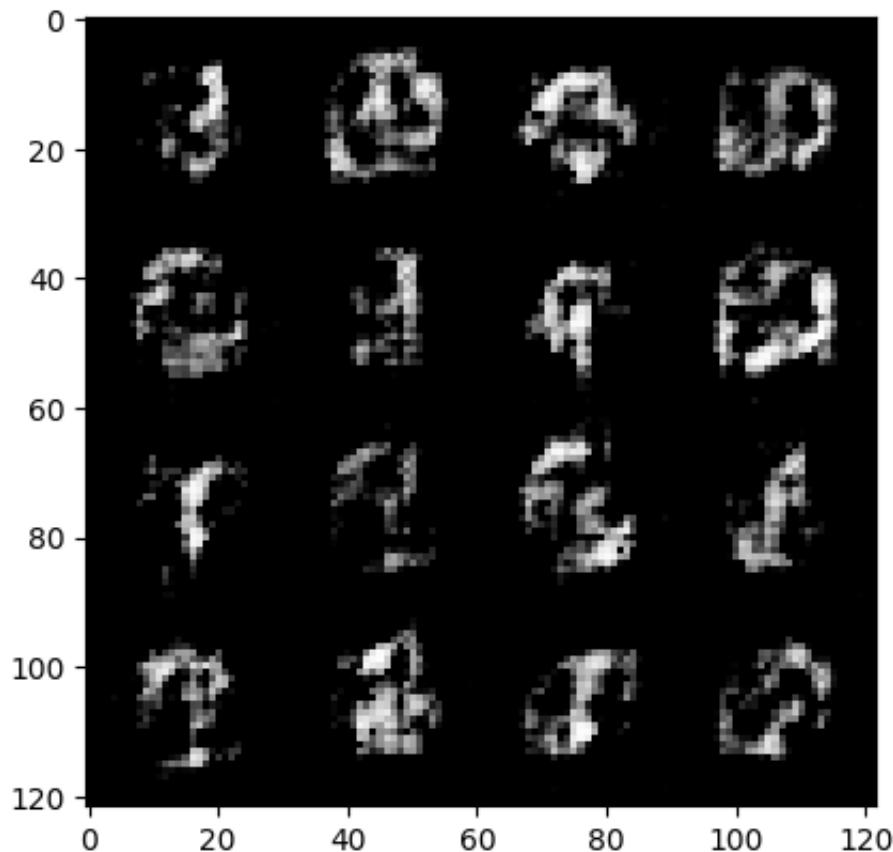


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6878

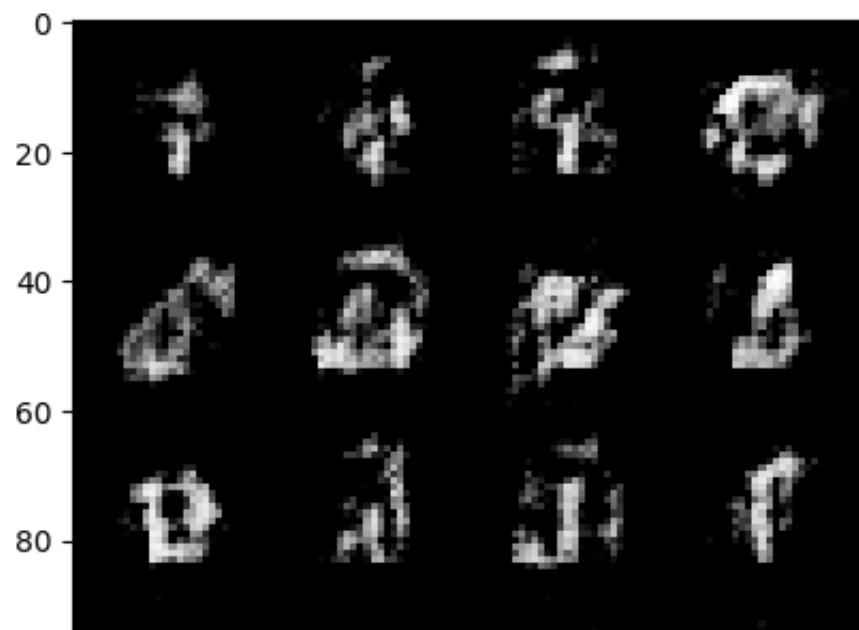


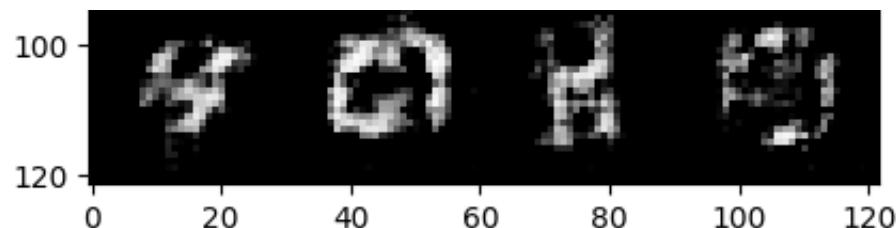


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6878

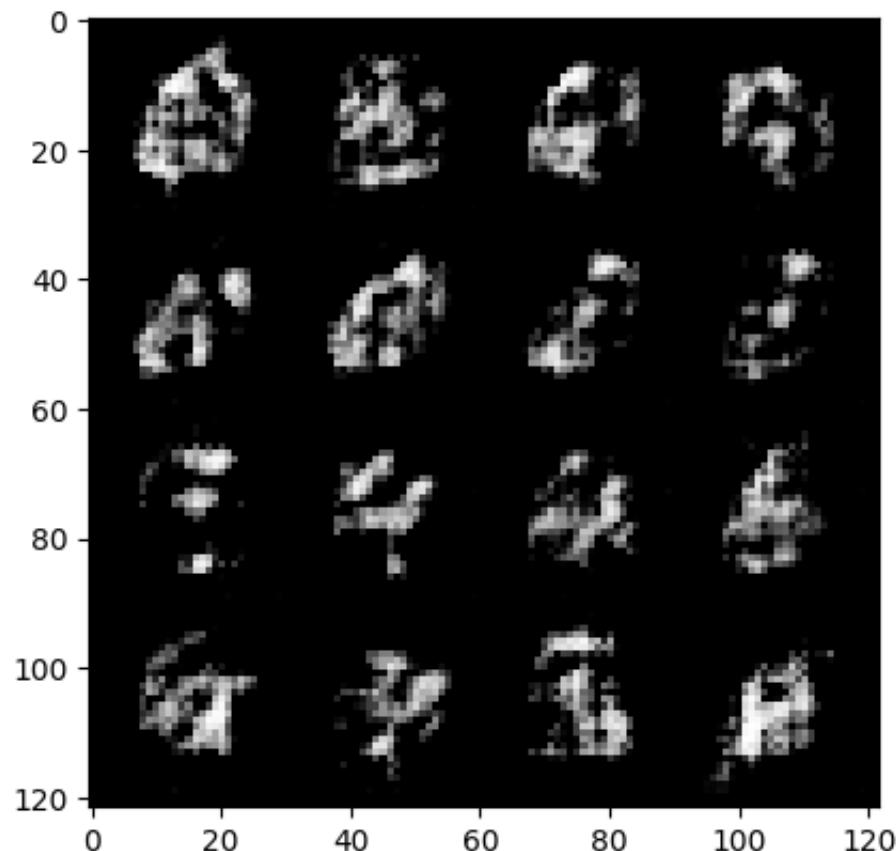


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.6878

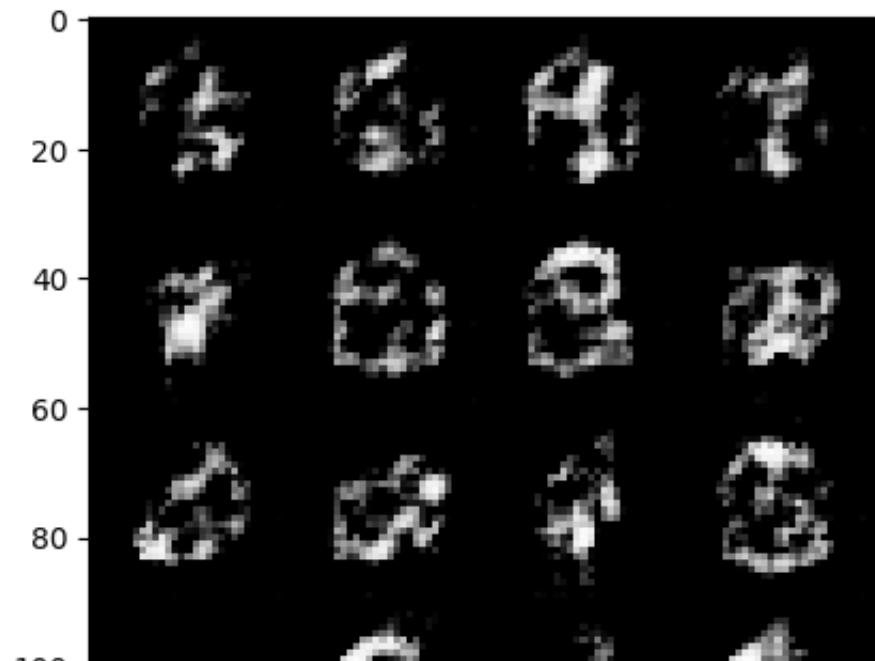


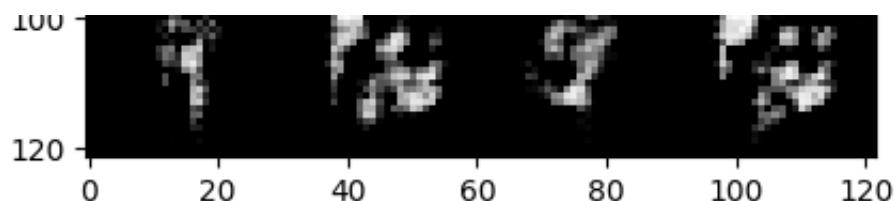


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6836, G_loss: 0.6879

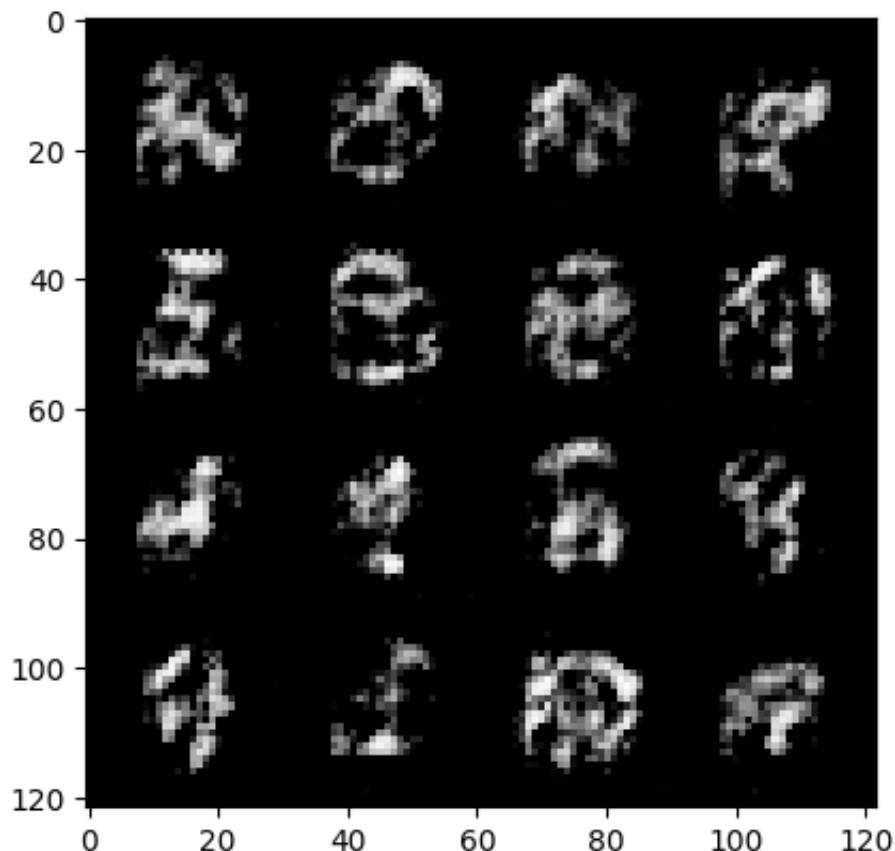


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6836, G_loss: 0.6879



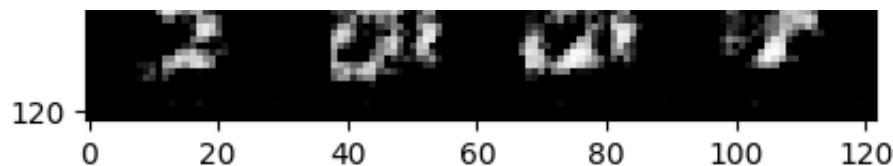


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6837, G_loss: 0.6879

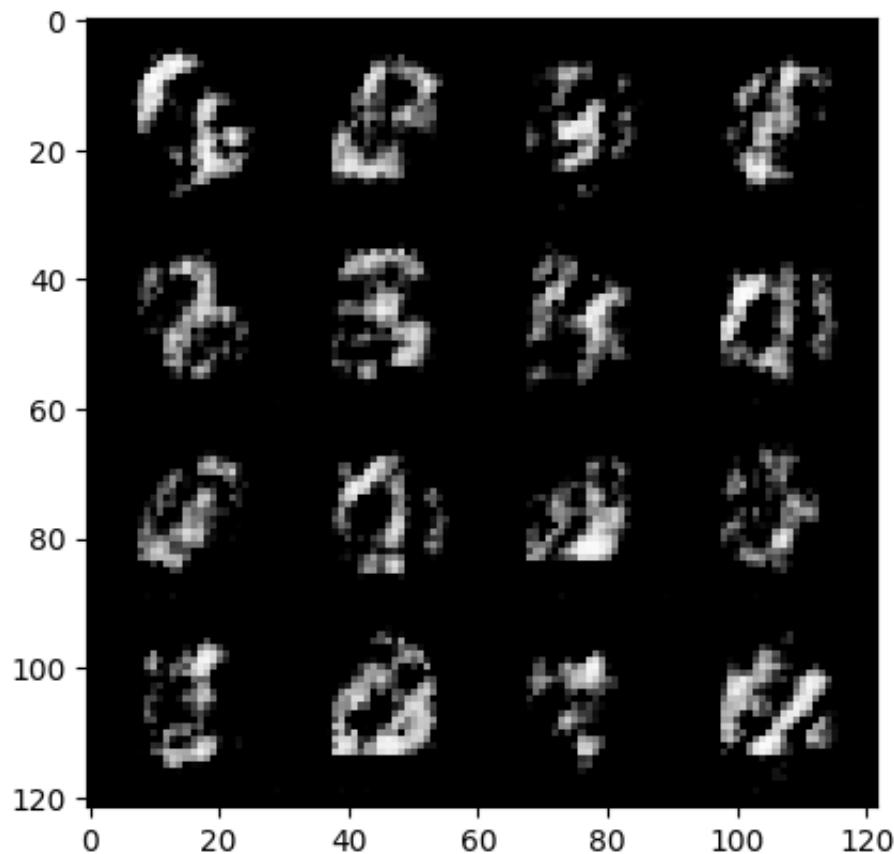


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6837, G_loss: 0.6880

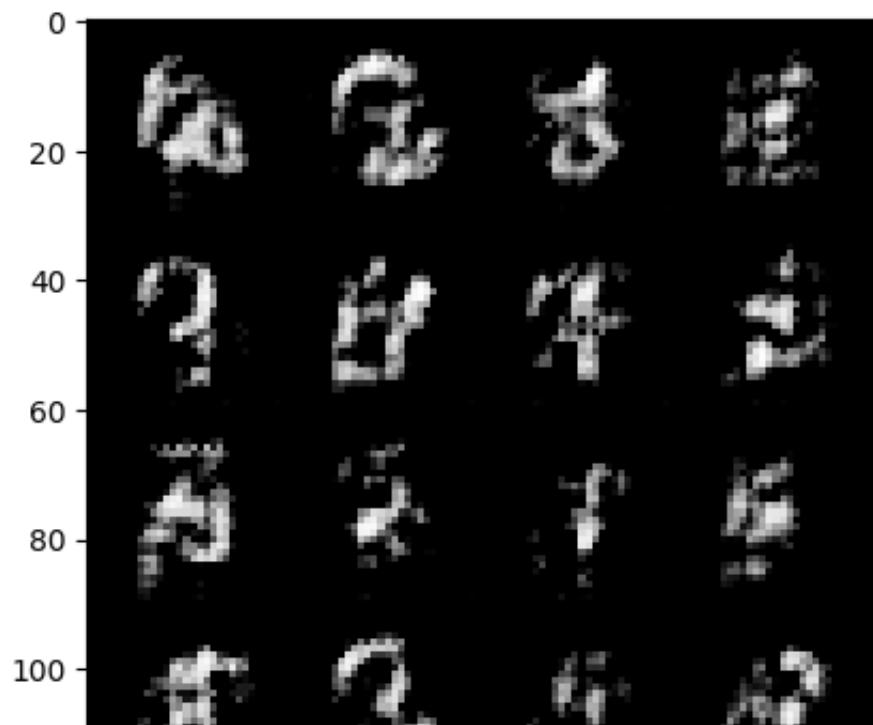


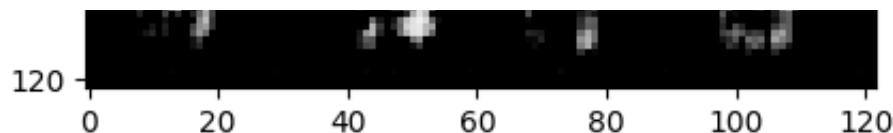


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6837, G_loss: 0.6880

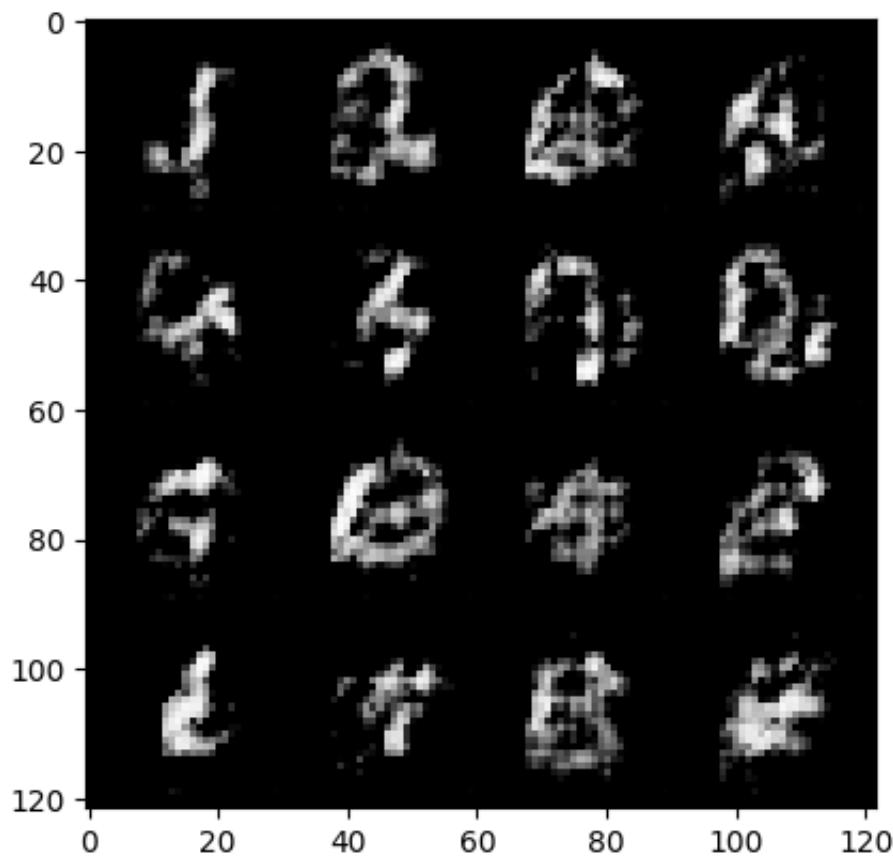


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6837, G_loss: 0.6880

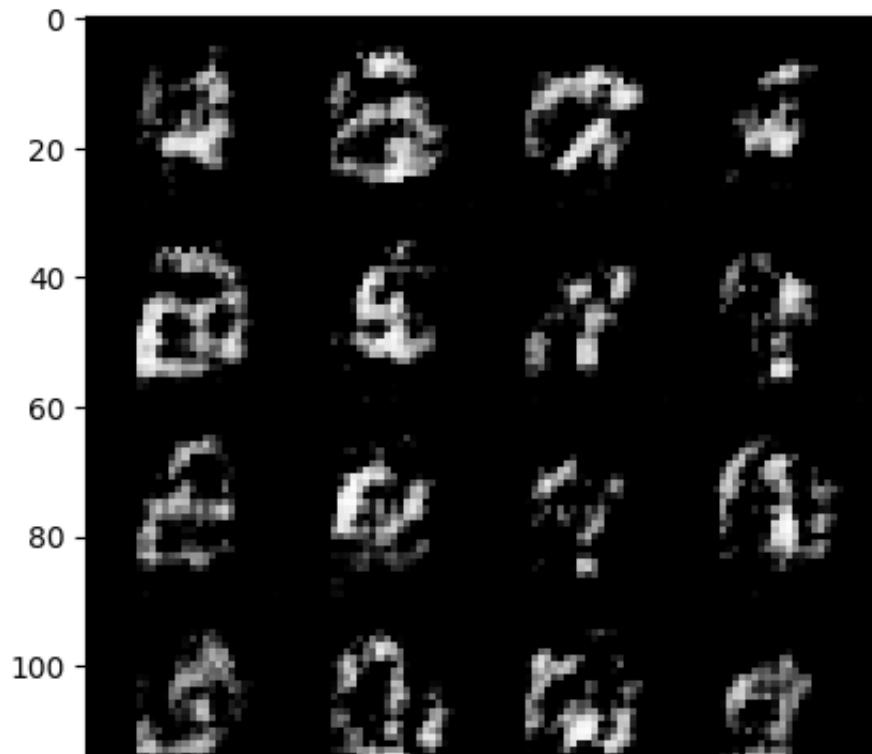


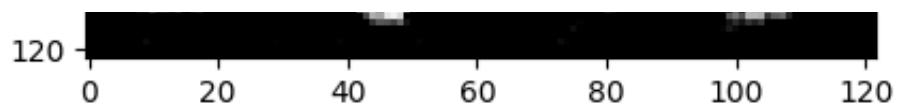


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.6837, max=0.6881

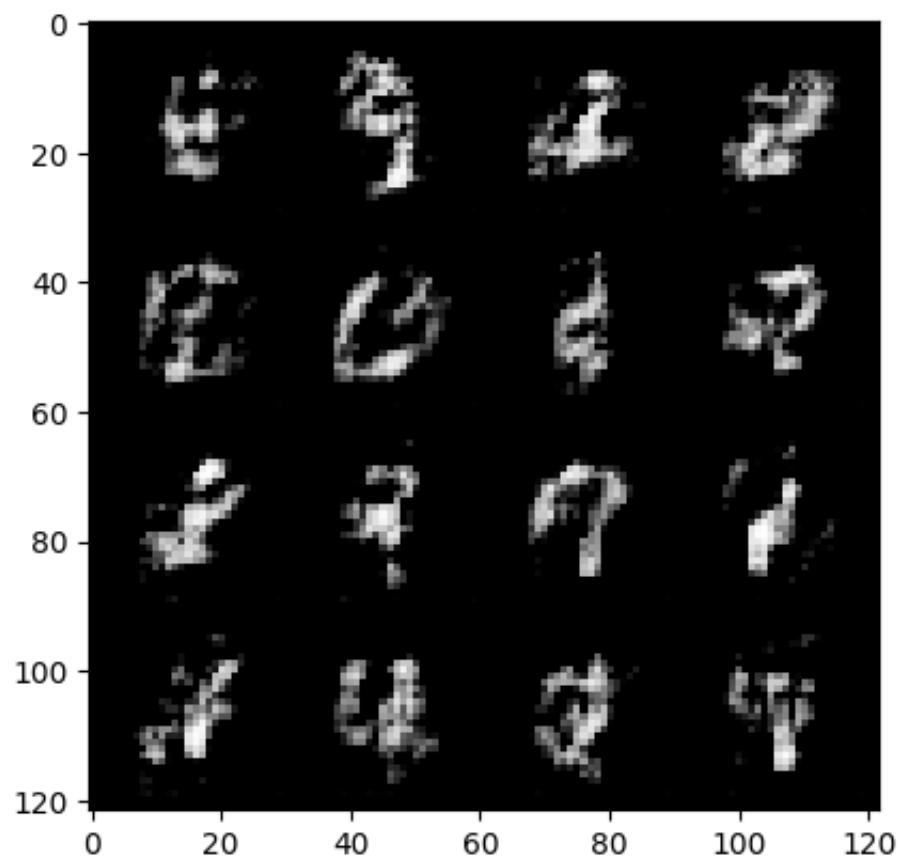


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.6837, max=0.6881

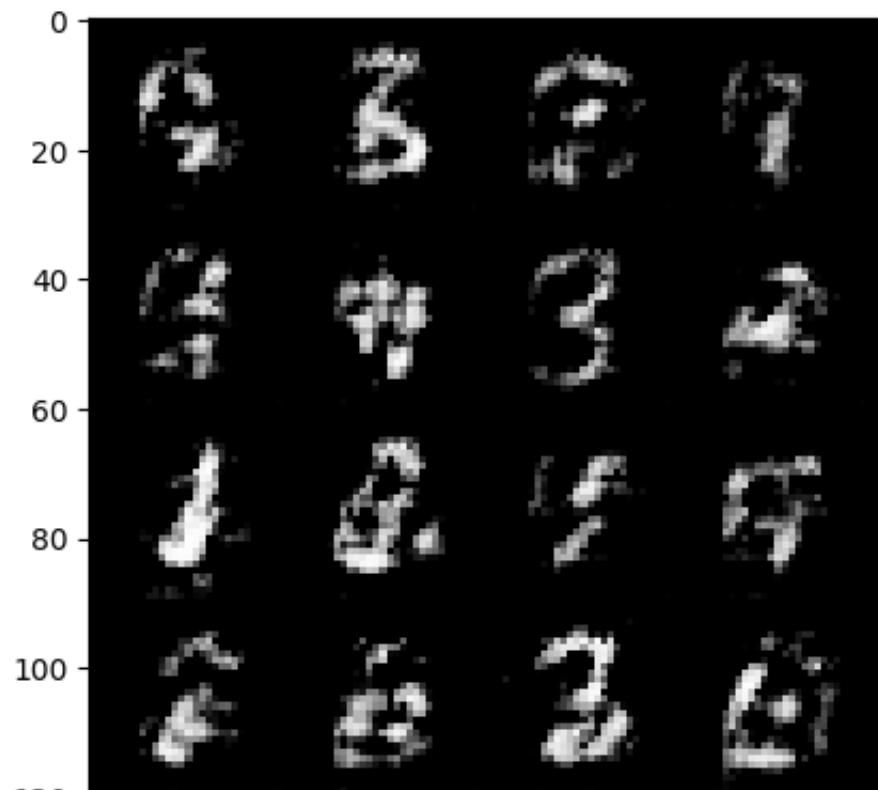


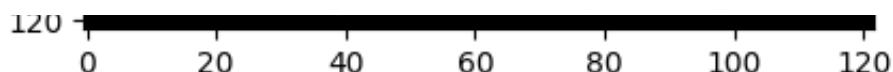


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6837, G_loss: 0.6881

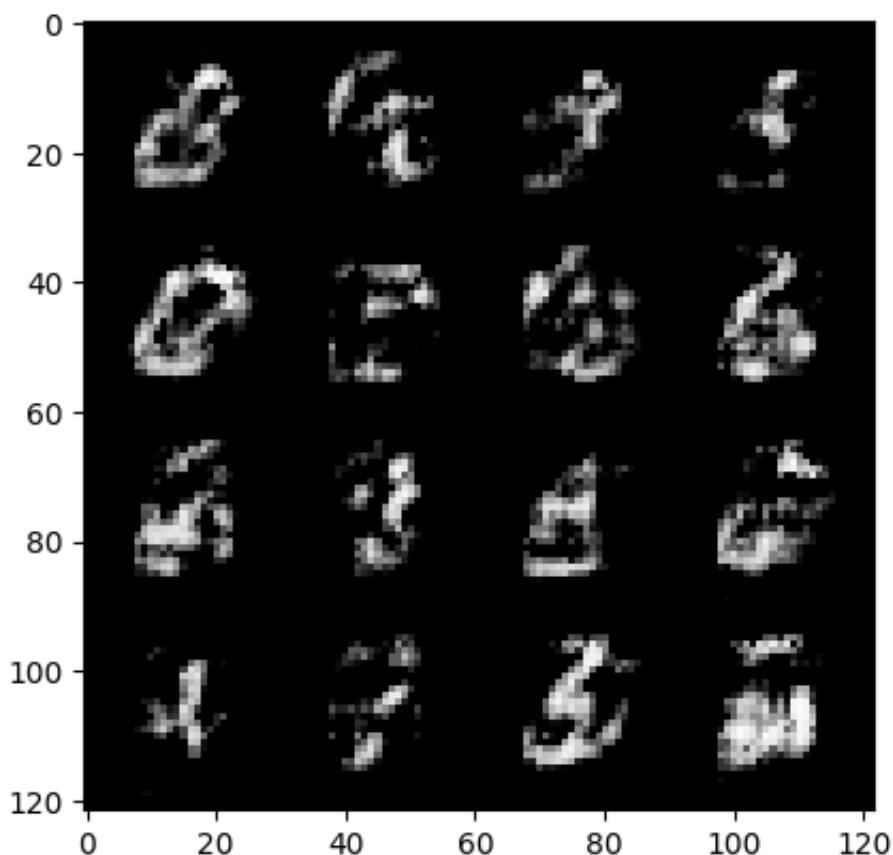


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6837, G_loss: 0.6882

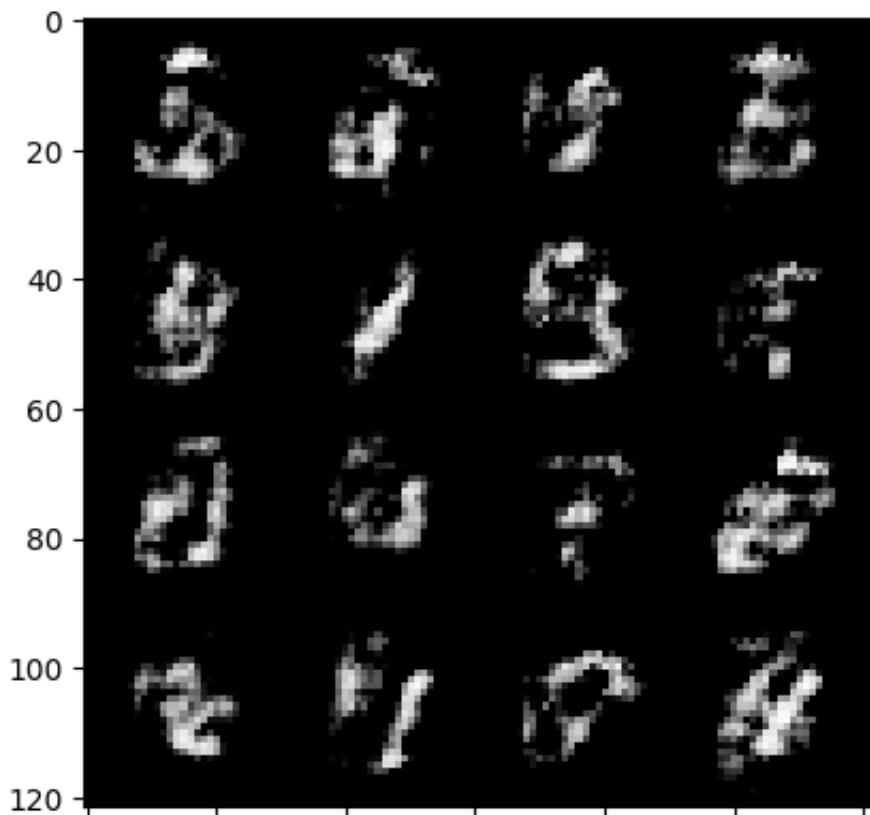




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6837, G_loss: 0.6882

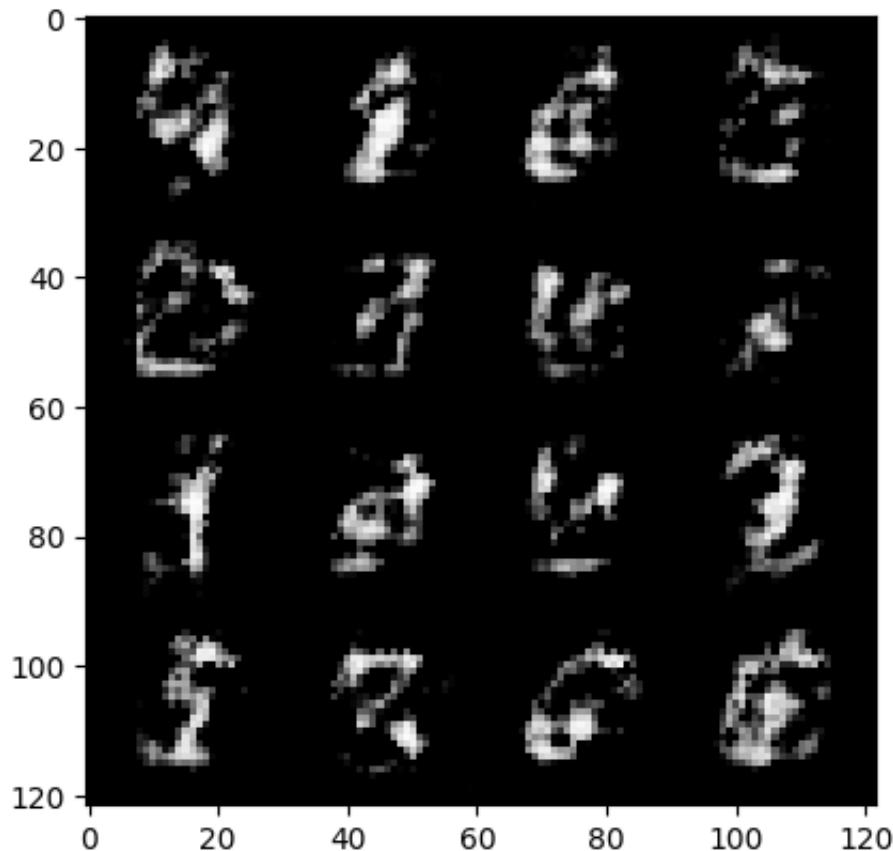


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6837, G_loss: 0.6882

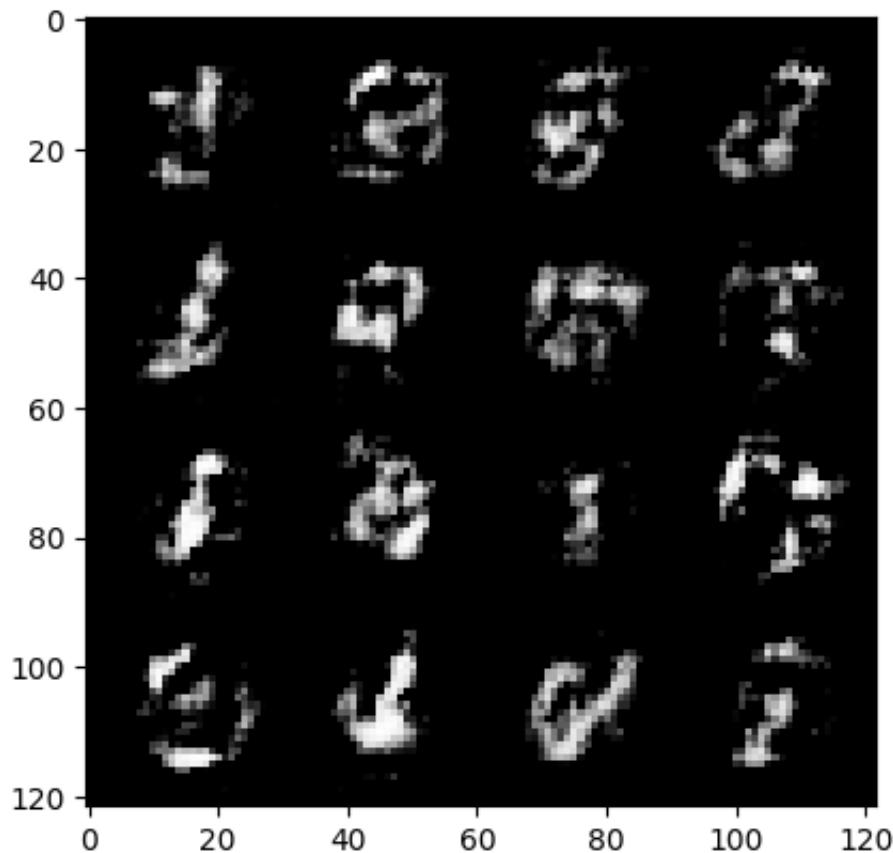


0 20 40 60 80 100 120

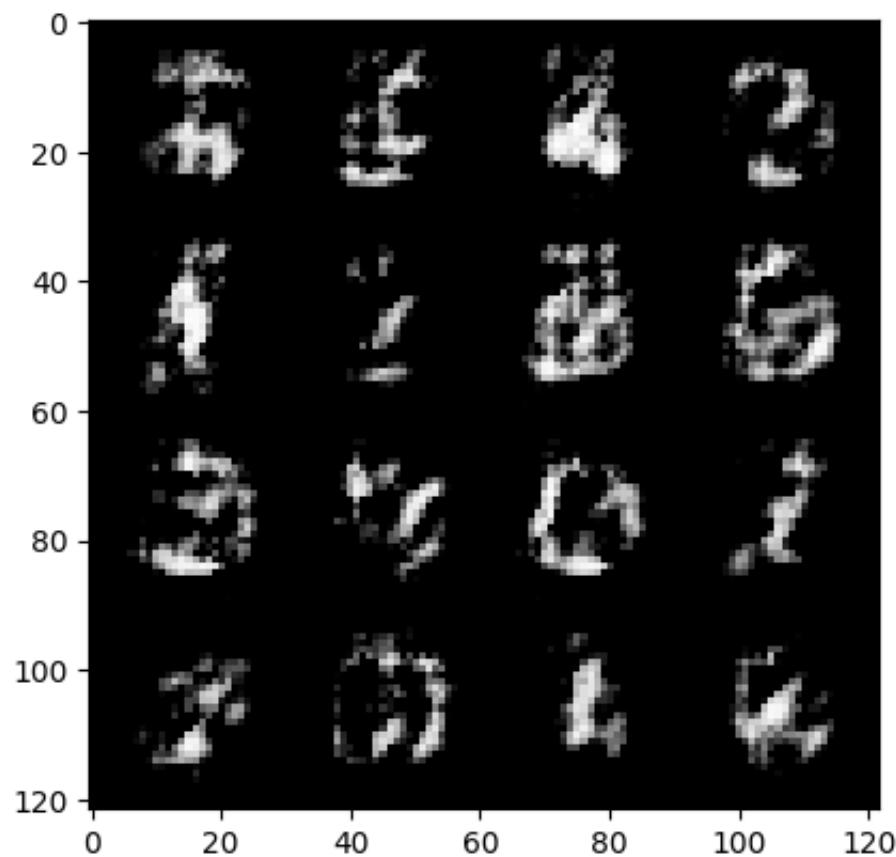
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6882



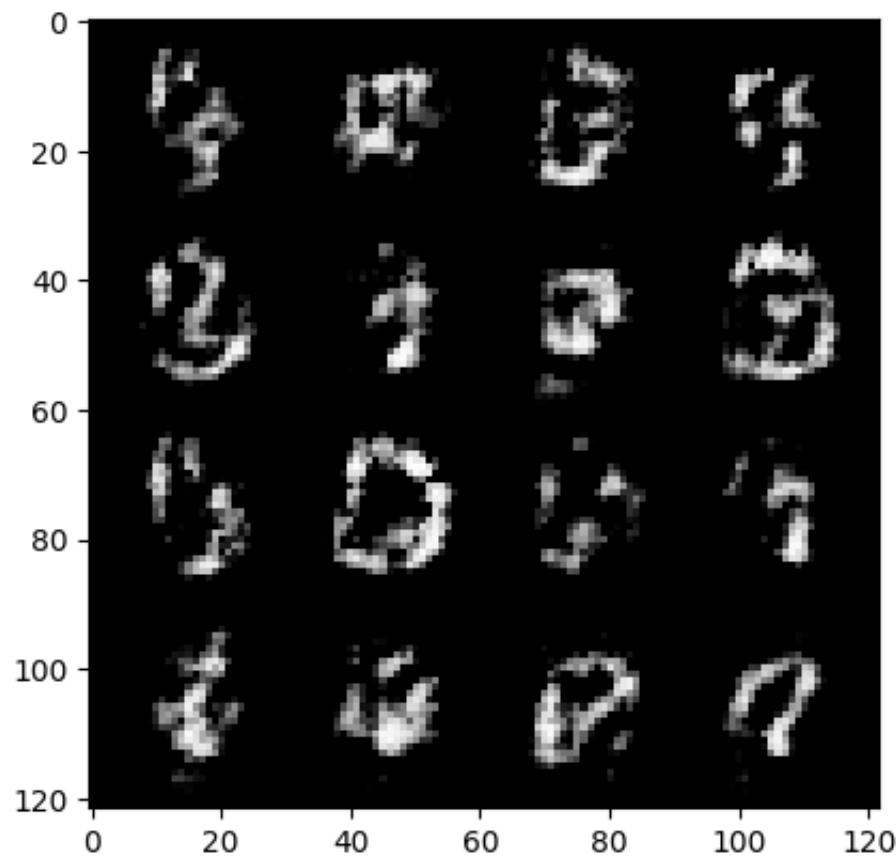
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6883



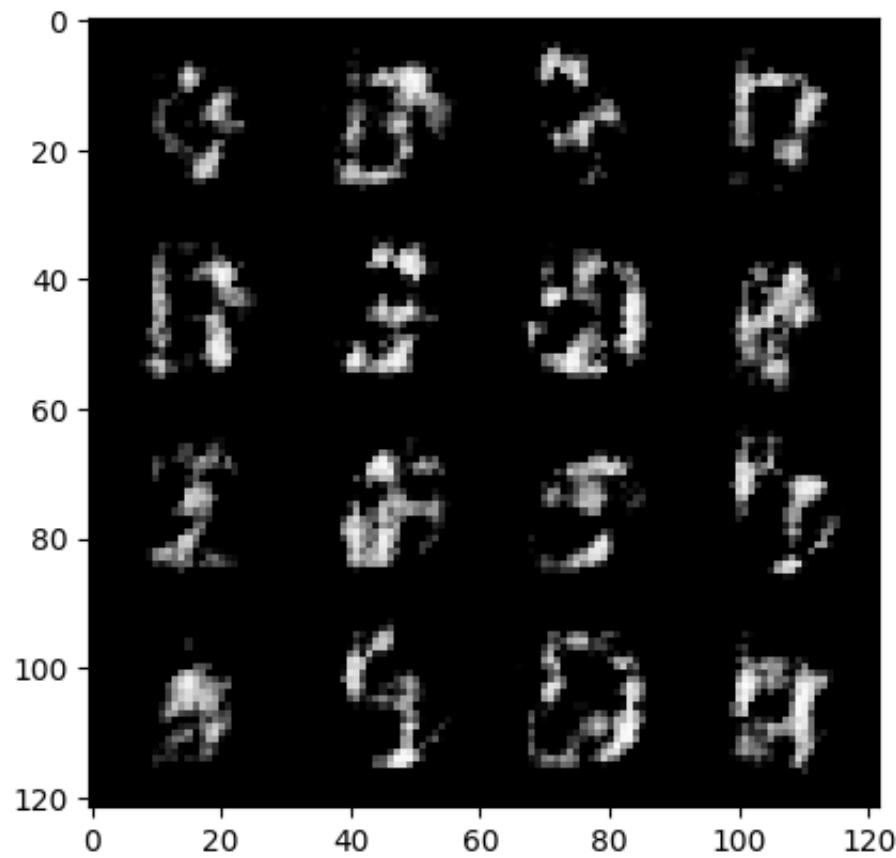
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6883



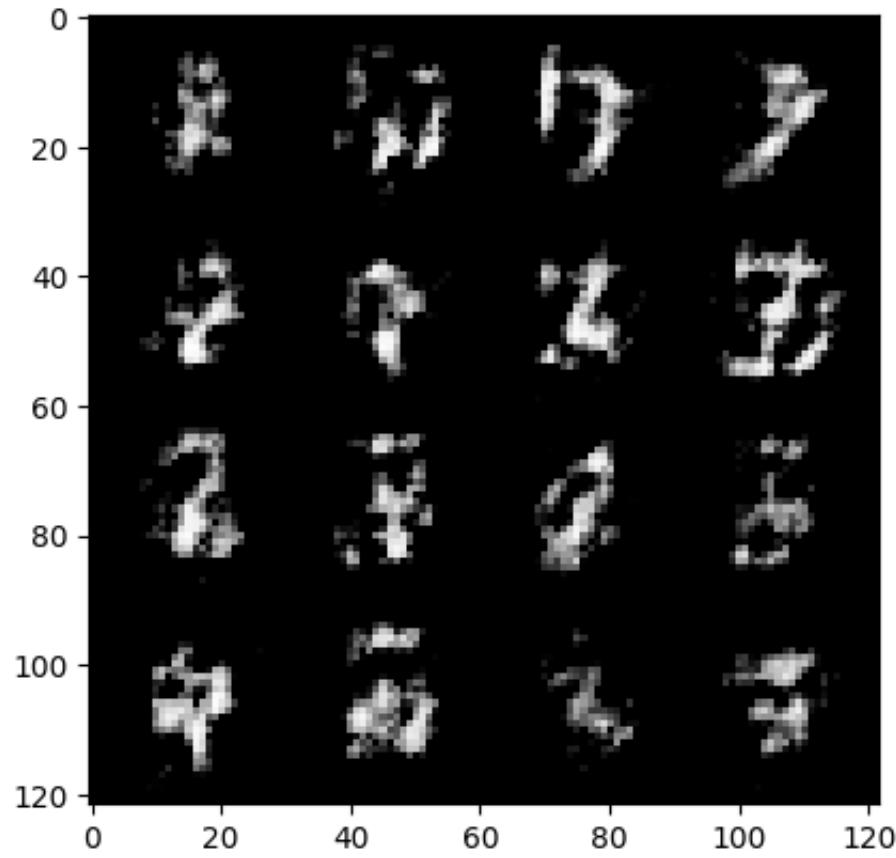
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6883



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6884

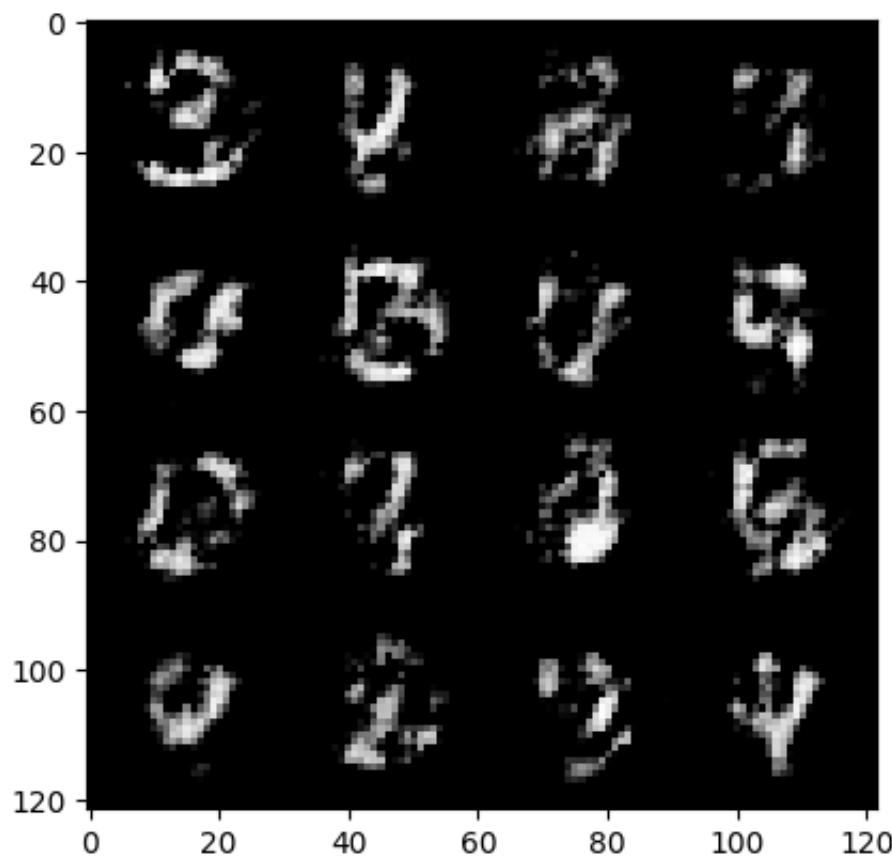


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6884

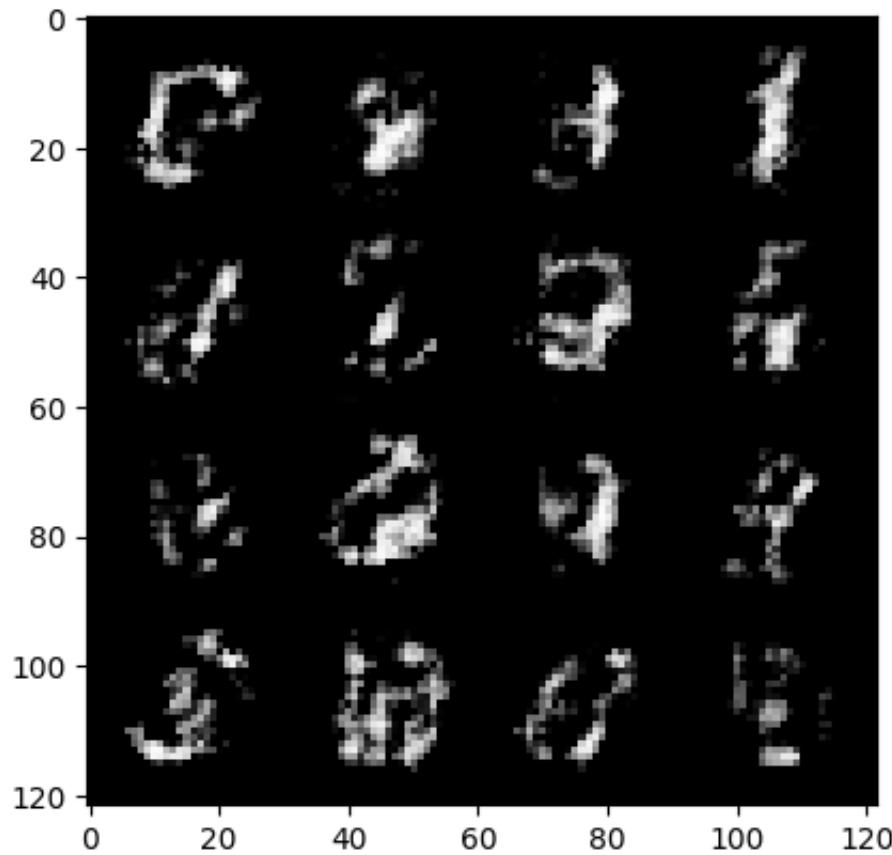


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

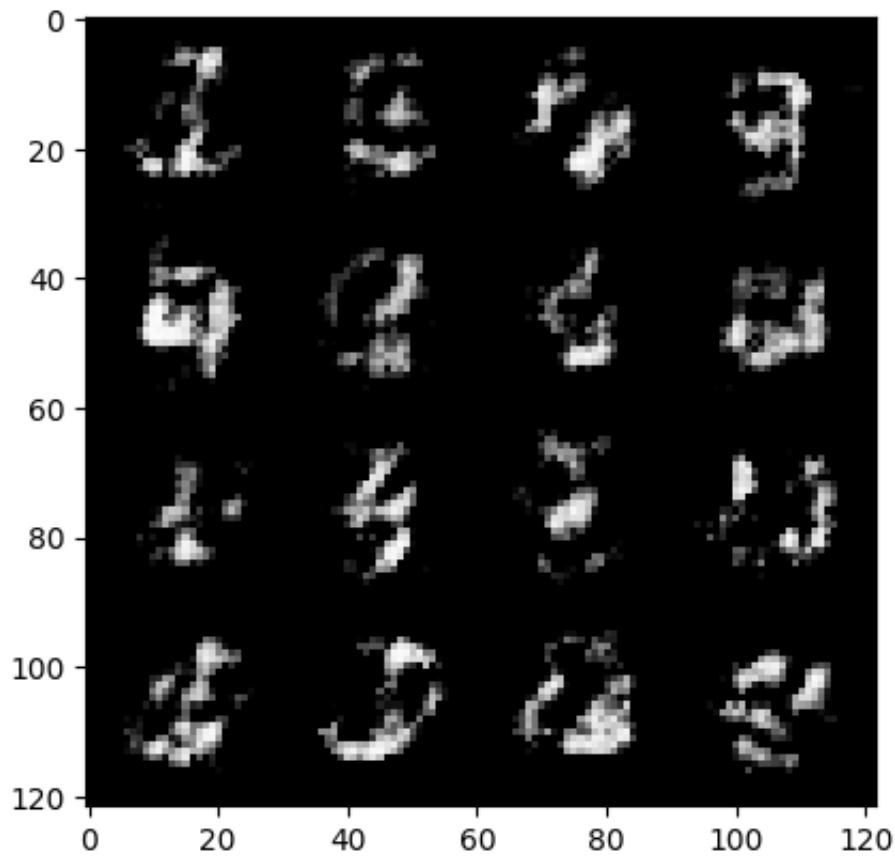
D_loss: 0.6838, G_loss: 0.6884



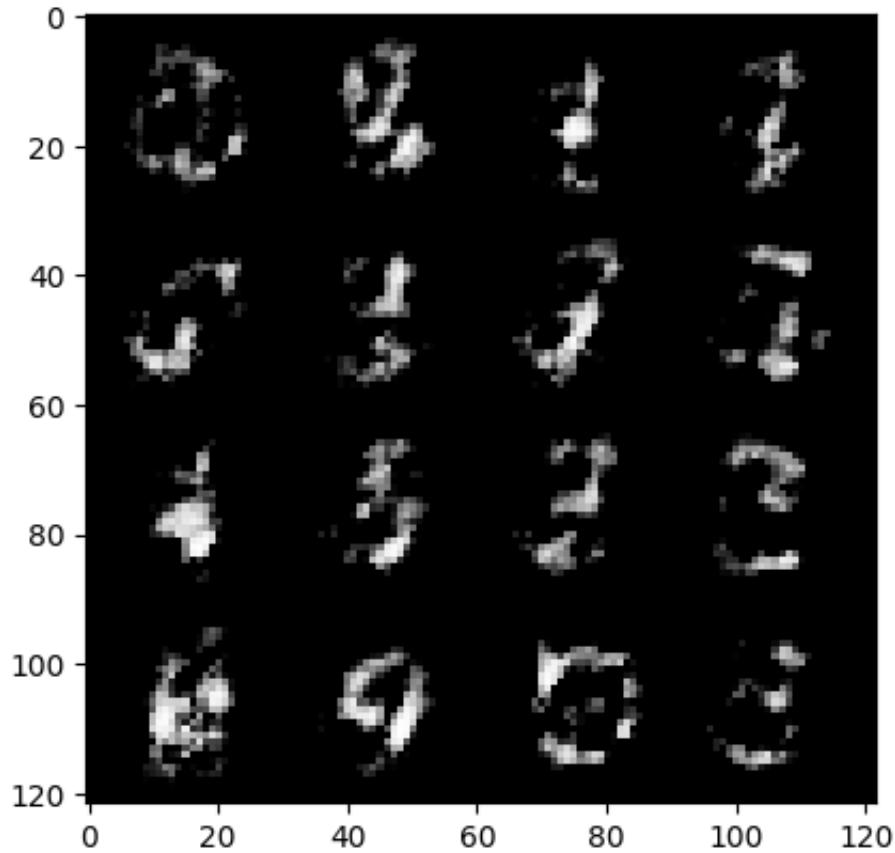
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6885



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.6885

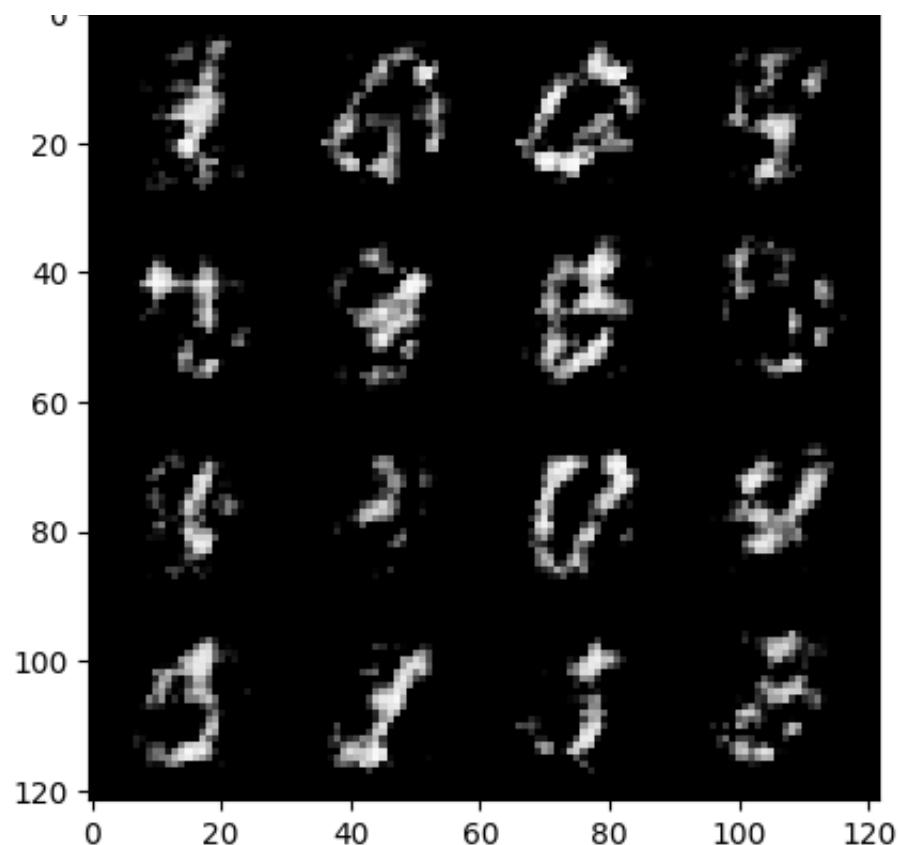


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6839, G_loss: 0.6885

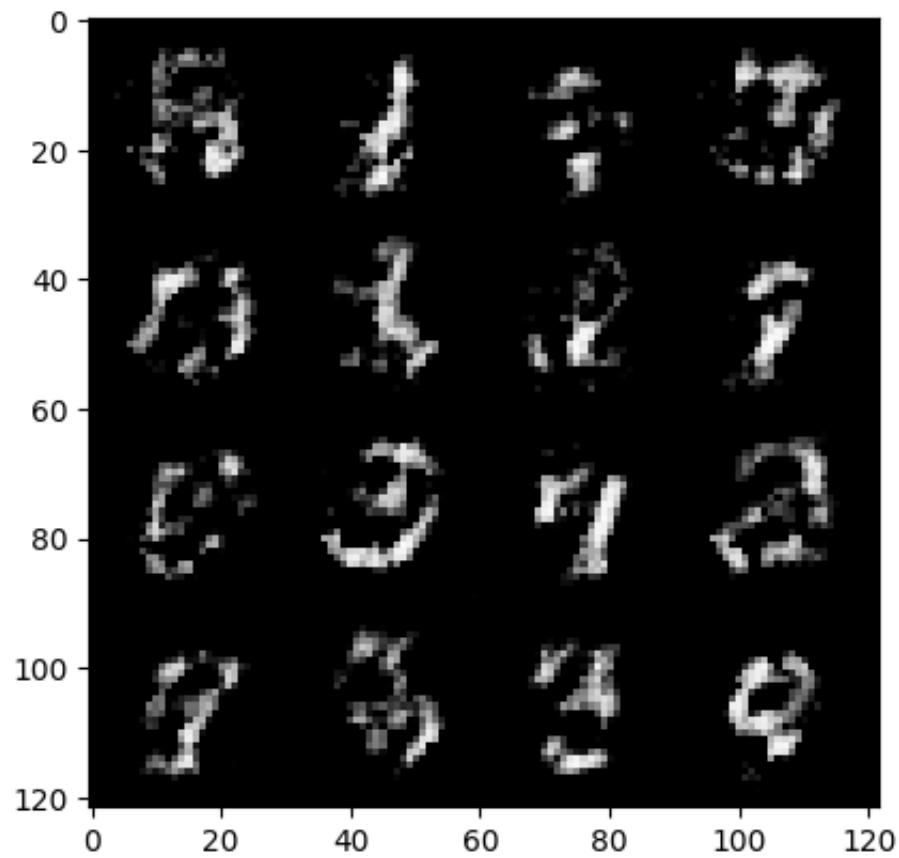


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6839, G_loss: 0.6885

^ _____

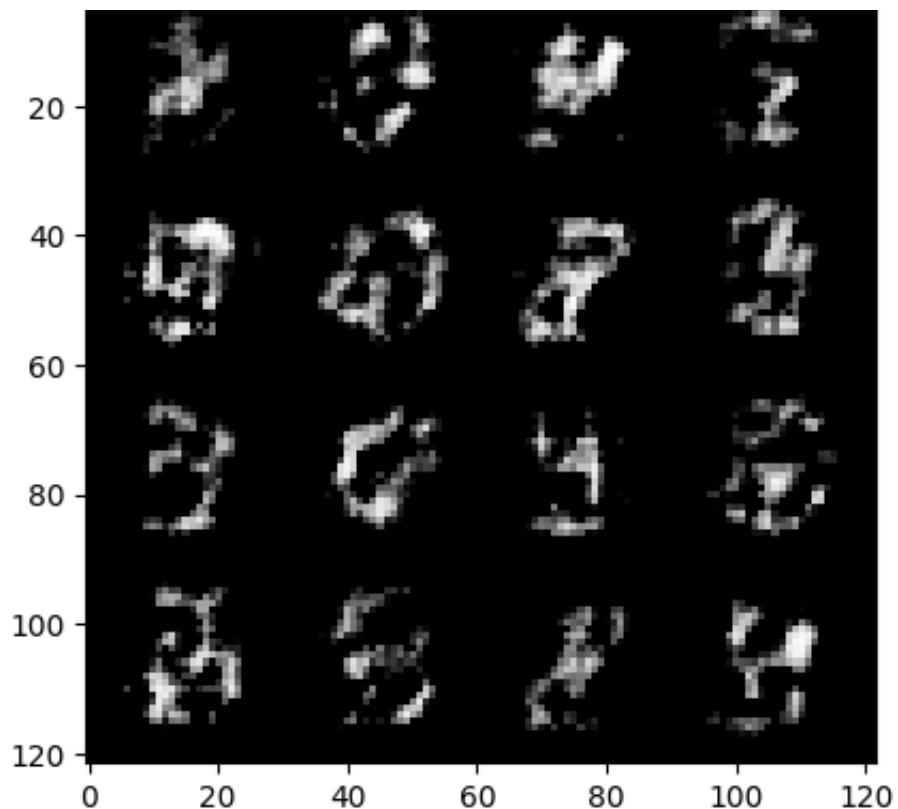


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6839, G_loss: 0.6886

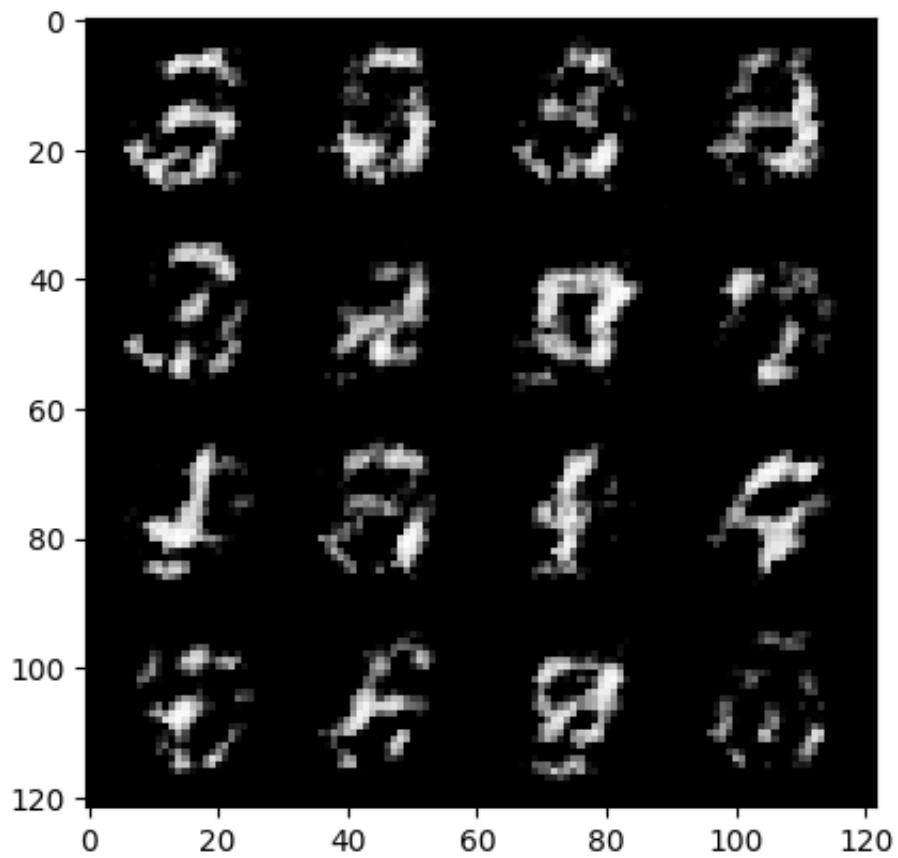


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6839, G_loss: 0.6886



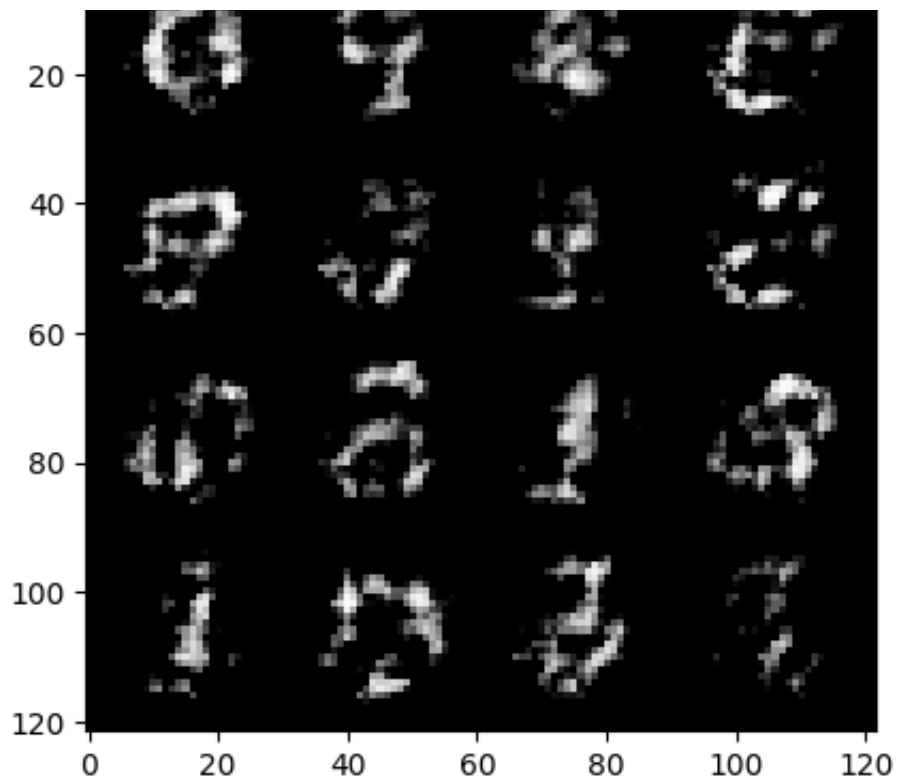


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0000000000000002
D_loss: 0.6839, G_loss: 0.6886

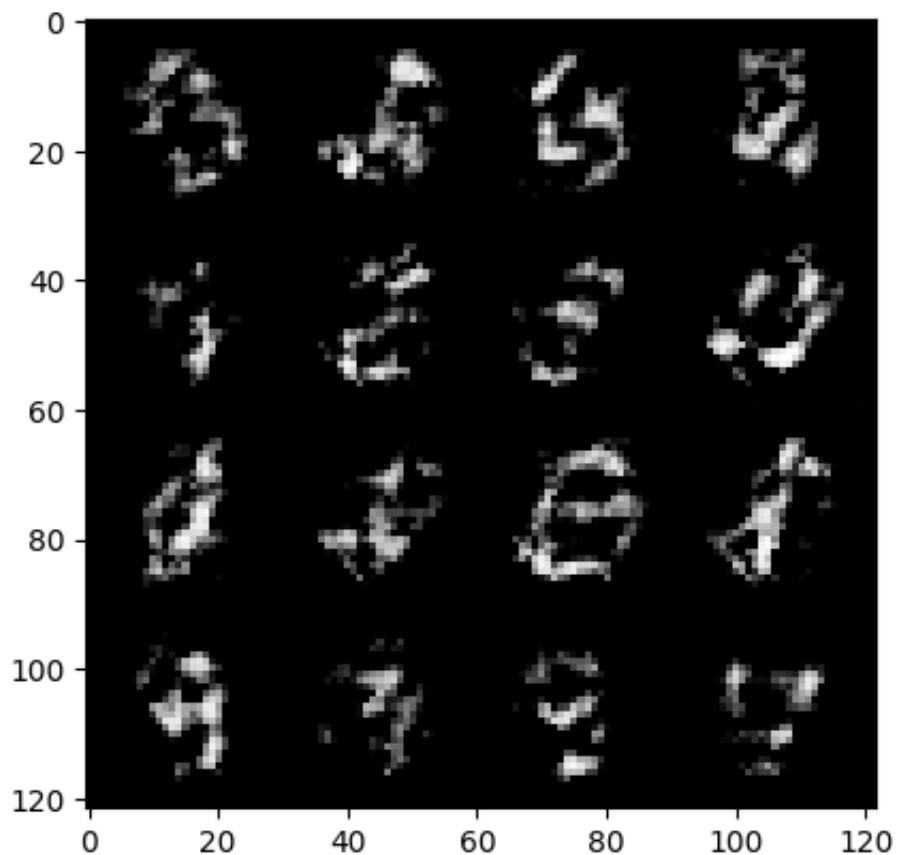


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0000000000000002
D_loss: 0.6839, G_loss: 0.6886



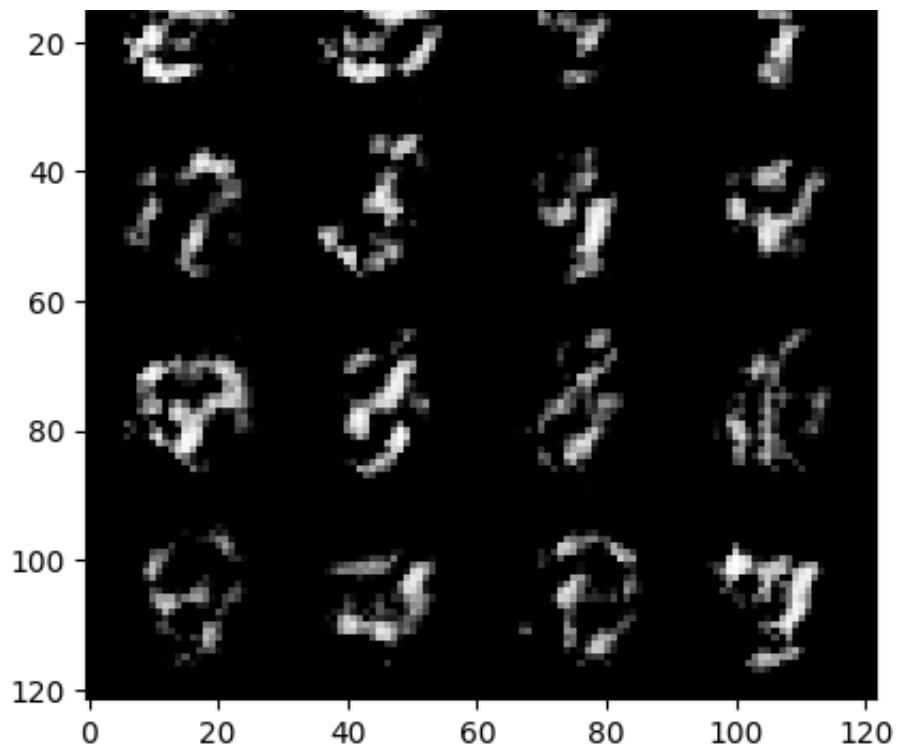


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6839, G_loss: 0.6887

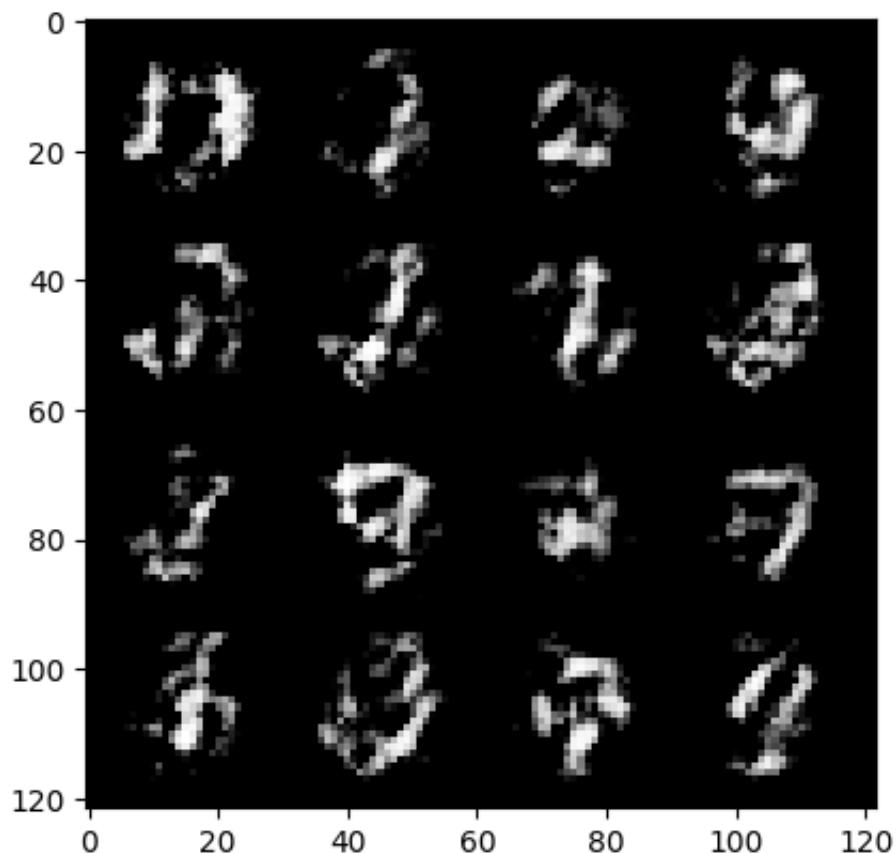


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6839, G_loss: 0.6887



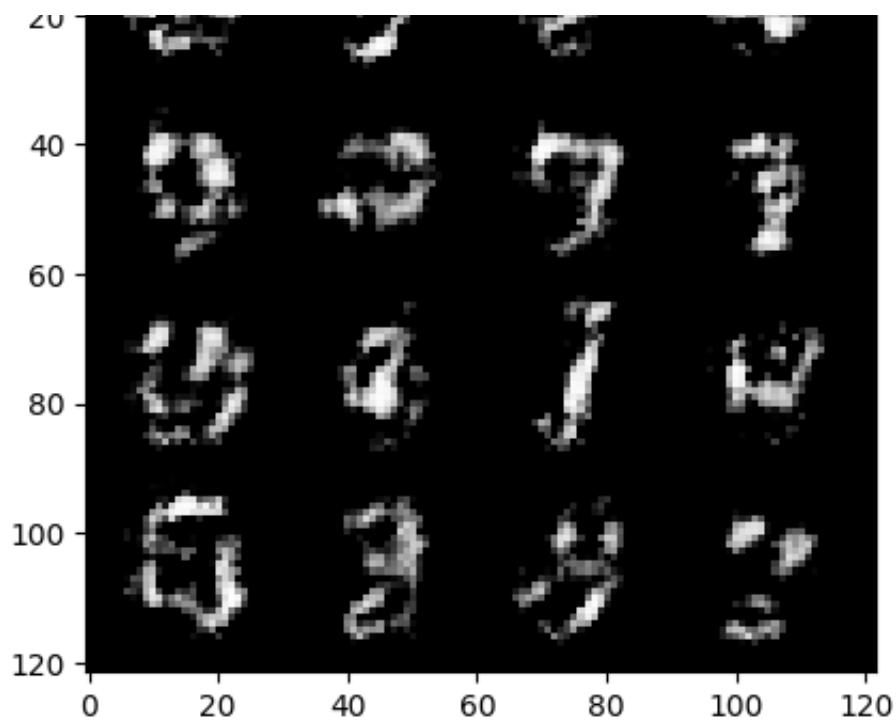


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6887

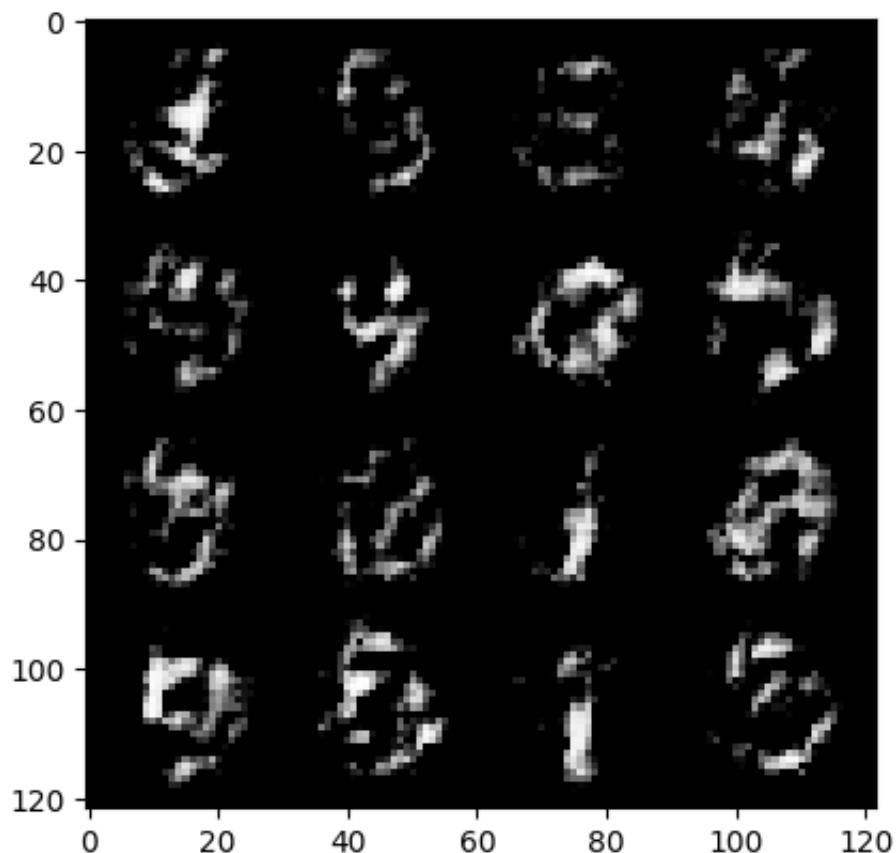


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6887



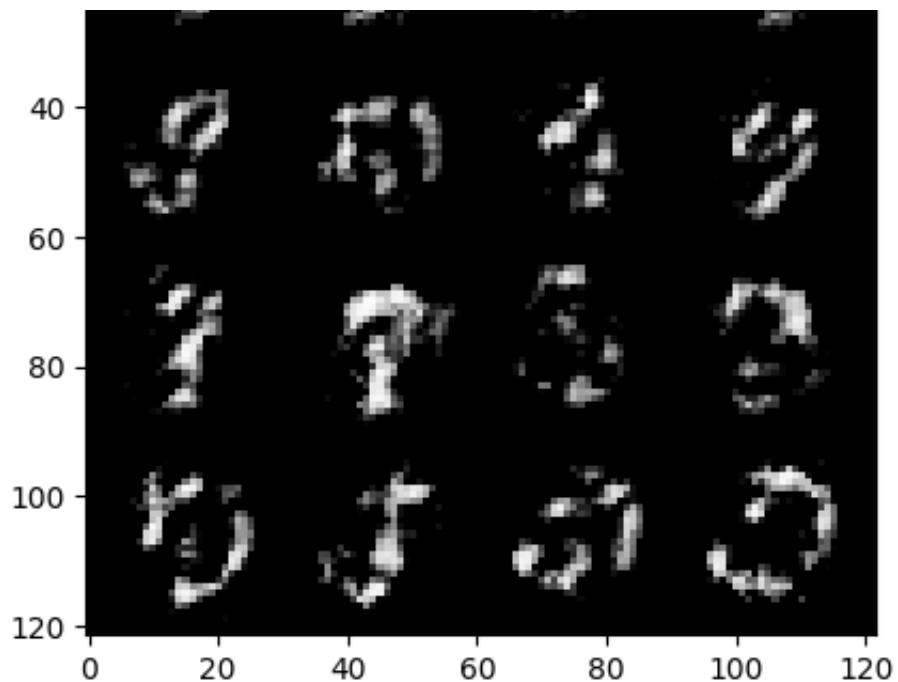


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6840, G_loss: 0.6888

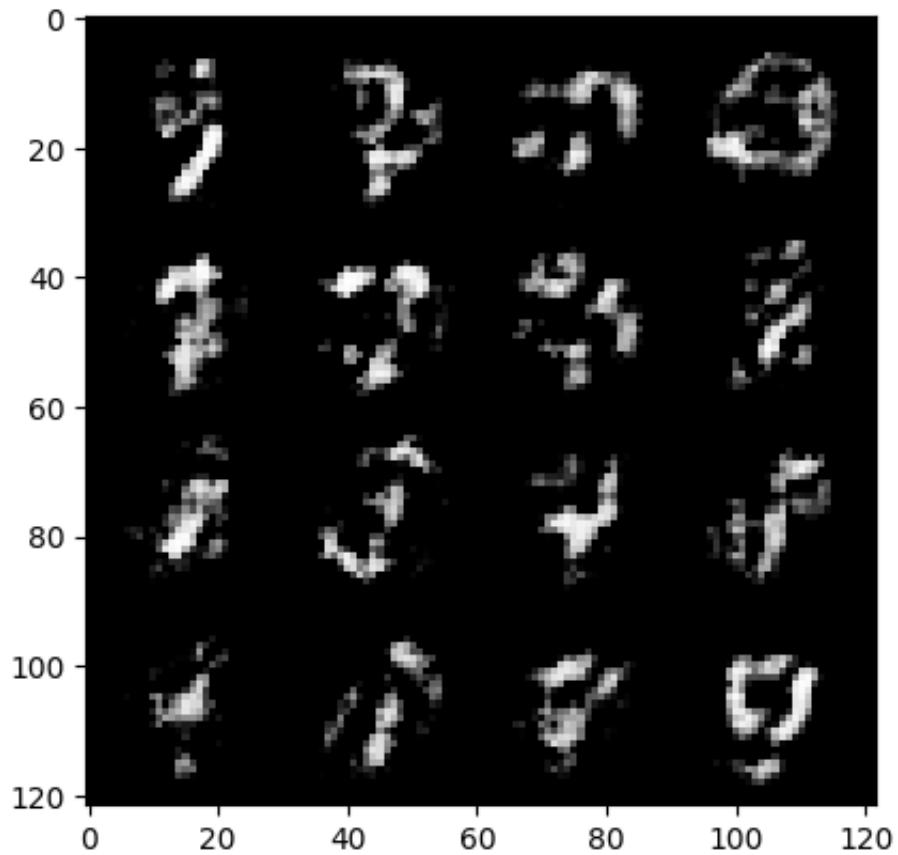


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6840, G_loss: 0.6888



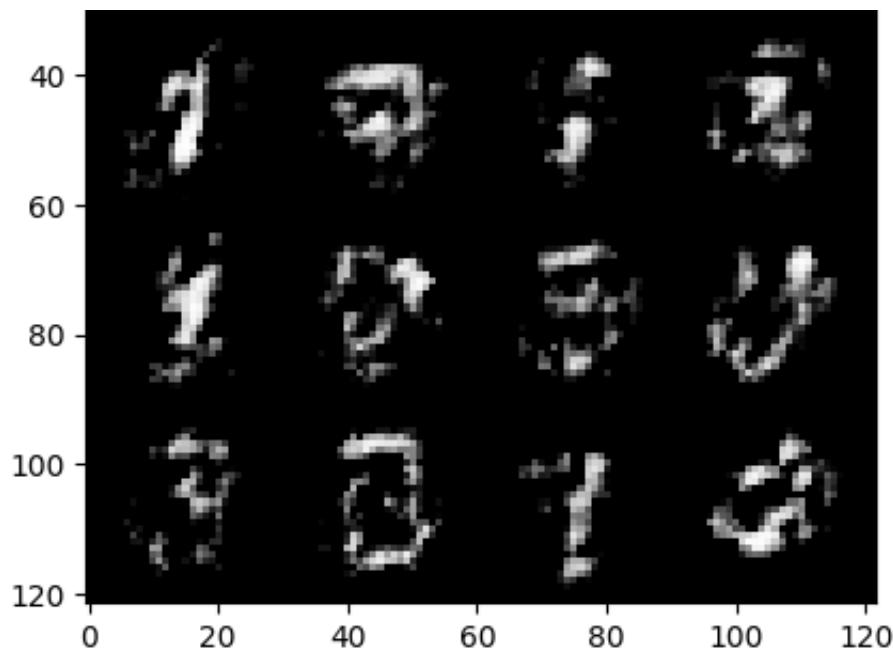


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6888

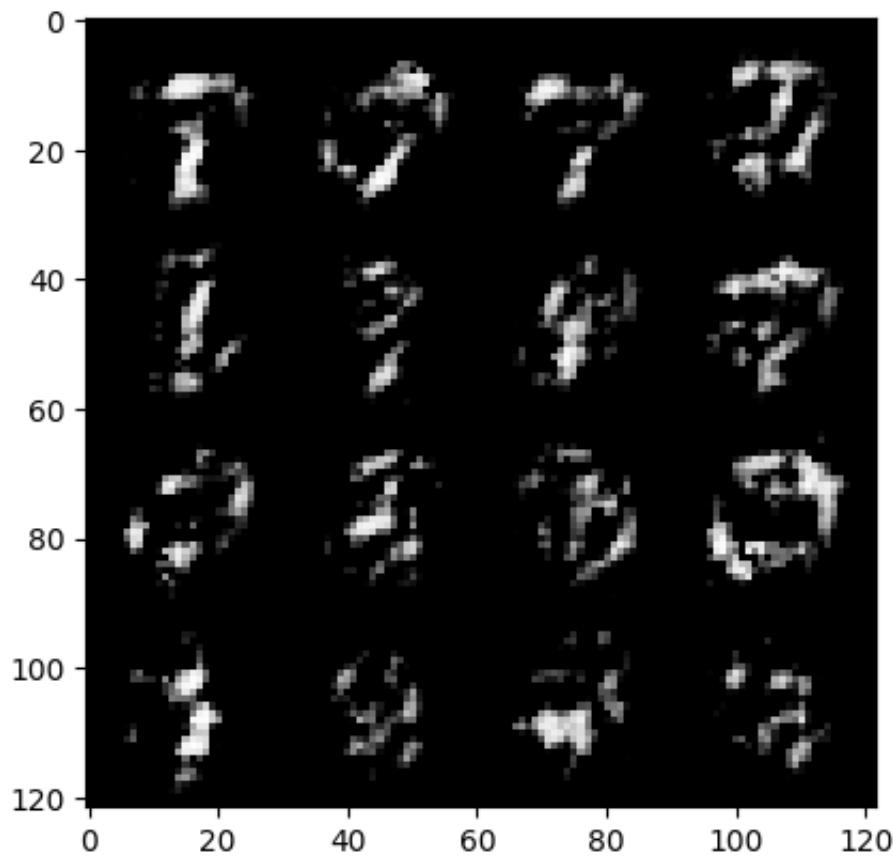


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6888



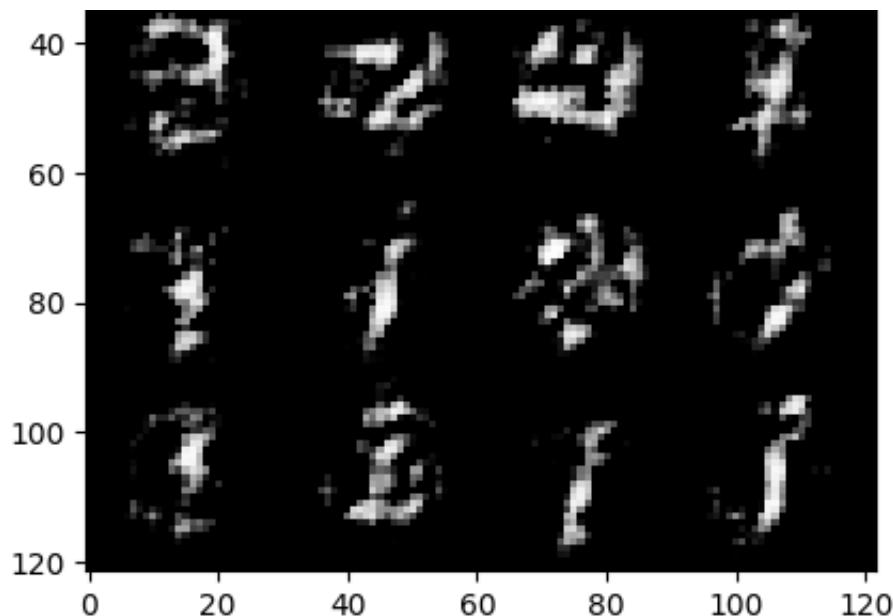


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.6889

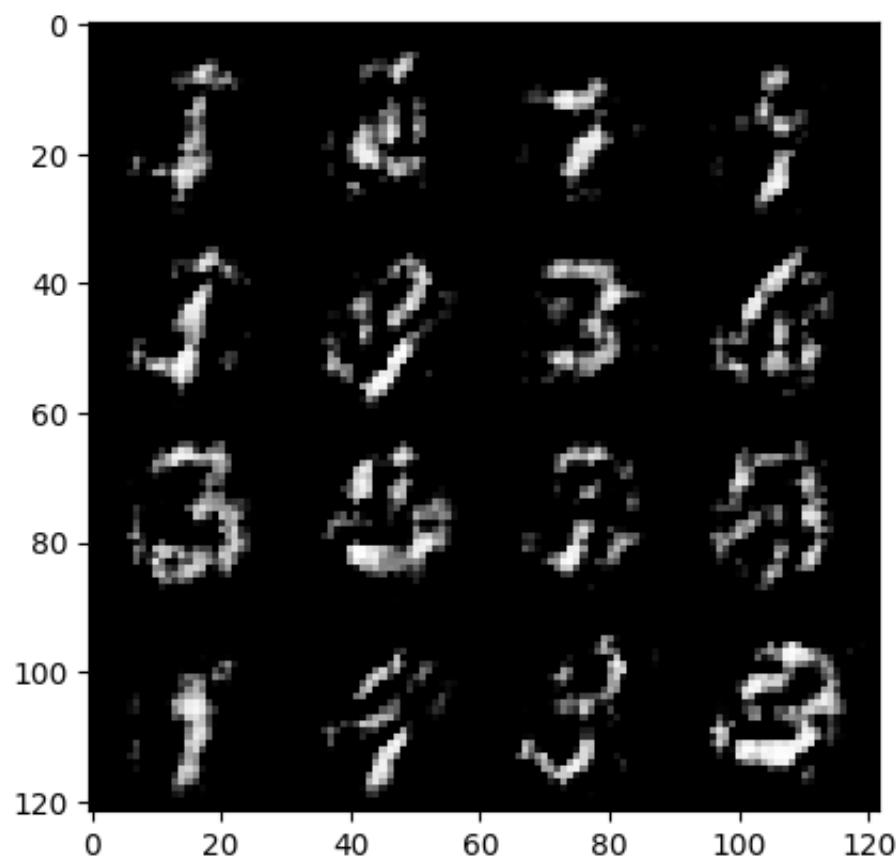


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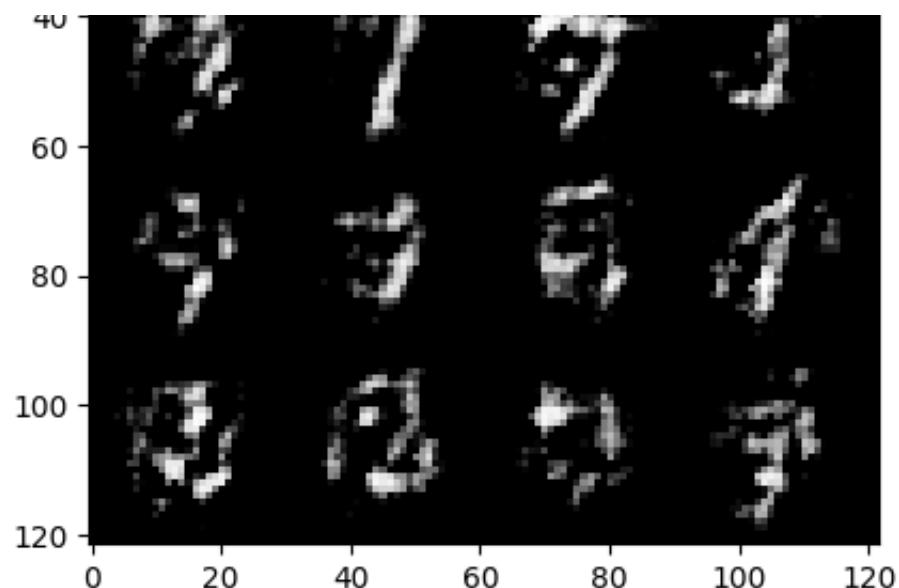


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6841, G_loss: 0.6889

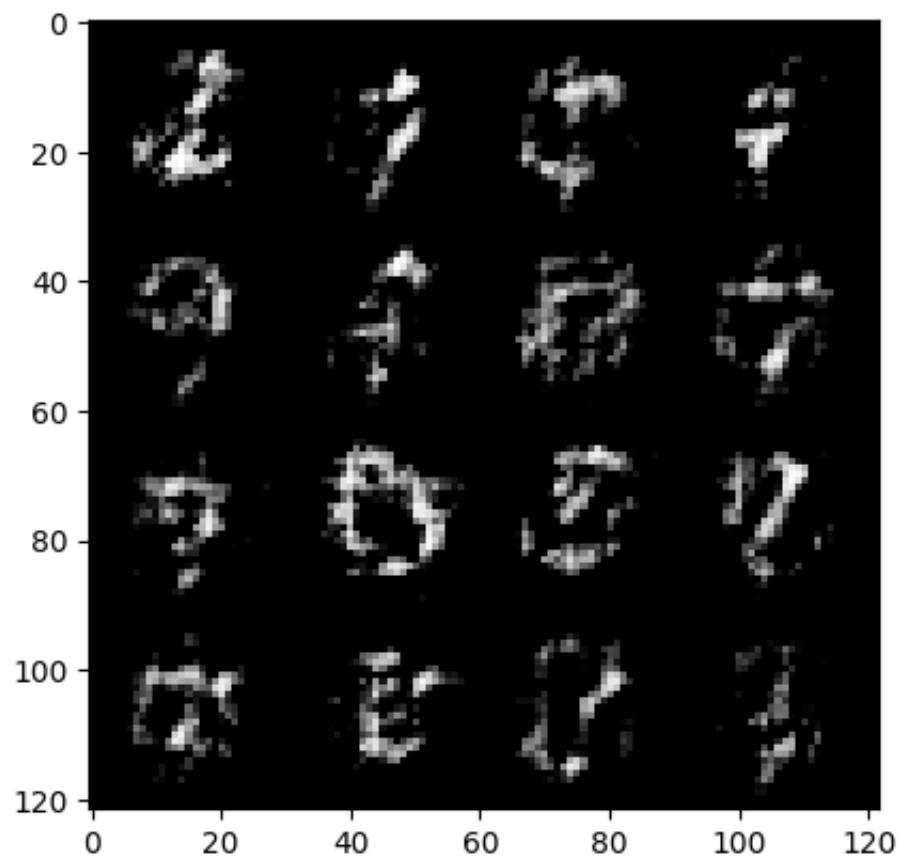


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6841, G_loss: 0.6889



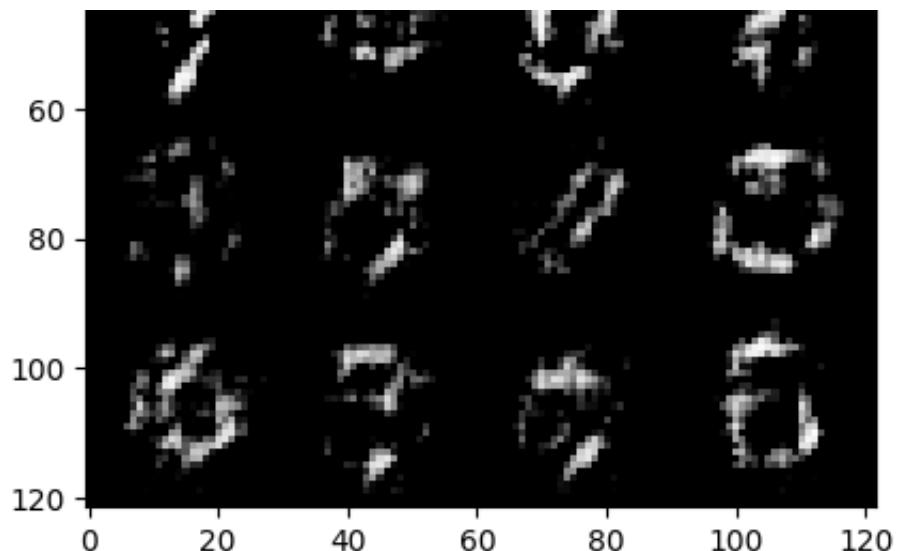


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0
D_loss: 0.6841, G_loss: 0.6889

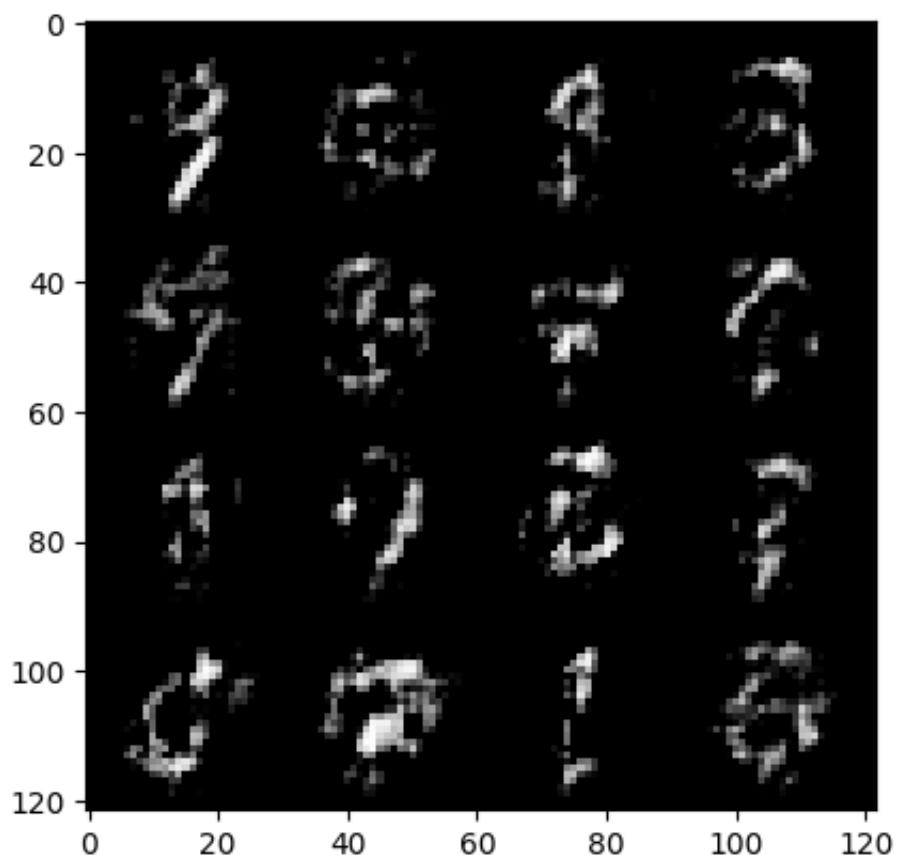


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0
D_loss: 0.6841, G_loss: 0.6889



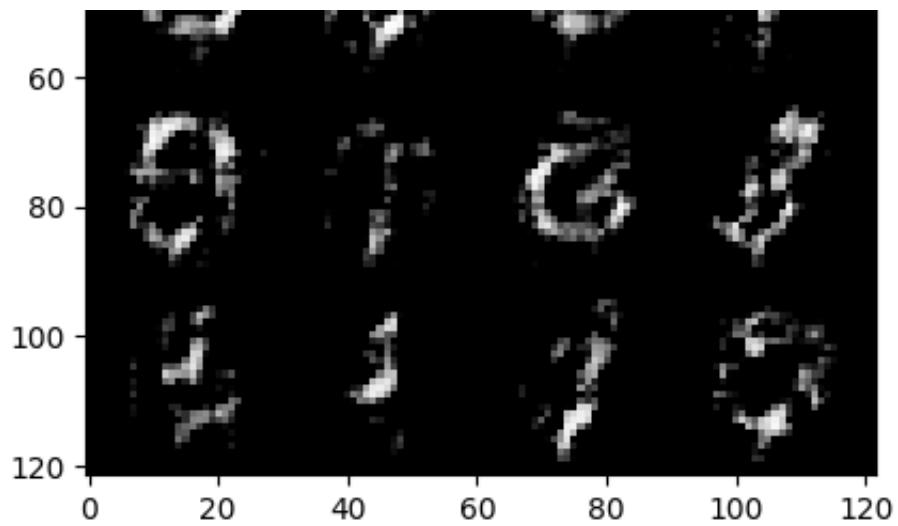


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6841, G_loss: 0.6890

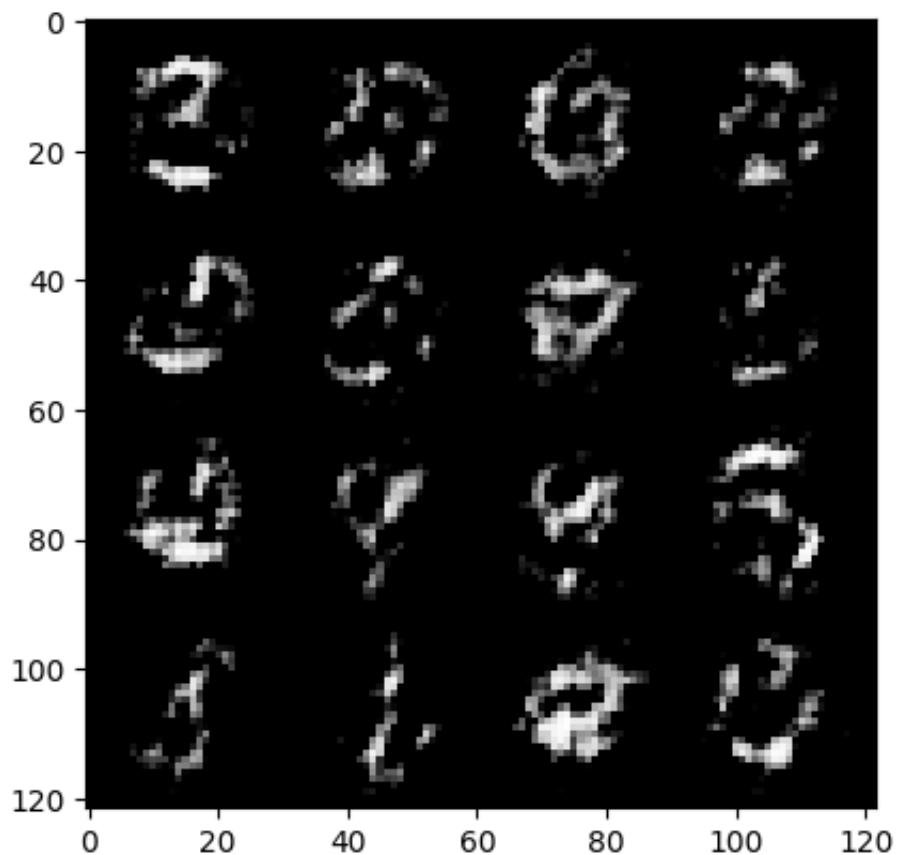


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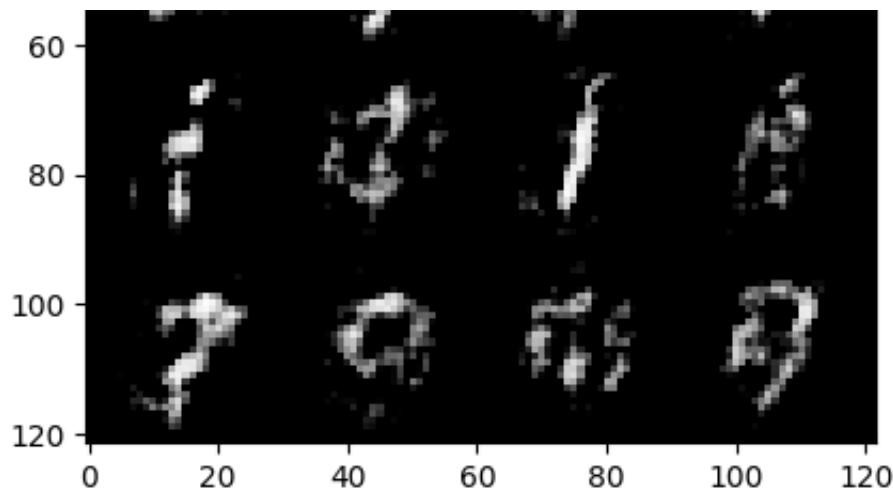


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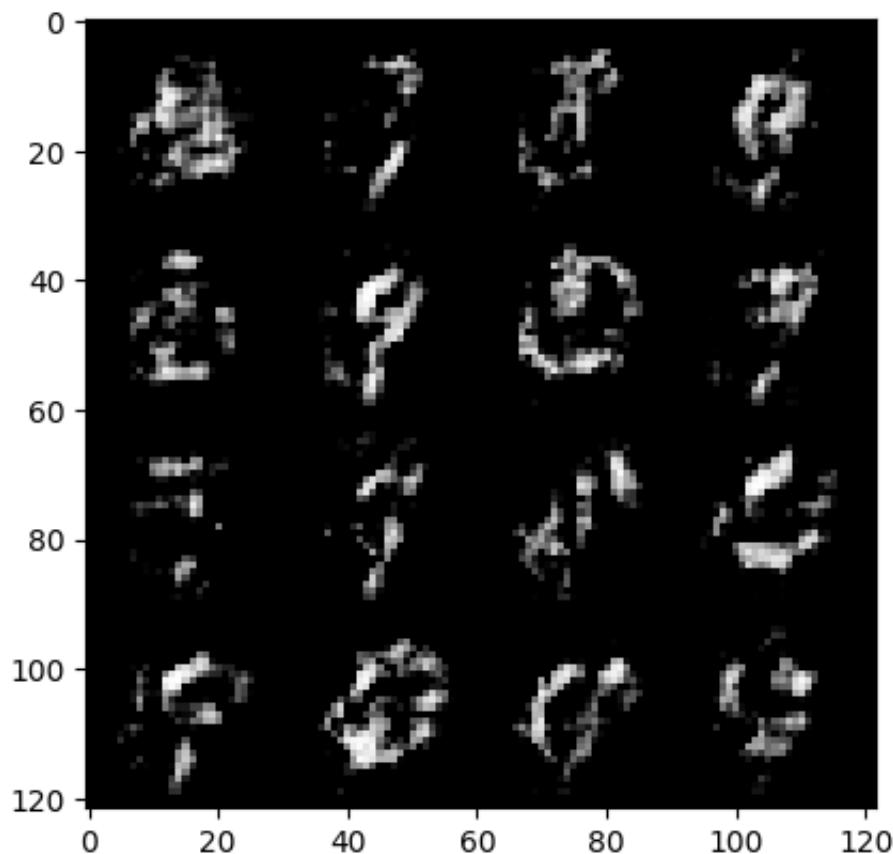


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6842, G_loss: 0.6890



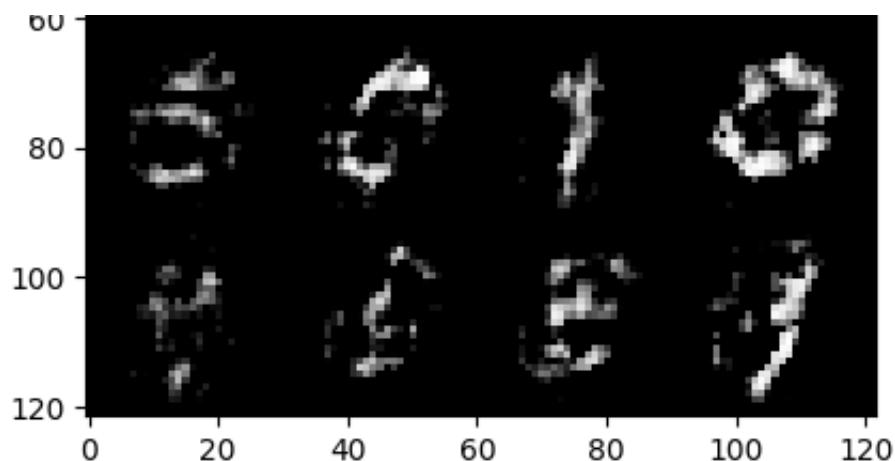


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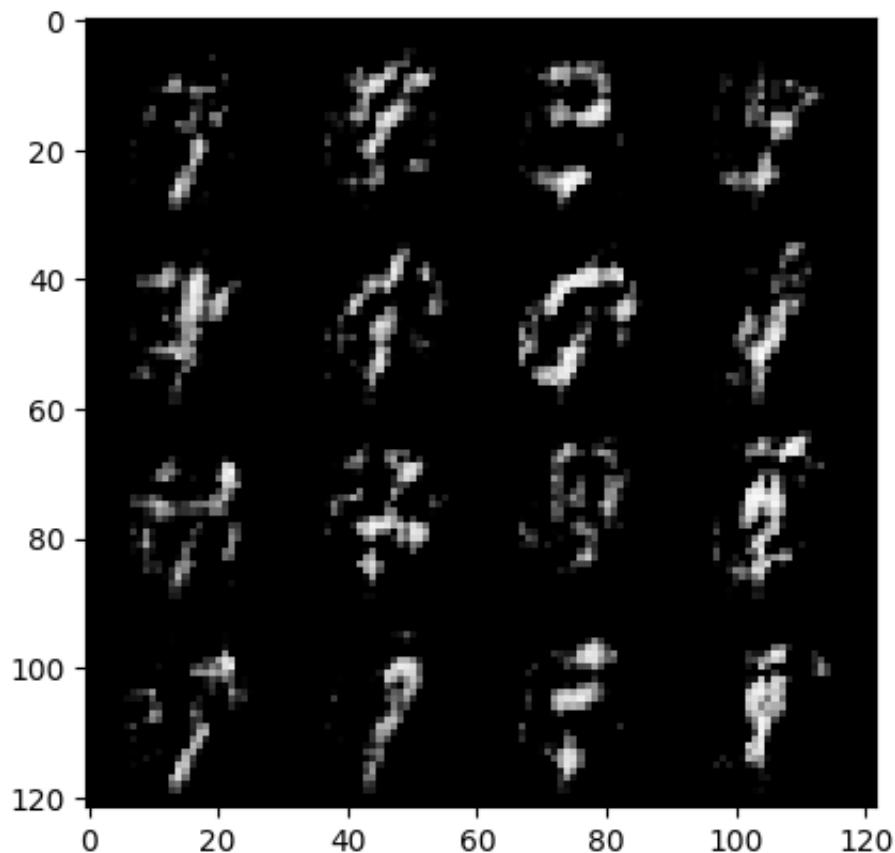


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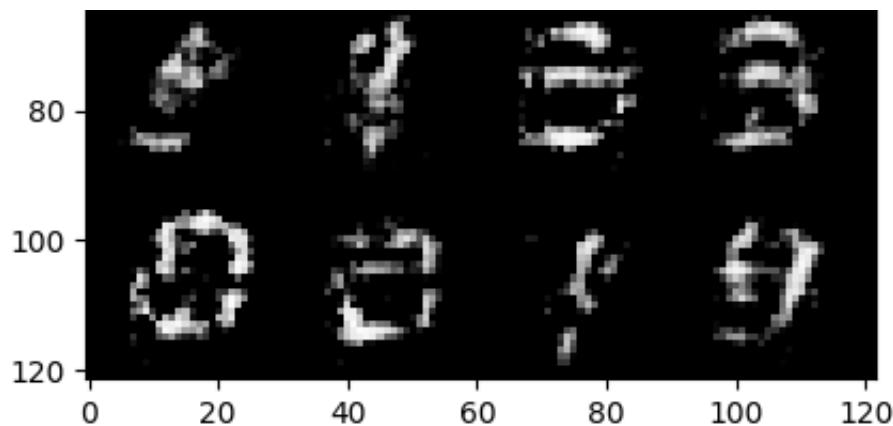


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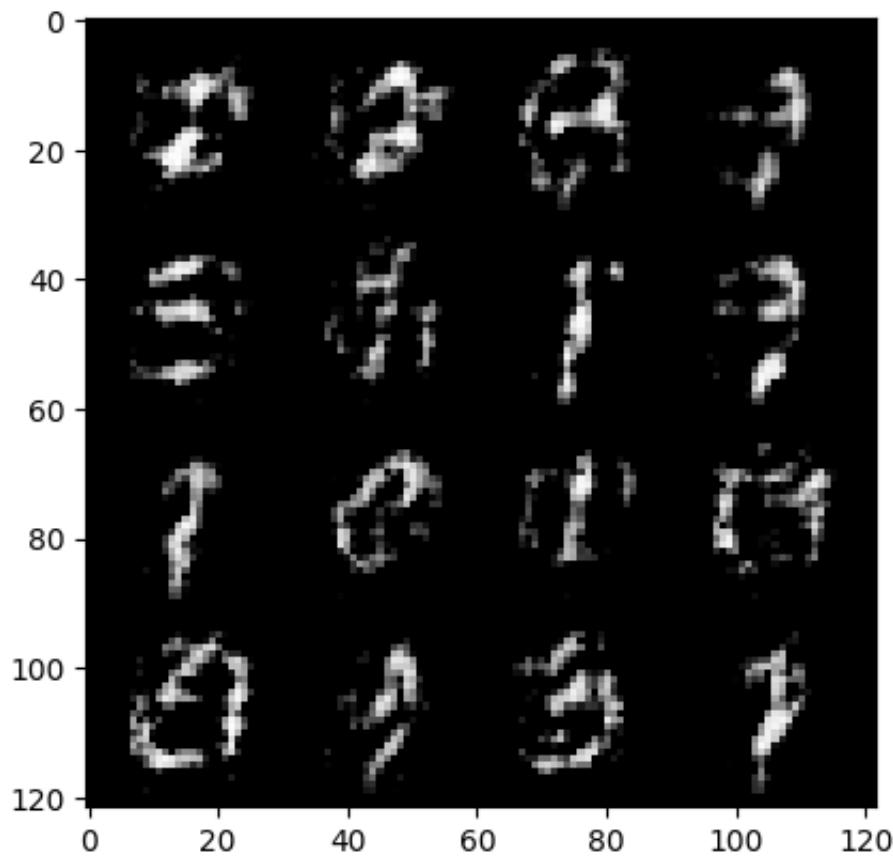


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6842, G_loss: 0.6891



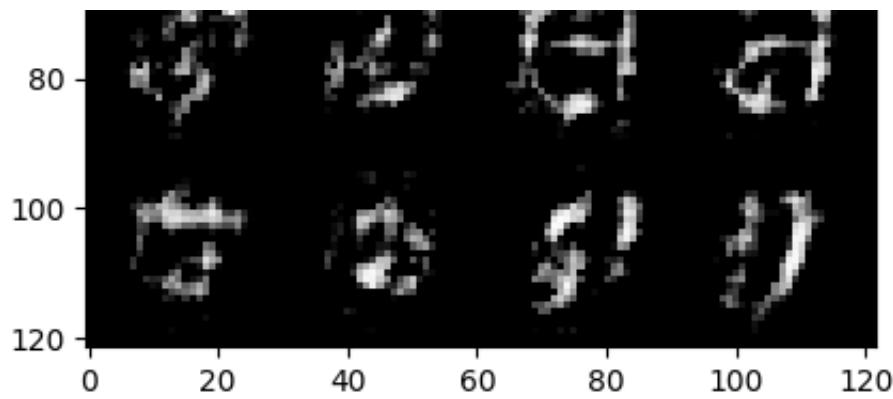


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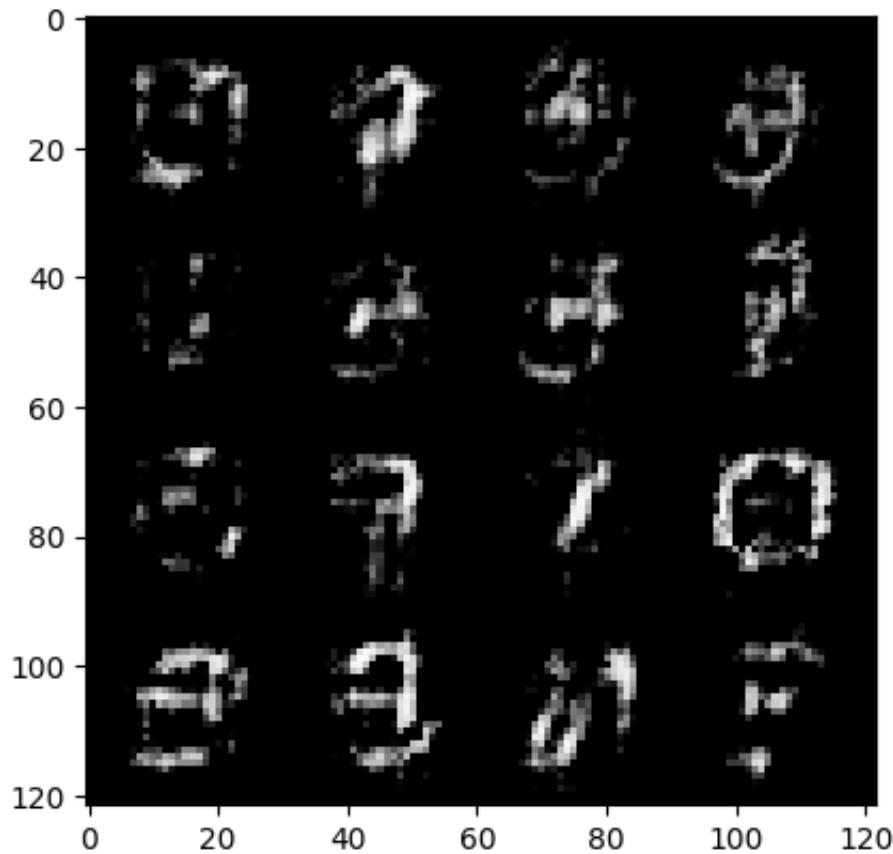


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6843, G_loss: 0.6891



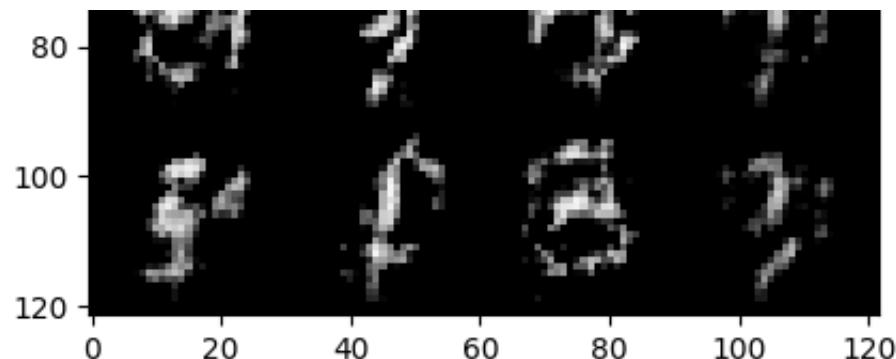


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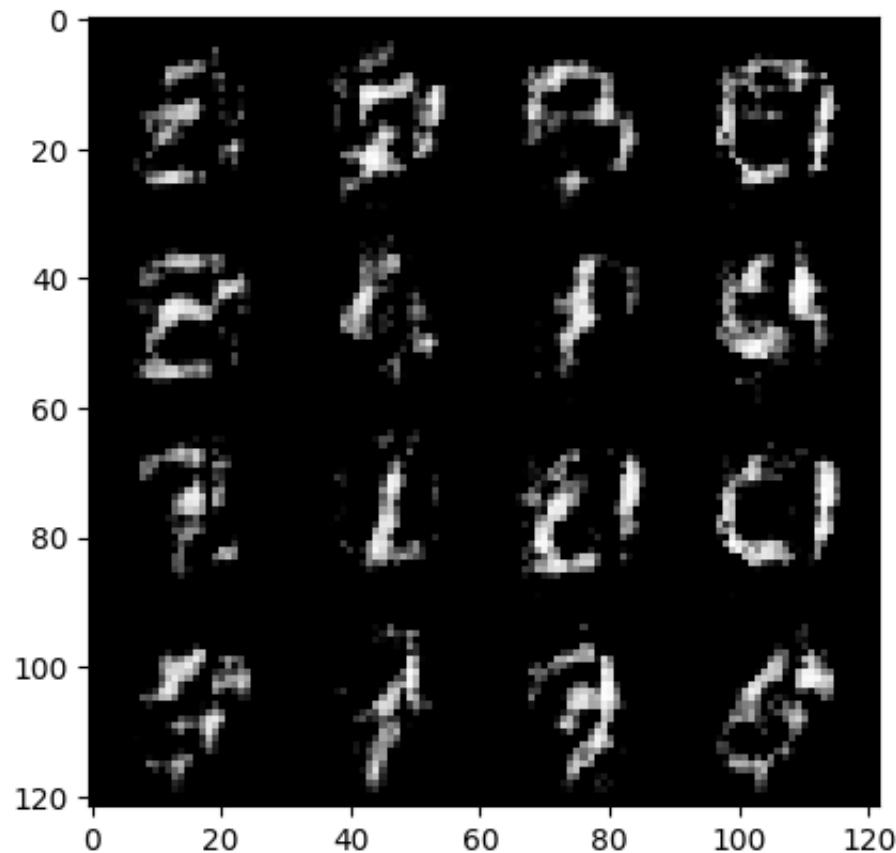


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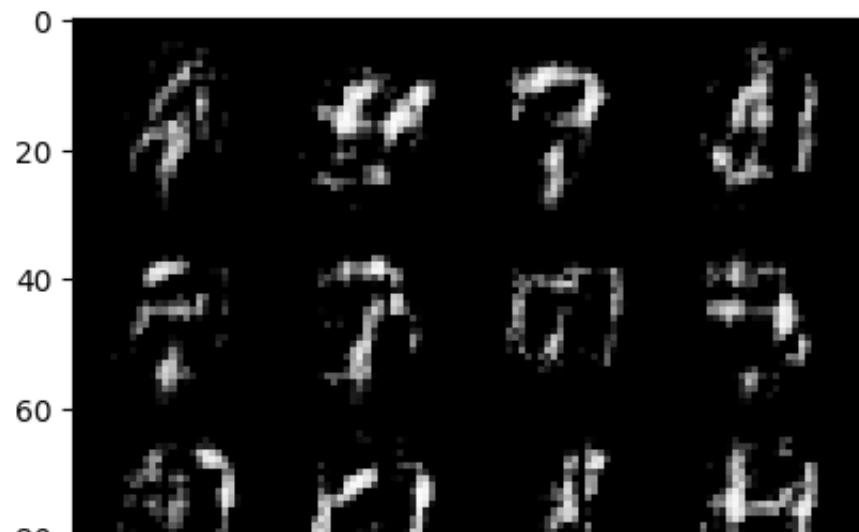


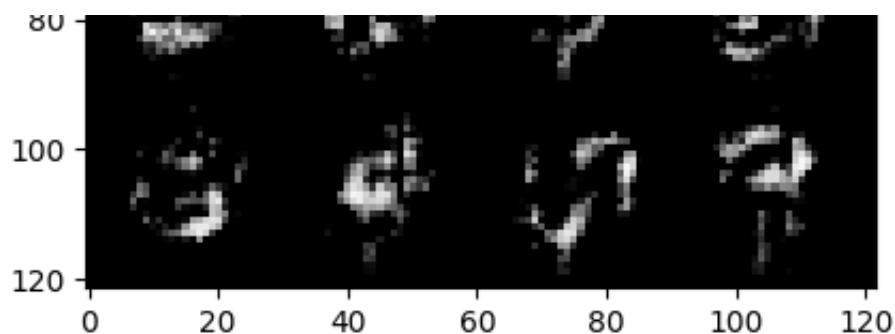


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6843, G_loss: 0.6892

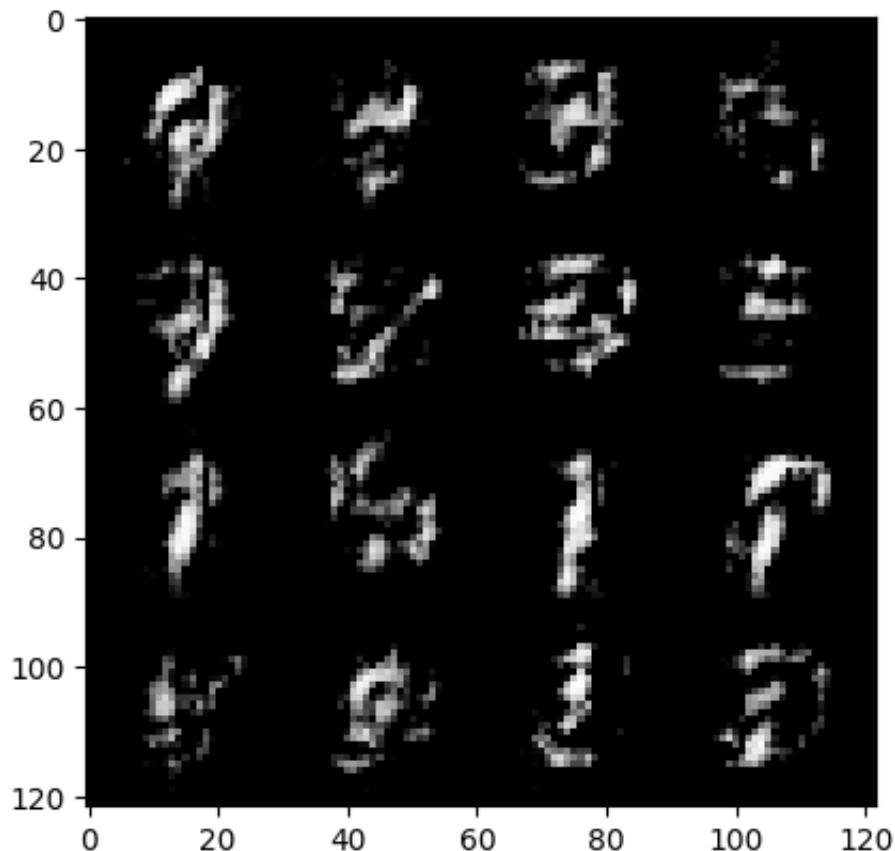


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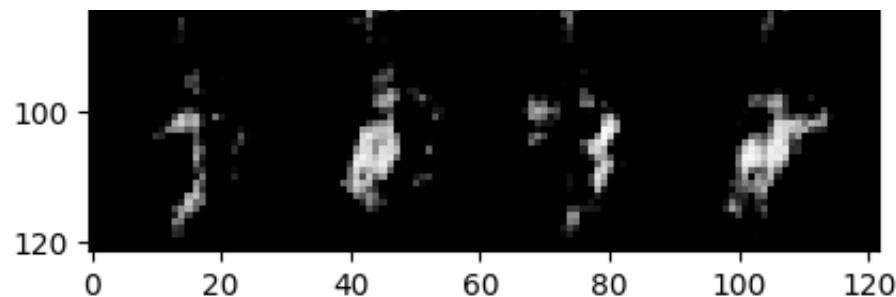


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6843, G_loss: 0.6892

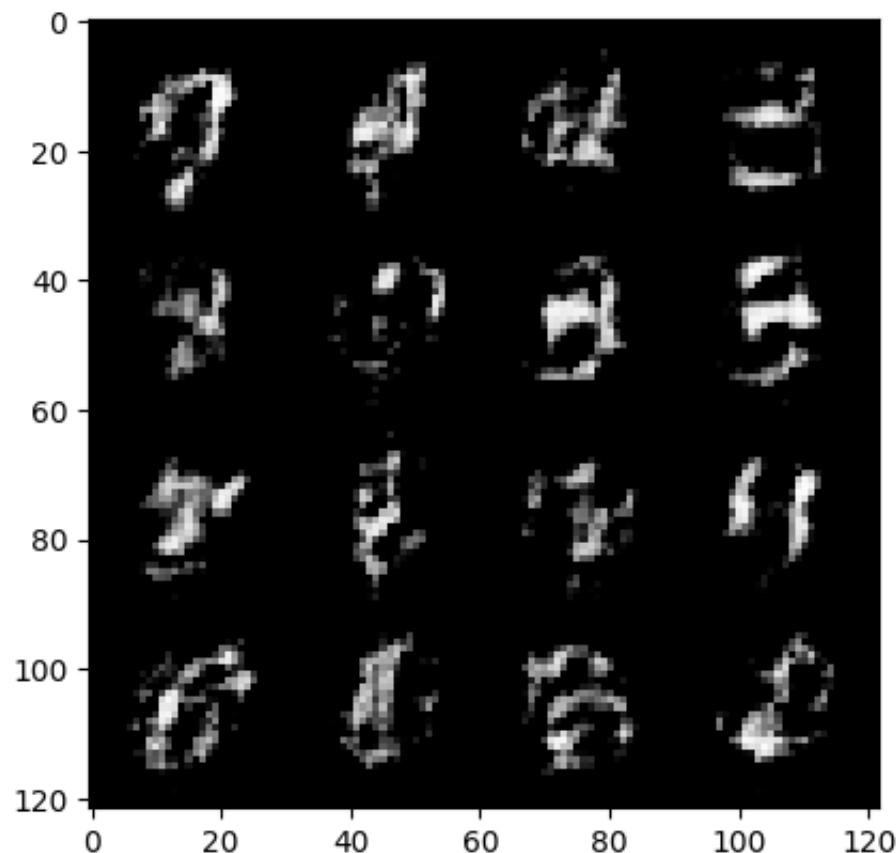


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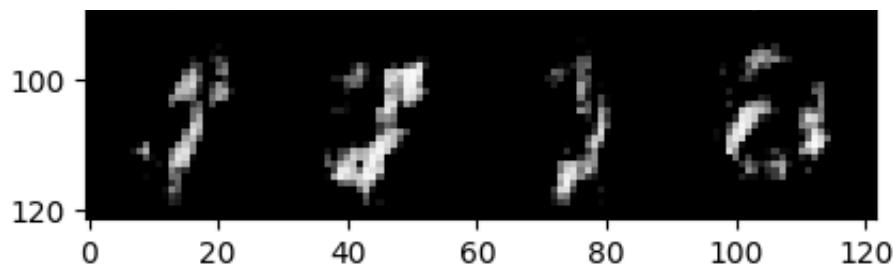
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6844, G_loss: 0.6893



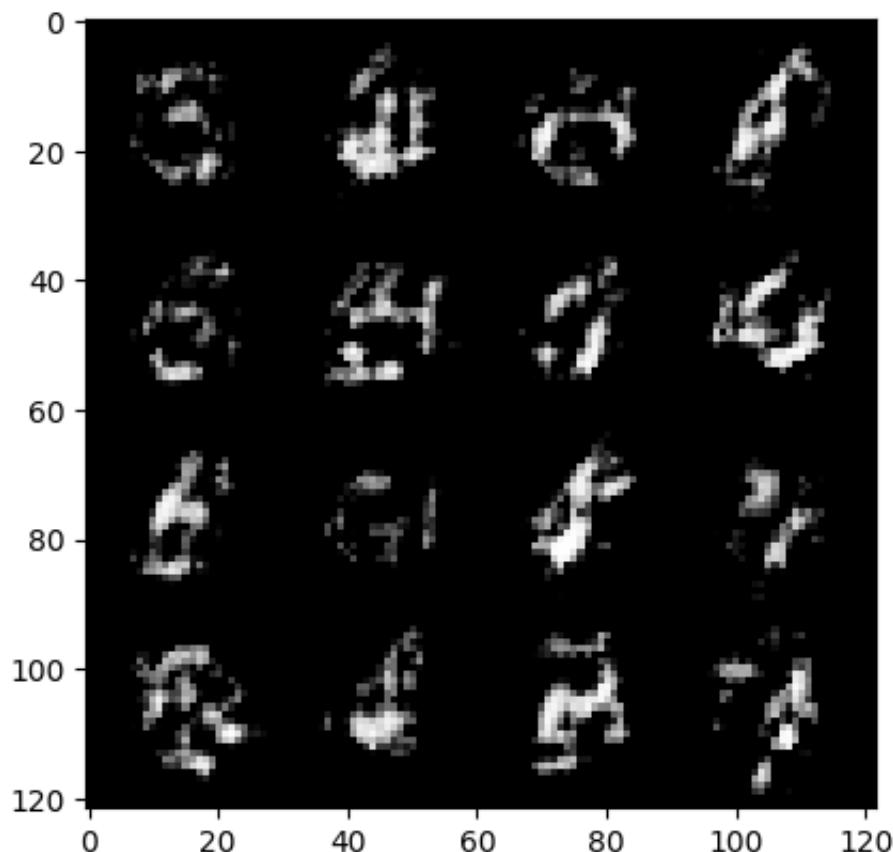
D_loss: 0.6844, G_loss: 0.6893

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1



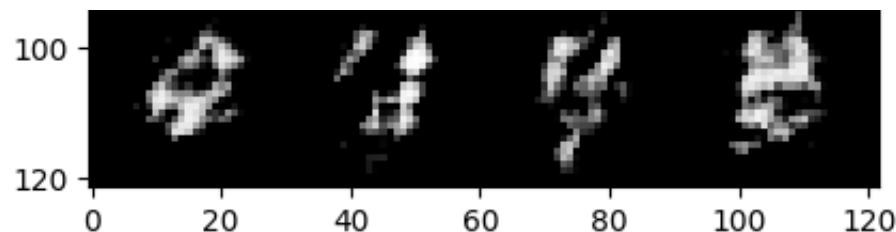


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6844, G_loss: 0.6893

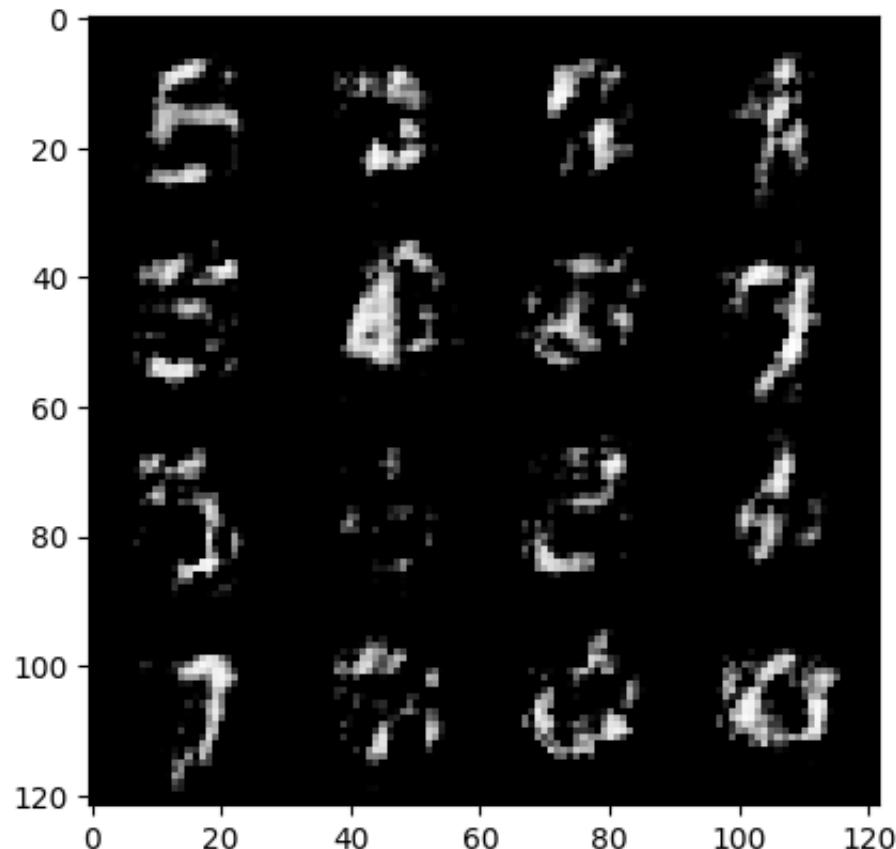


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6844, G_loss: 0.6893



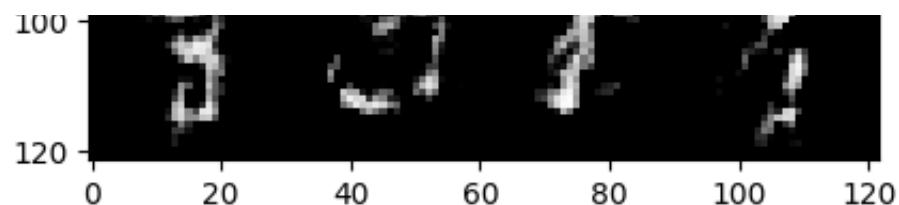


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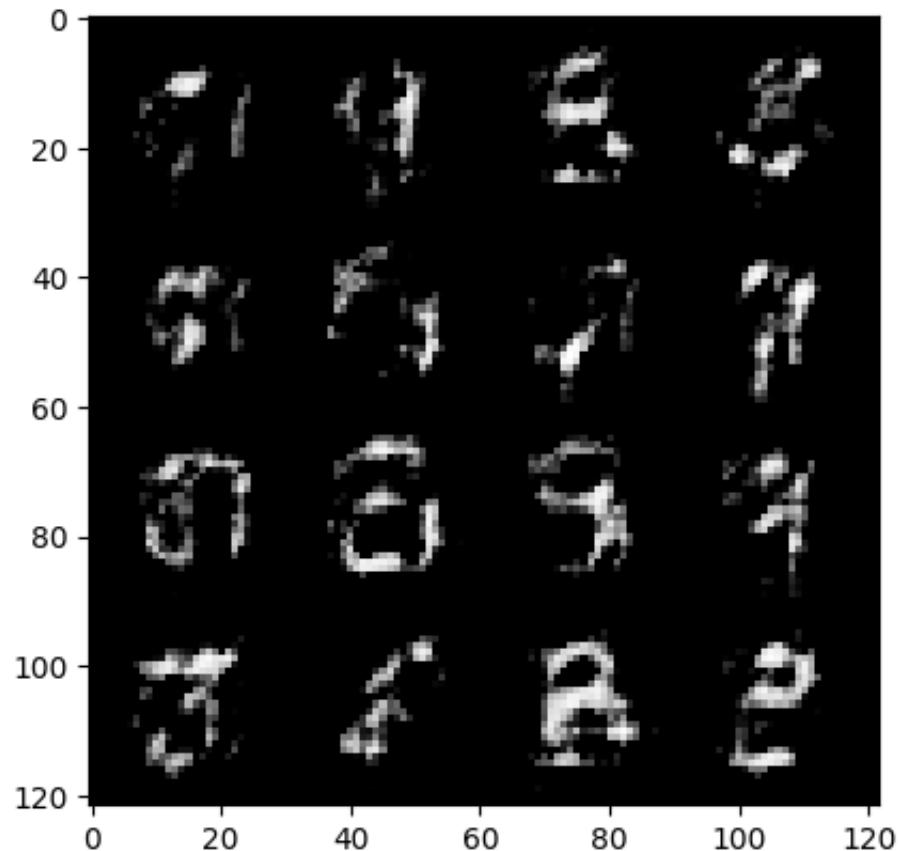


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6844, G_loss: 0.6894



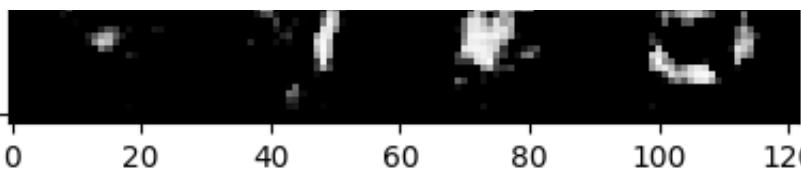


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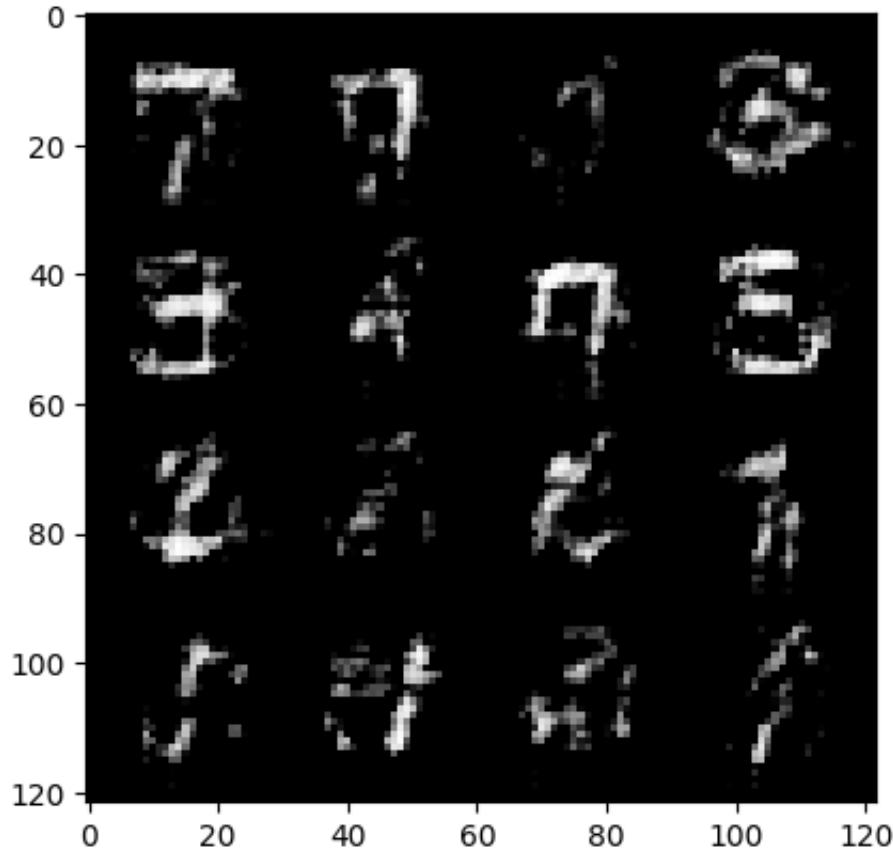


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6844, G_loss: 0.6894





WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6845, G_loss: 0.6894

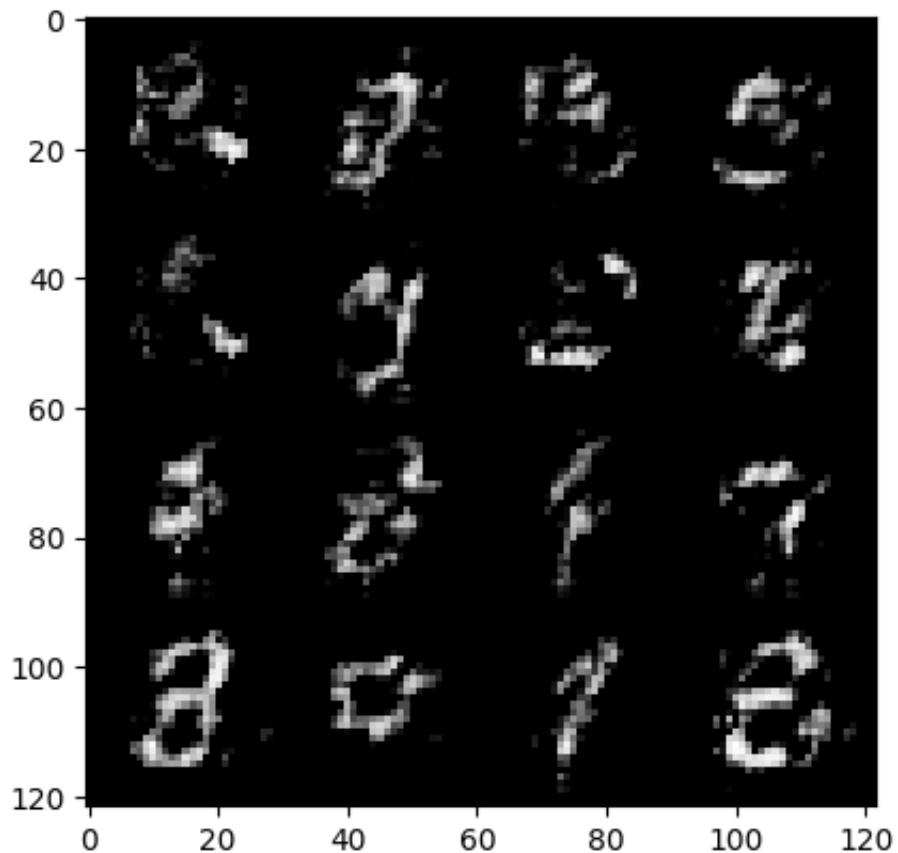


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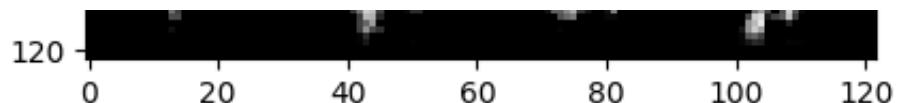


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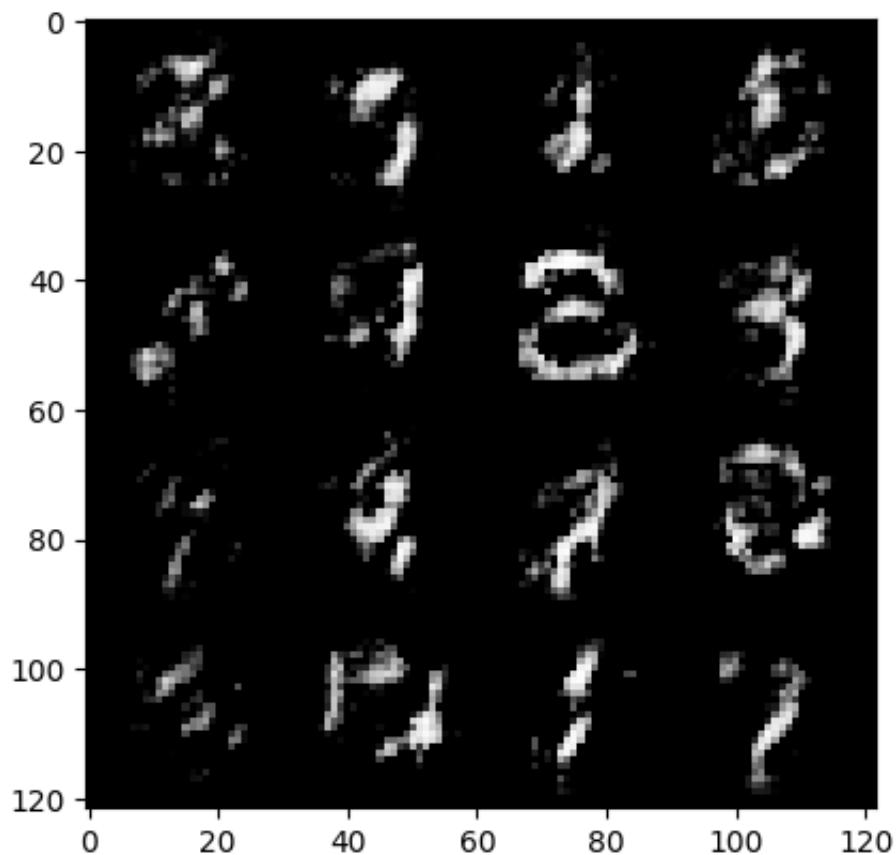


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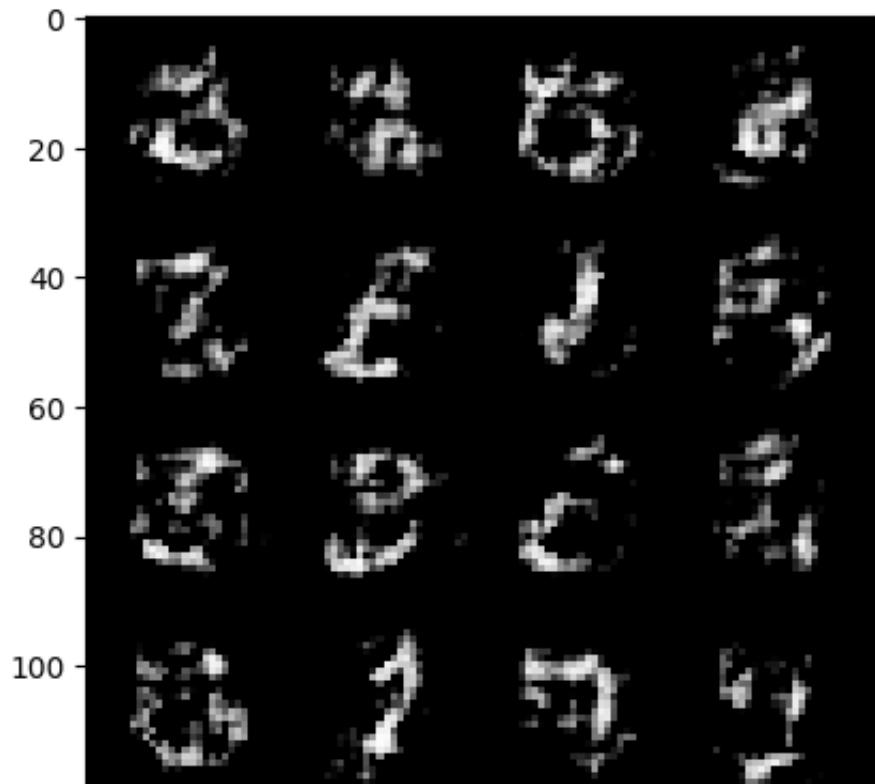


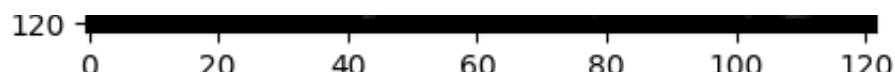


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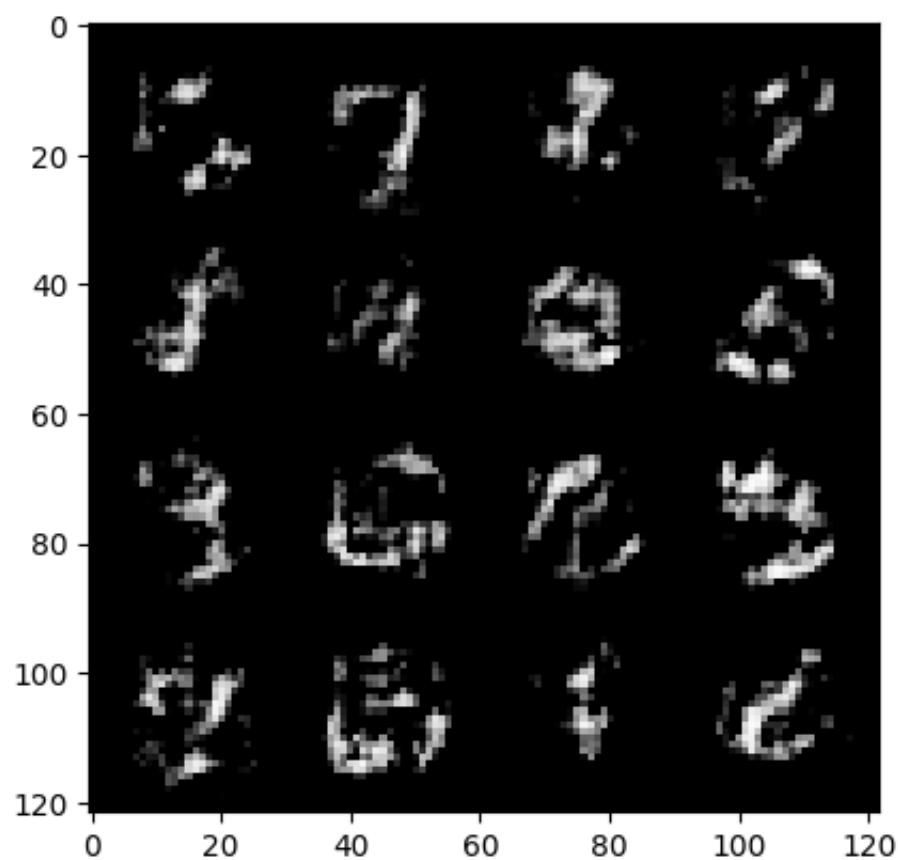


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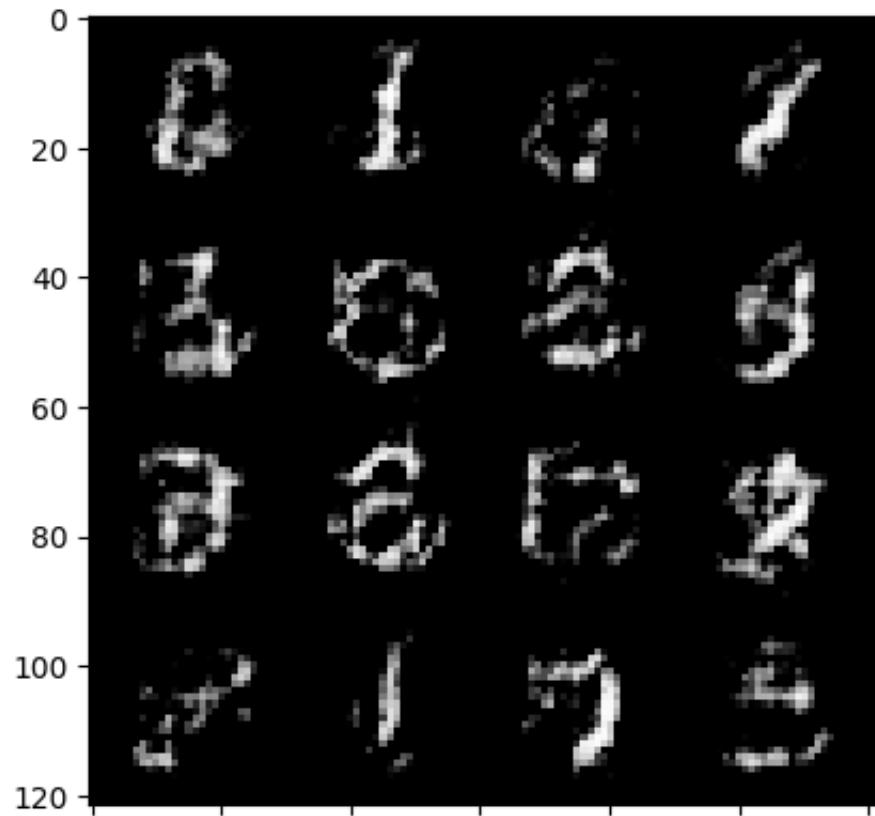




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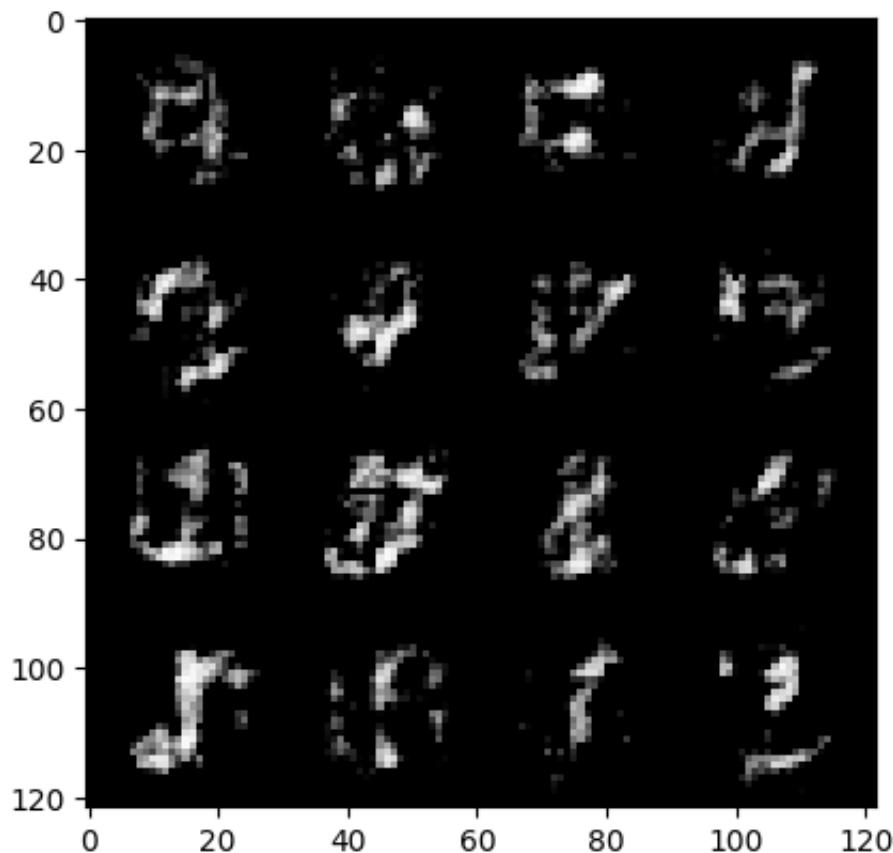


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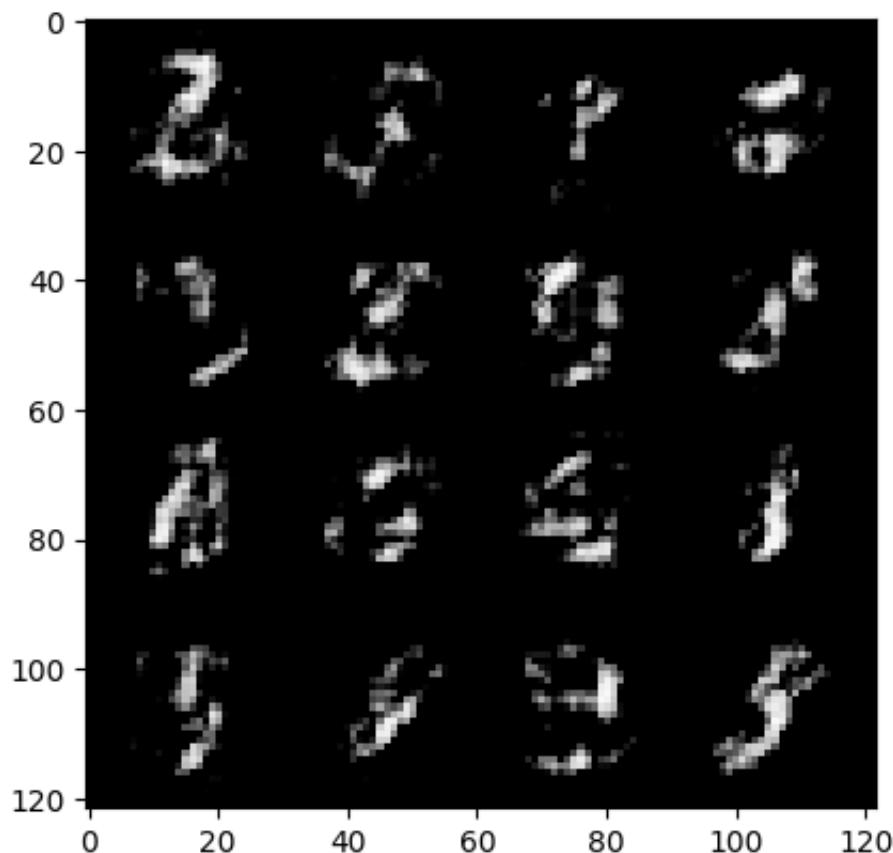


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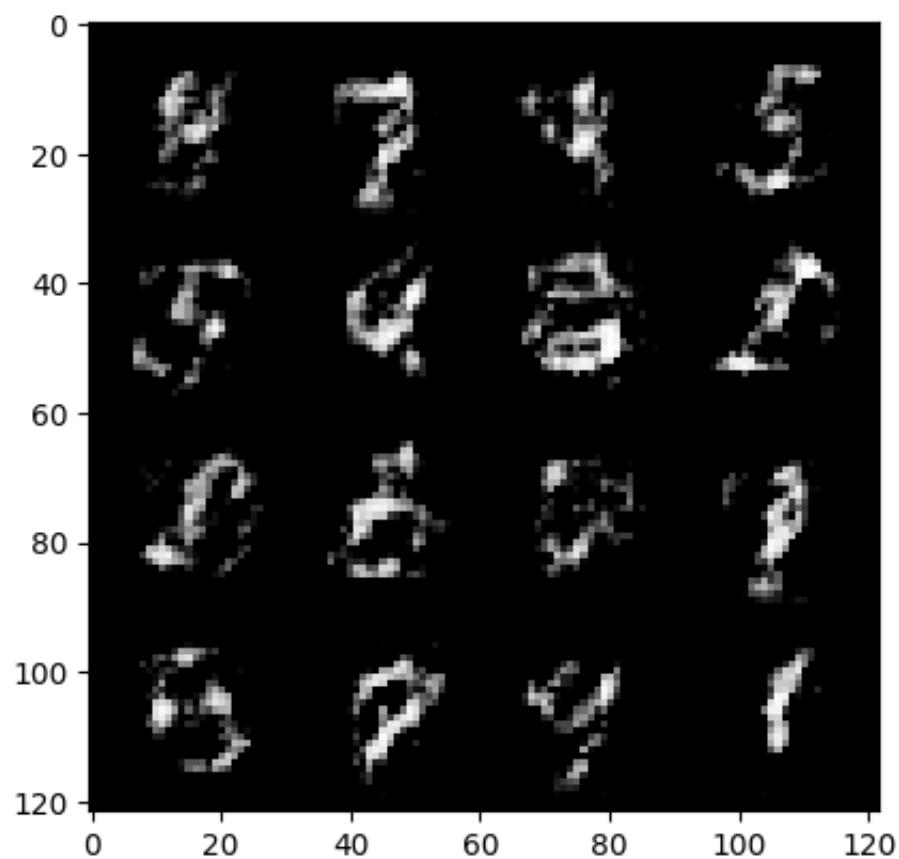
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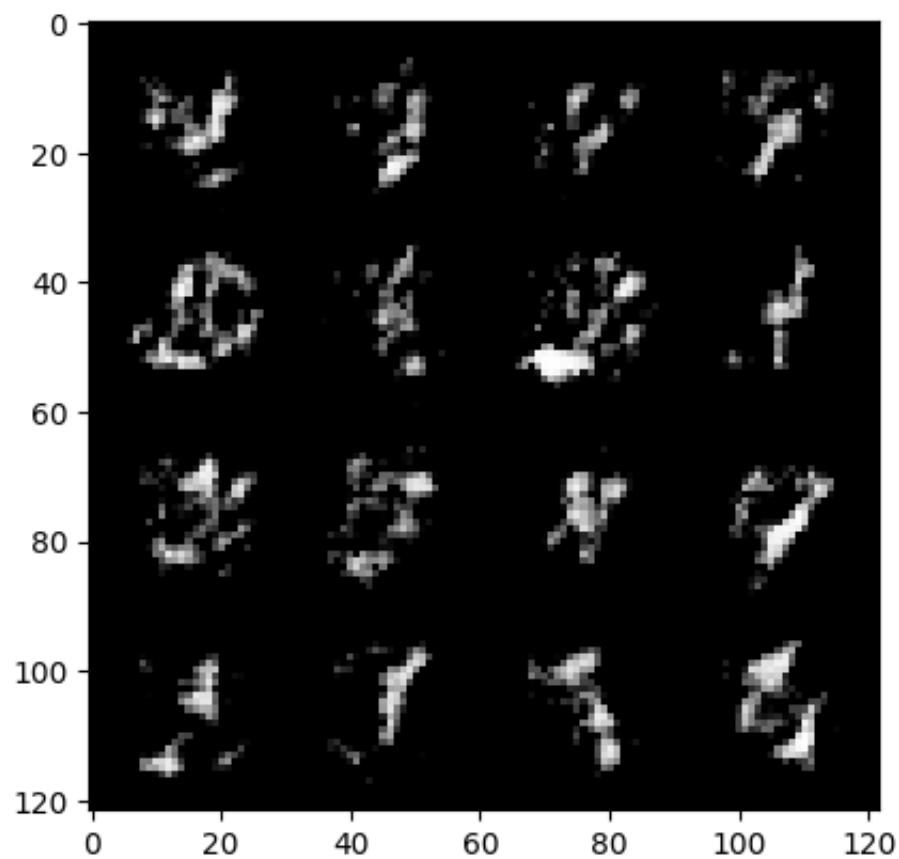
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6846, G_loss: 0.6897



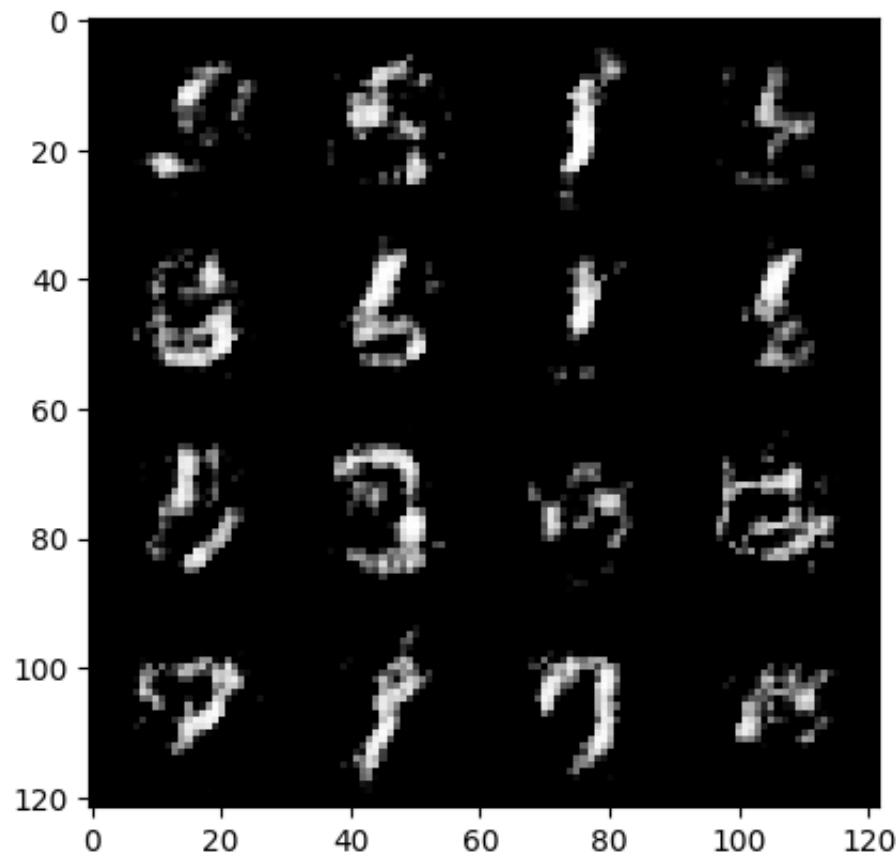
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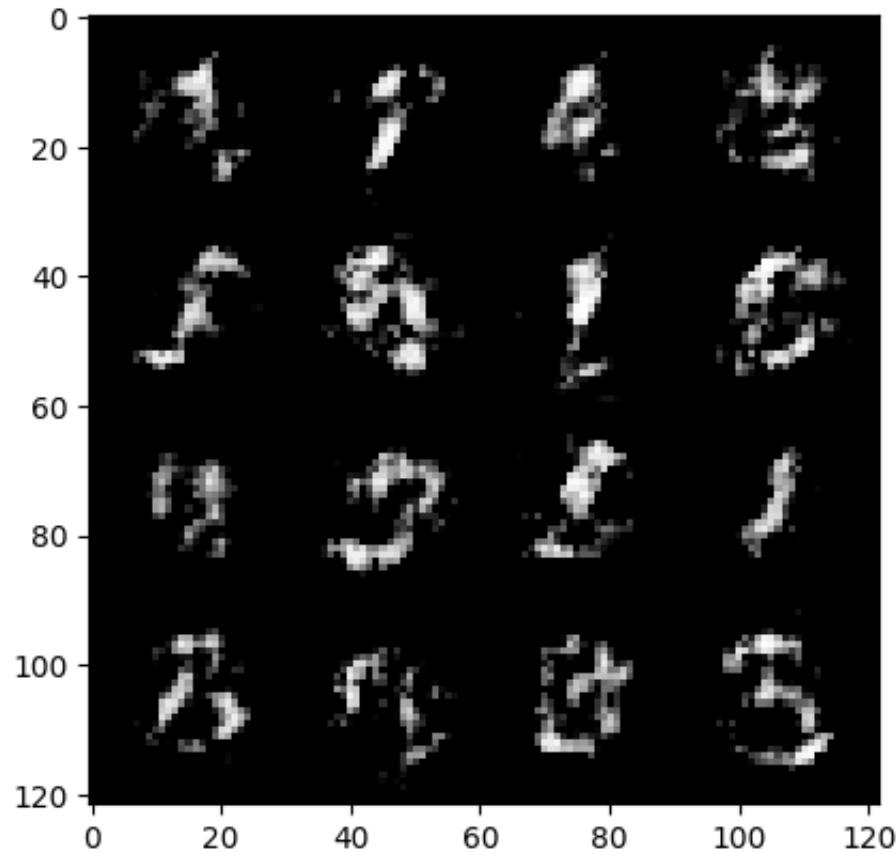
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6846, G_loss: 0.6897



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6846, G_loss: 0.6897

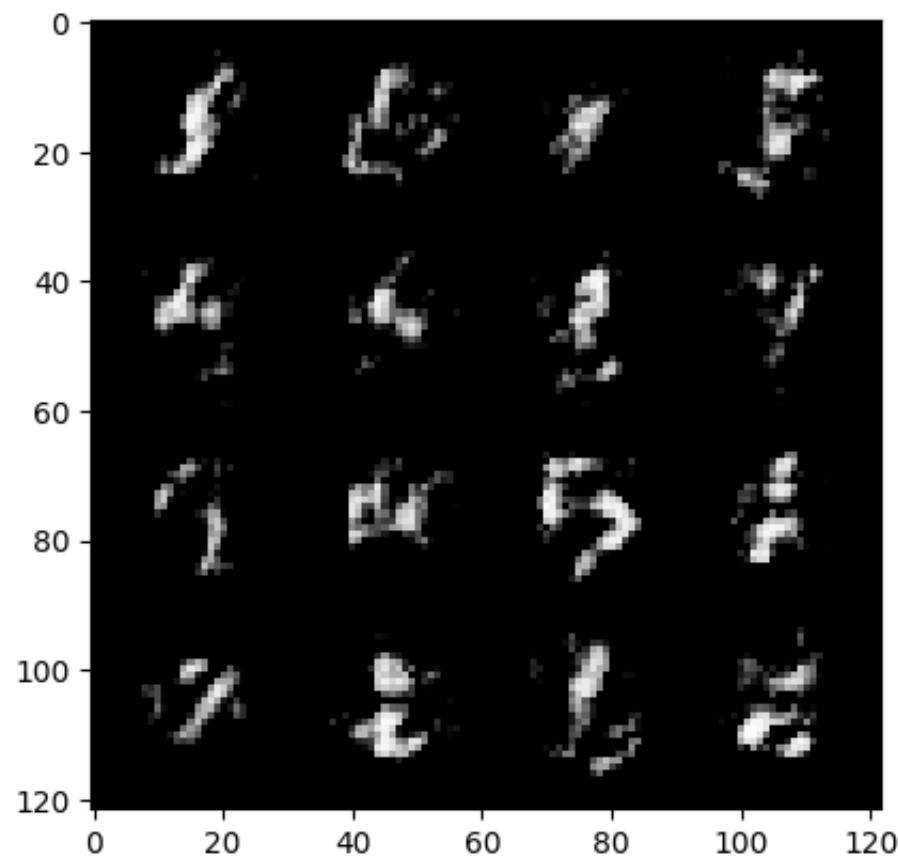


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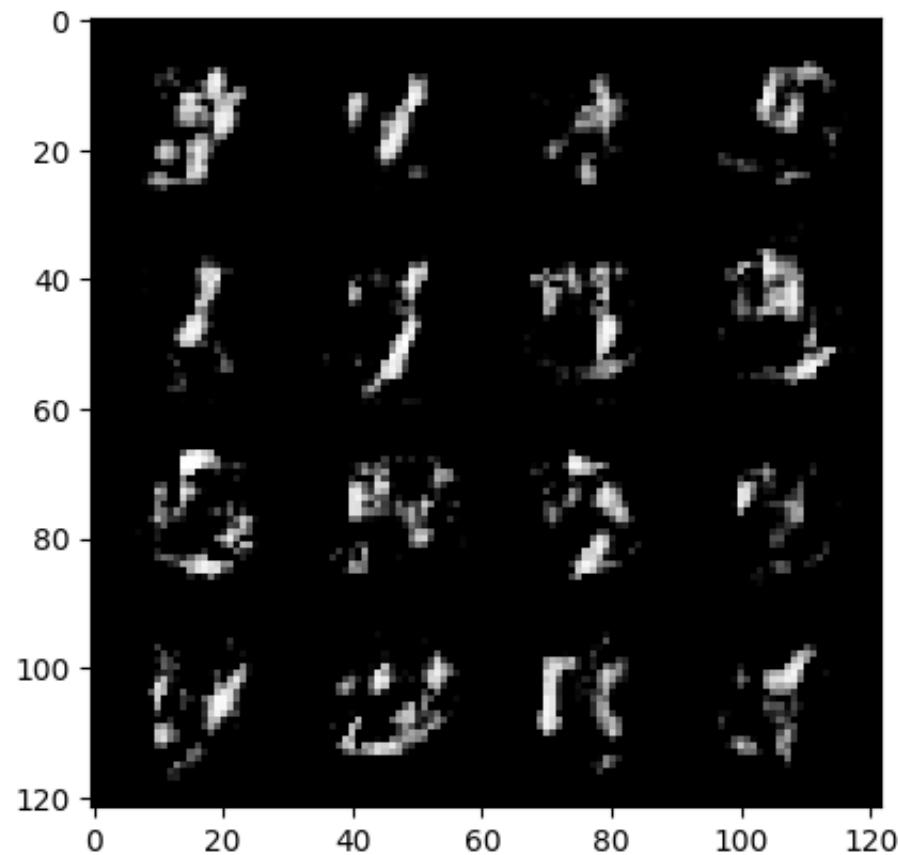


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

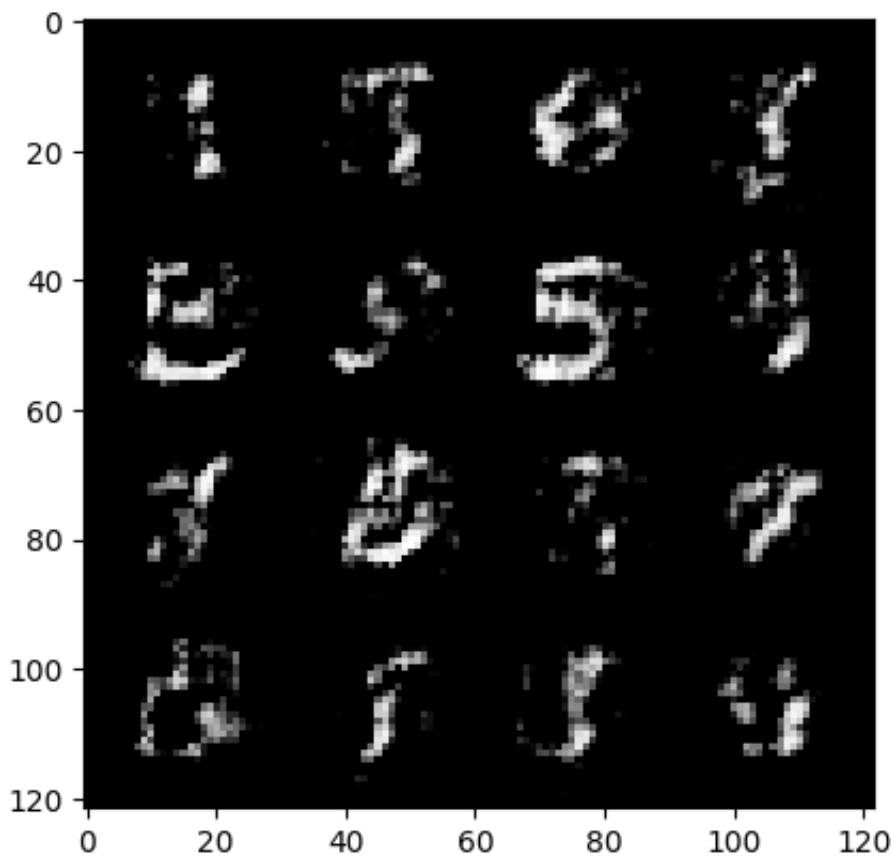
D_loss: 0.6846, G_loss: 0.6898



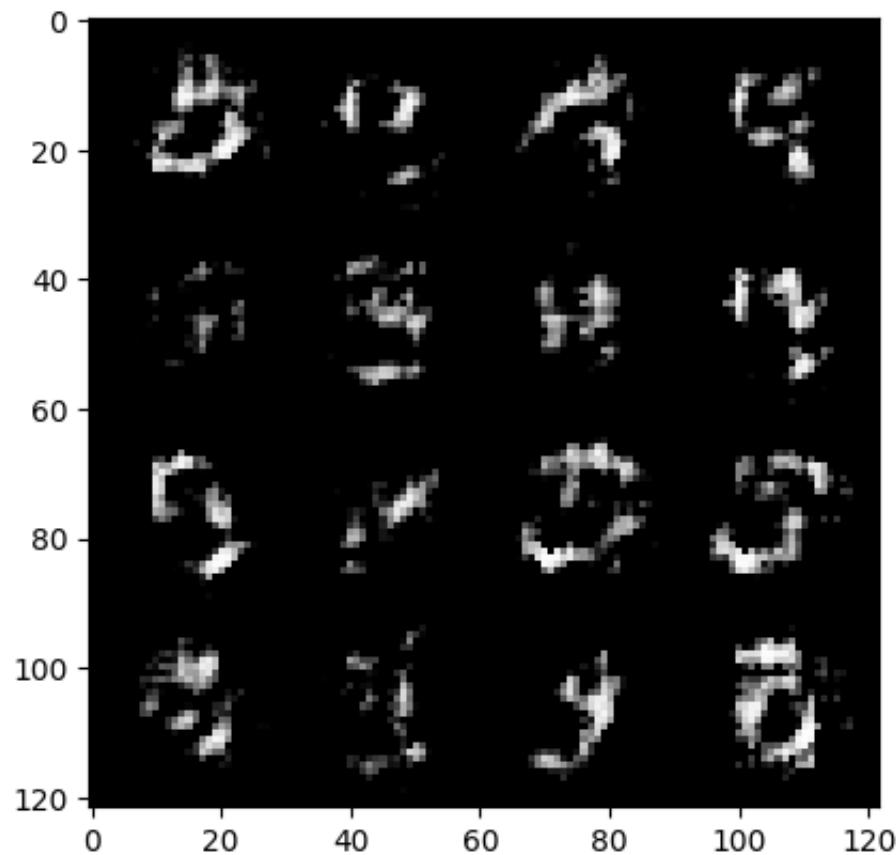
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WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6846, G_loss: 0.6898

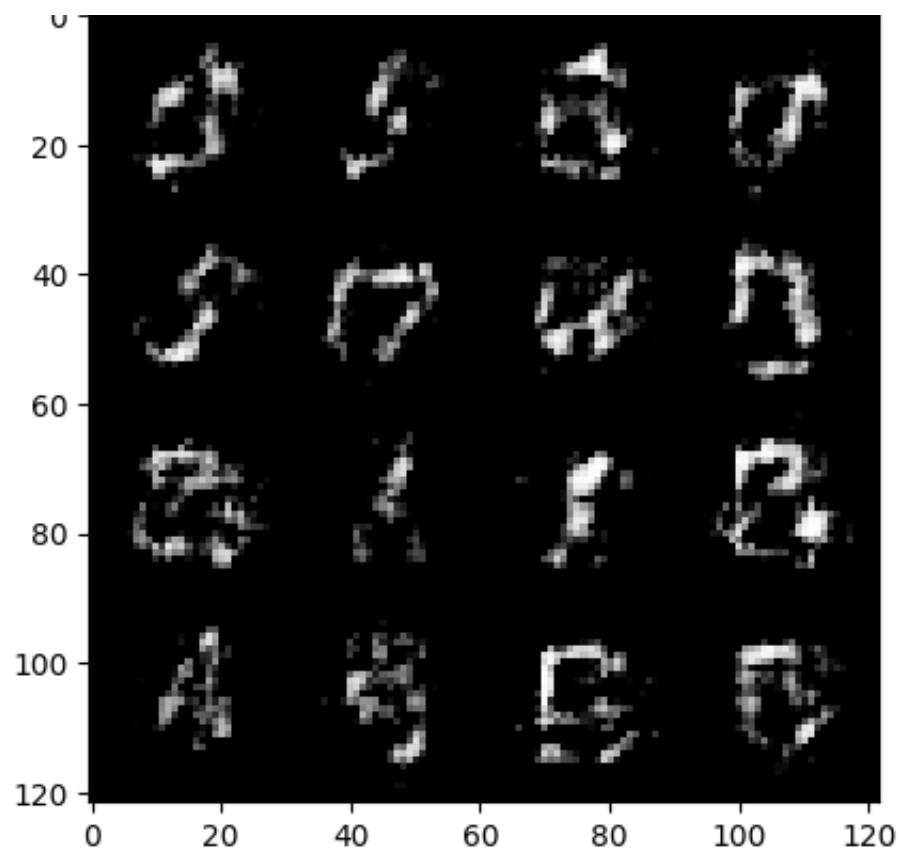


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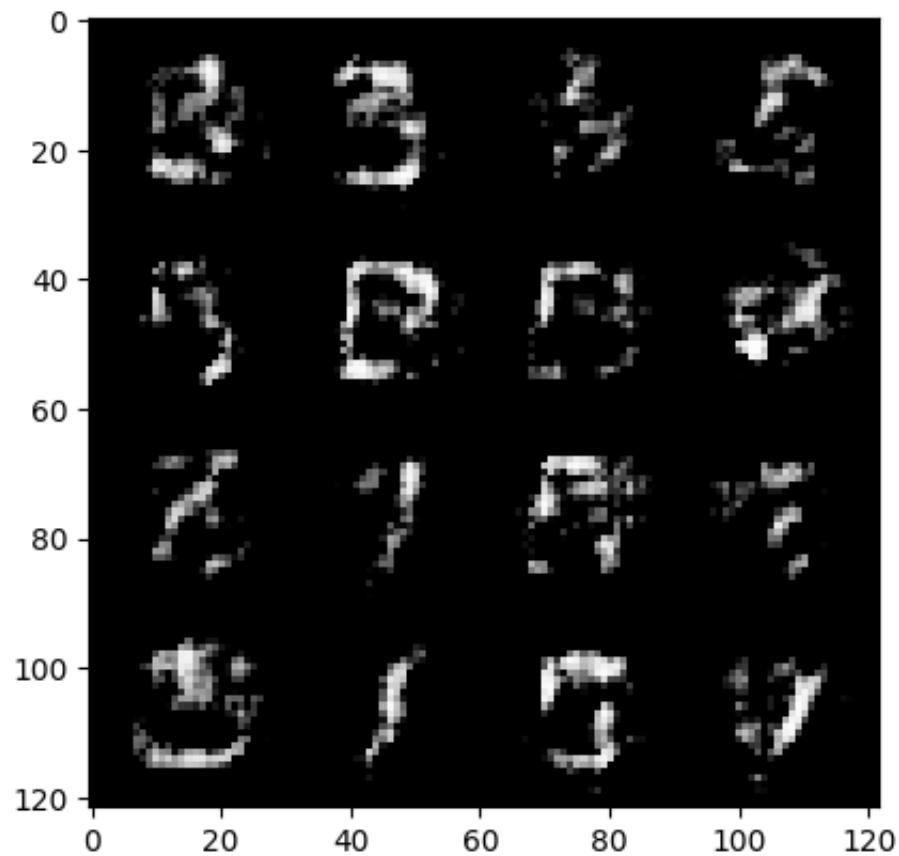


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6847, G_loss: 0.6898

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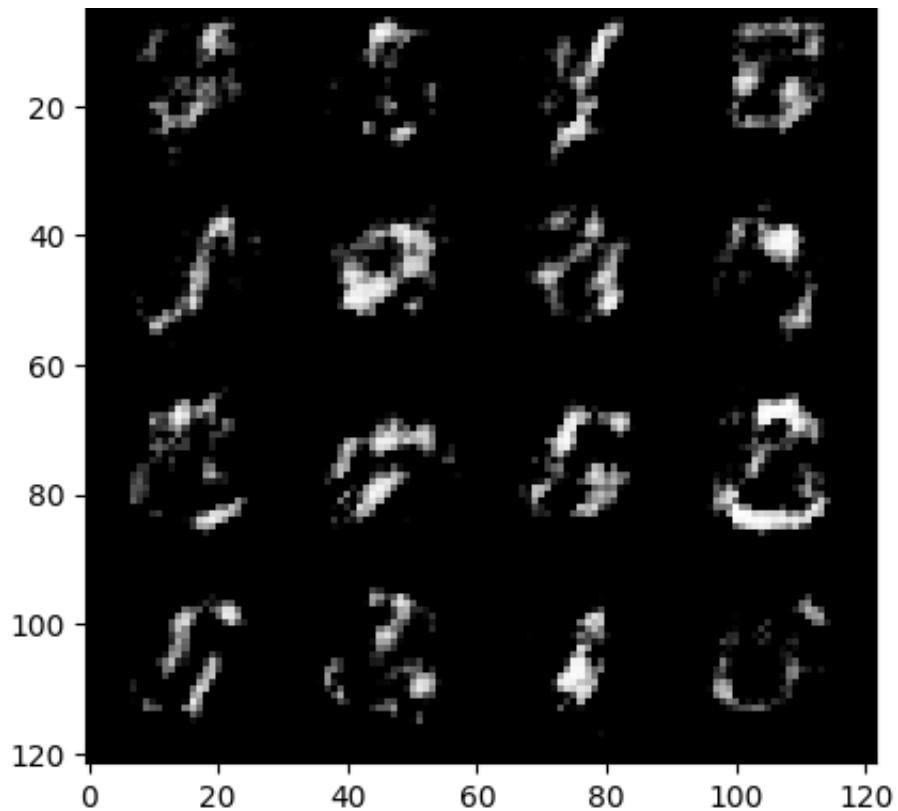


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6847, G_loss: 0.6898

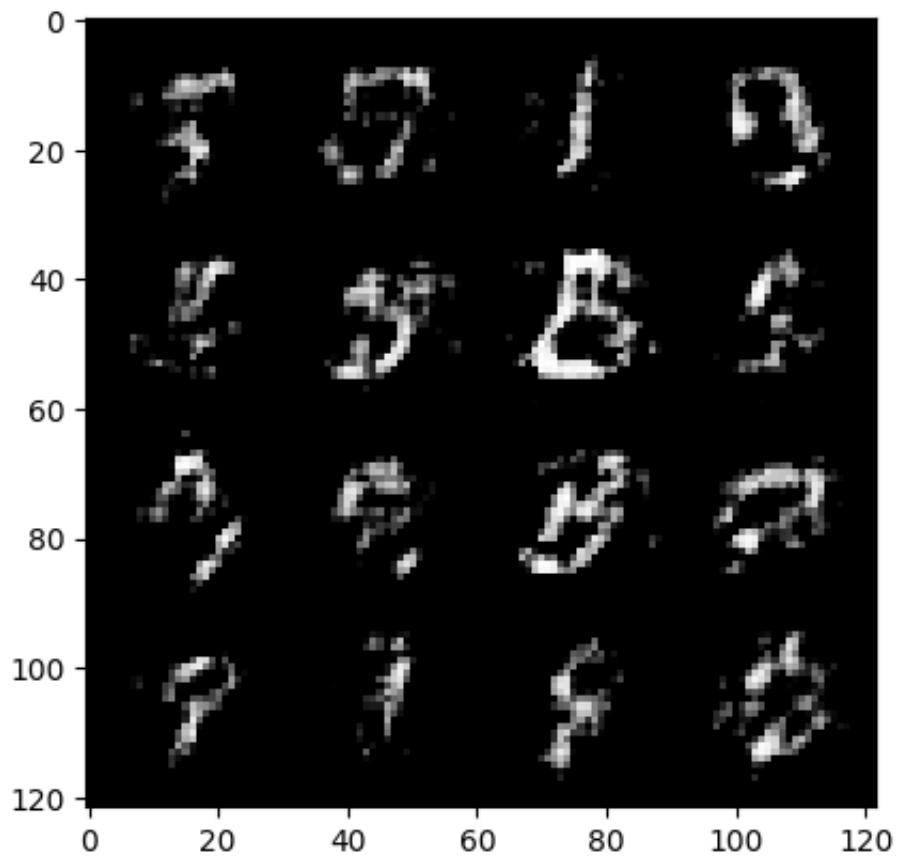


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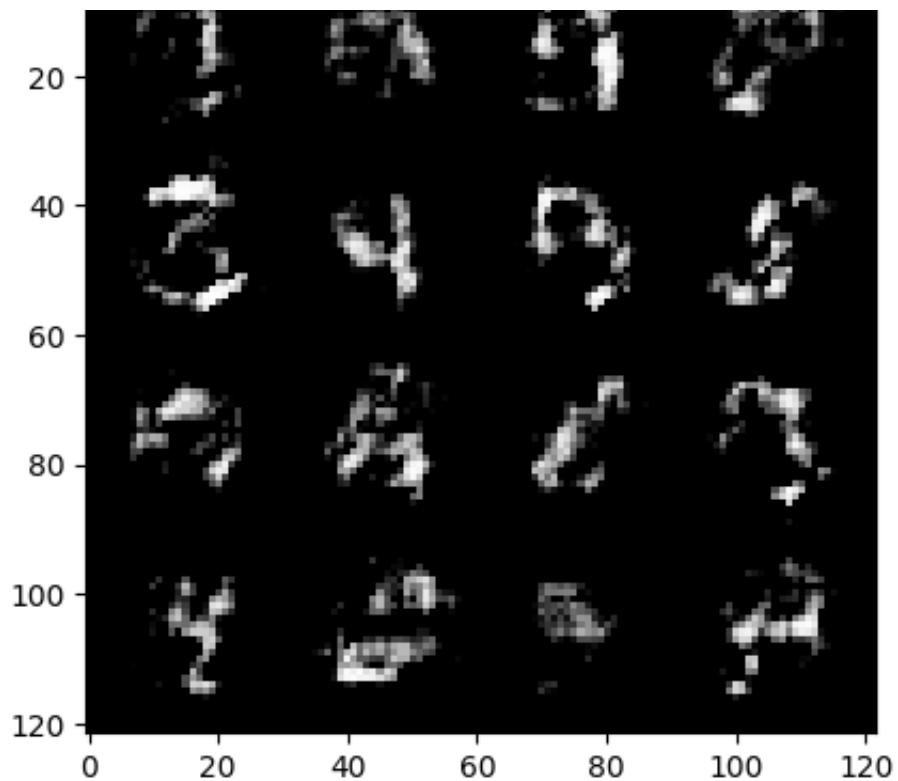


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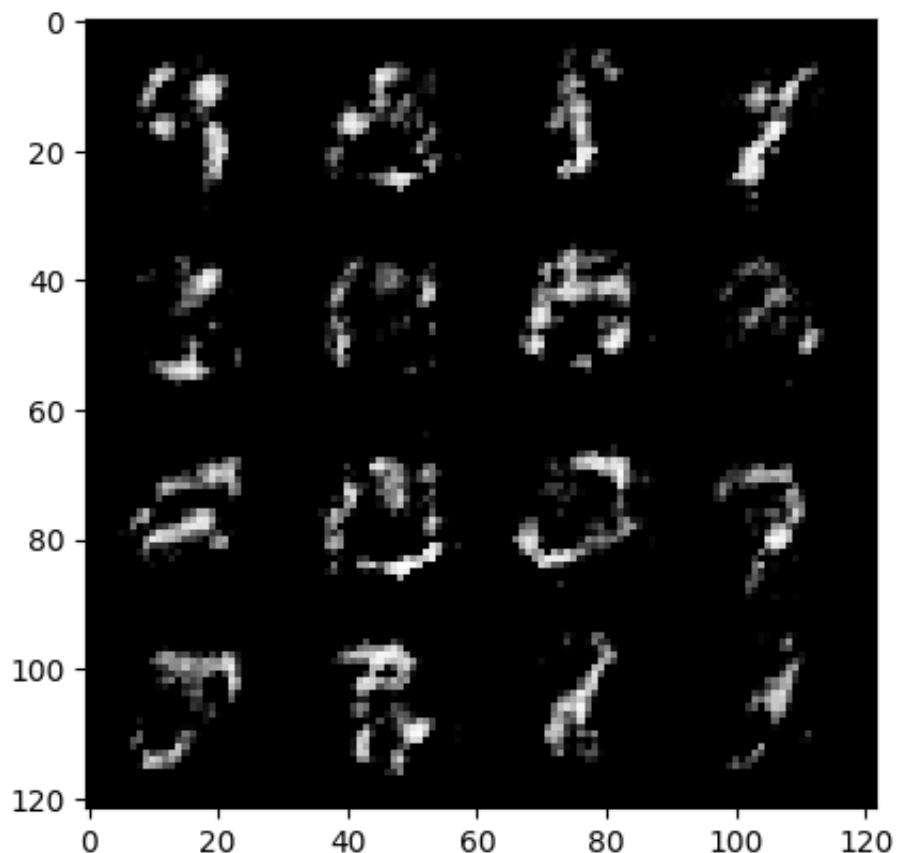


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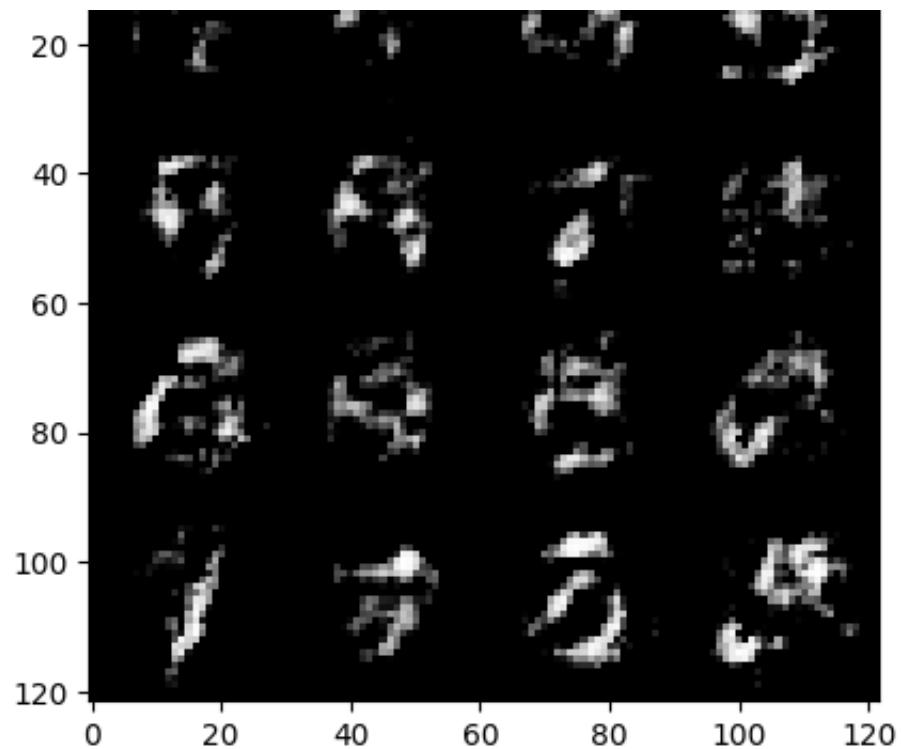


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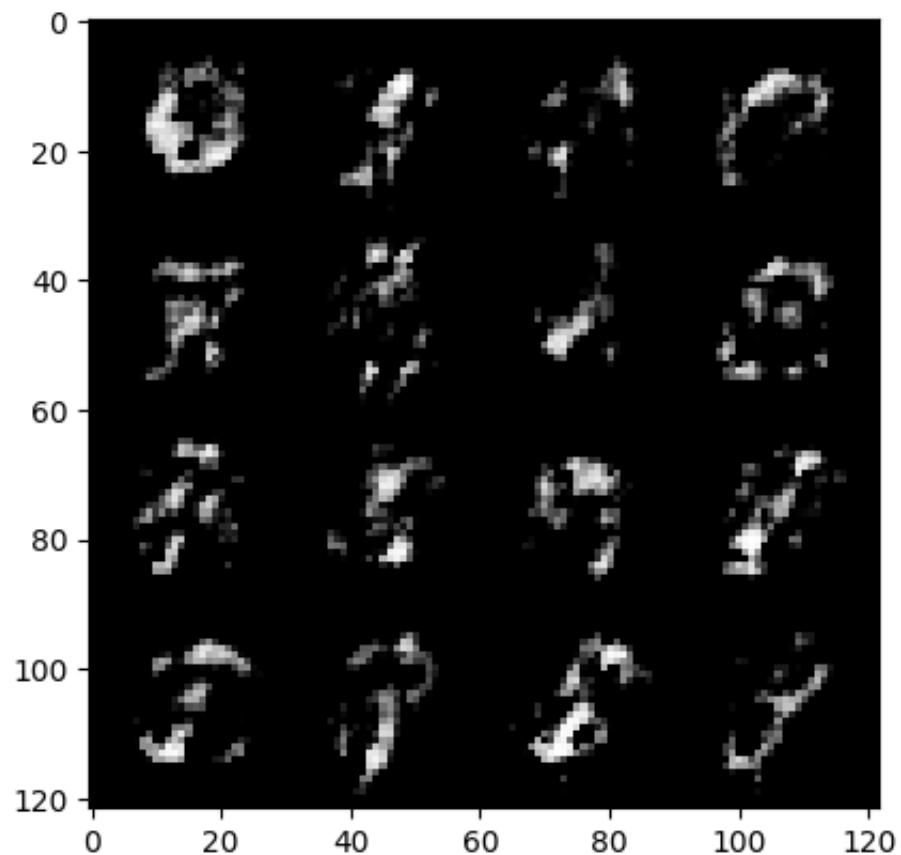


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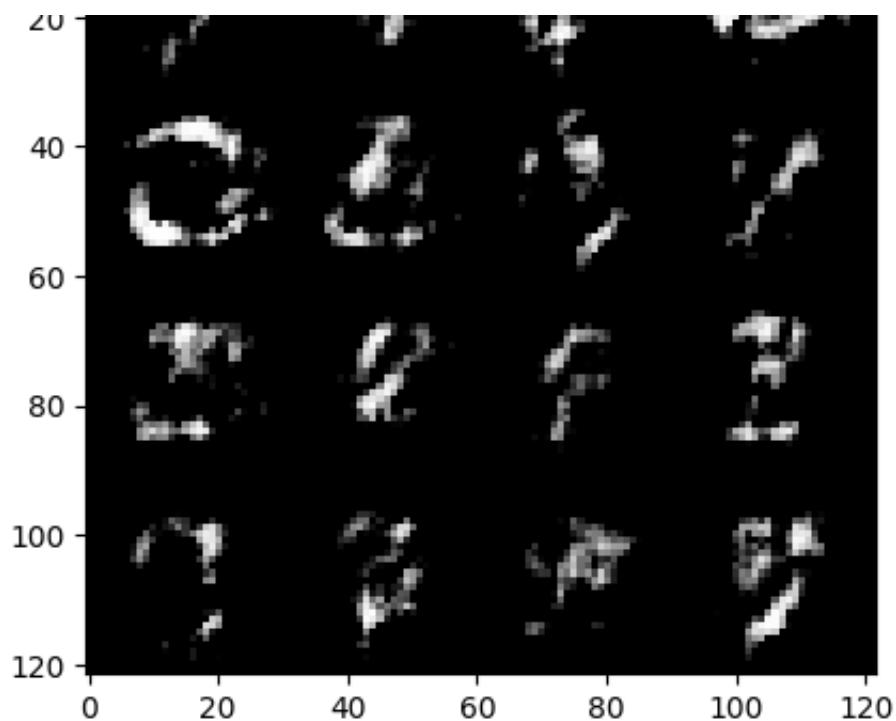


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6847, G_loss: 0.6900

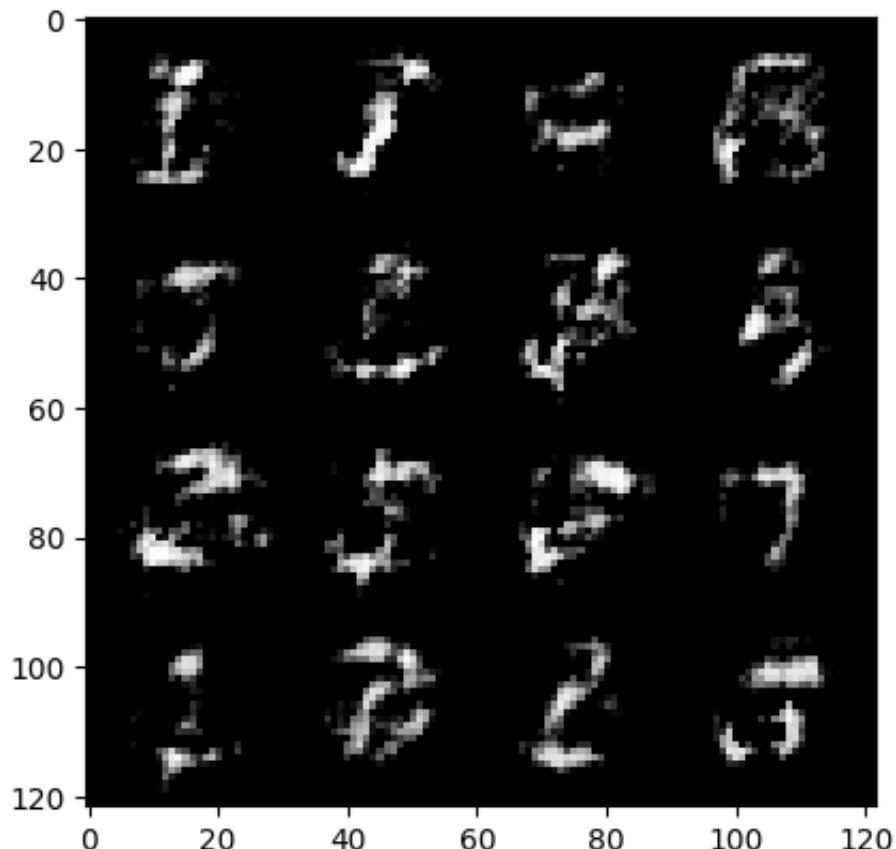


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6847, G_loss: 0.6900



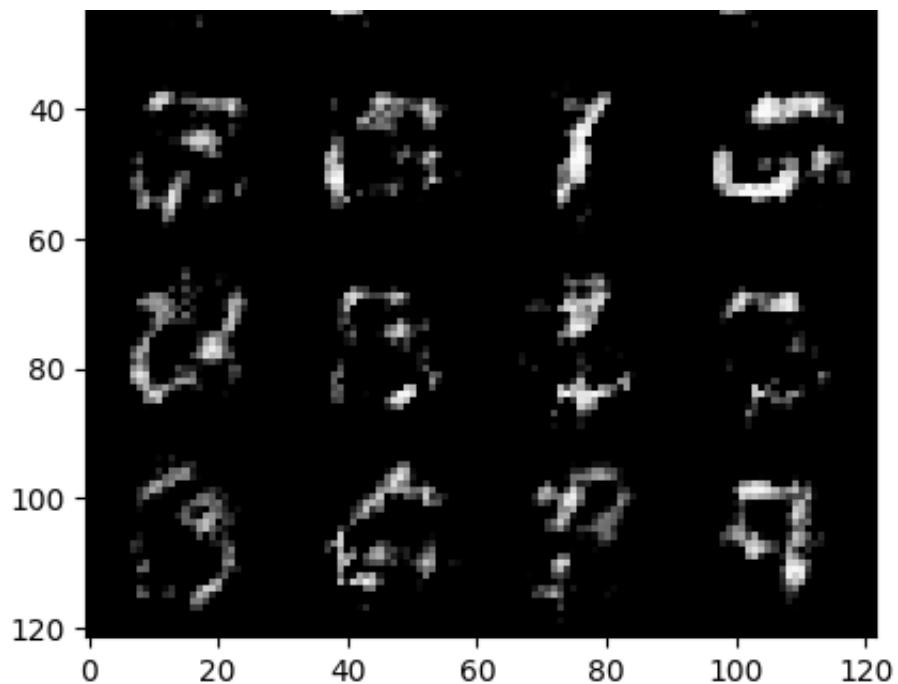


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.6900

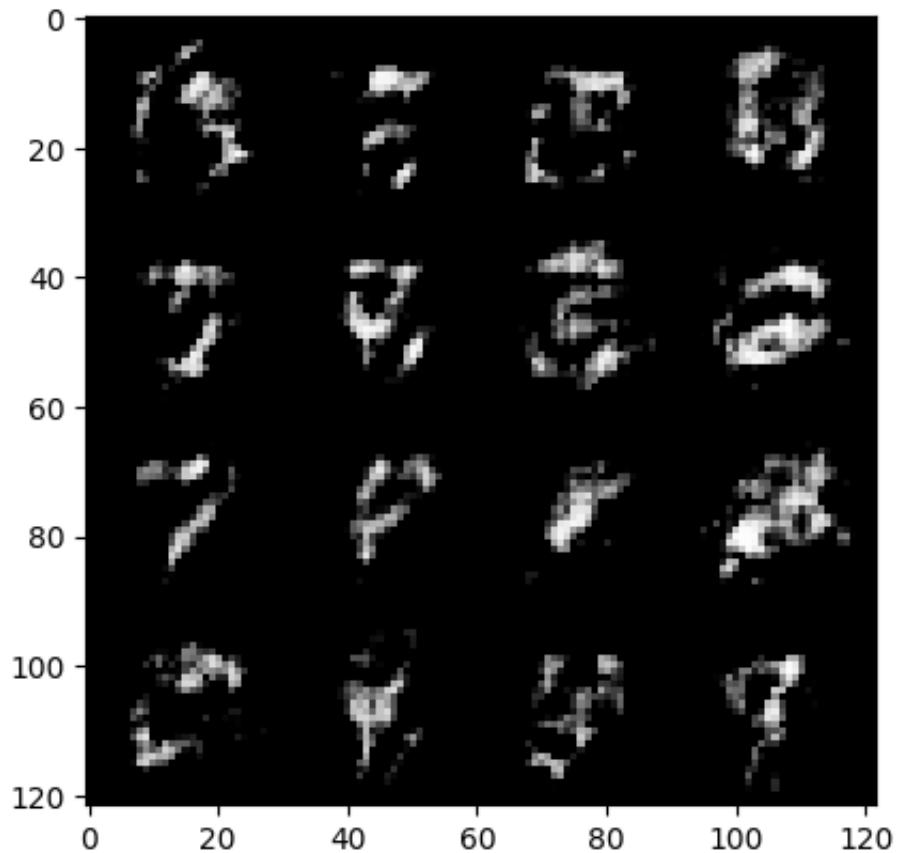


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.6900



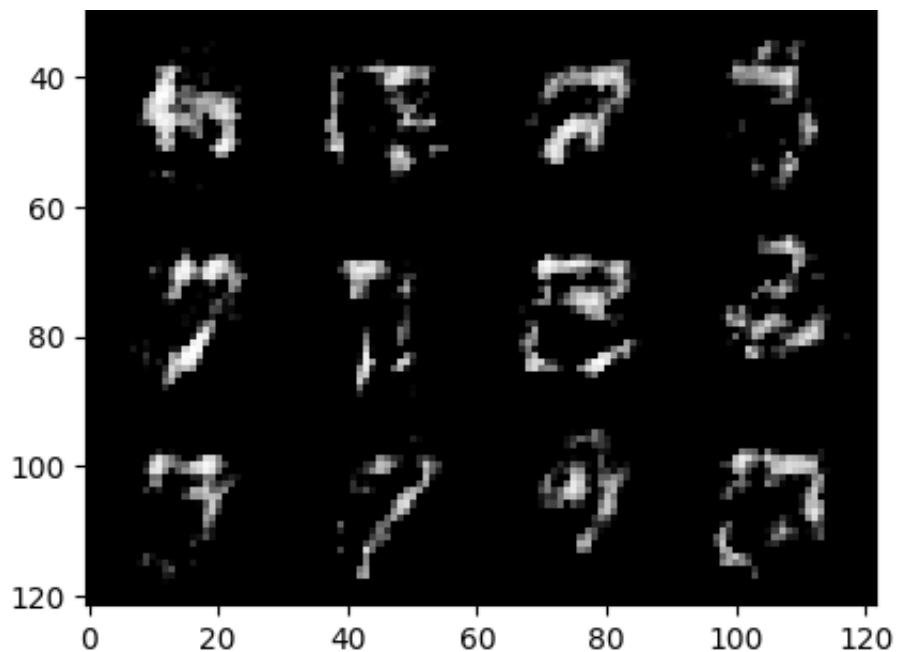


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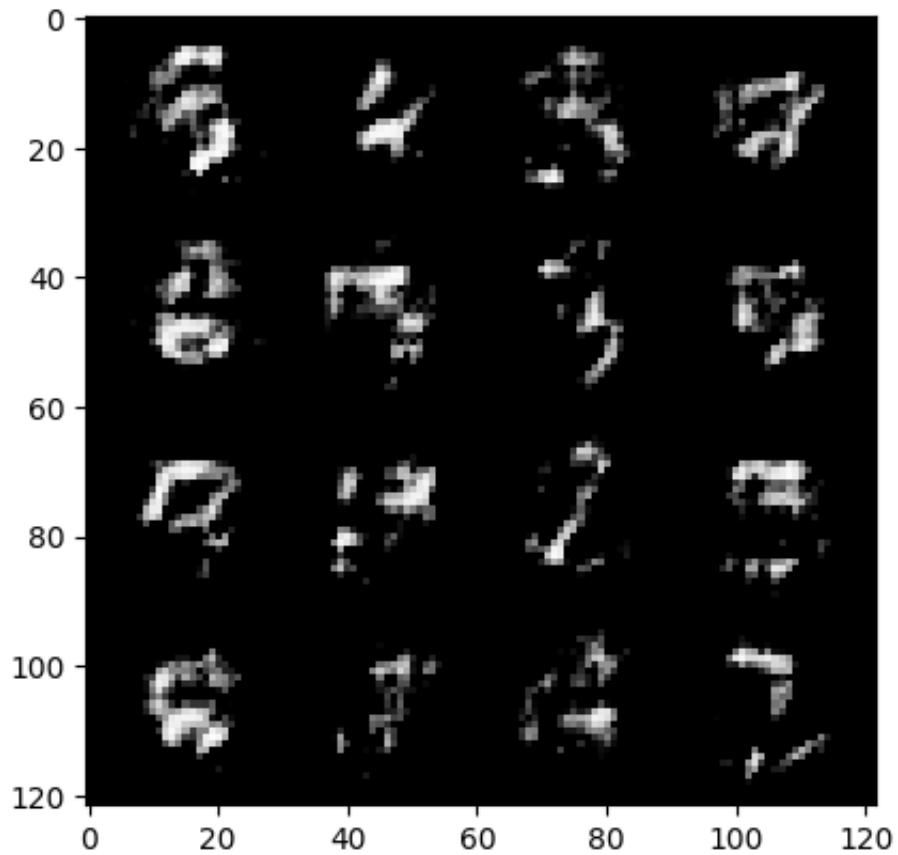


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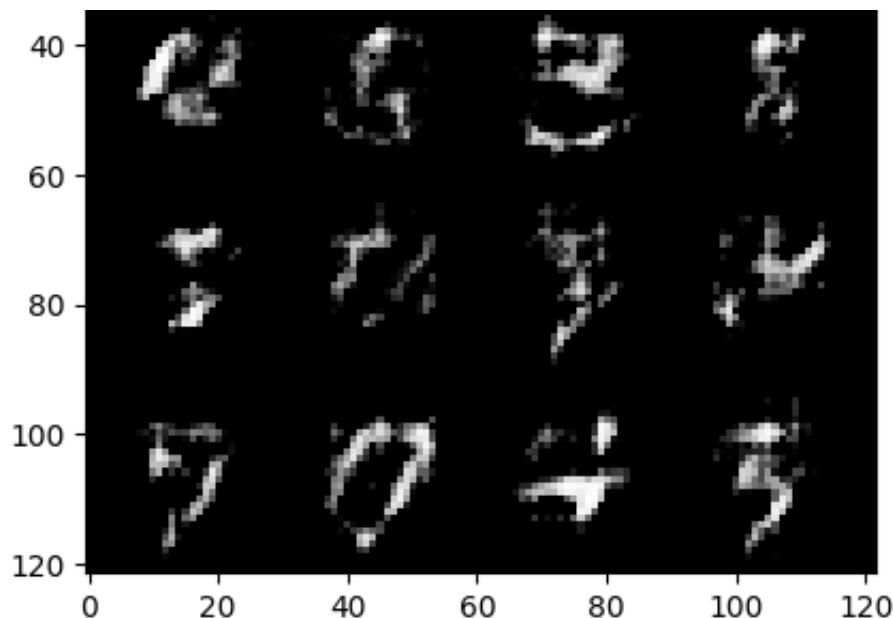


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.6901

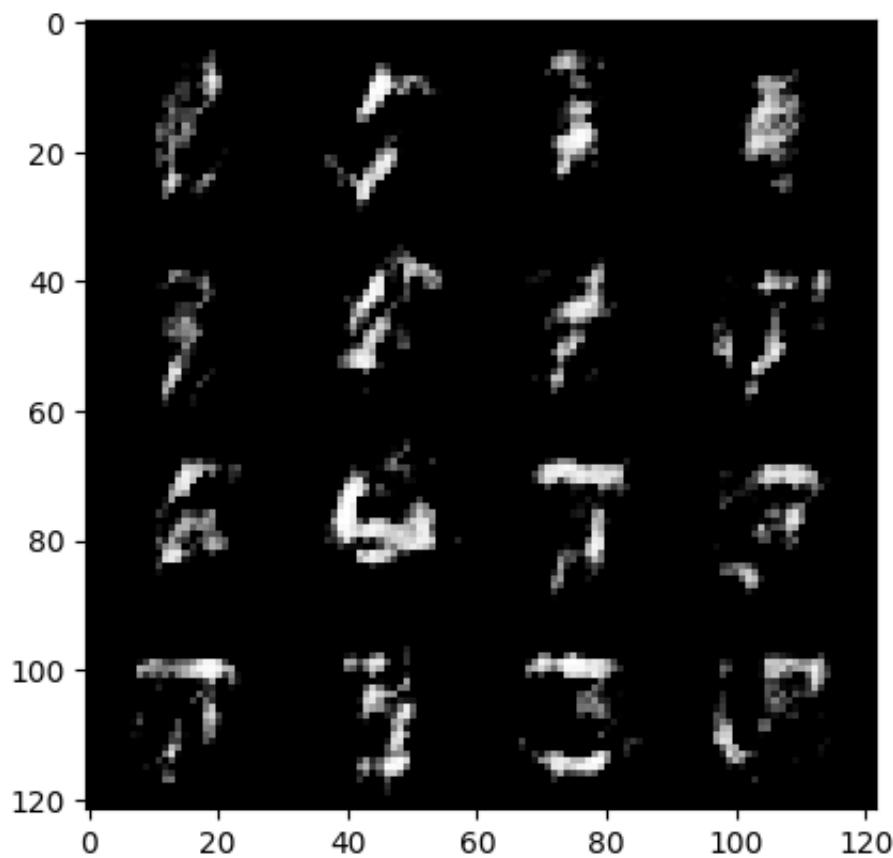


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.6901



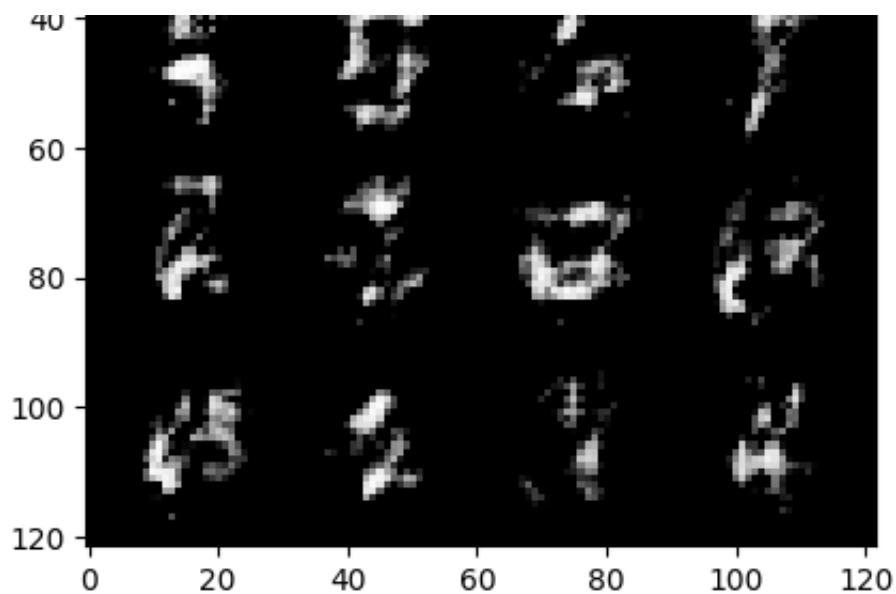


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.6901

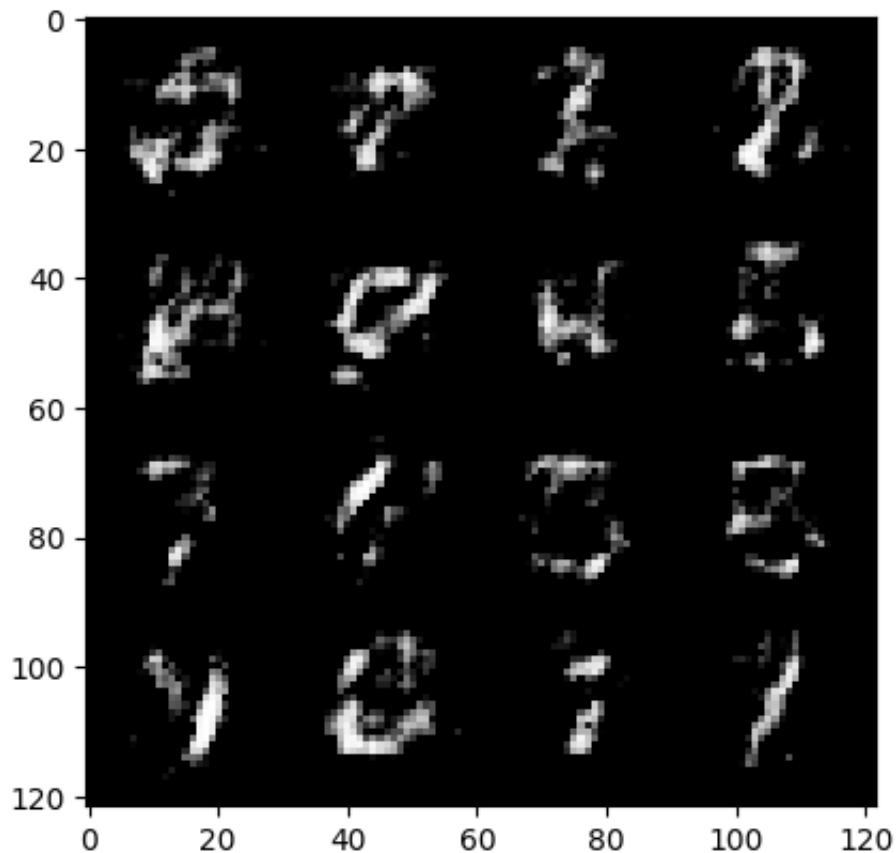


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.6902



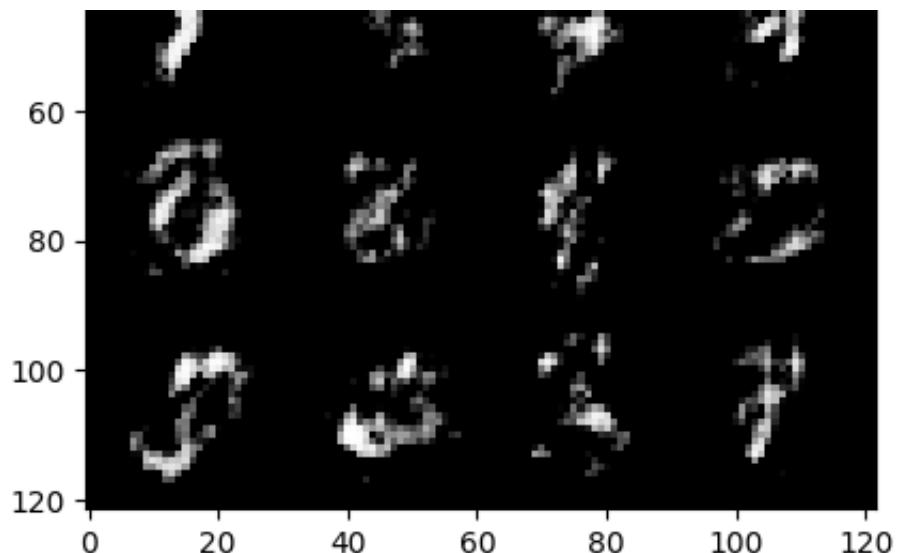


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.6902

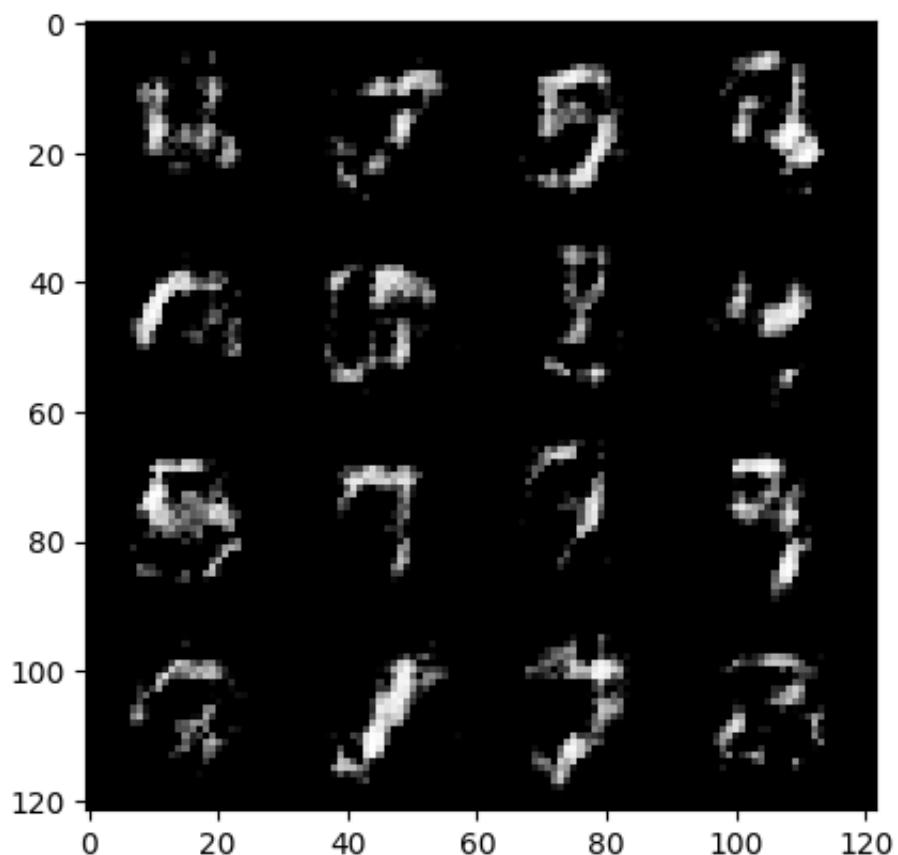


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.6902





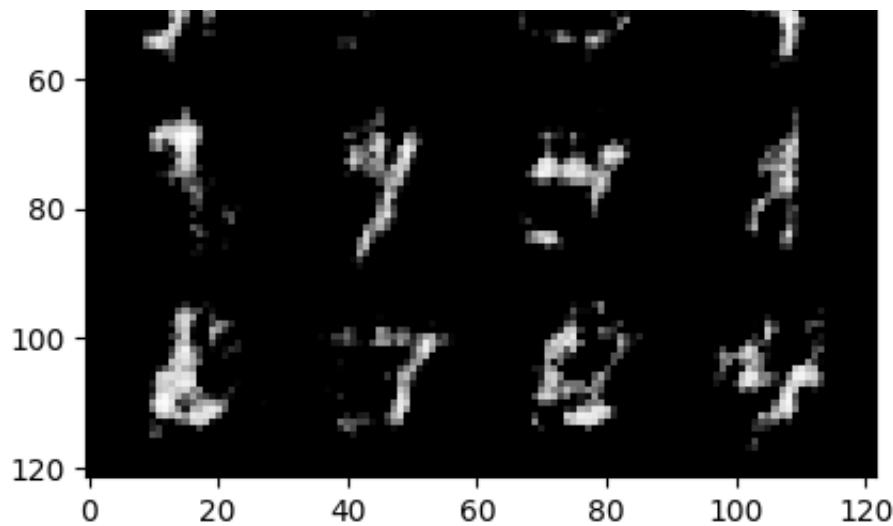
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6848, G_loss: 0.6902



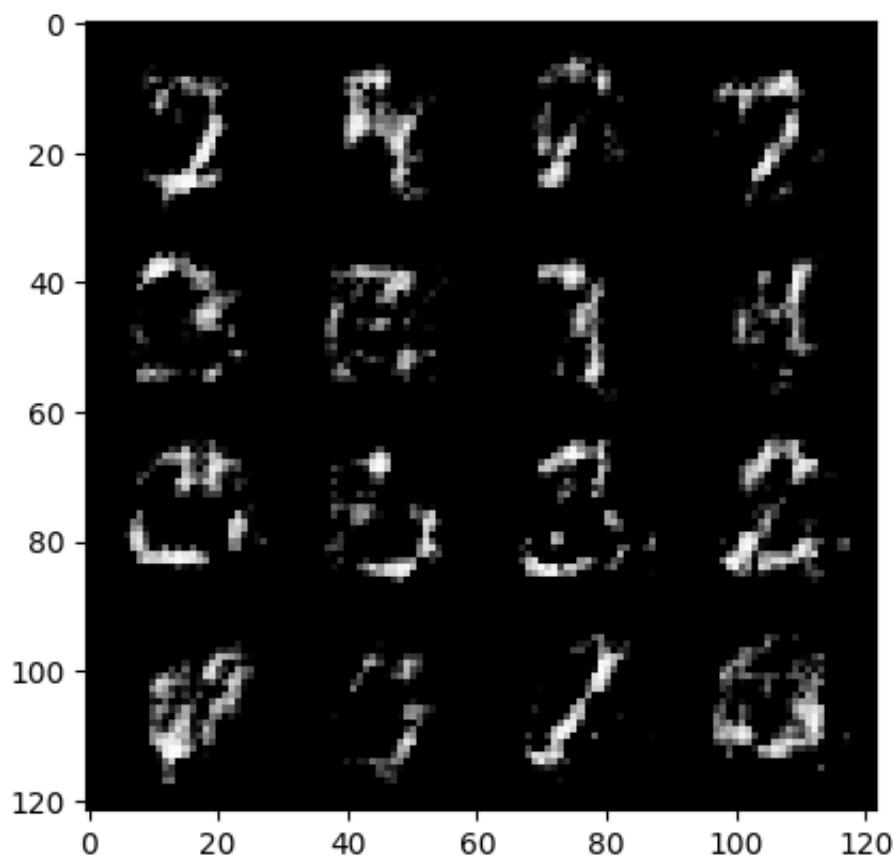
D_loss: 0.6848, G_loss: 0.6902

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1



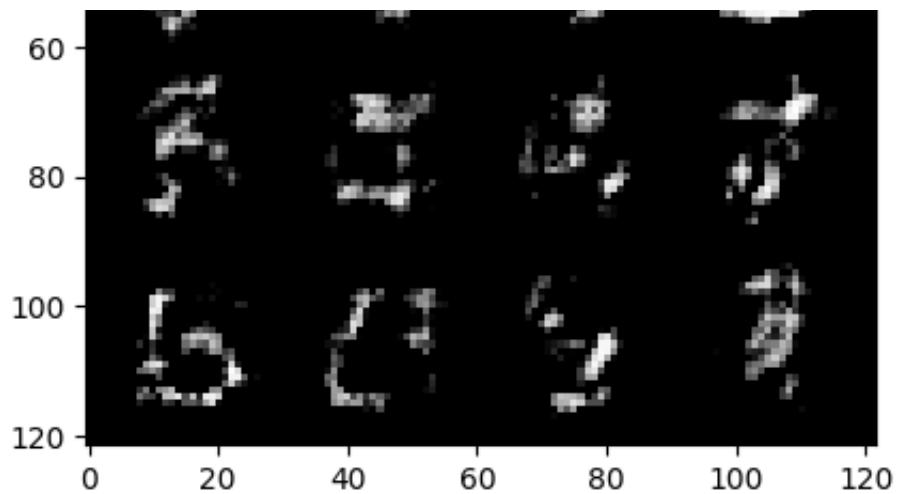


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6902

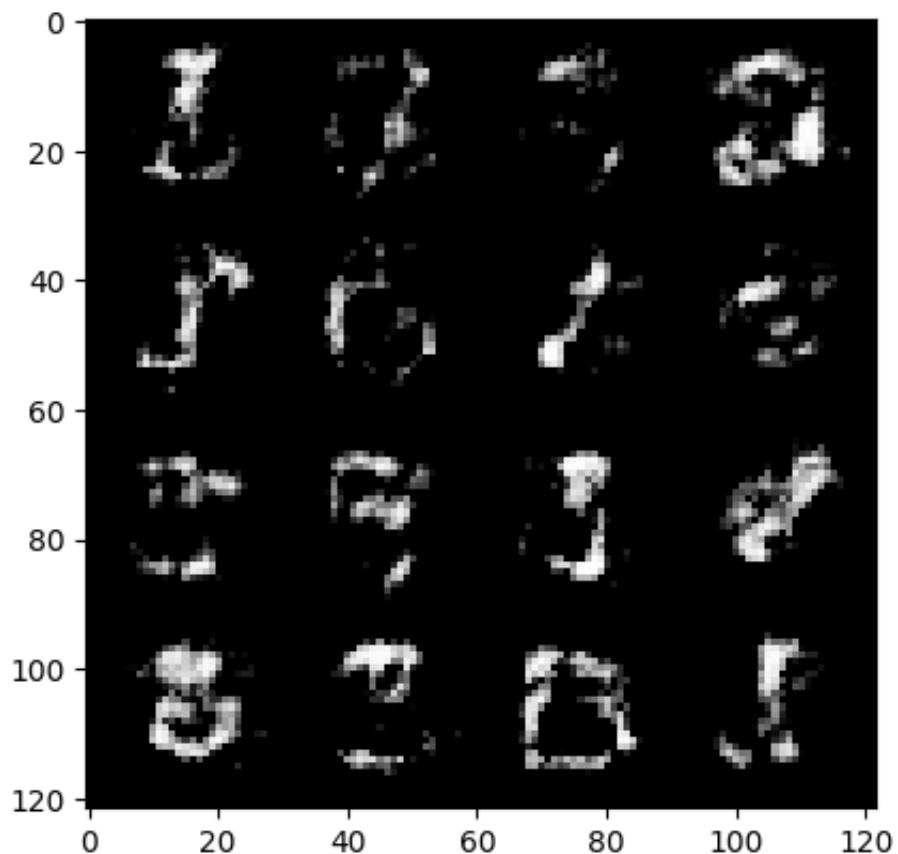


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6903



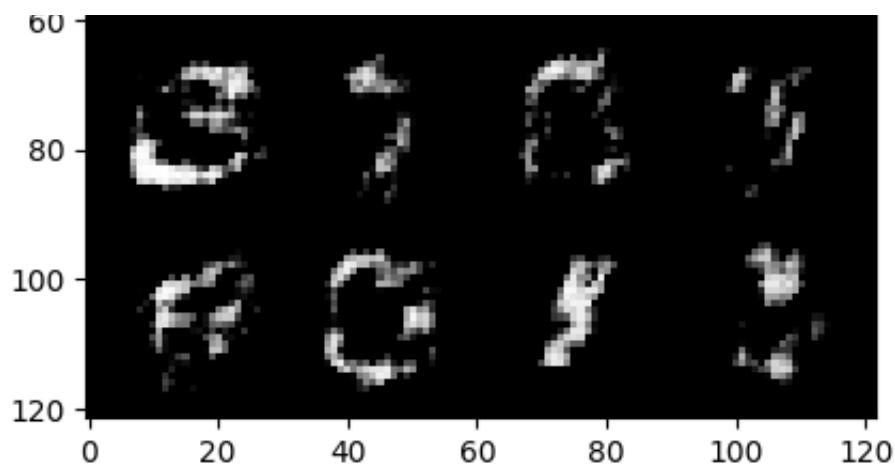


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6903

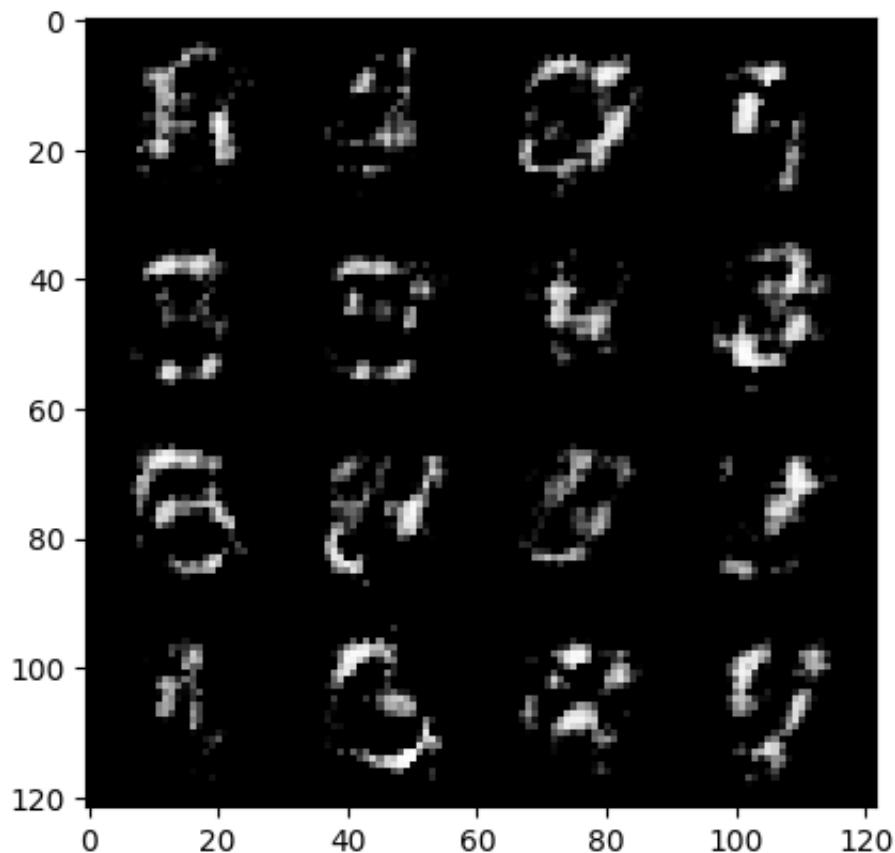


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6903



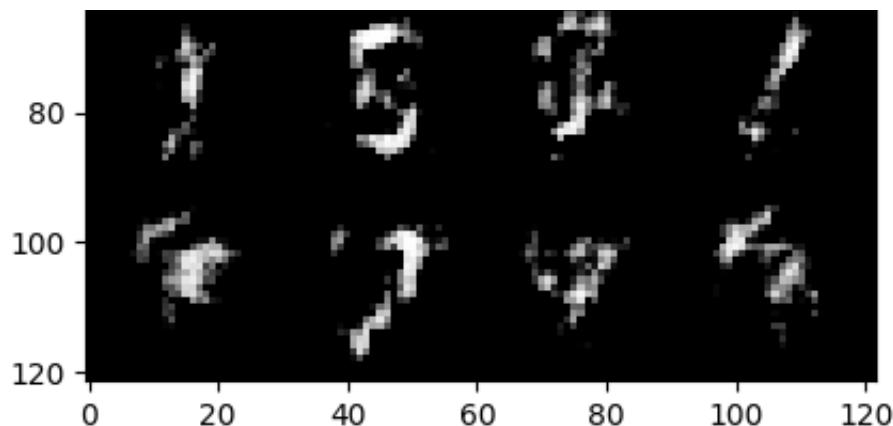


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6903

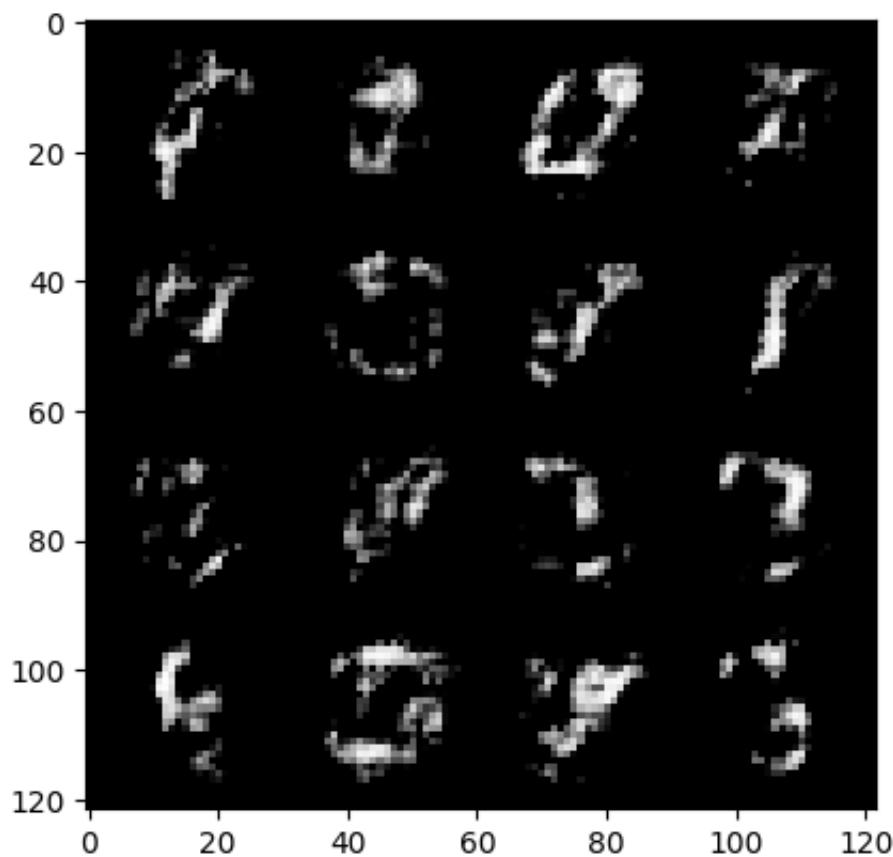


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6903



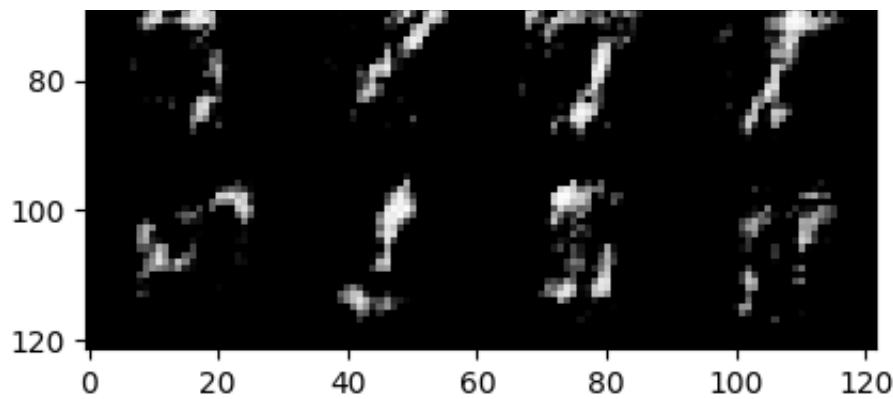


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6904

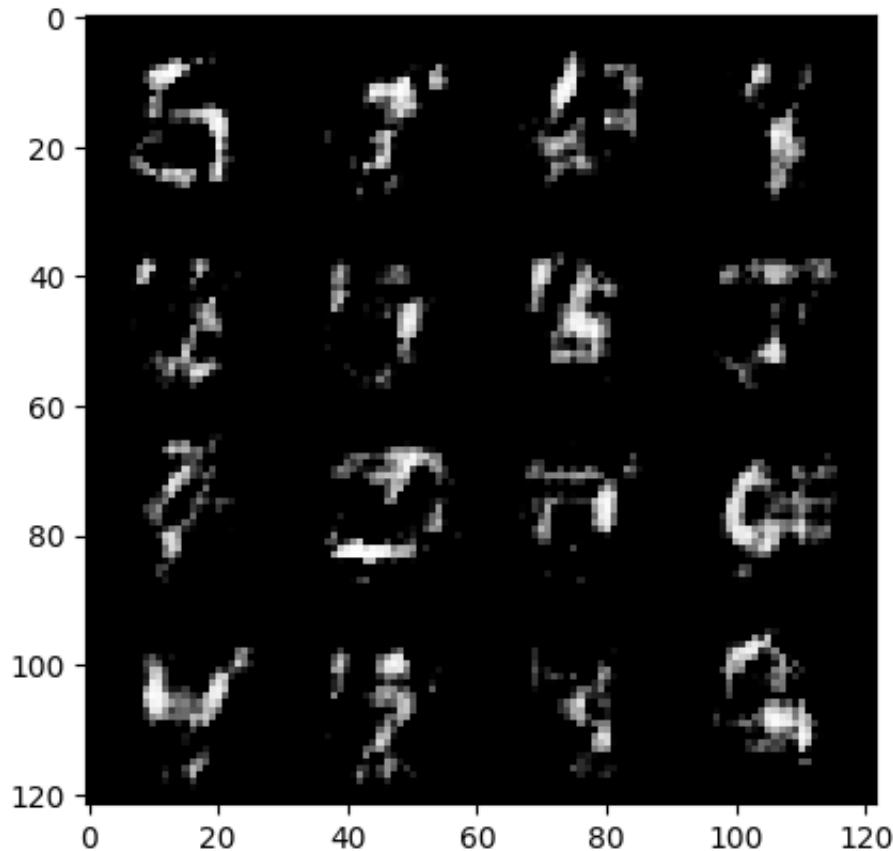


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6904



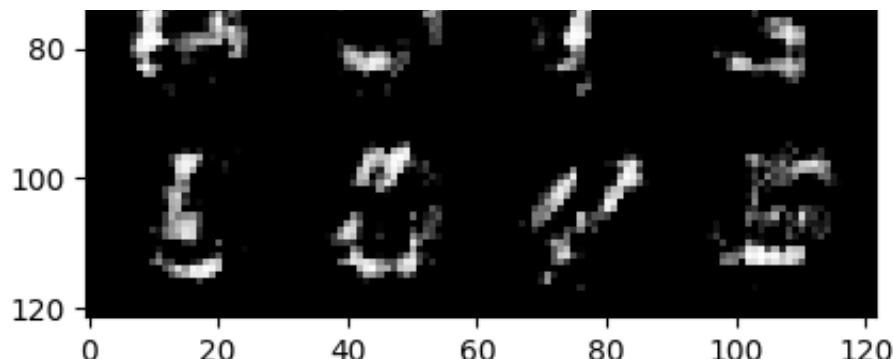


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6904

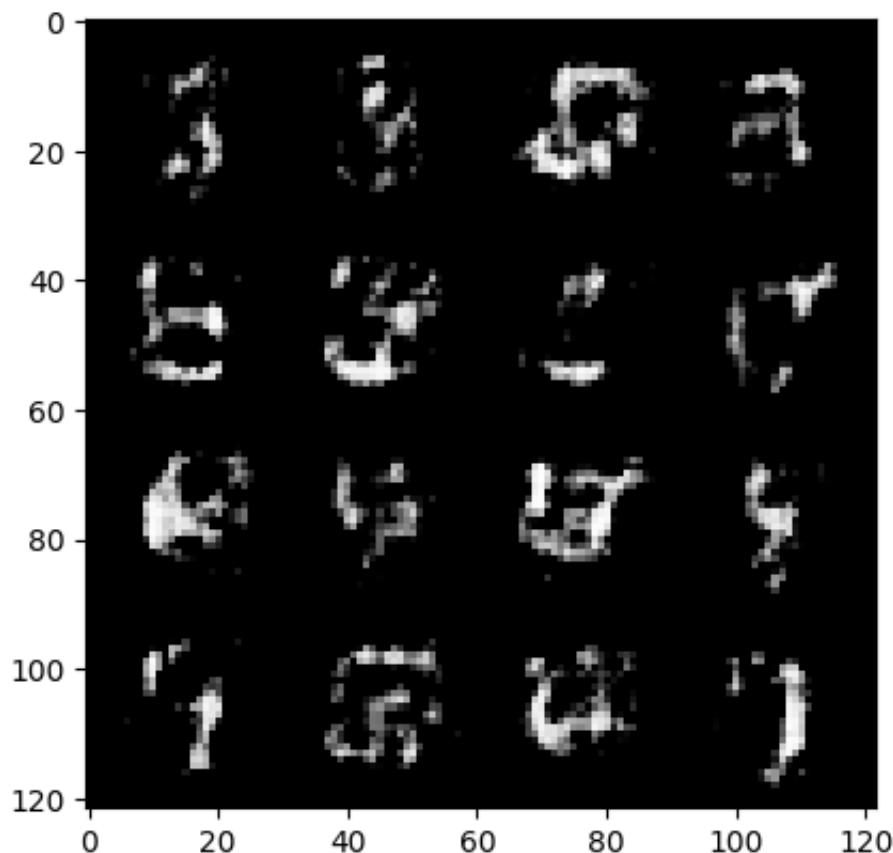


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6904



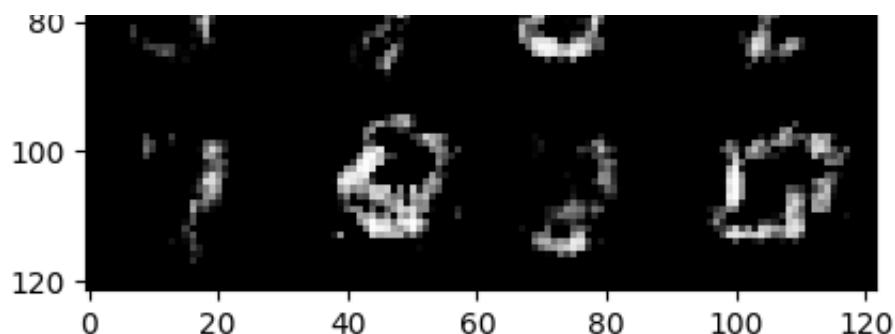


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.6905

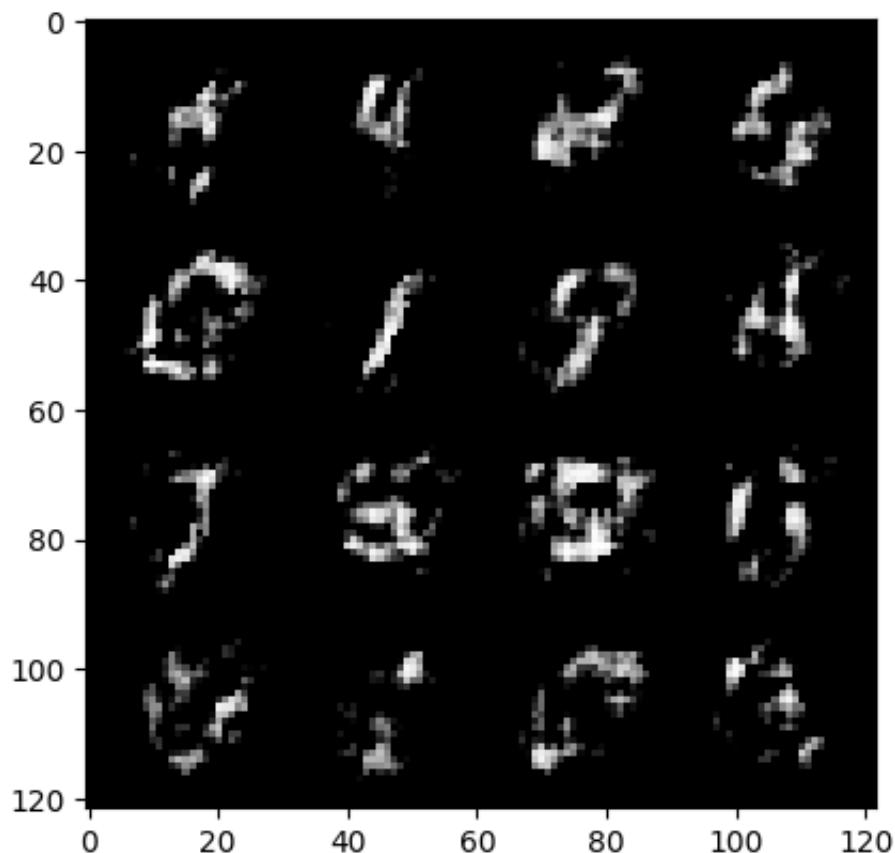


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6905



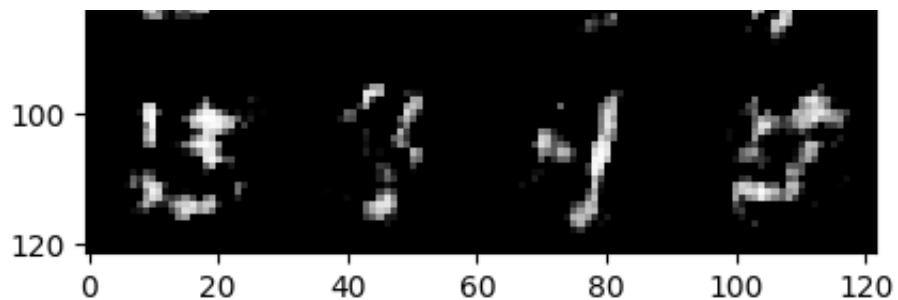


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6850, G_loss: 0.6905

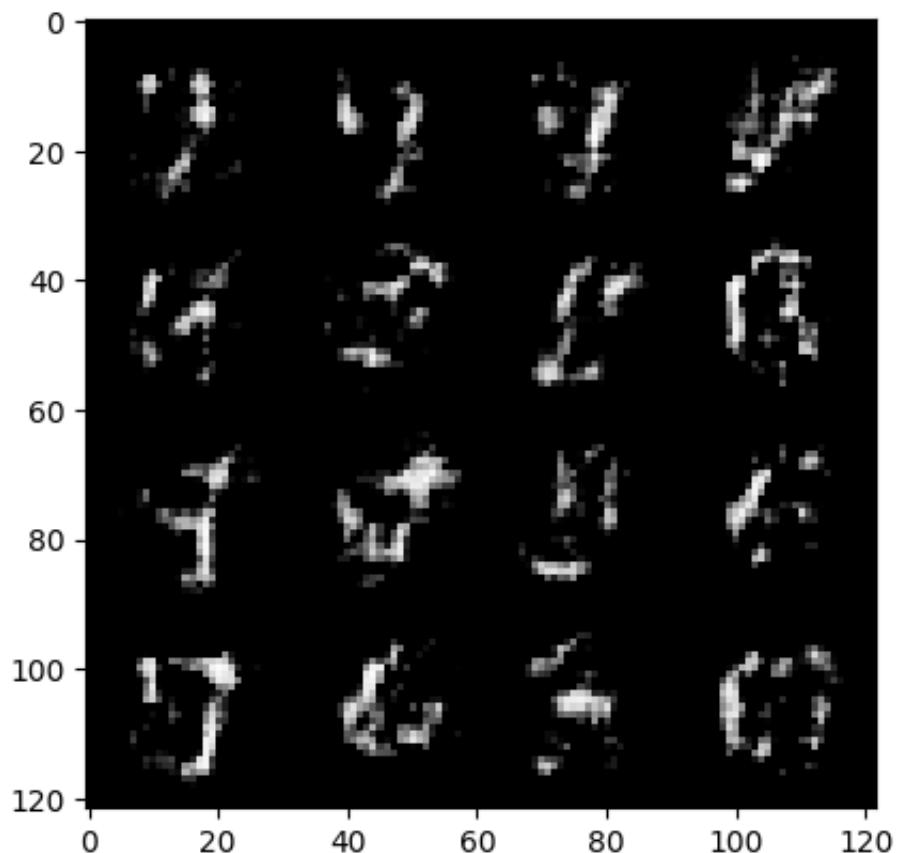


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6850, G_loss: 0.6905



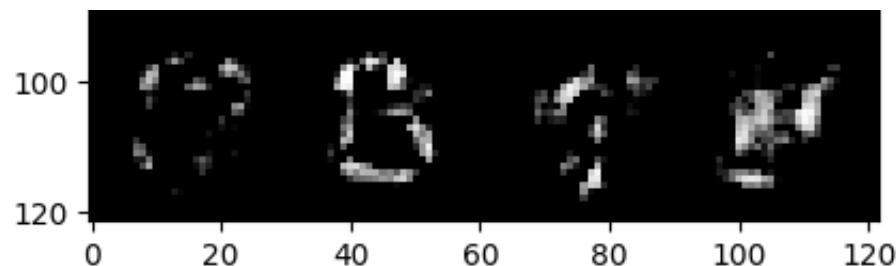


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6905

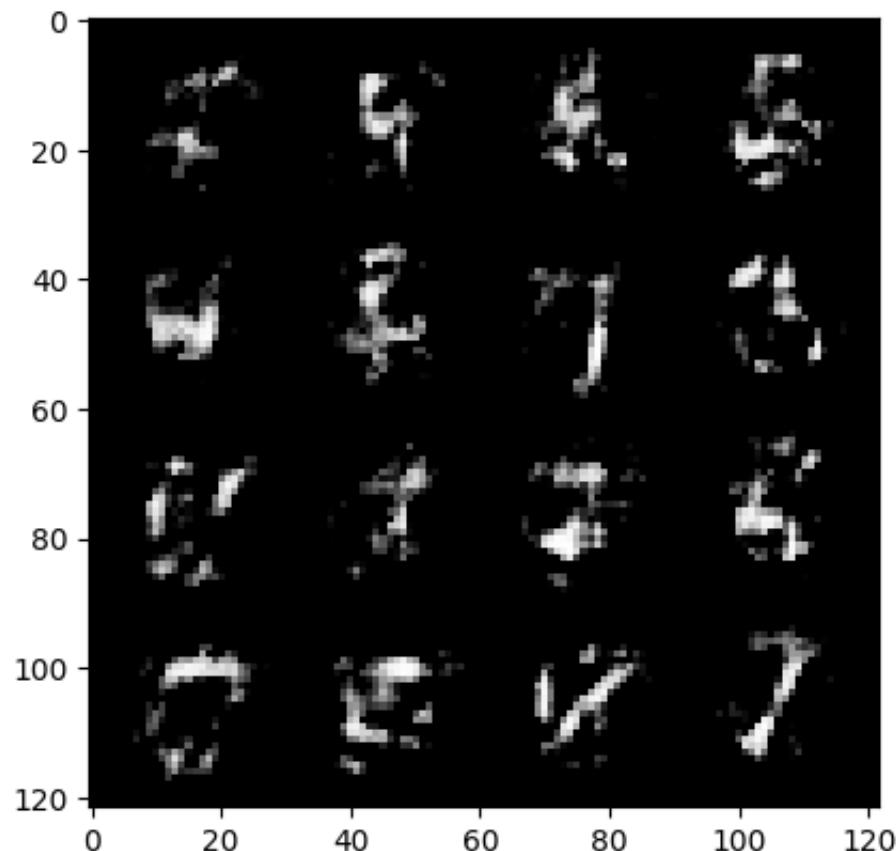


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6905



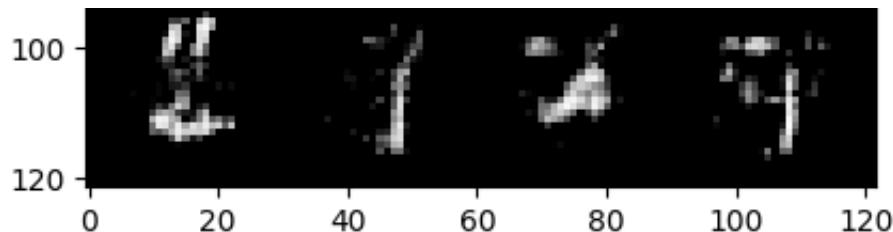


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6906

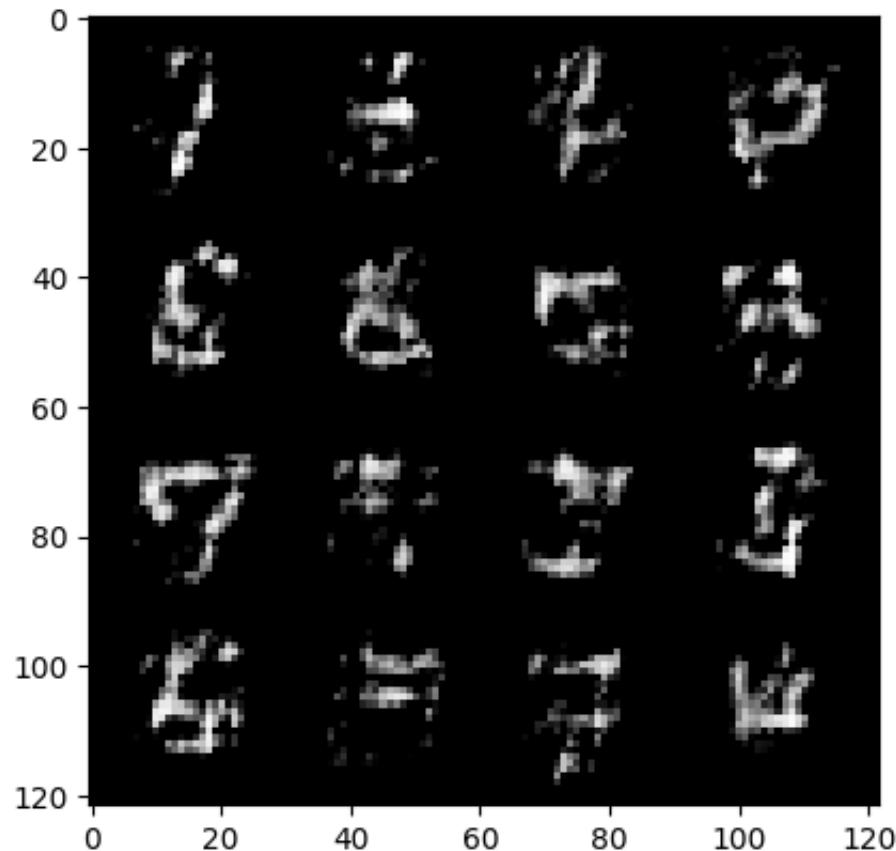


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6906



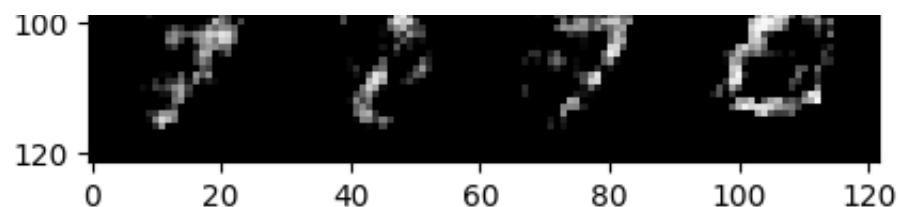


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6906

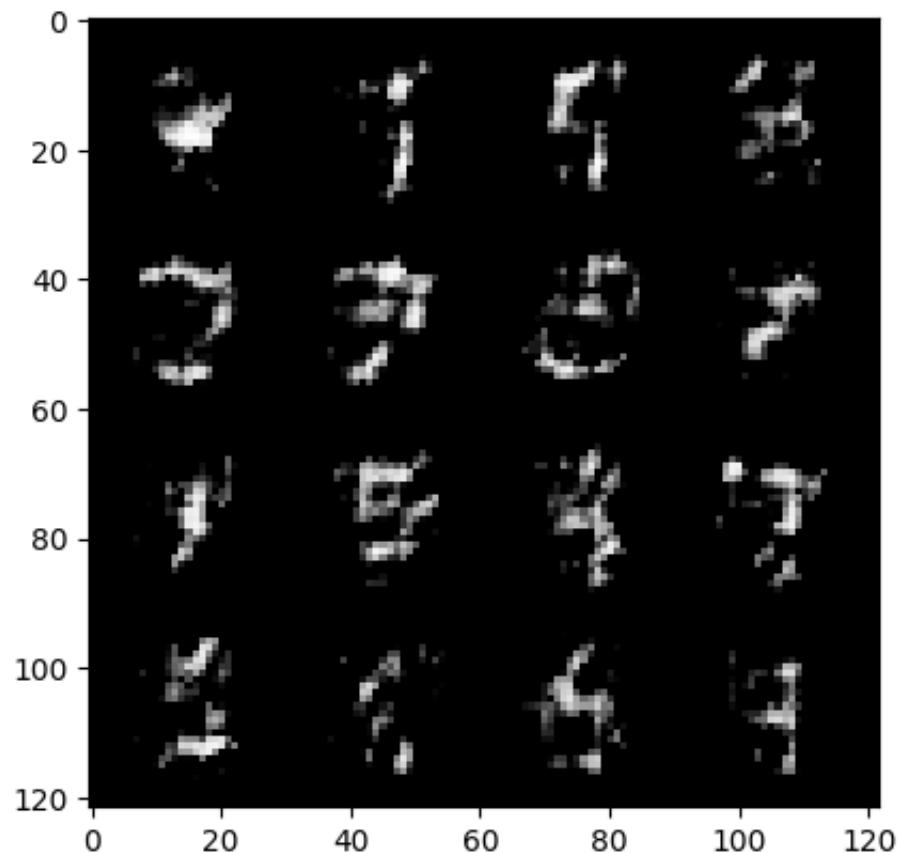


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6906



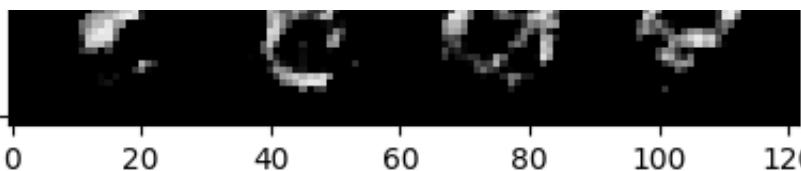


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6906

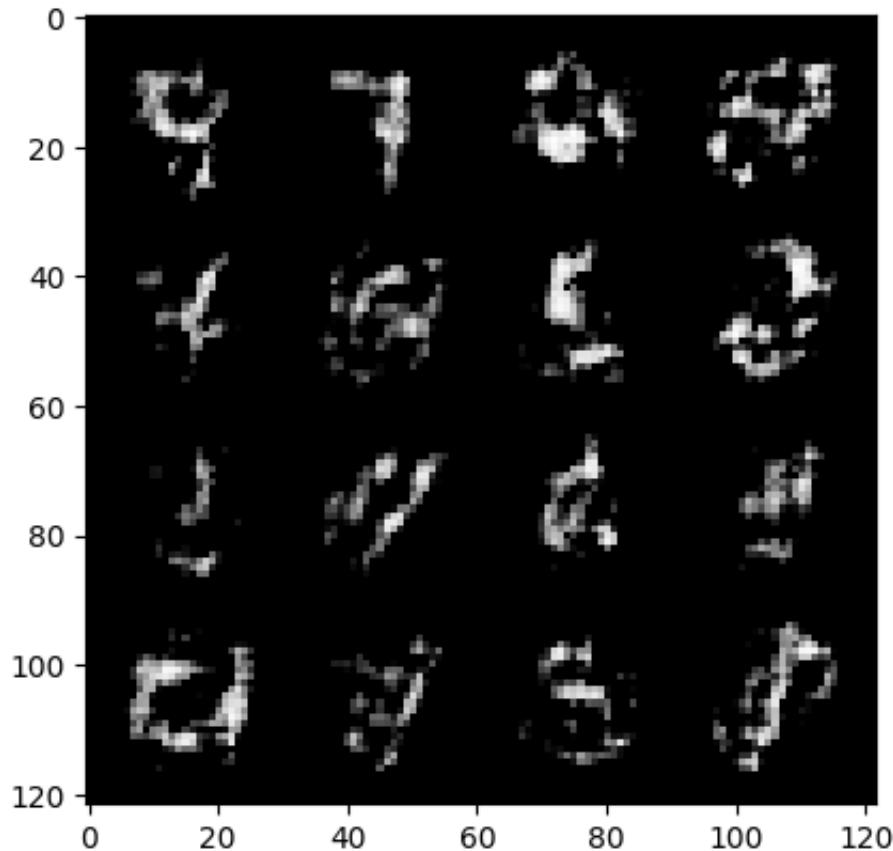


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6907

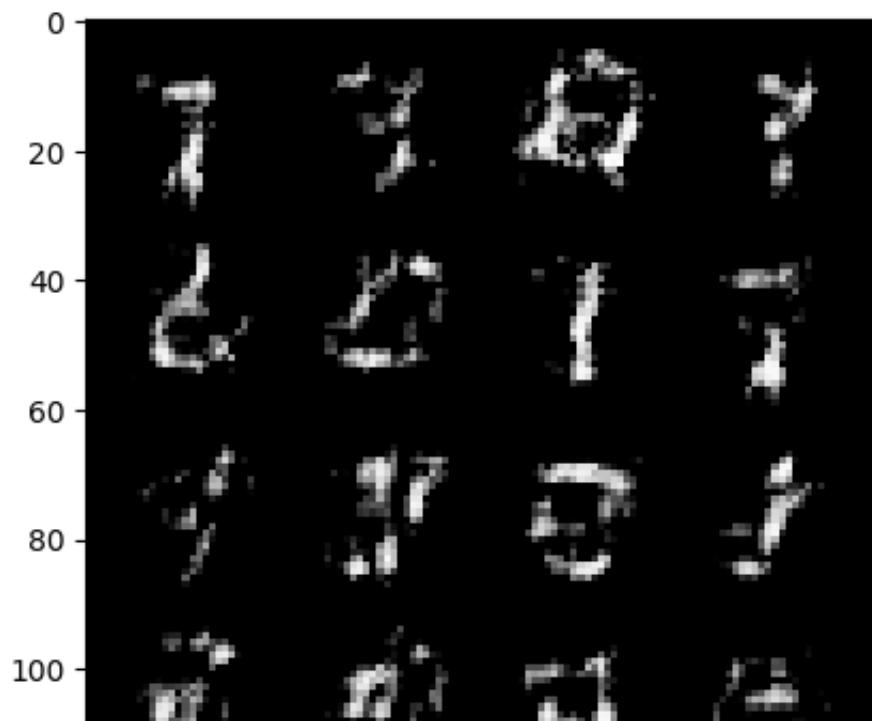


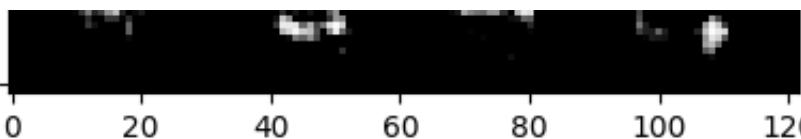


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6907

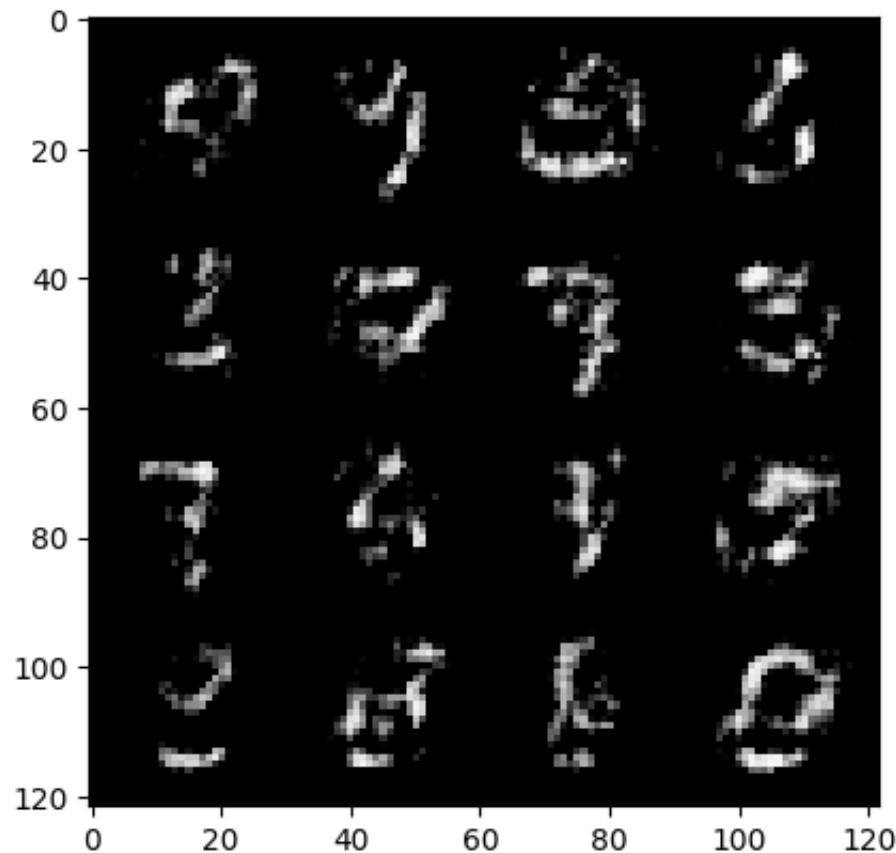


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.6907

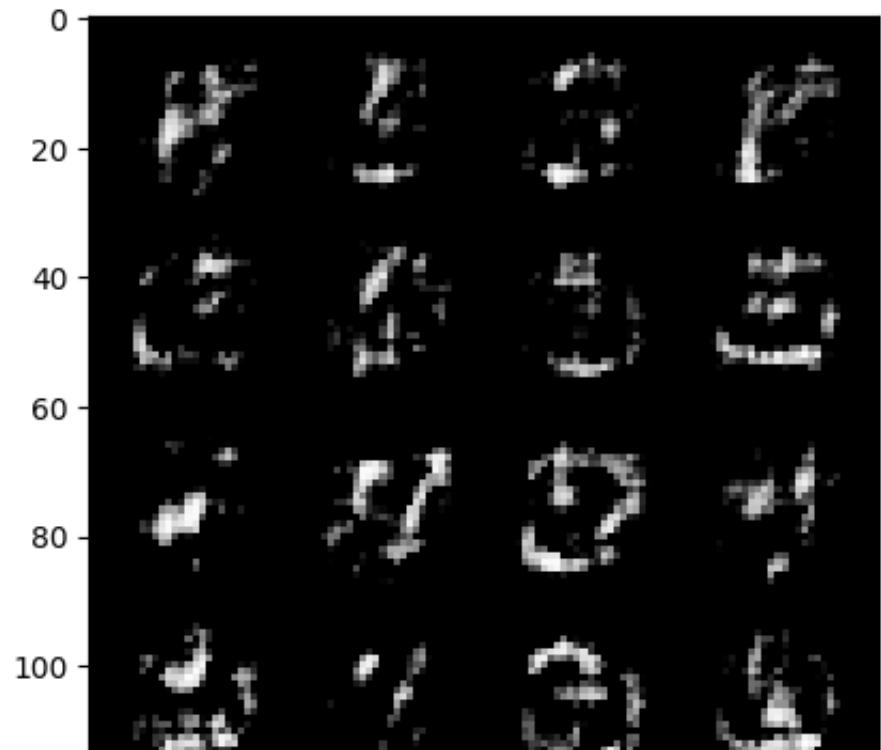


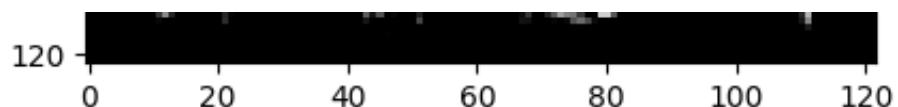


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6850, G_loss: 0.6907

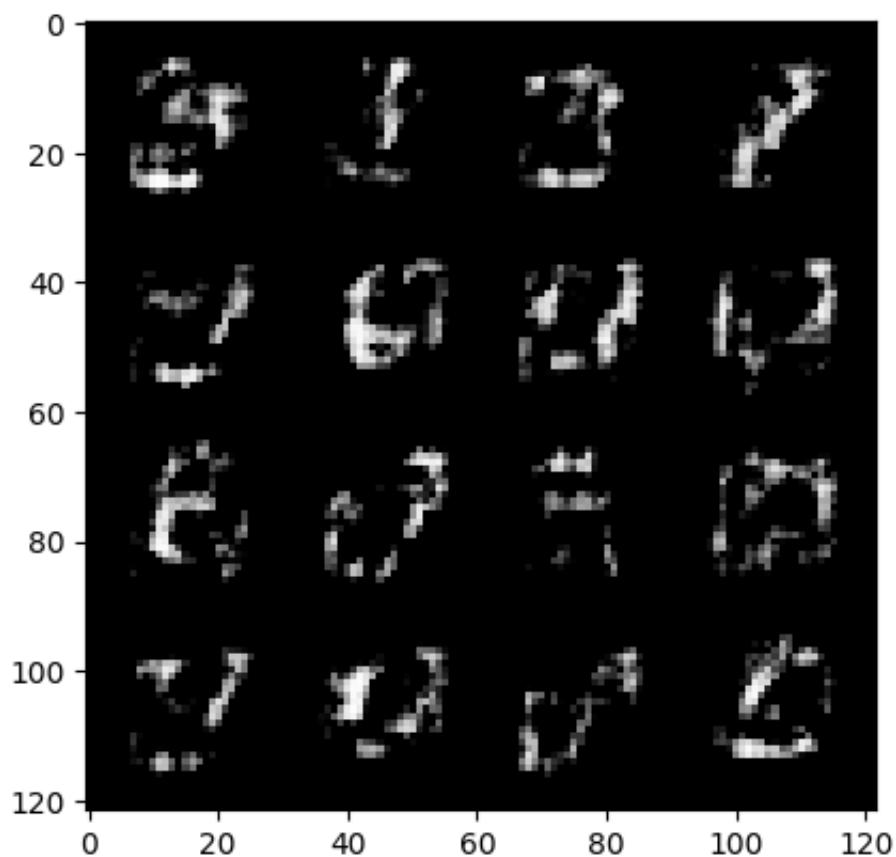


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6851, G_loss: 0.6907

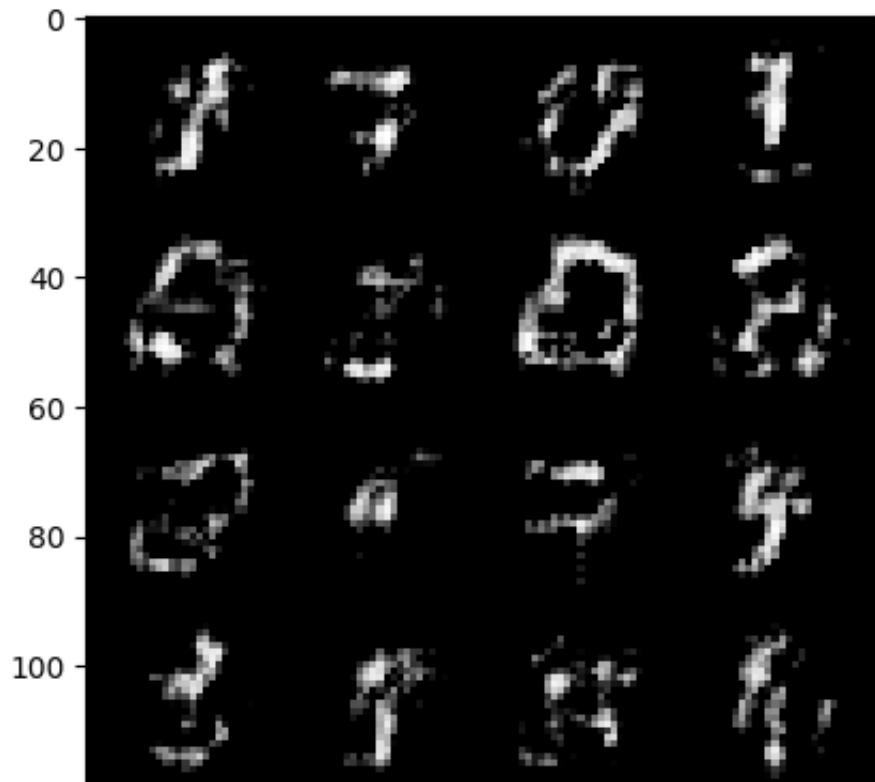


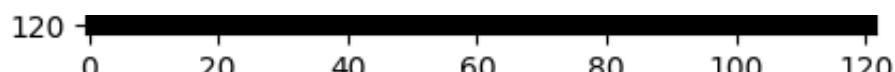


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6851, G_loss: 0.6908

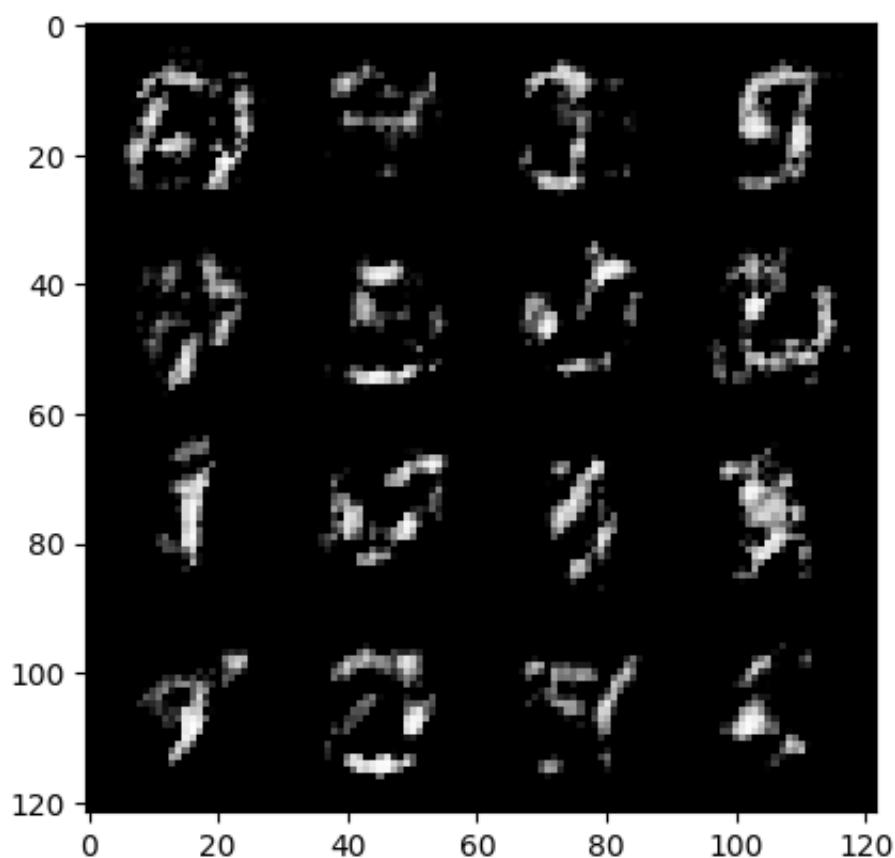


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6851, G_loss: 0.6908

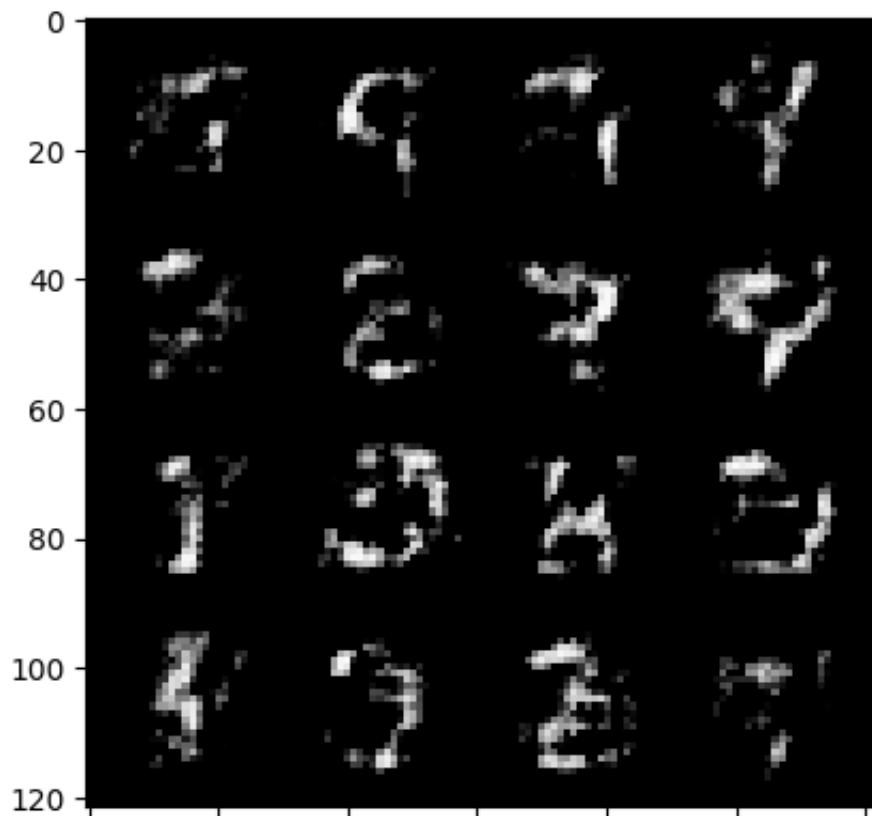




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6851, G_loss: 0.6908

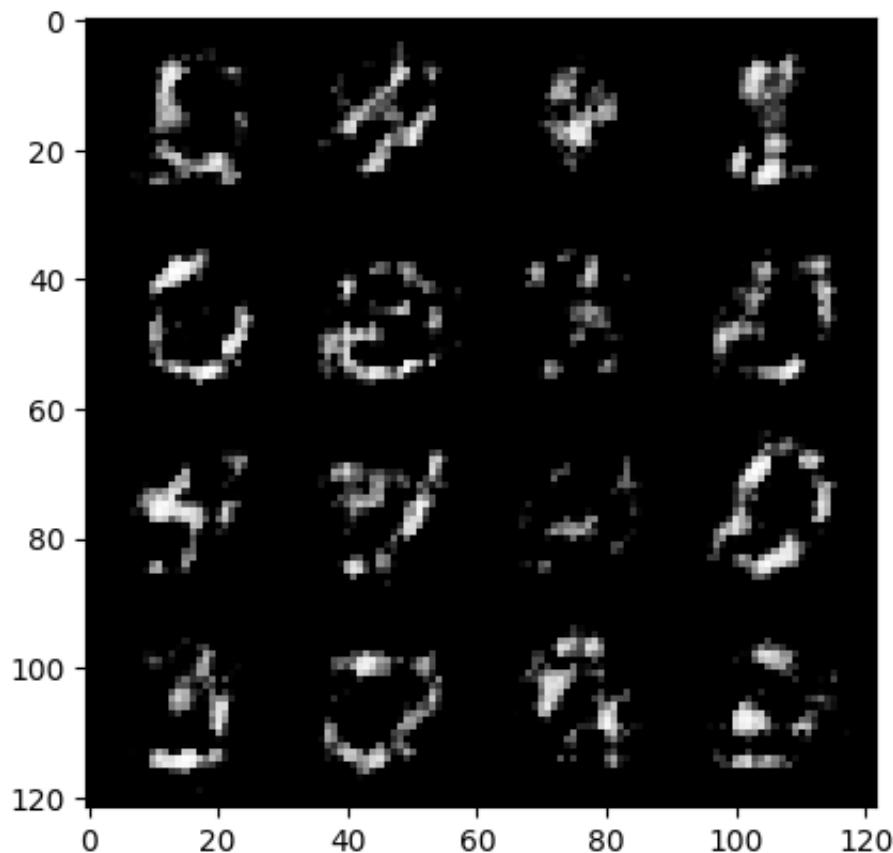


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6851, G_loss: 0.6908

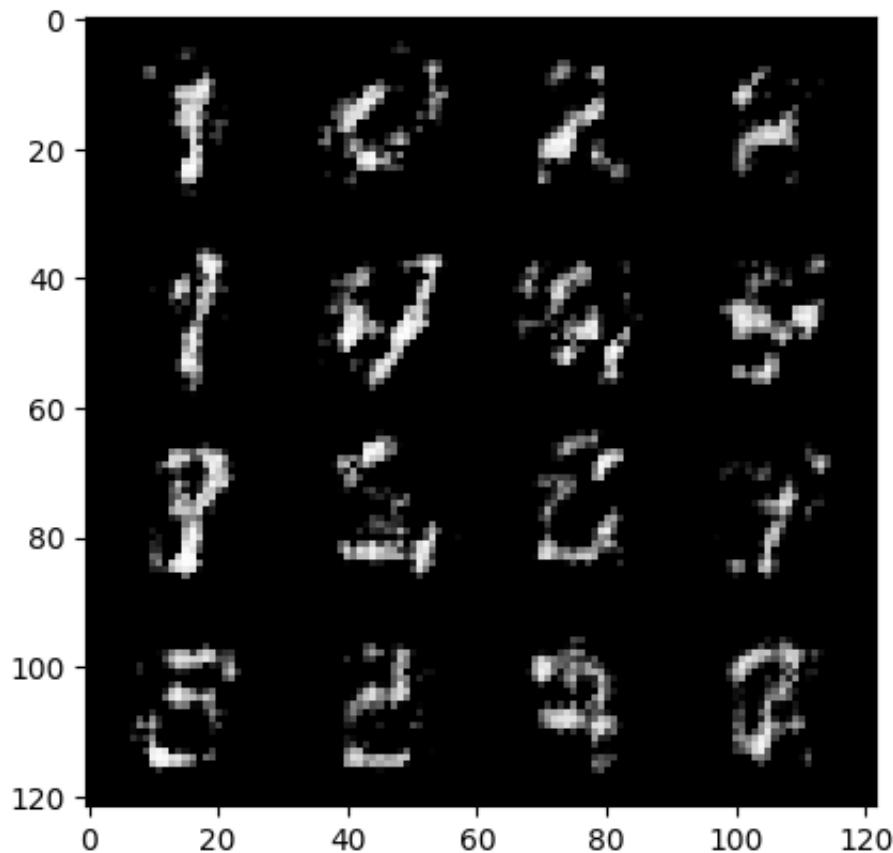


0 20 40 60 80 100 120

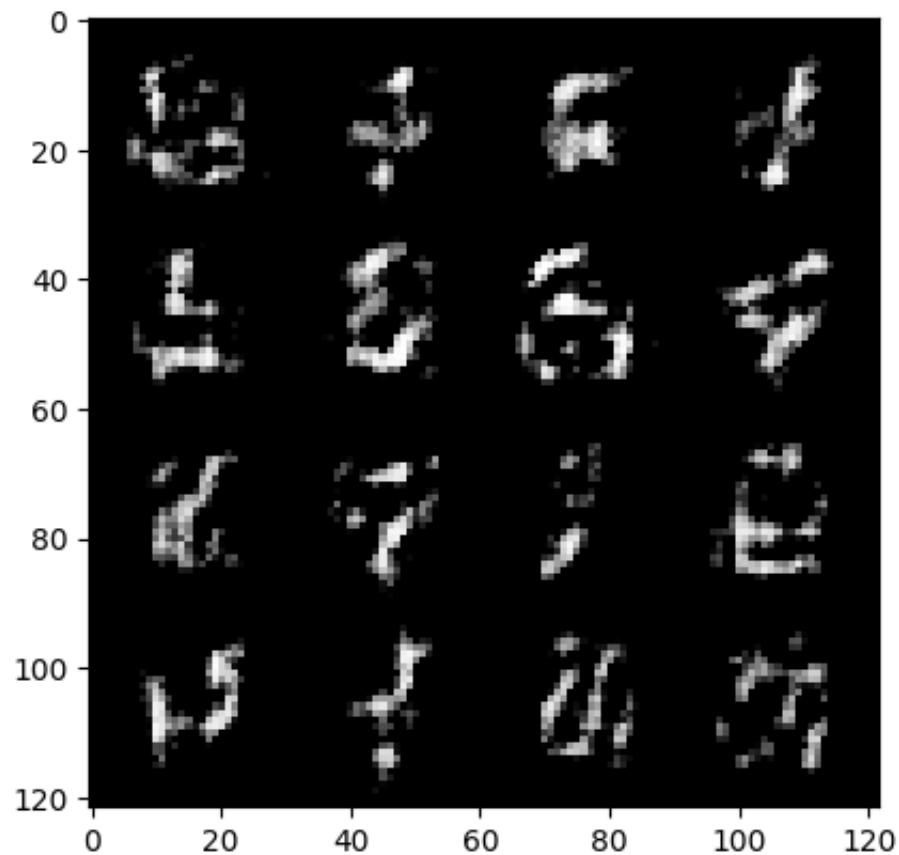
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6851, G_loss: 0.6908



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6851, G_loss: 0.6909



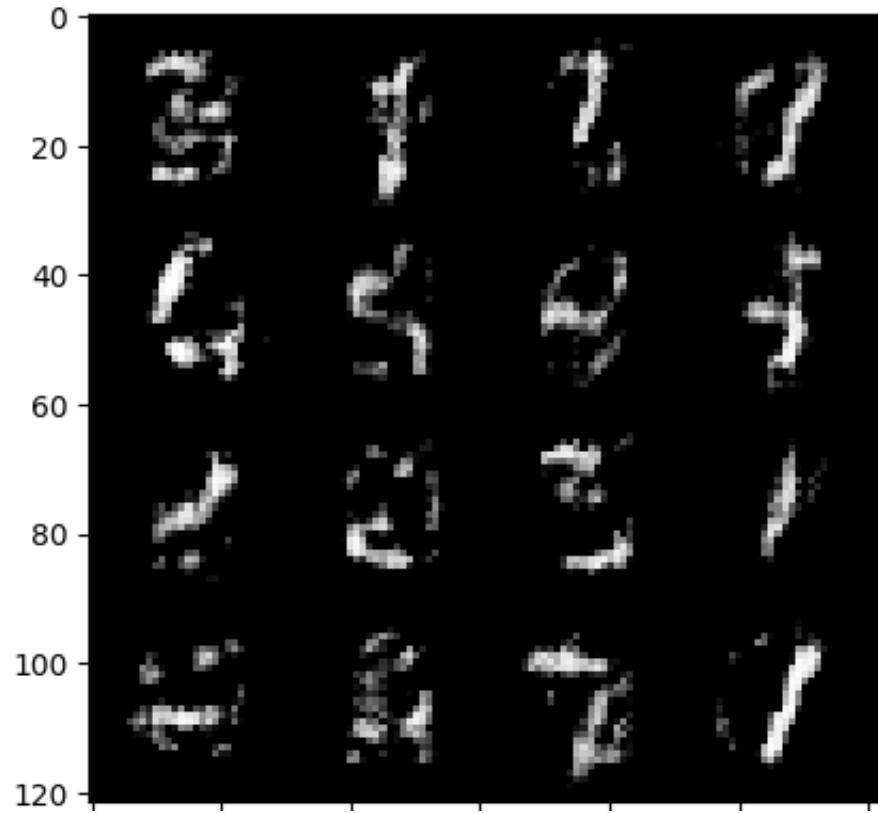
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6851, G_loss: 0.6909



100%

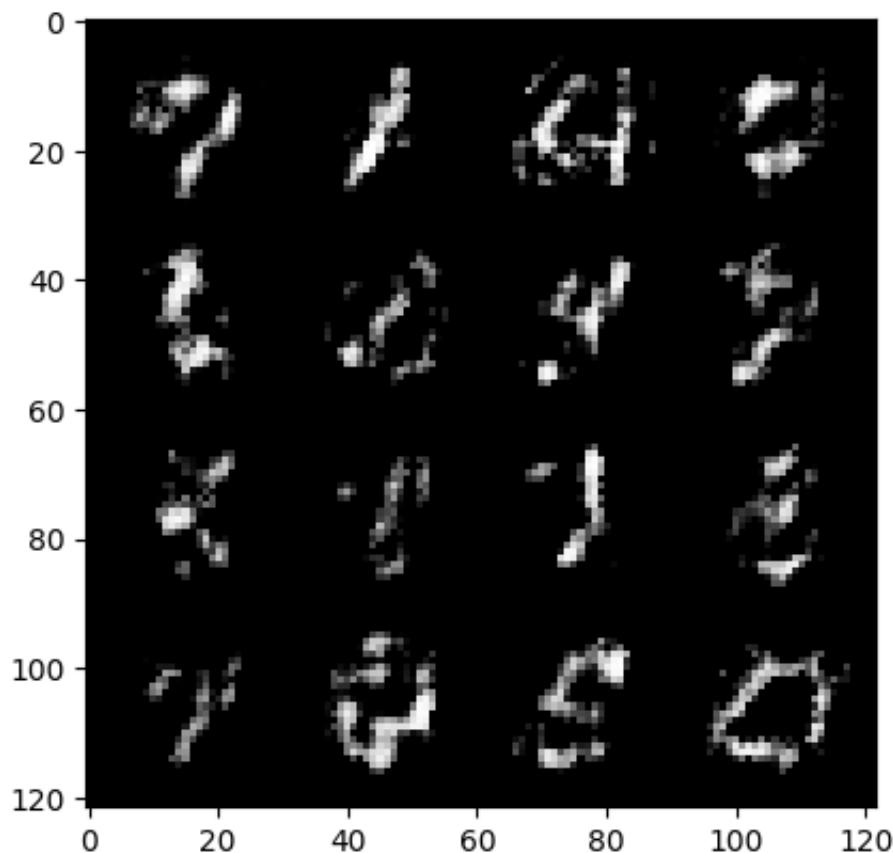
469/469 [02:34<00:00, 2.96it/s]

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6875, G_loss: 0.7006

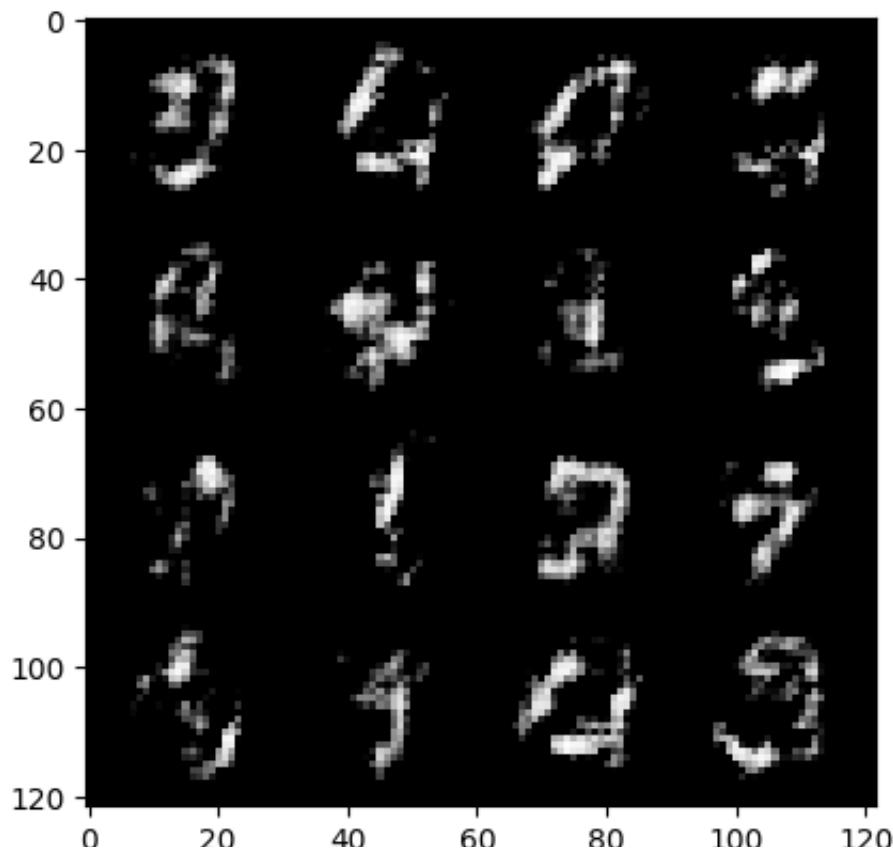


0 20 40 60 80 100 120

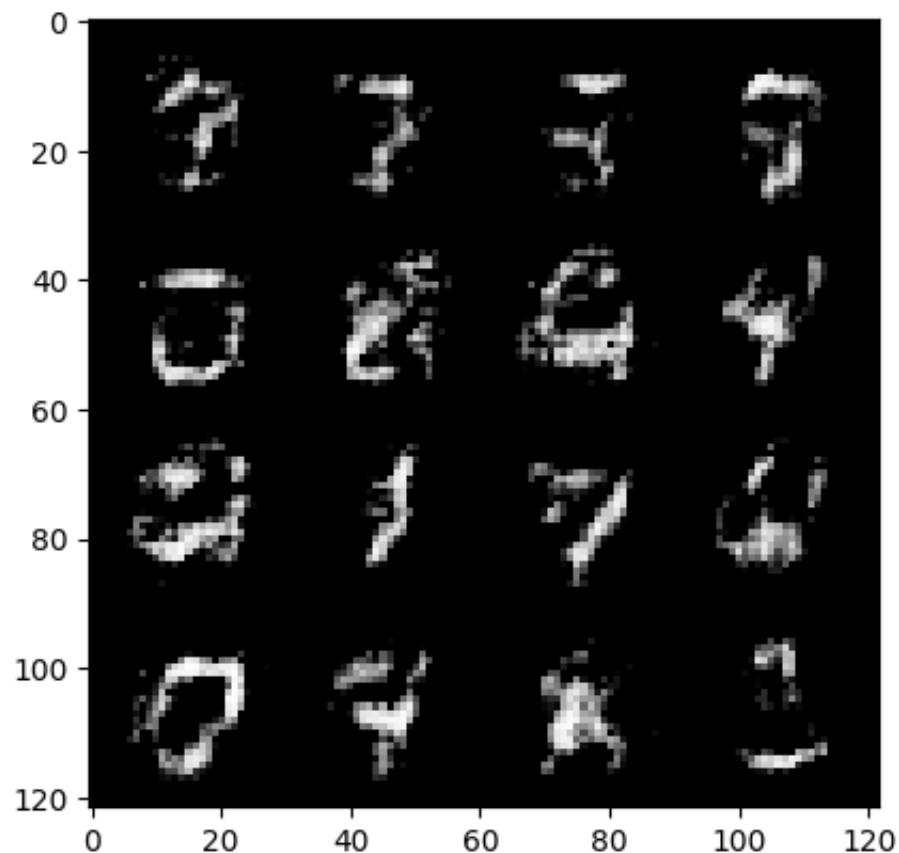
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6877, G_loss: 0.7006



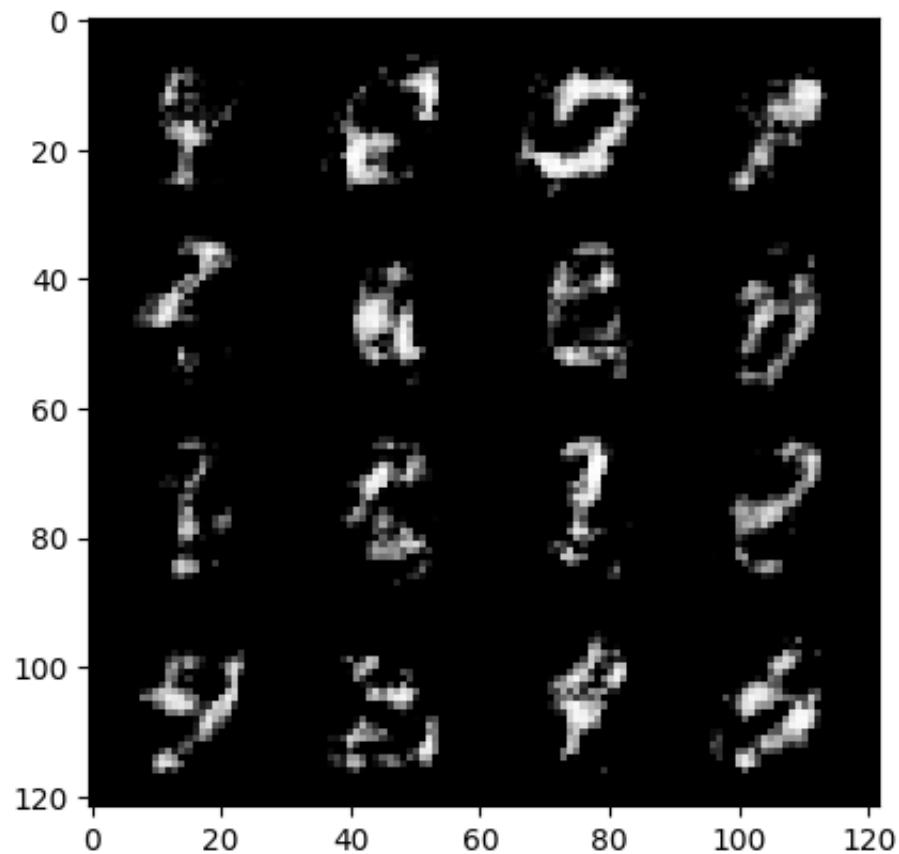
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6876, G_loss: 0.7015



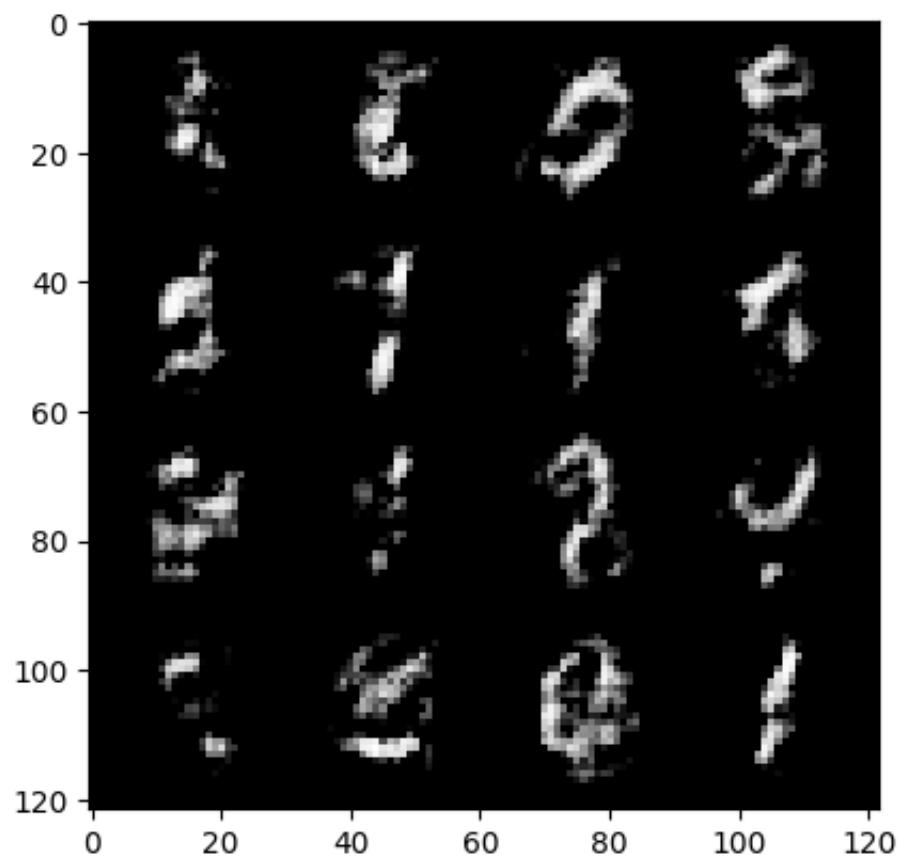
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6877, G_loss: 0.7020



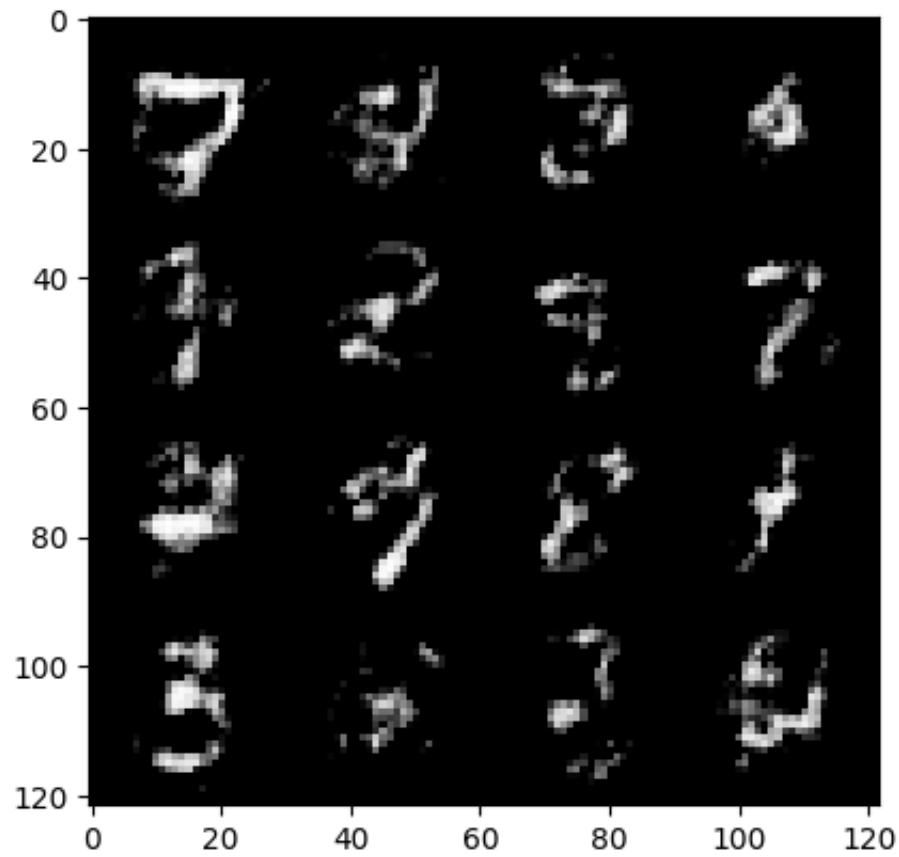
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6877, G_loss: 0.7024



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6876, G_loss: 0.7023

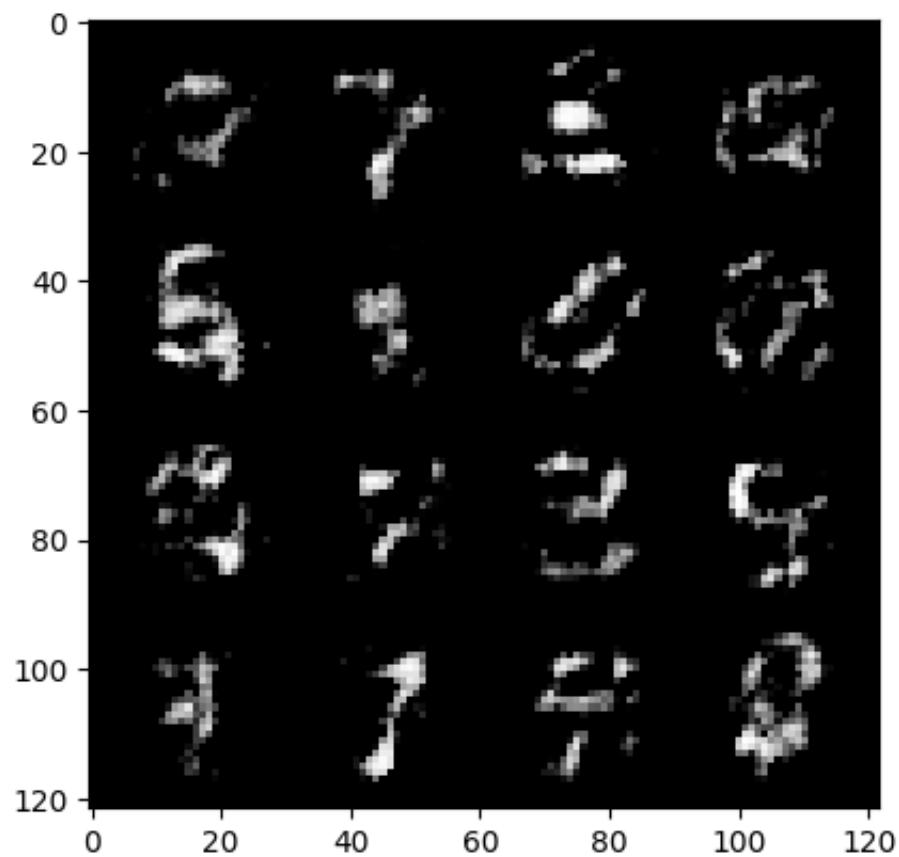


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6876, G_loss: 0.7020

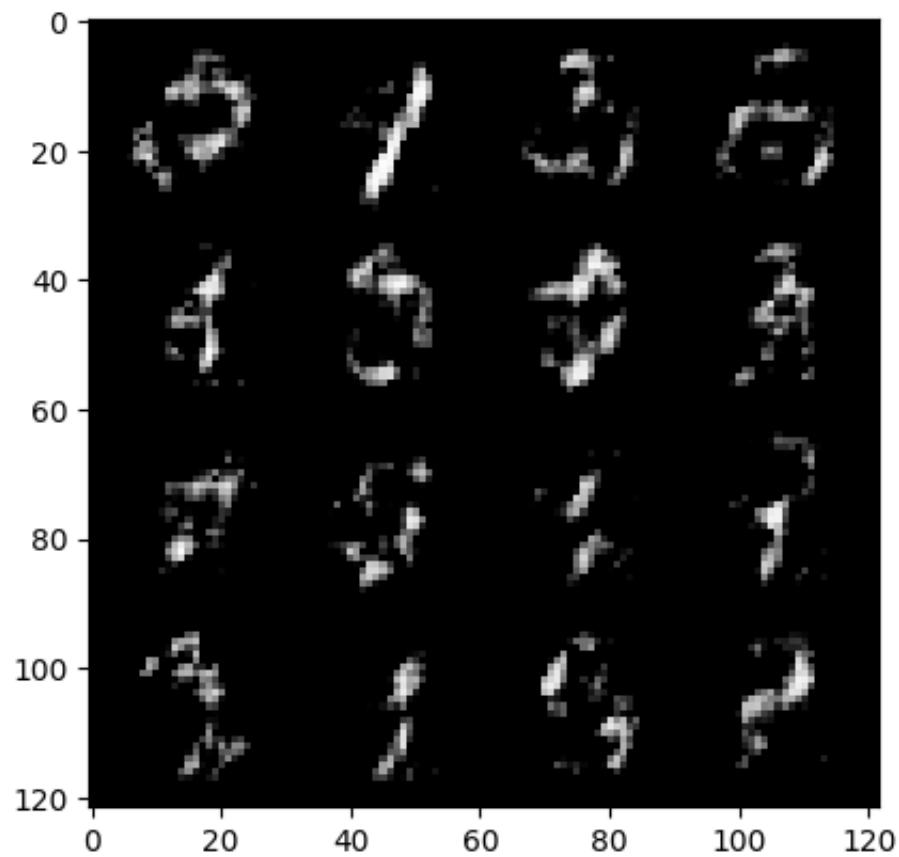


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

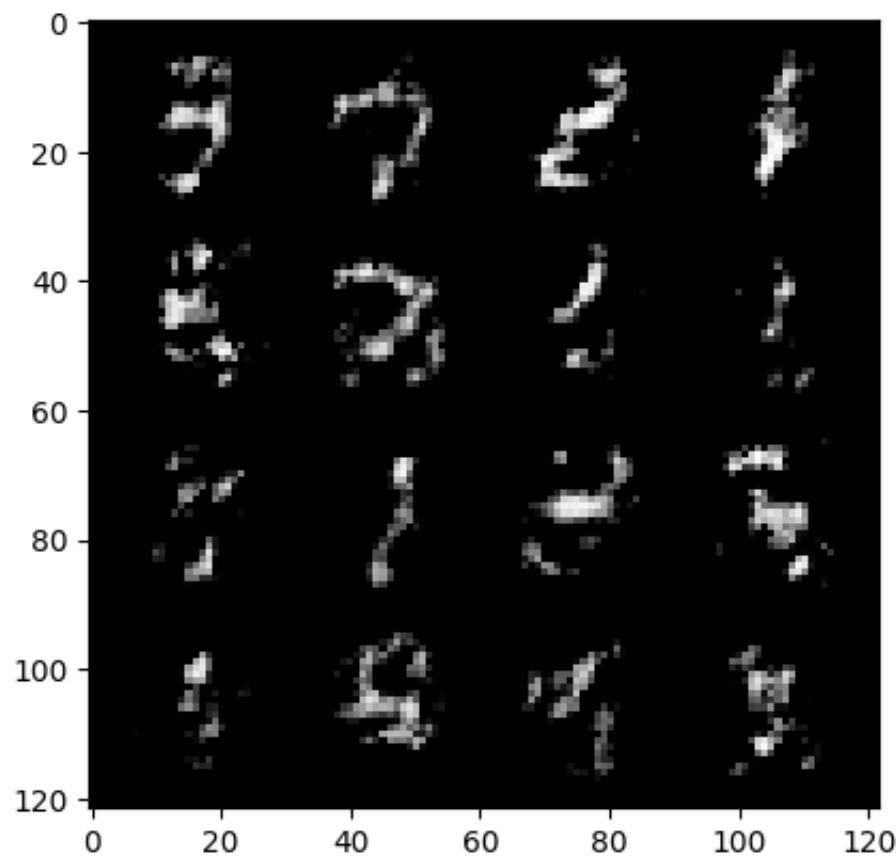
D_loss: 0.6877, G_loss: 0.7019



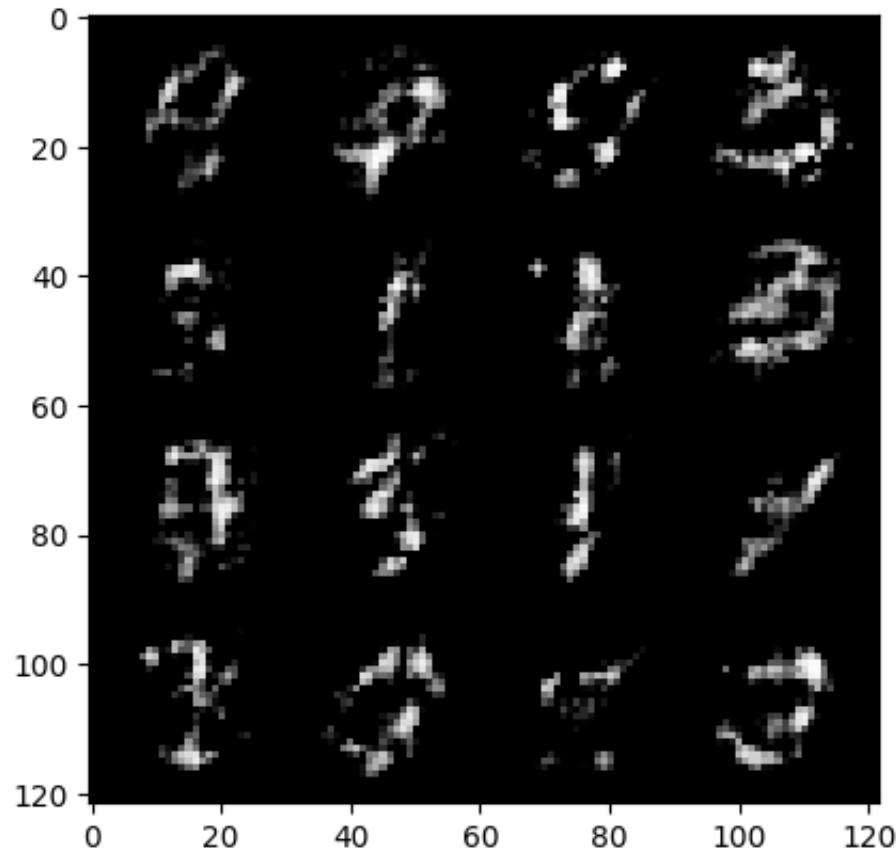
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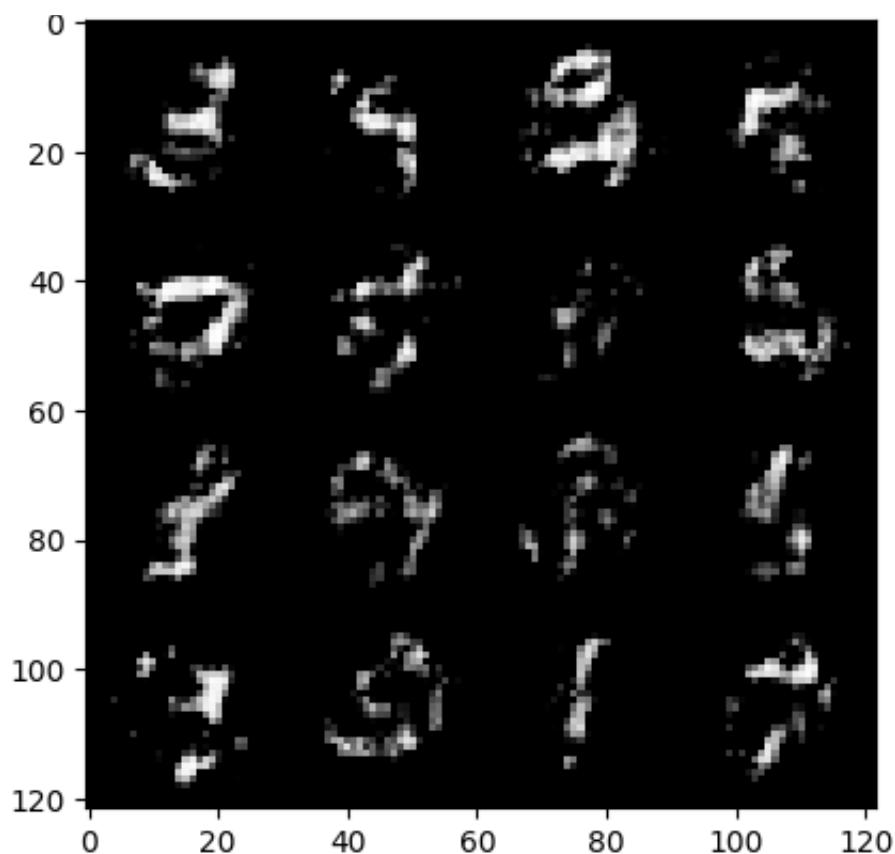
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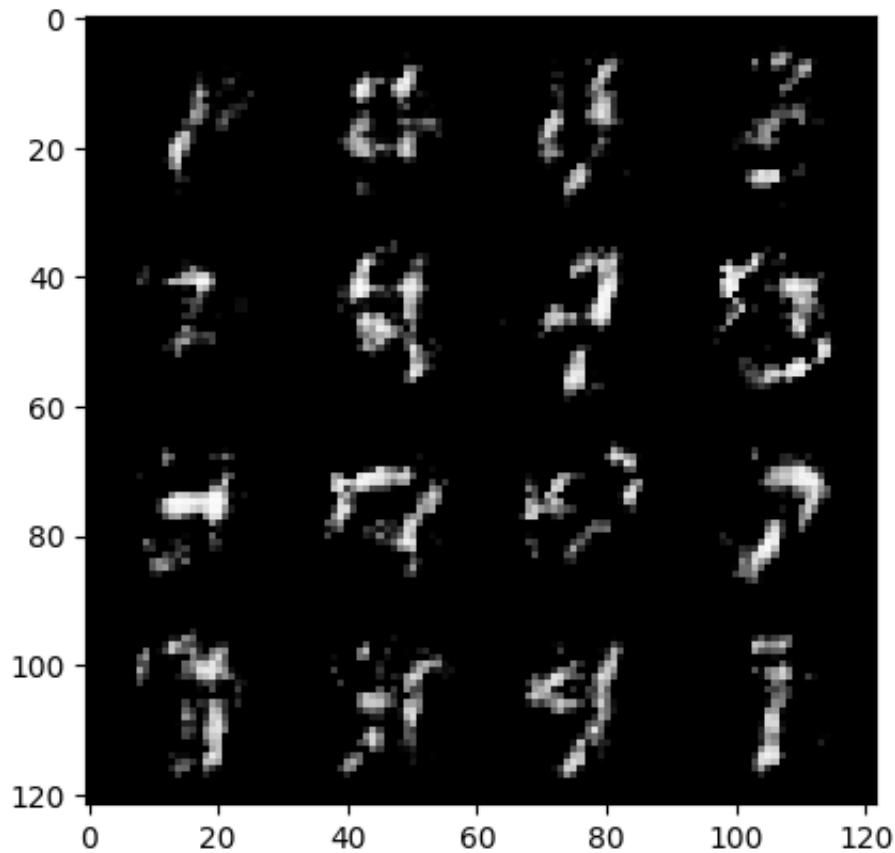
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6878, G_loss: 0.7017



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6879, G_loss: 0.7015

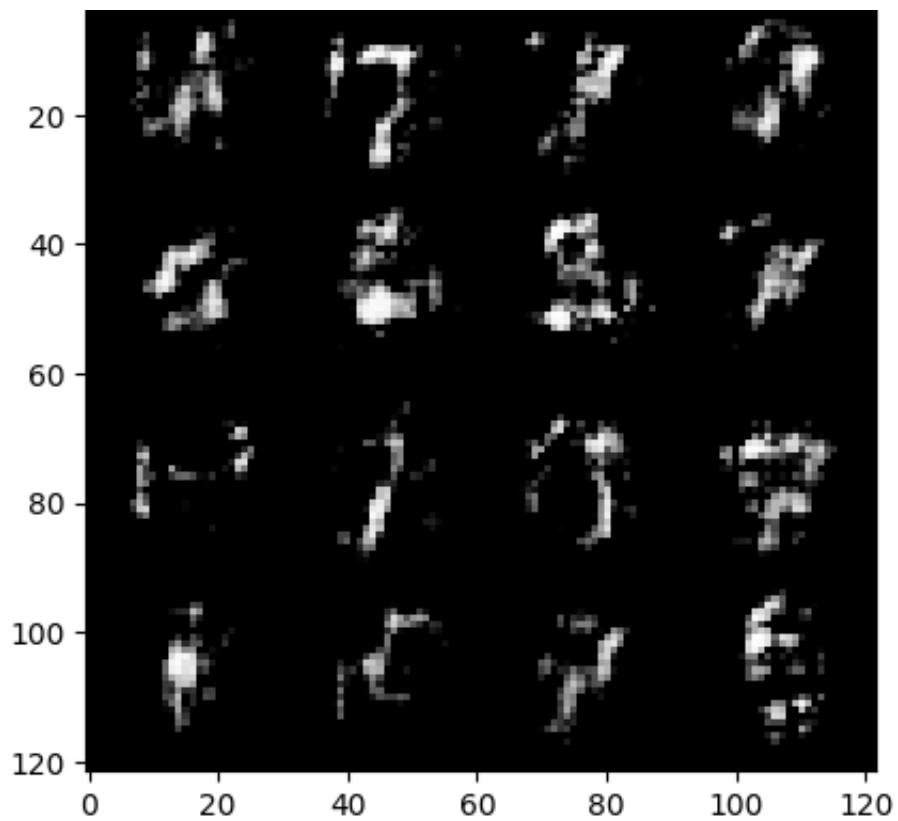


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6880, G_loss: 0.7013

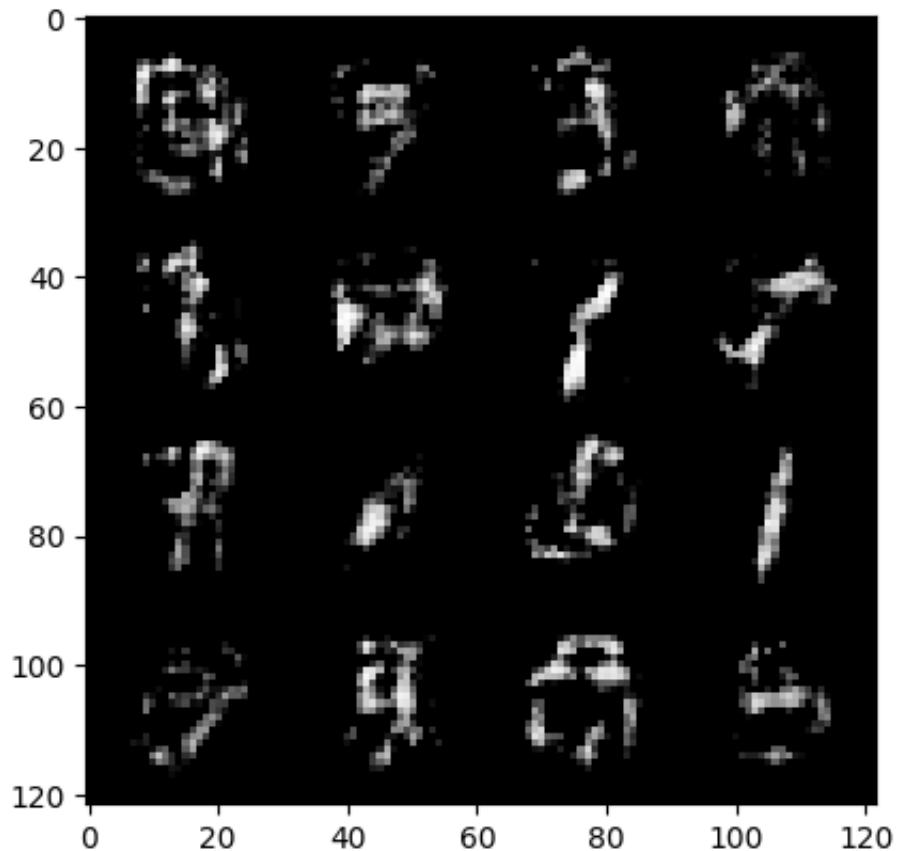


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6880, G_loss: 0.7012



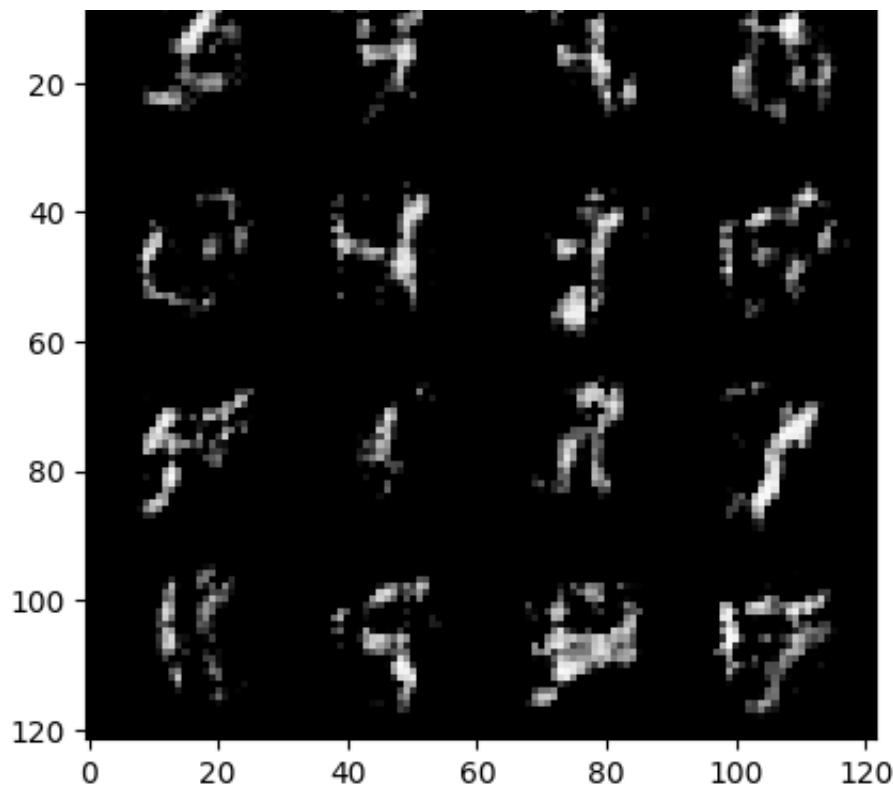


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6881, G_loss: 0.7012

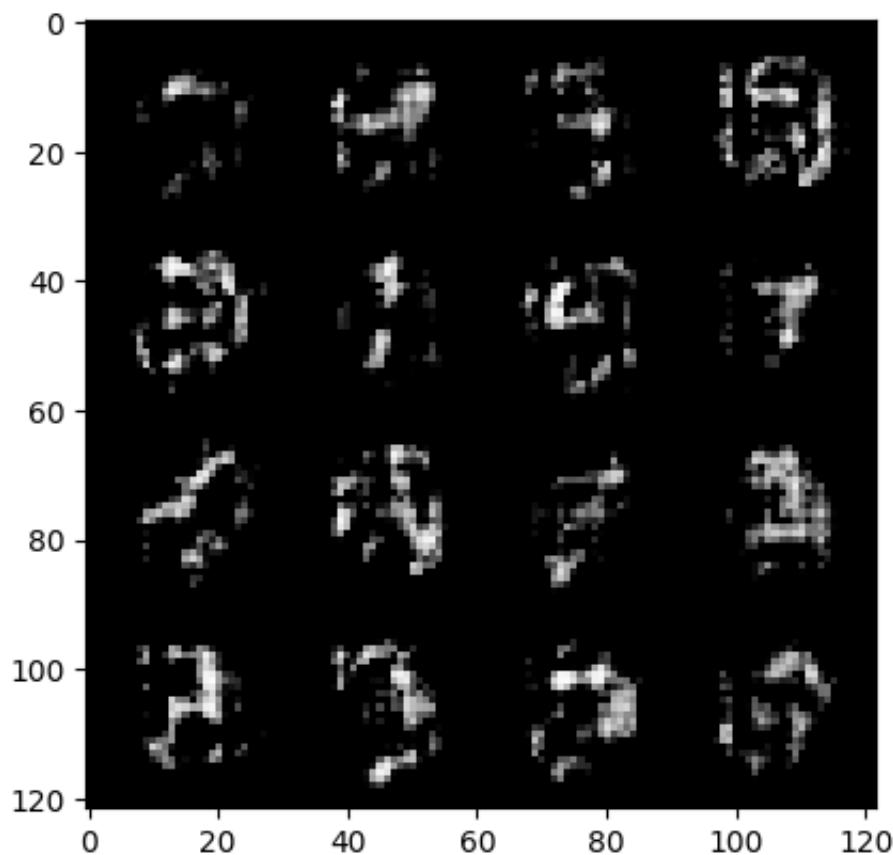


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6880, G_loss: 0.7014



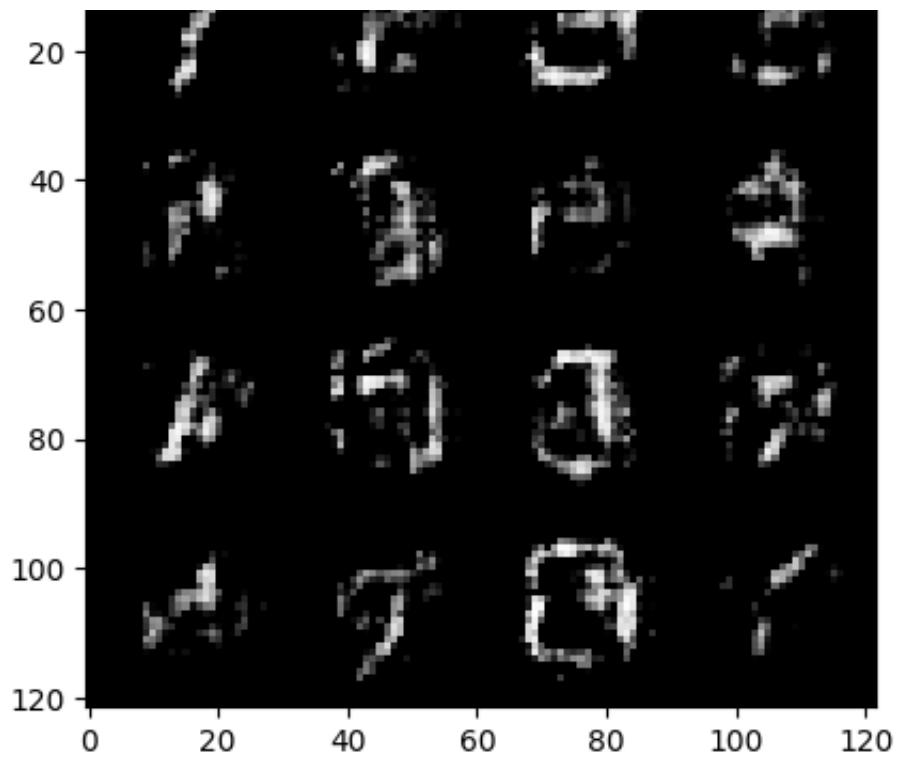


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6880, G_loss: 0.7014

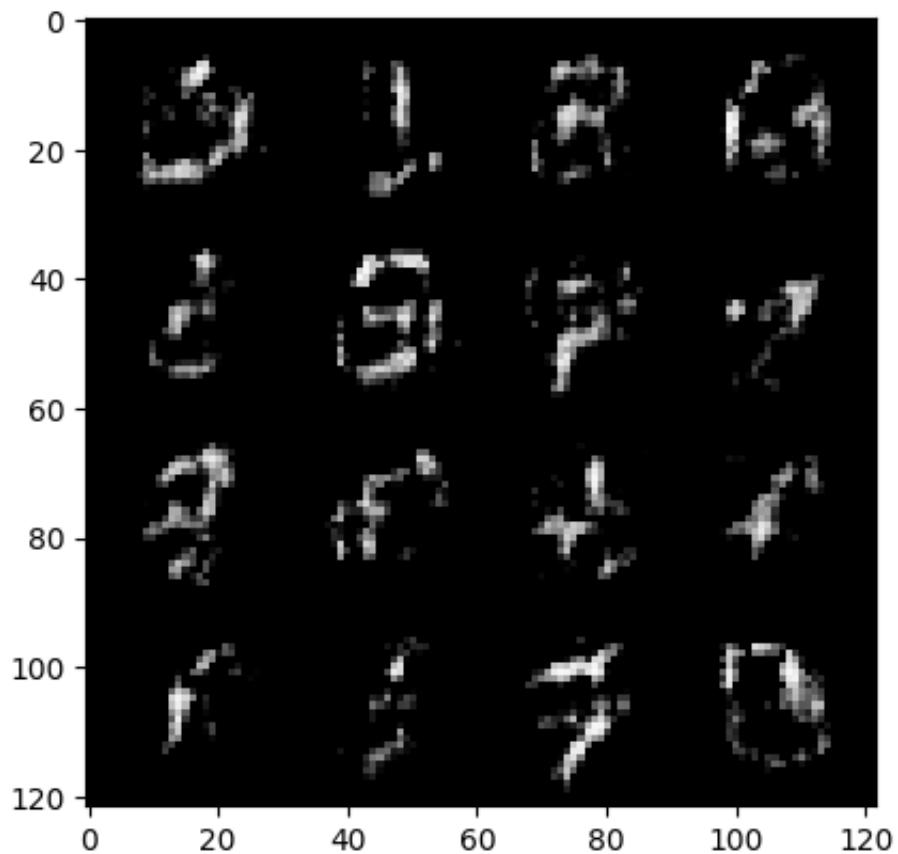


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6879, G_loss: 0.7014



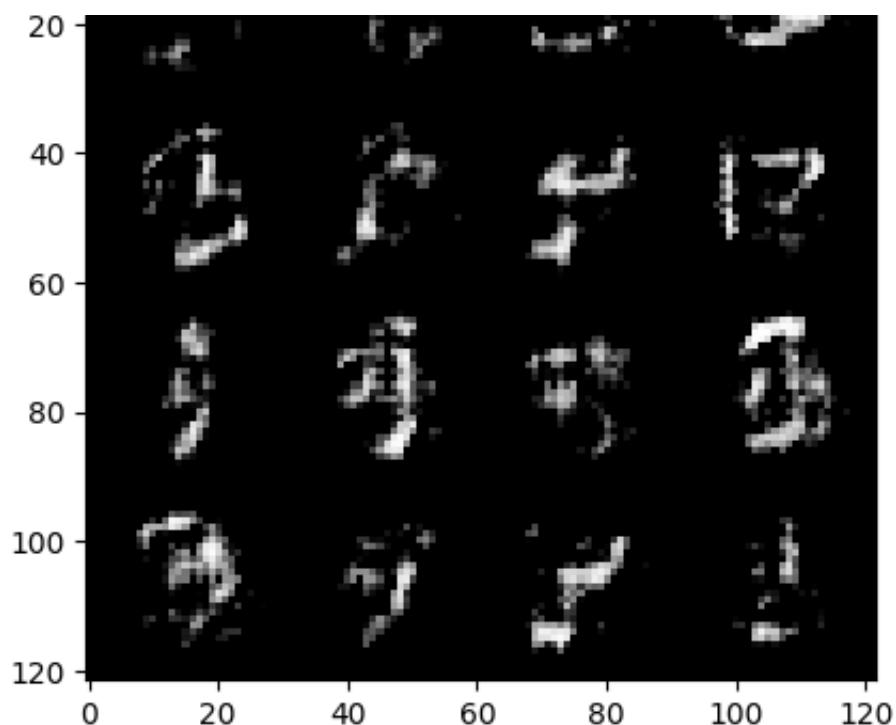


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0
D_loss: 0.6879, G_loss: 0.7013

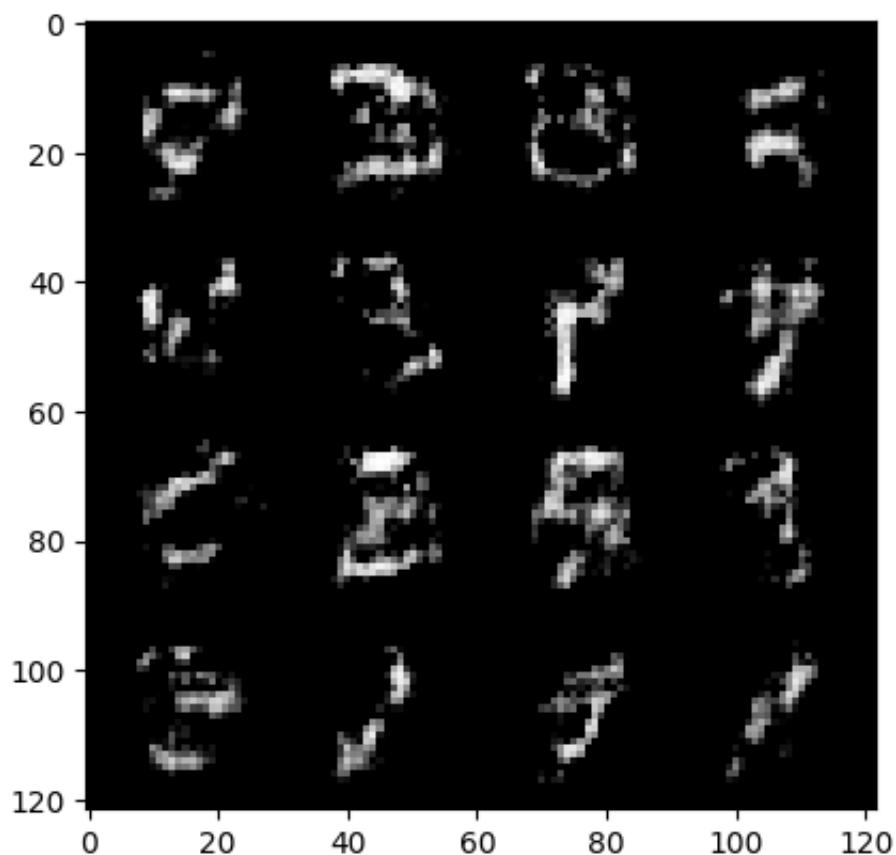


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D_loss: 0.6879, G_loss: 0.7013



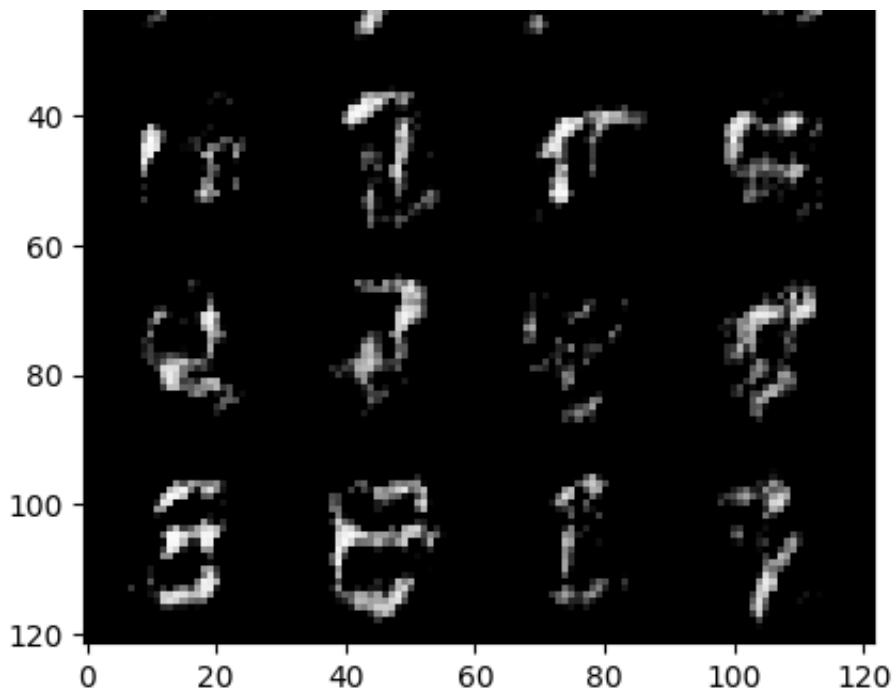


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6879, G_loss: 0.7014

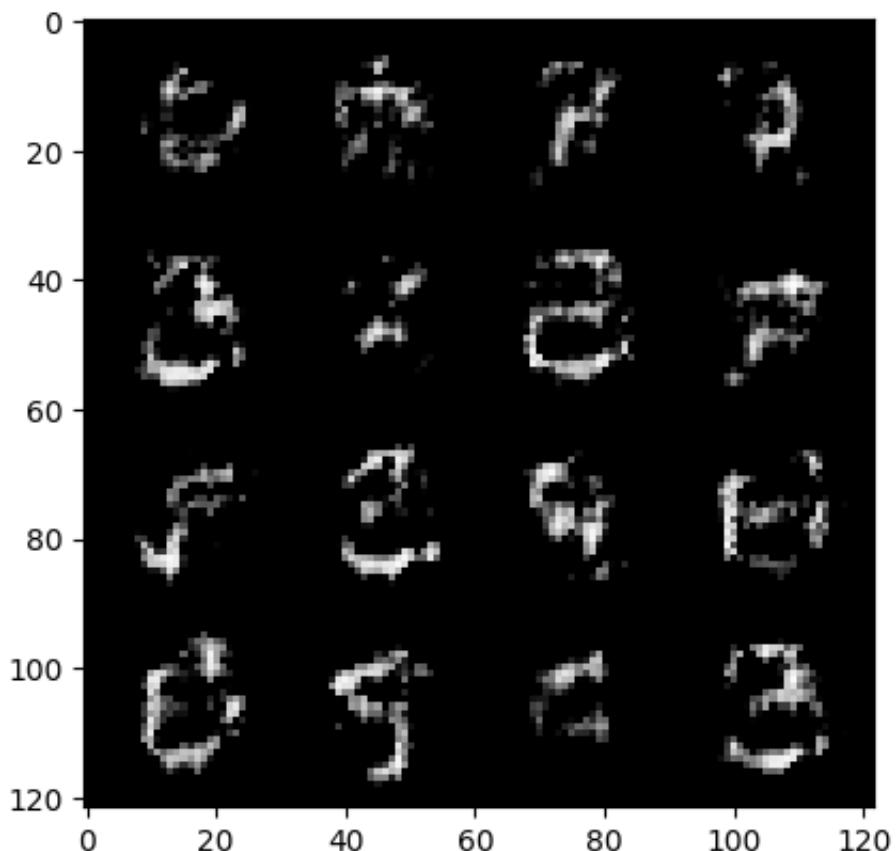


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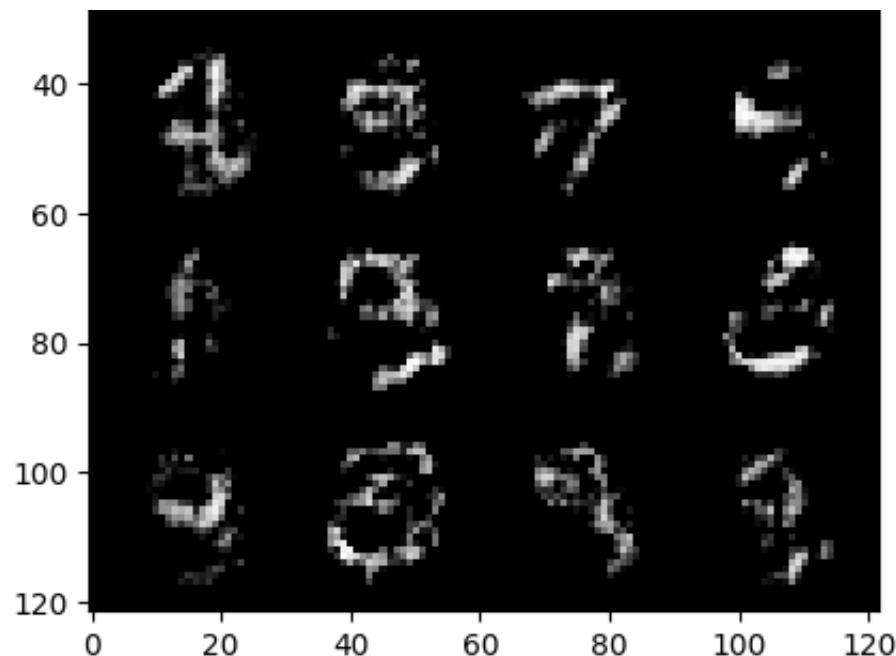


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6879, G_loss: 0.7014

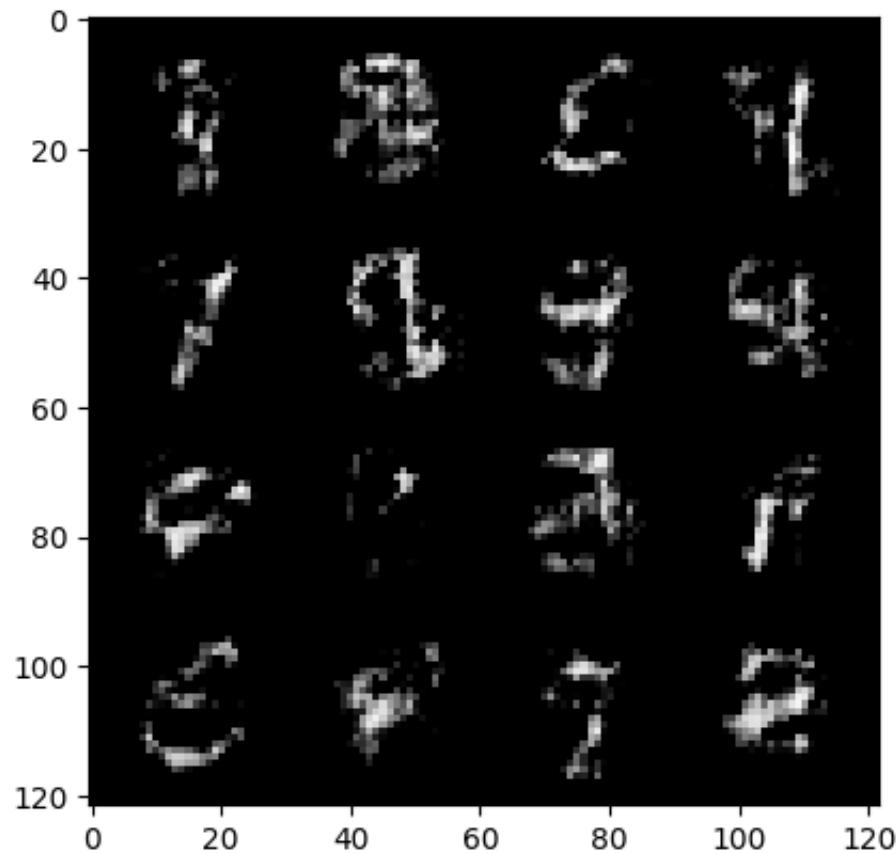


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6879, G_loss: 0.7014



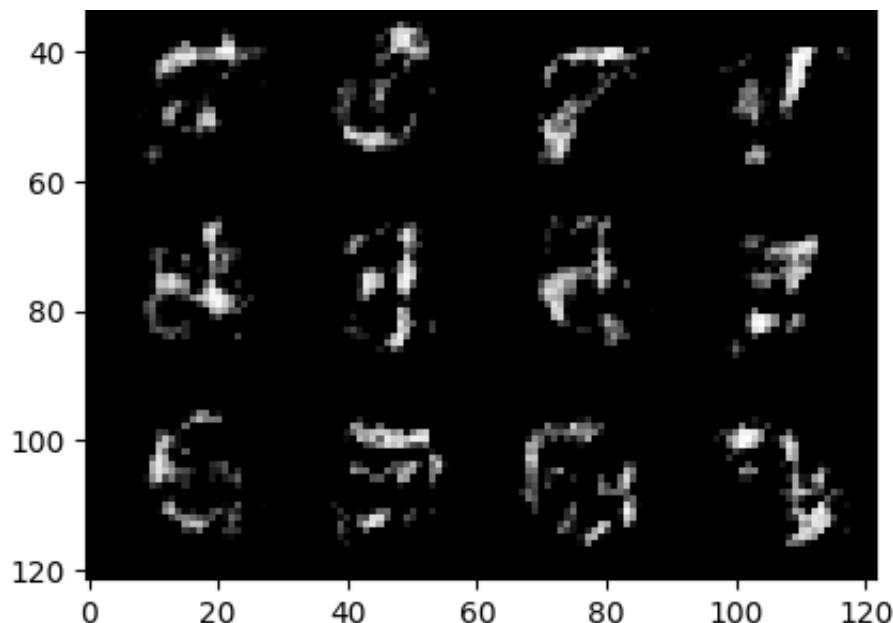


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6879, G_loss: 0.7014

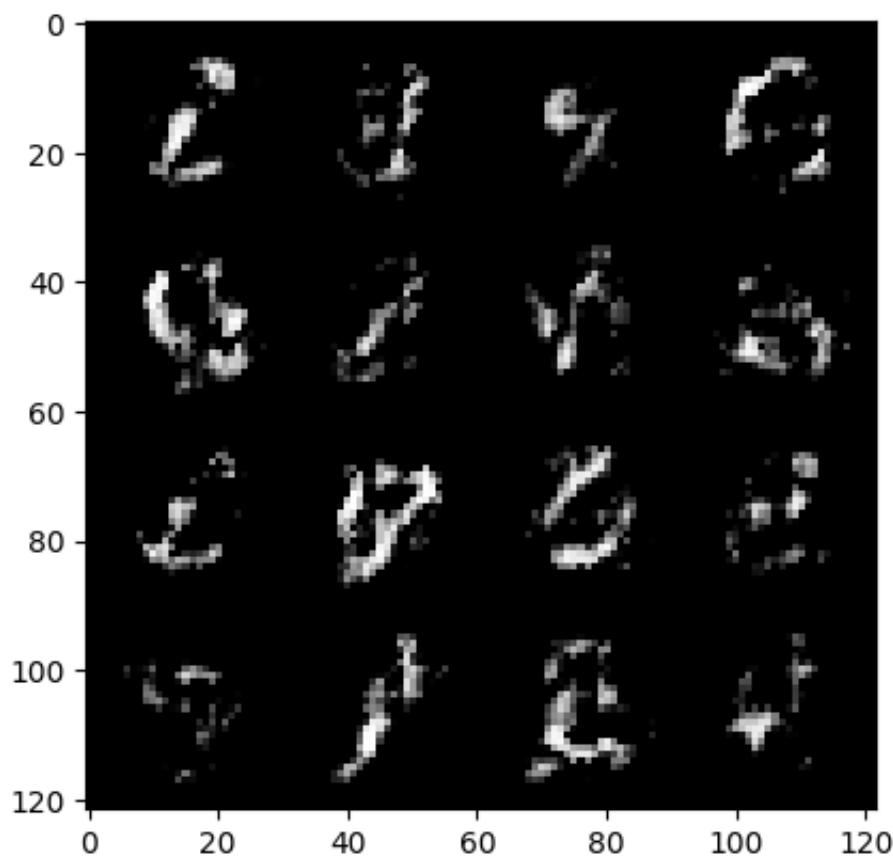


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6879, G_loss: 0.7015



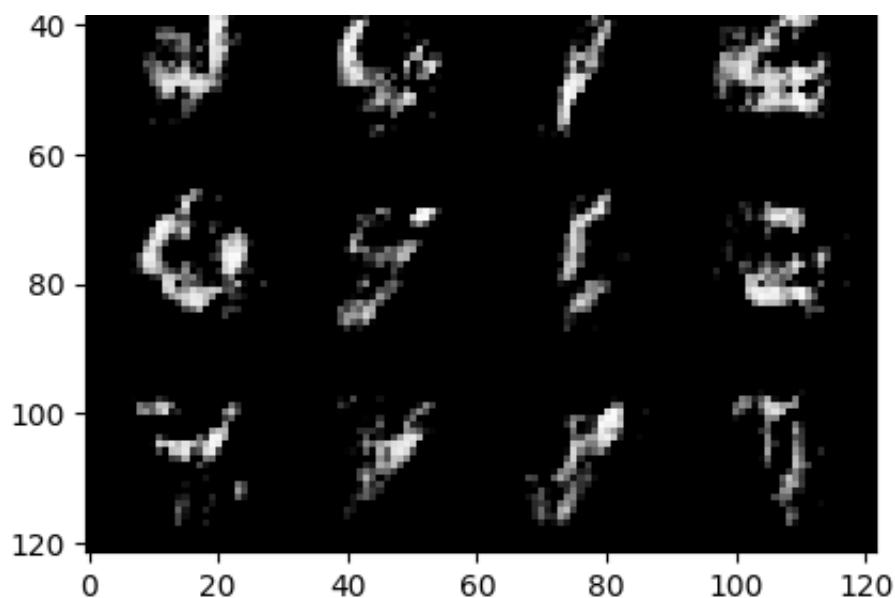


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6879, G_loss: 0.7016

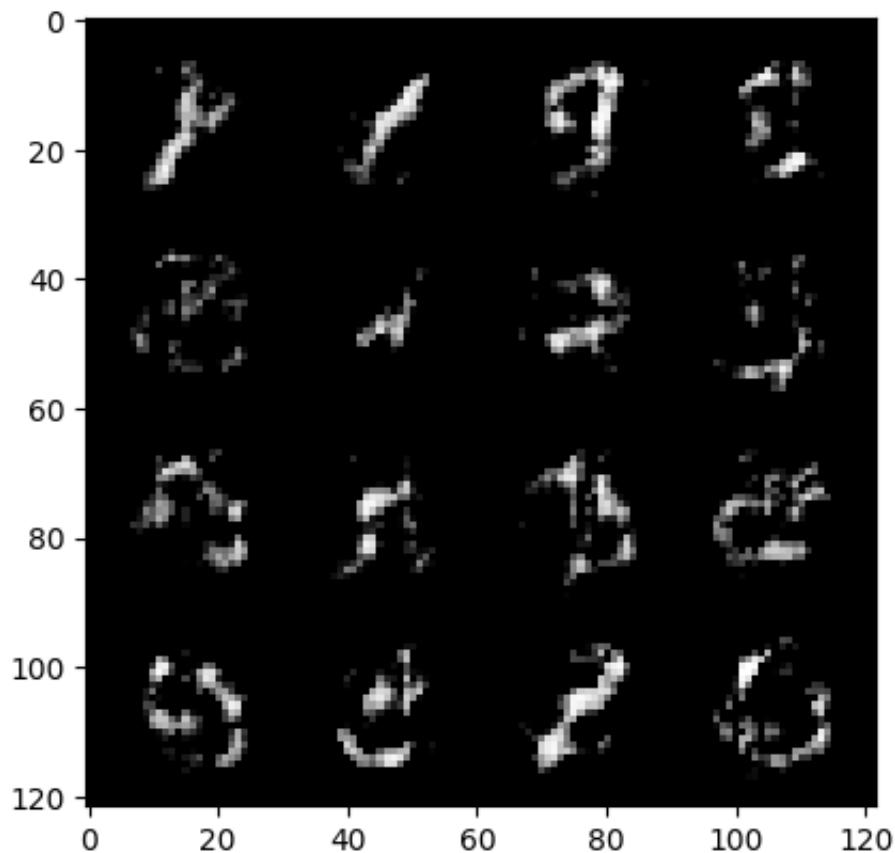


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6878, G_loss: 0.7015



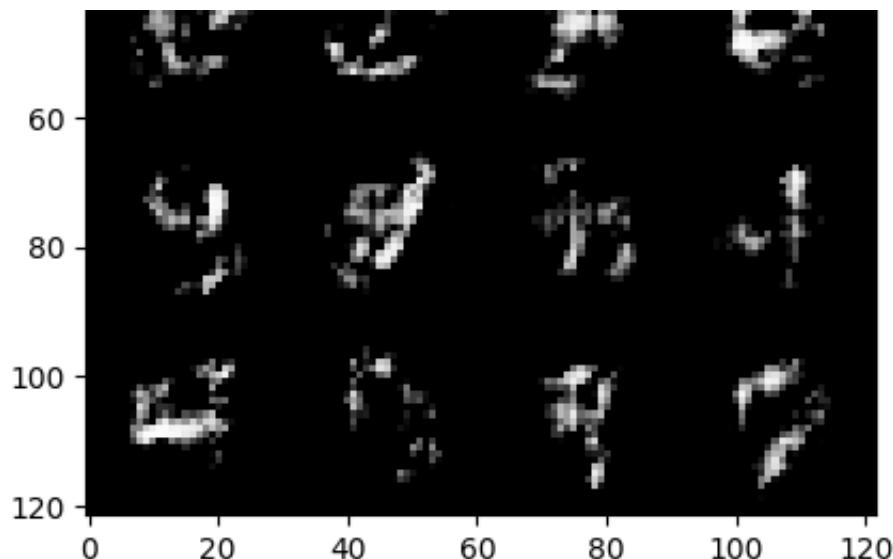


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6877, G_loss: 0.7015

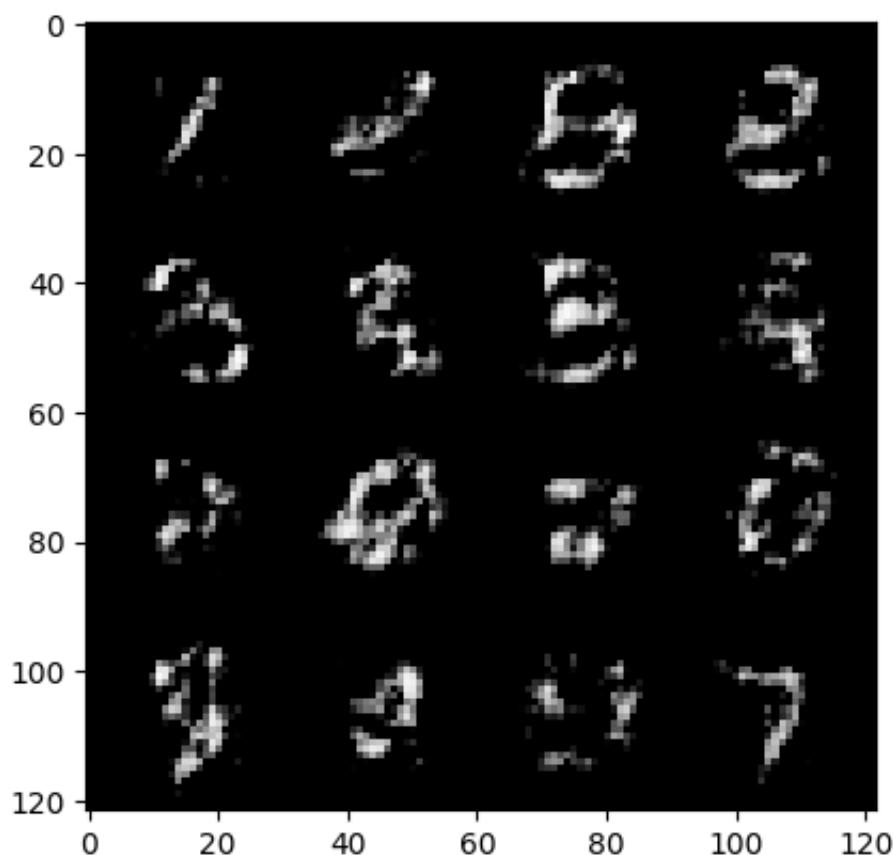


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6877, G_loss: 0.7015



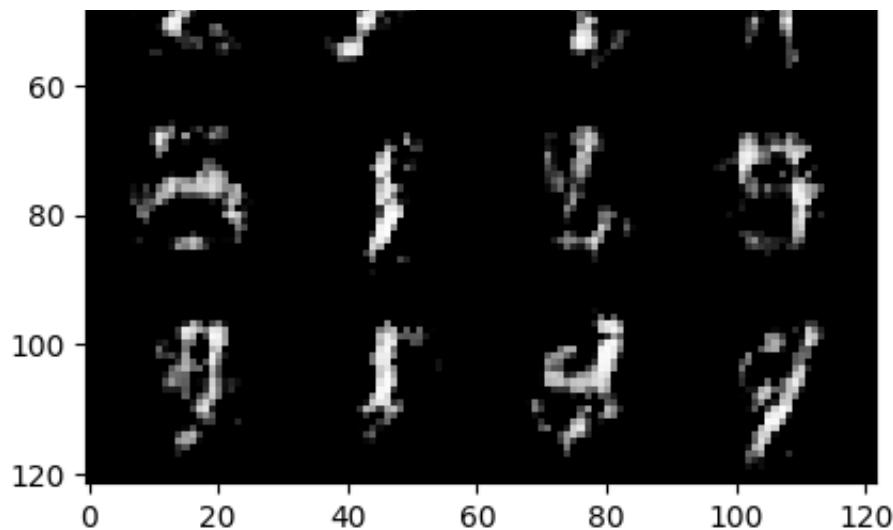


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6877, G_loss: 0.7016

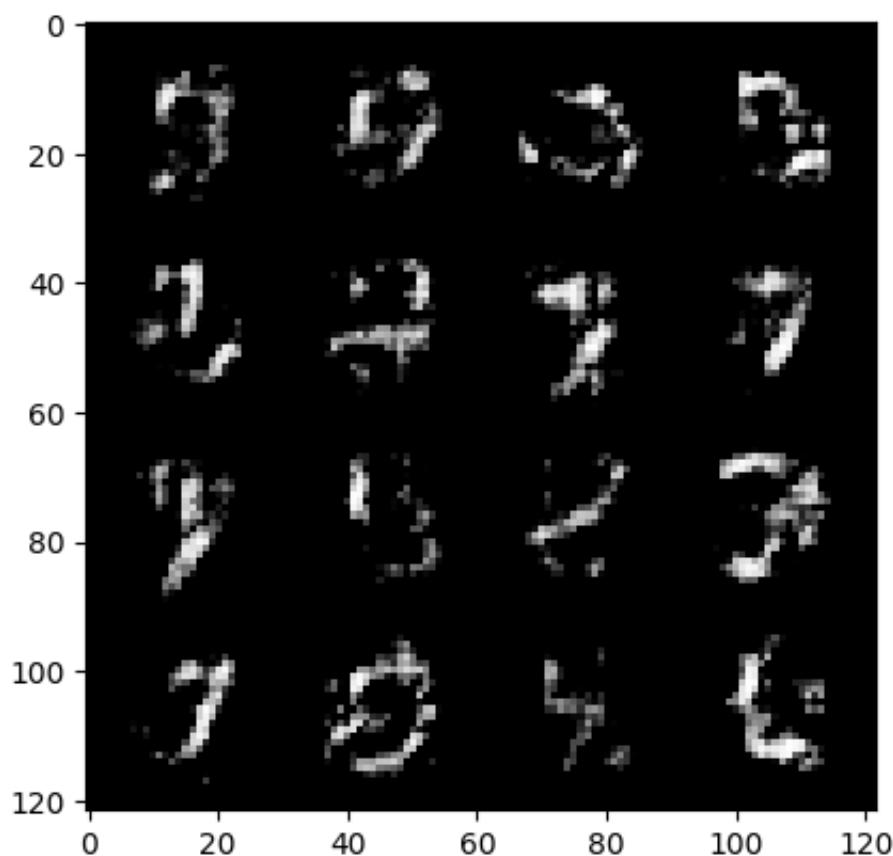


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6876, G_loss: 0.7016



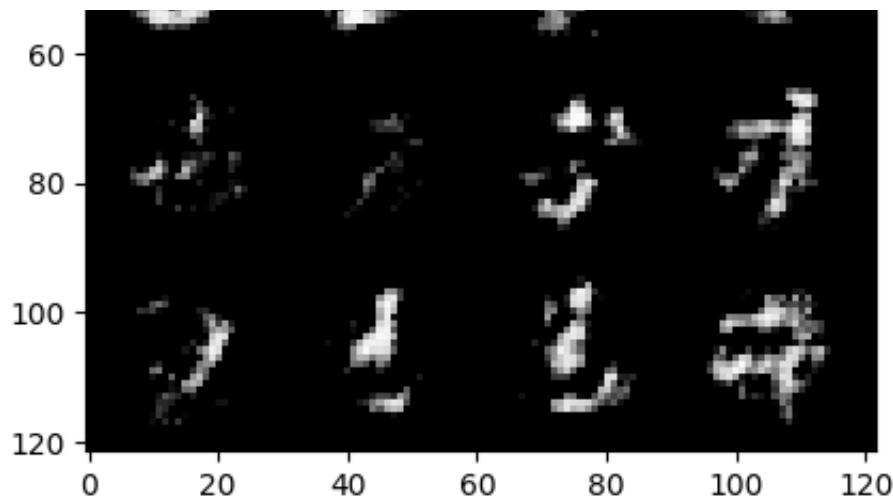


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6876, G_loss: 0.7016

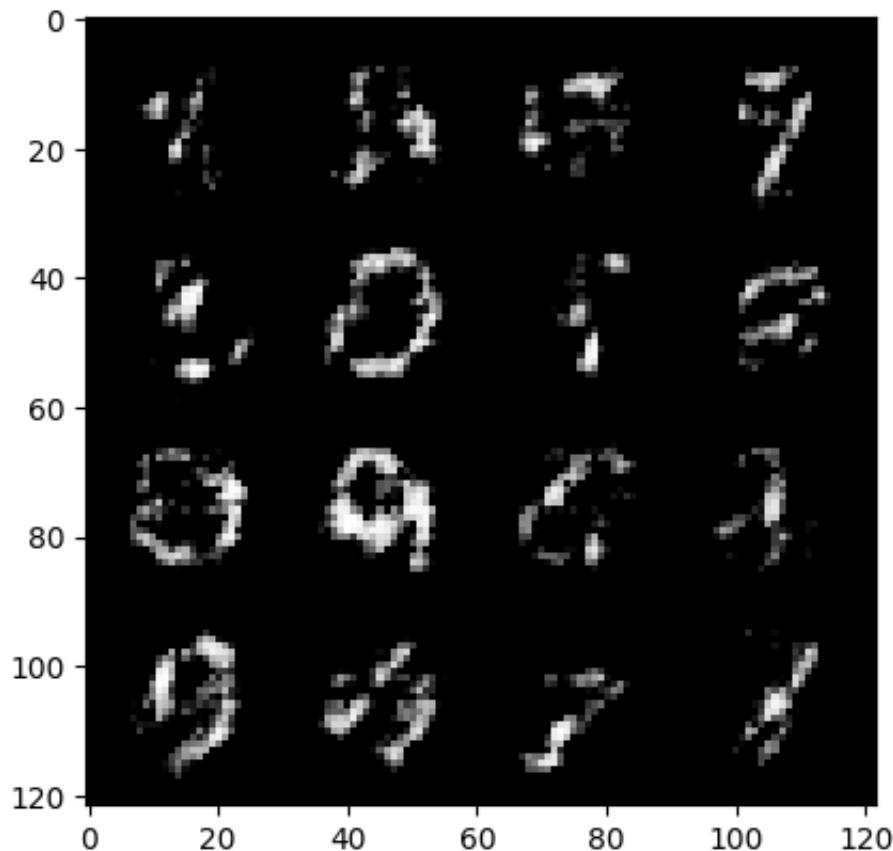


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6876, G_loss: 0.7016



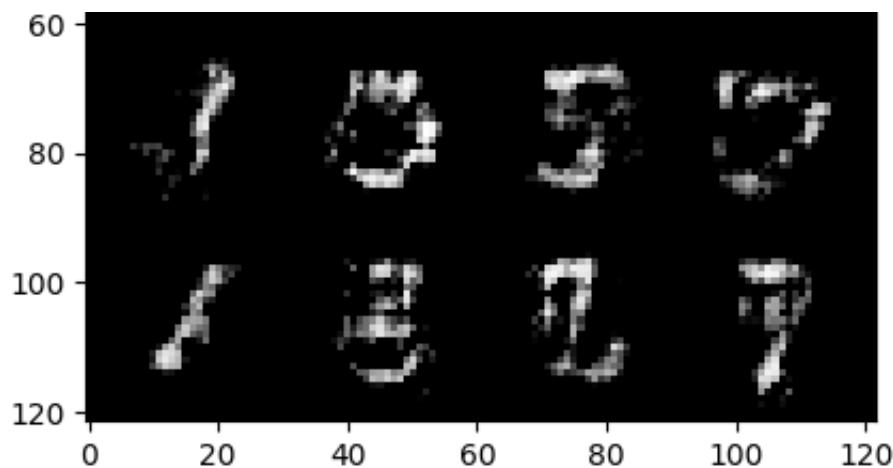


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6875, G_loss: 0.7016

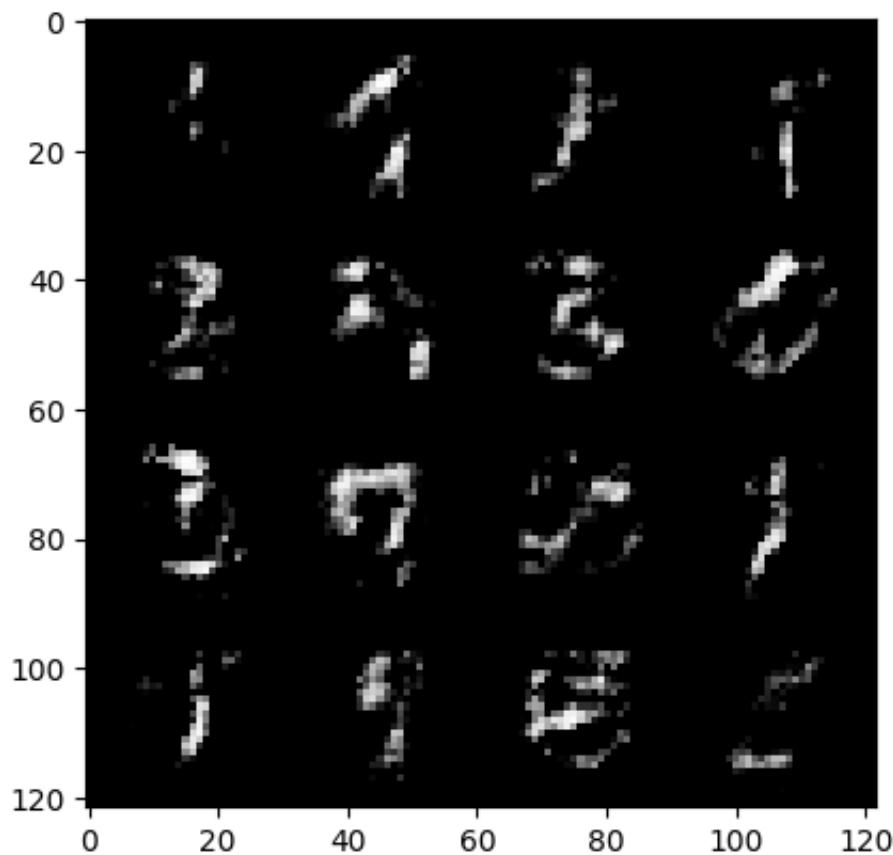


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6875, G_loss: 0.7016



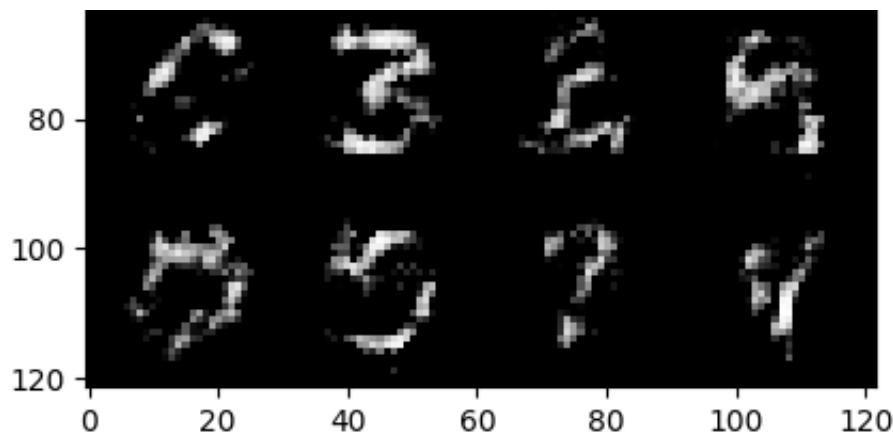


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6875, G_loss: 0.7016

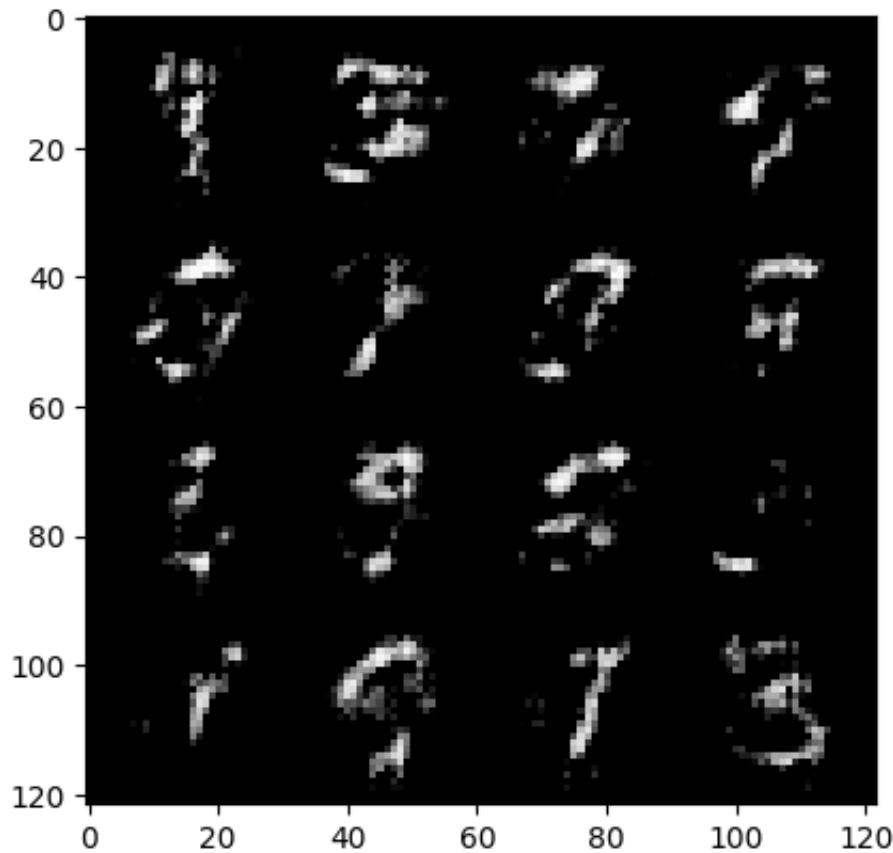


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6875, G_loss: 0.7017



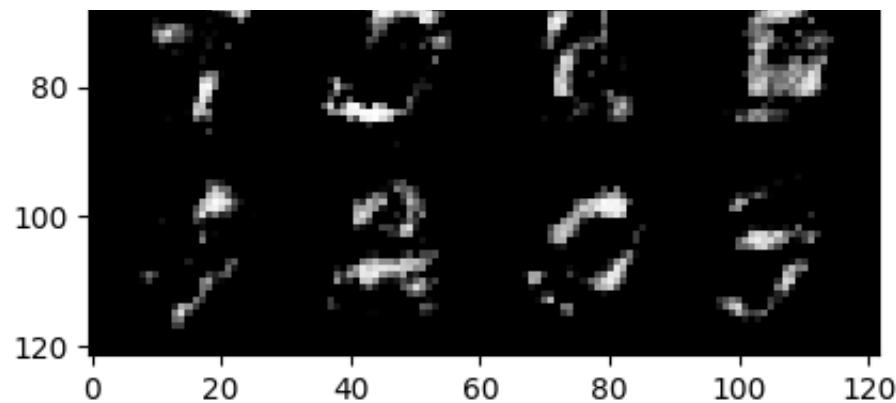


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6874, G_loss: 0.7017

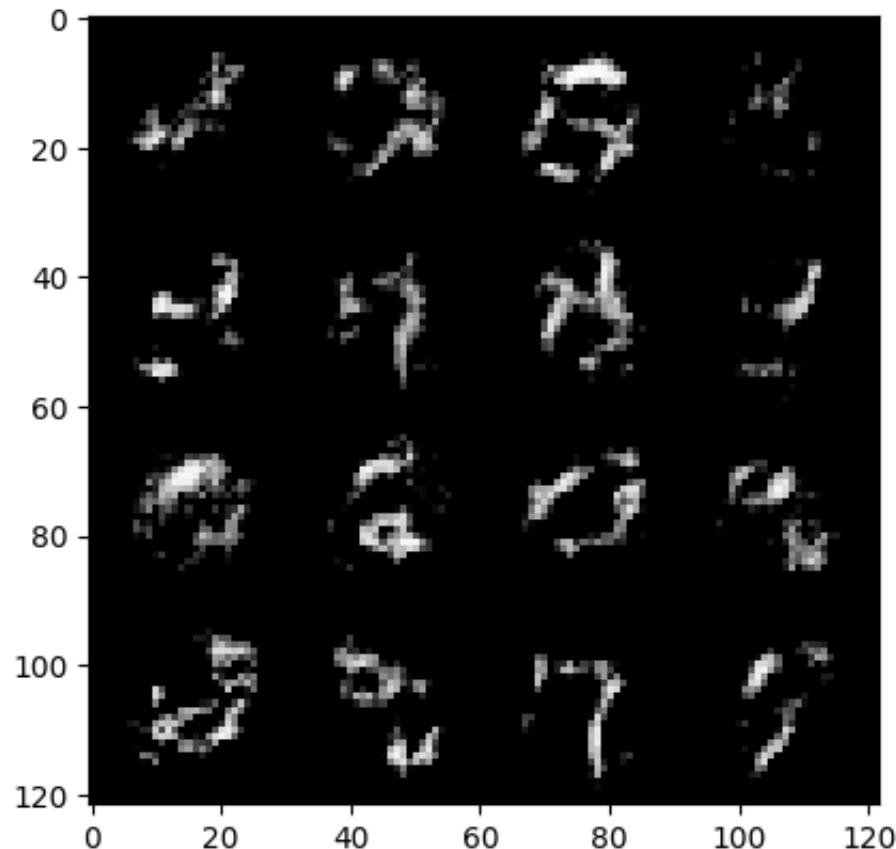


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6874, G_loss: 0.7017



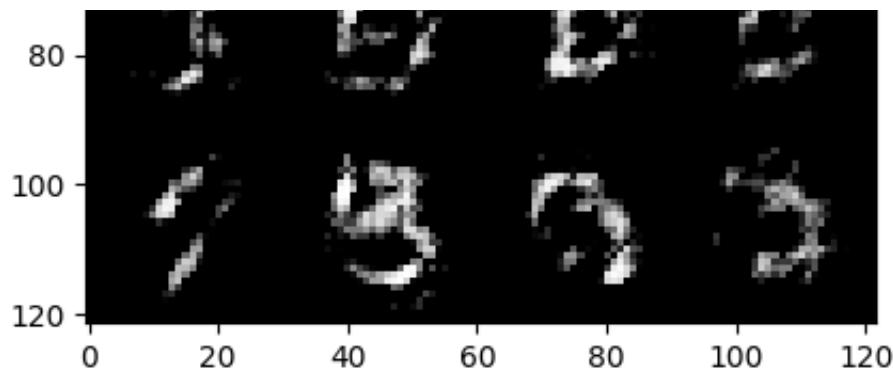


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6874, G_loss: 0.7018

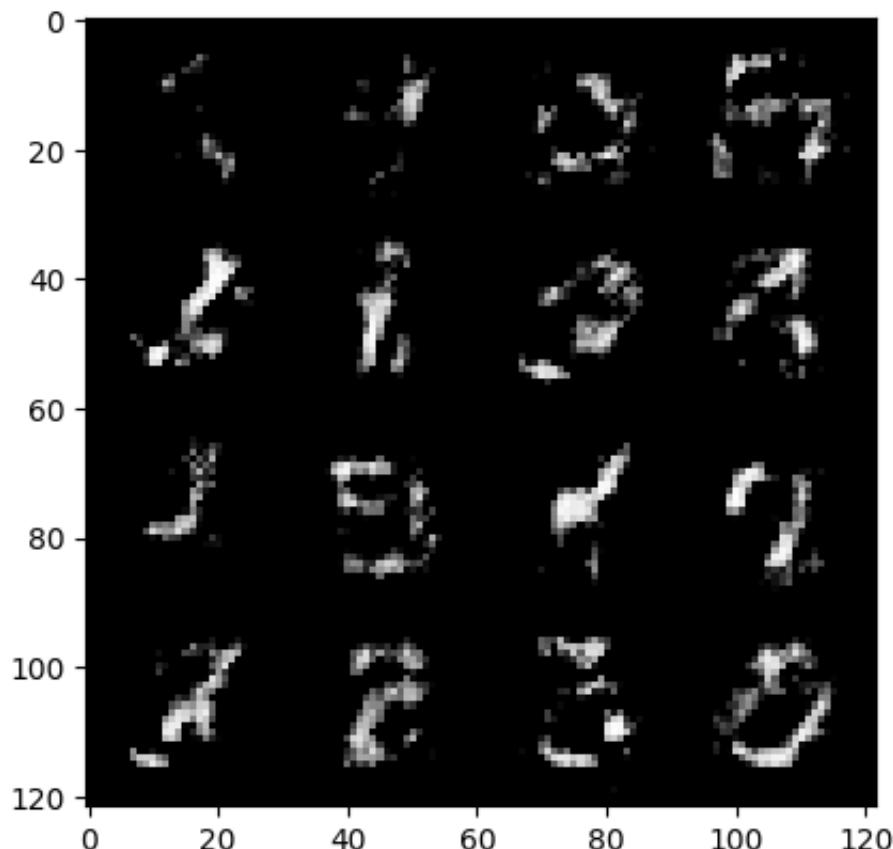


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6873, G_loss: 0.7018



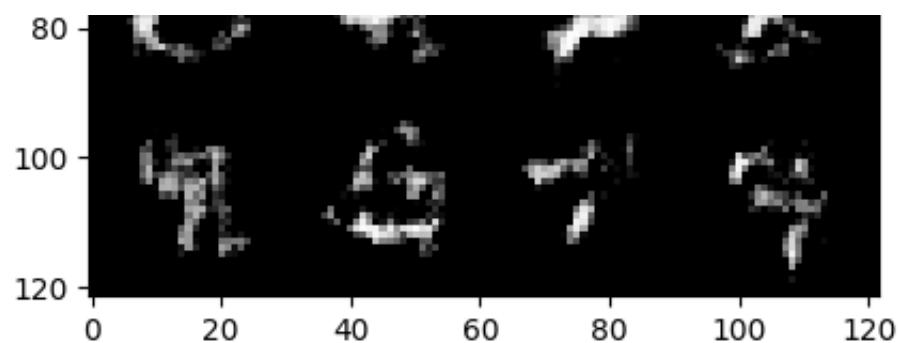


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clip' set to True
D_loss: 0.6873, G_loss: 0.7018

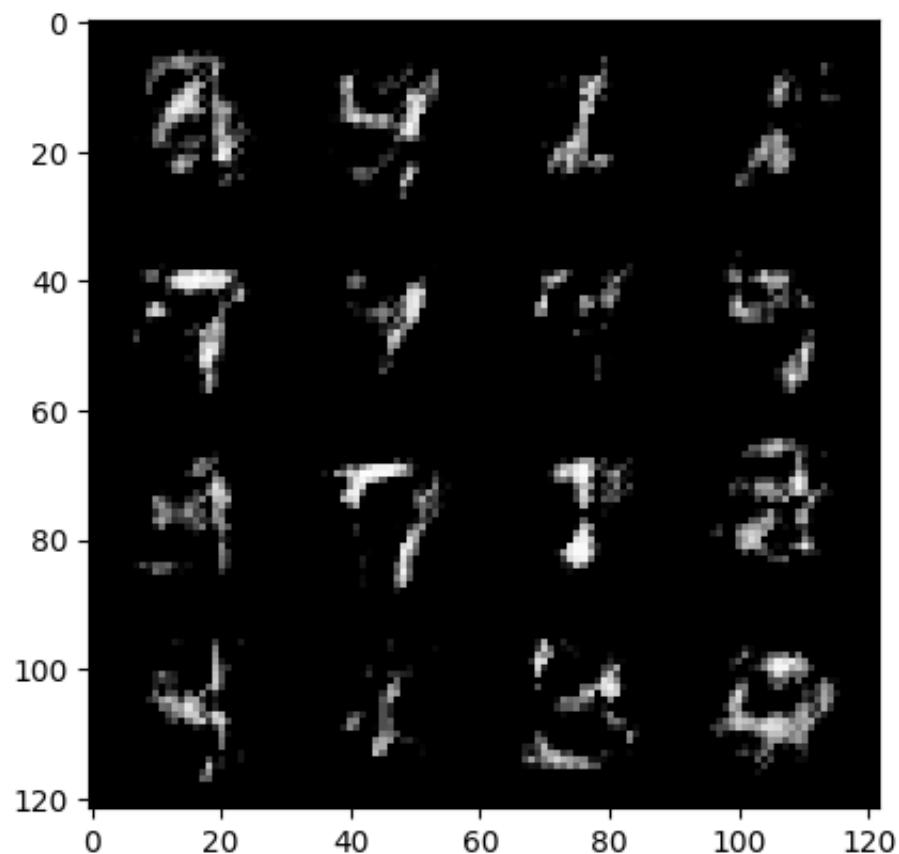


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clip' set to True
D_loss: 0.6873, G_loss: 0.7018



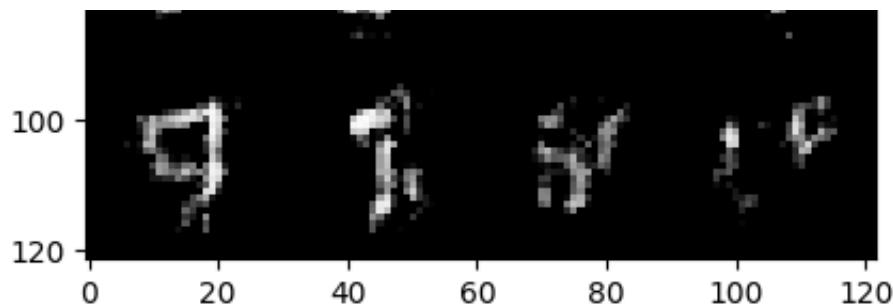


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6873, G_loss: 0.7018

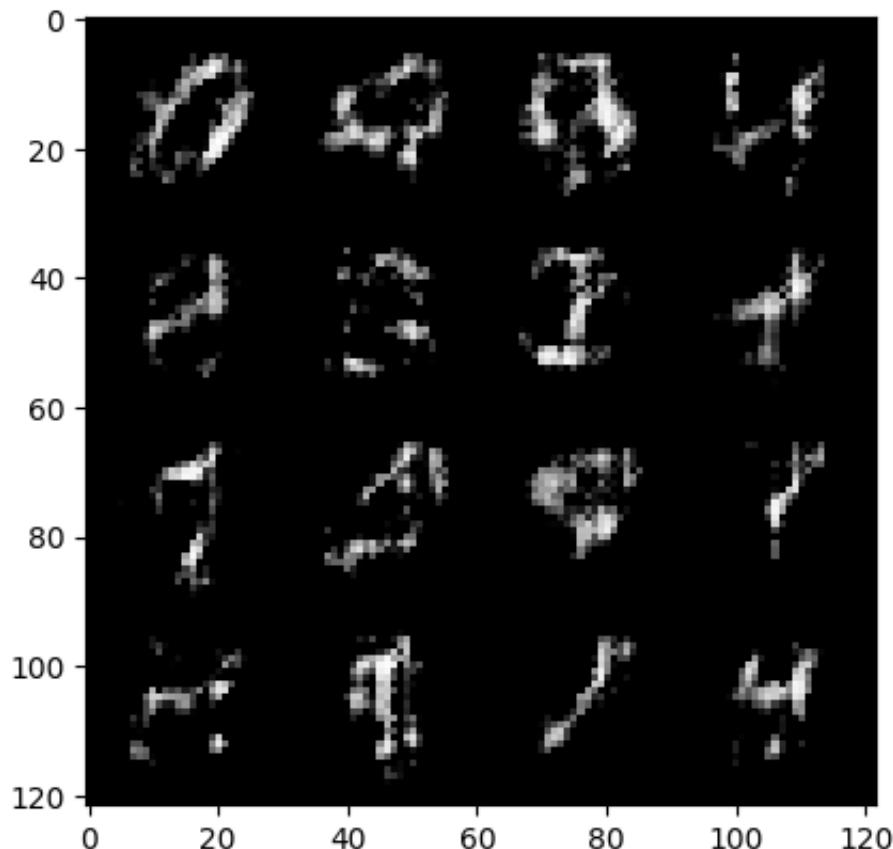


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6873, G_loss: 0.7018



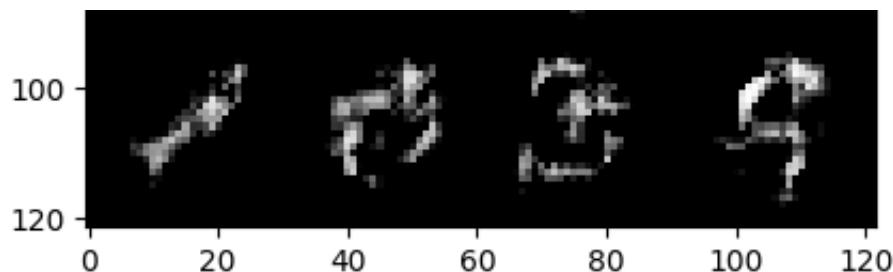


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6873, G_loss: 0.7018

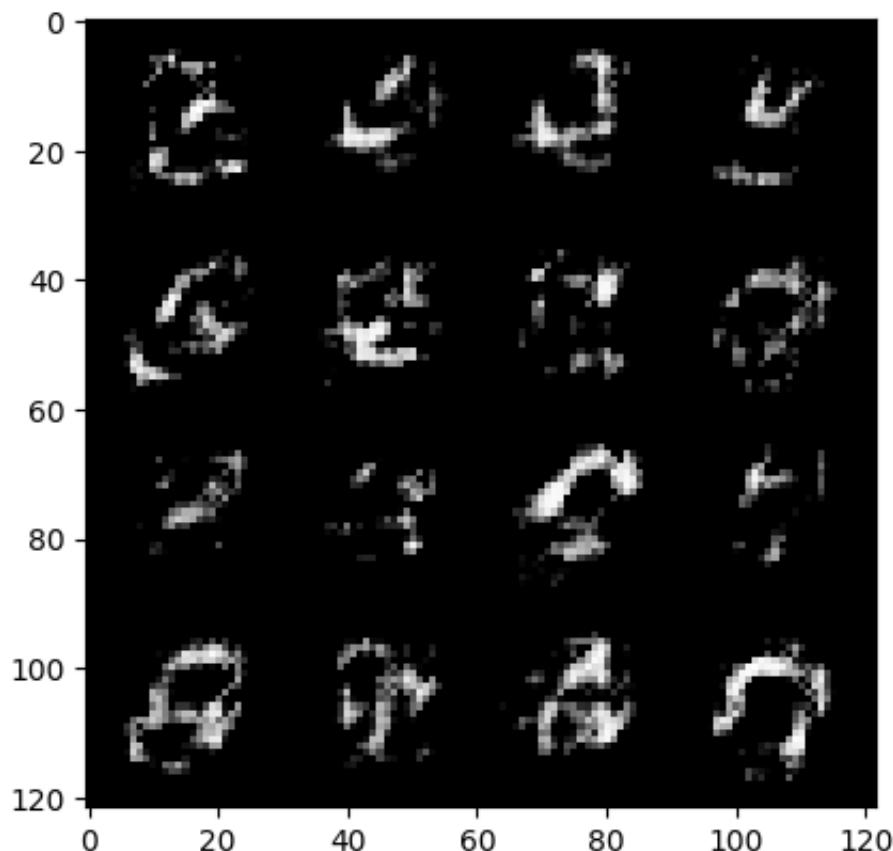


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6873, G_loss: 0.7020



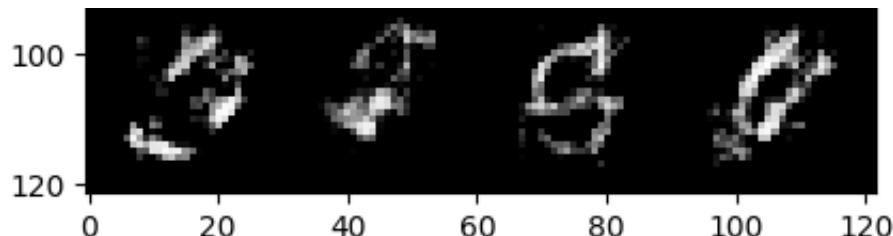


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6873, G_loss: 0.7021

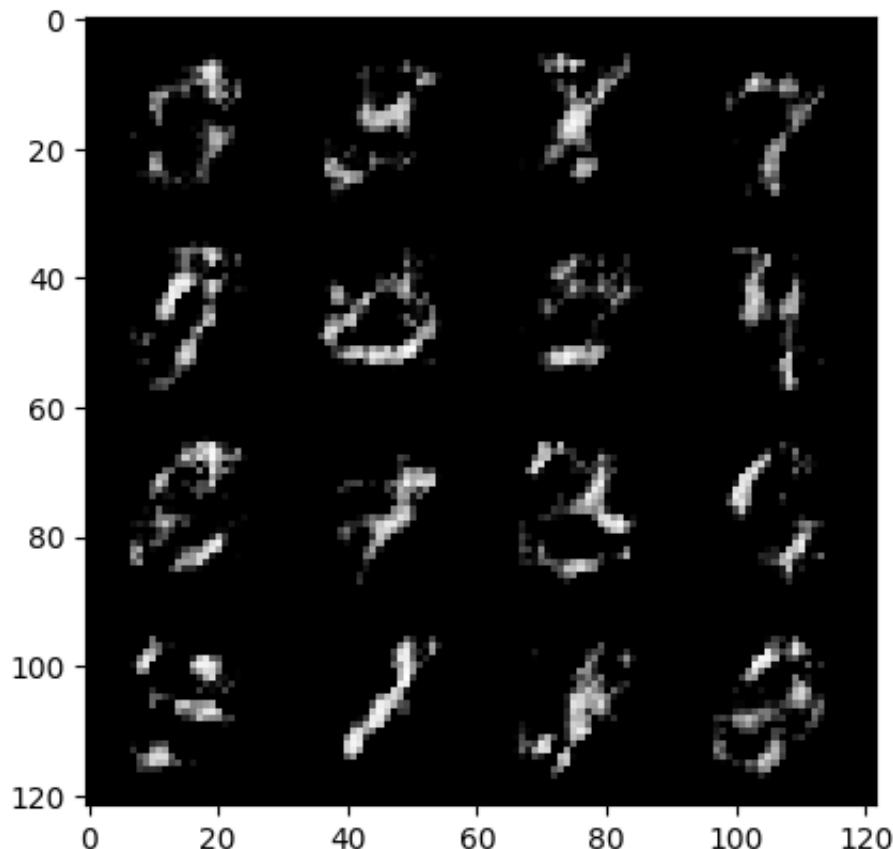


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6872, G_loss: 0.7021

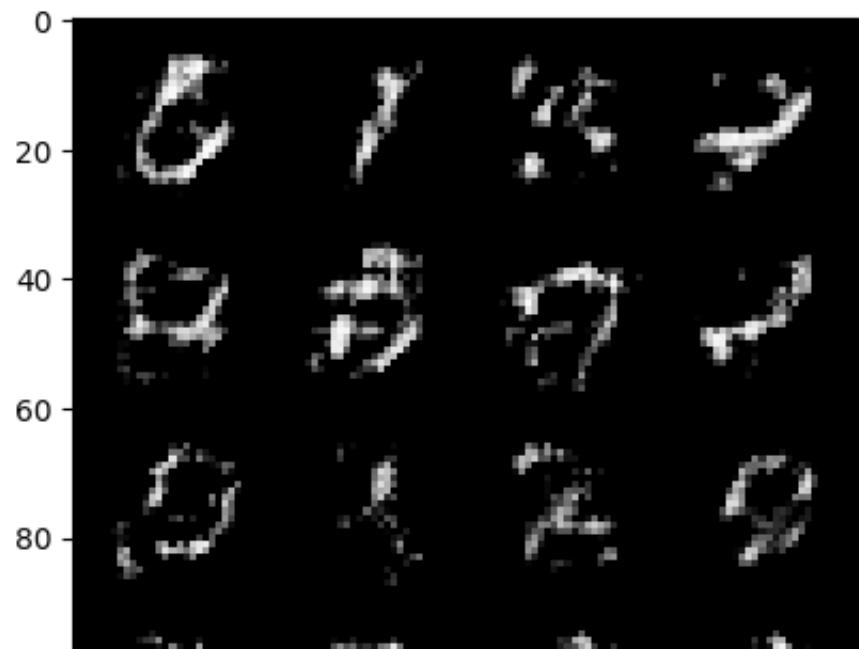


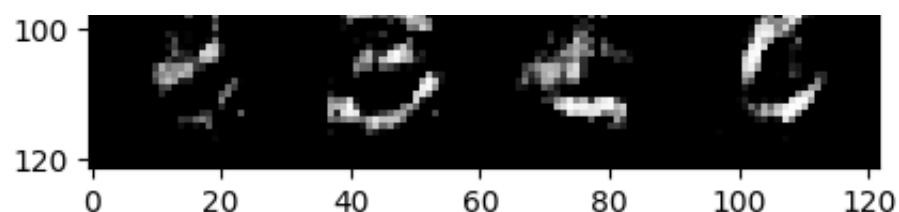


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0
D_loss: 0.6872, G_loss: 0.7022

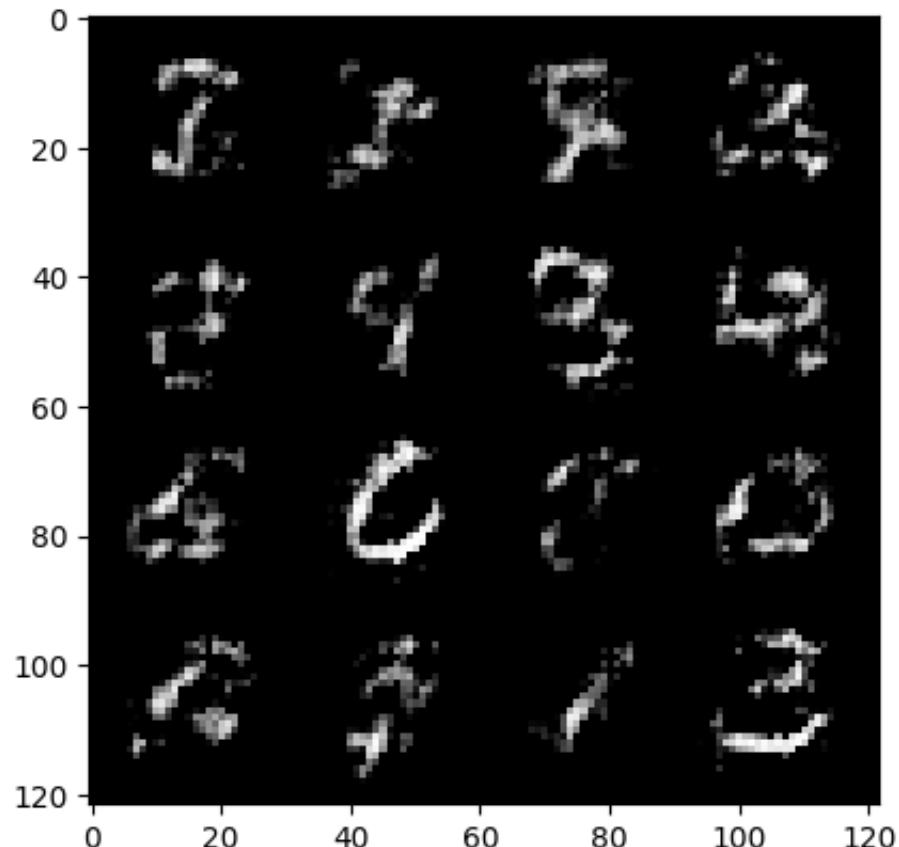


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0
D_loss: 0.6872, G_loss: 0.7023



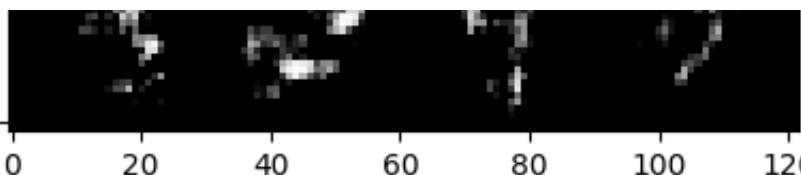


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6872, G_loss: 0.7023

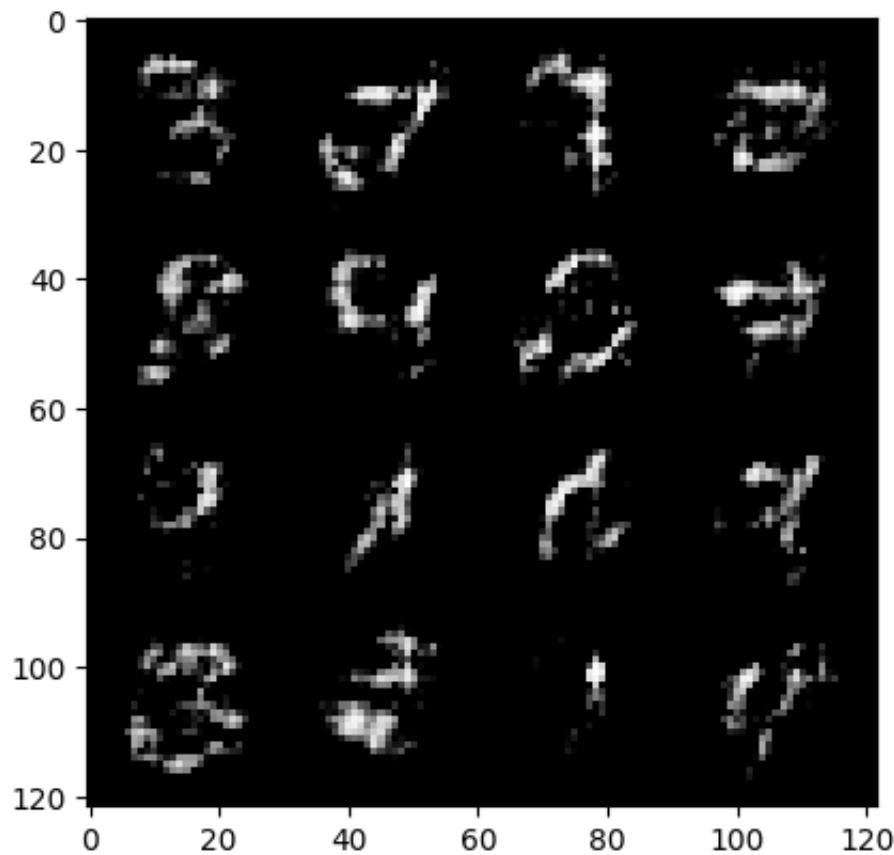


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6872, G_loss: 0.7023

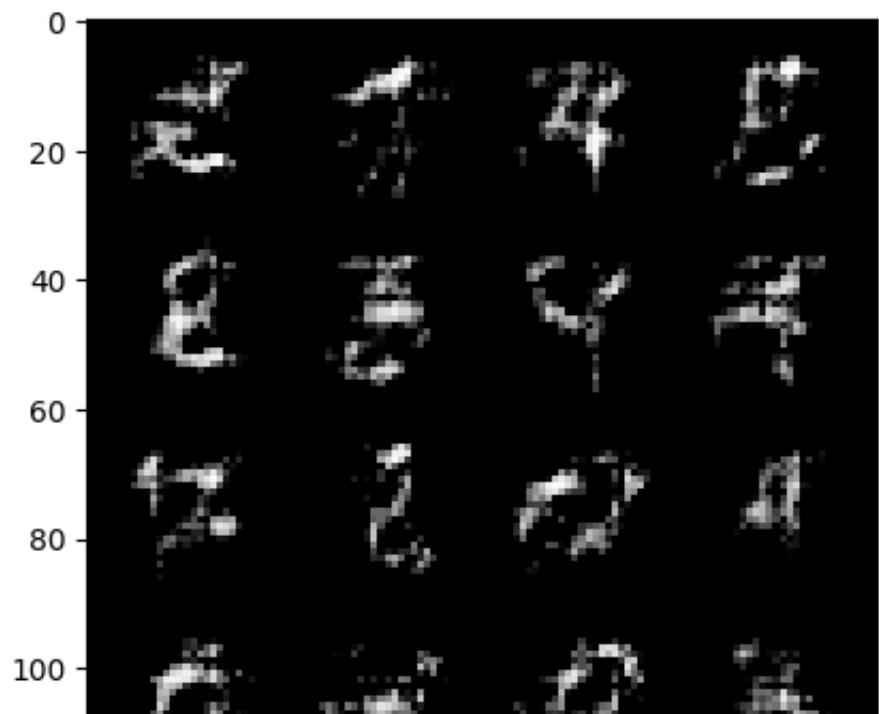


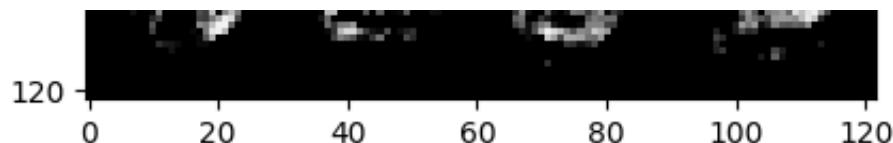


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6872, G_loss: 0.7023

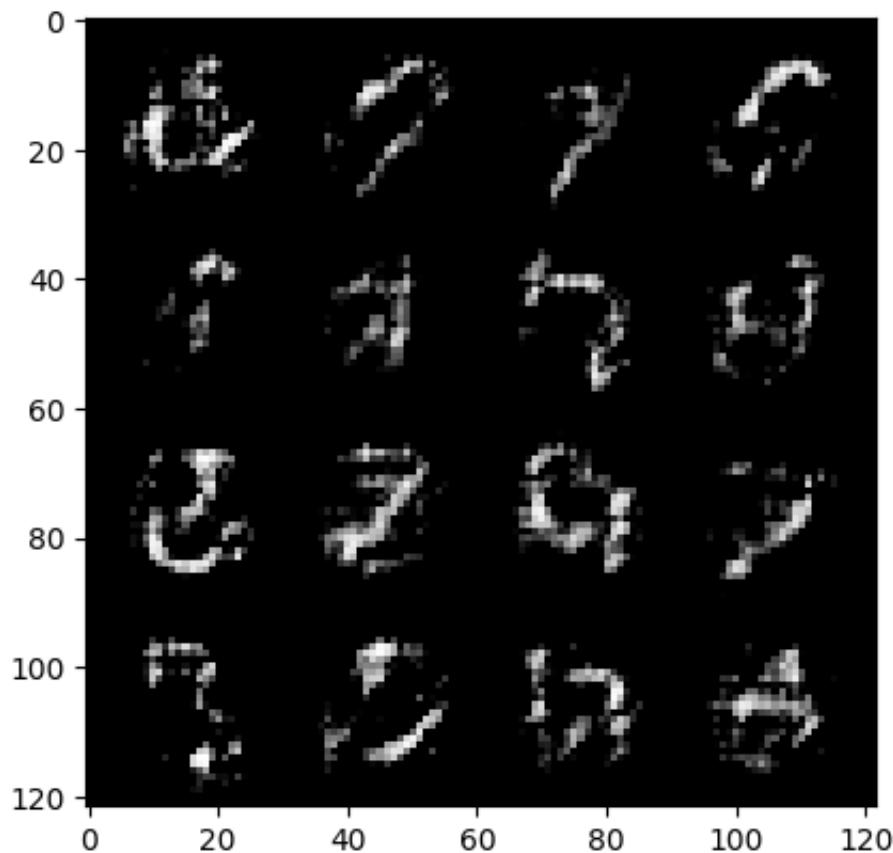


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6872, G_loss: 0.7023

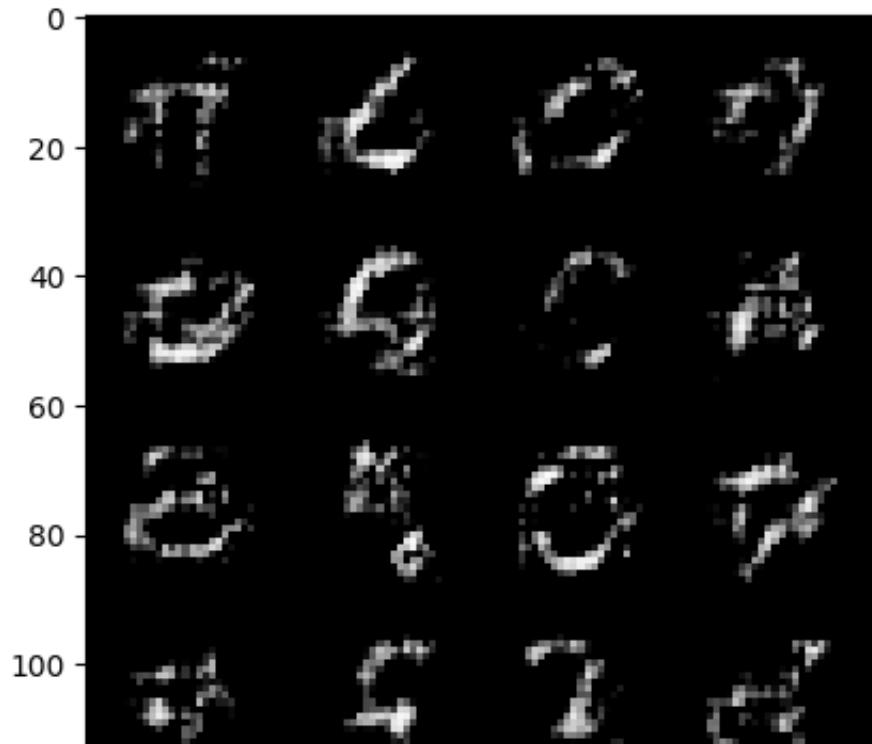




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6871, G_loss: 0.7024

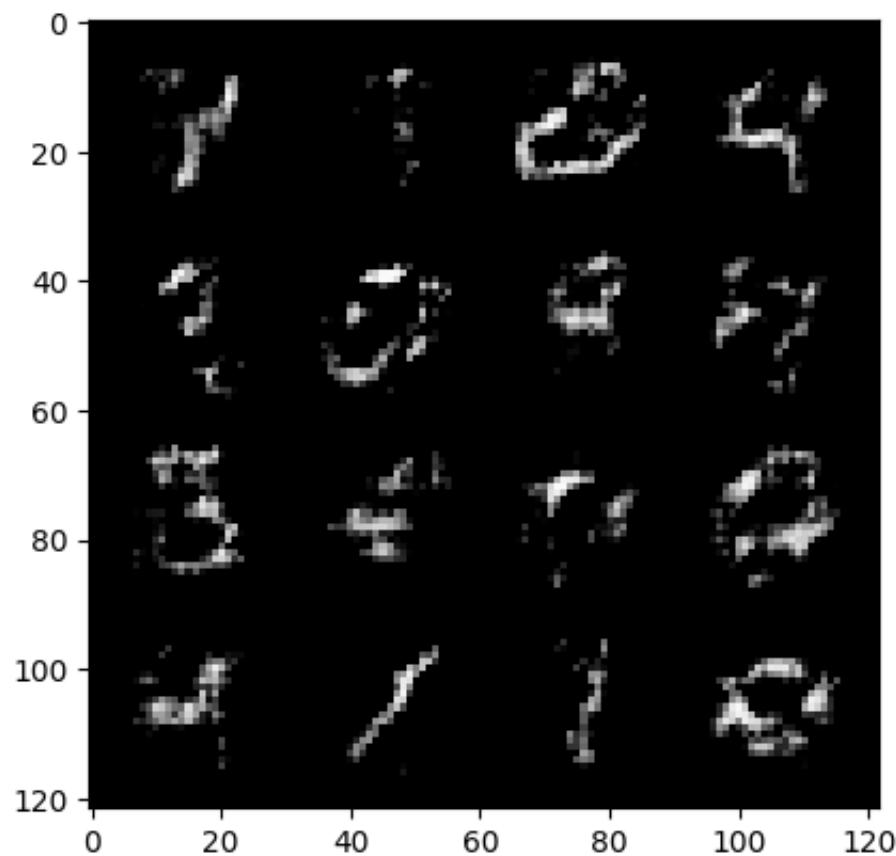


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6871, G_loss: 0.7024

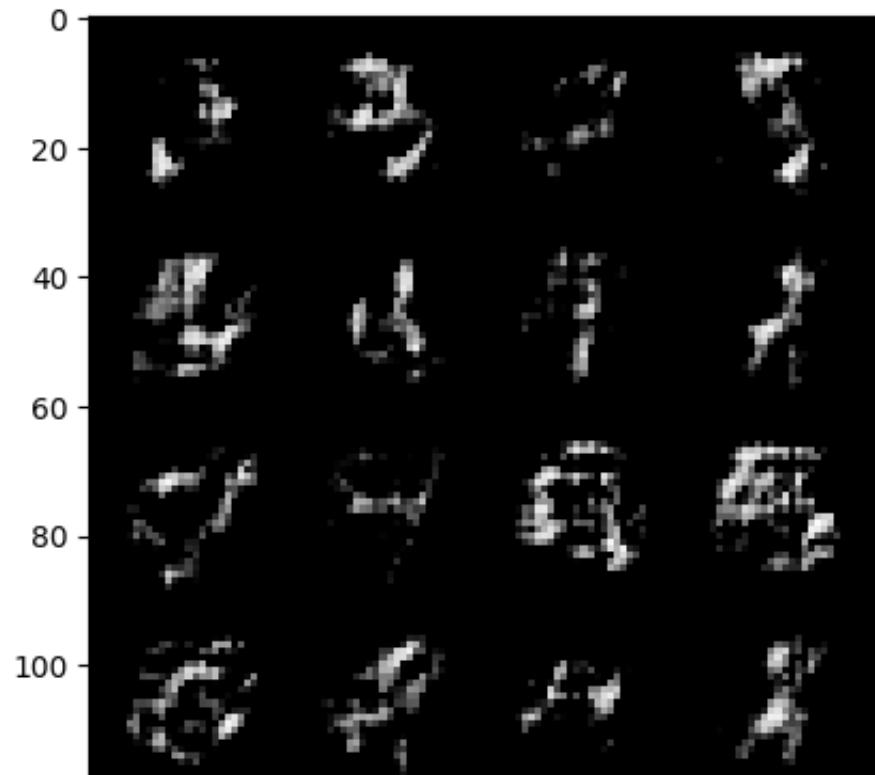


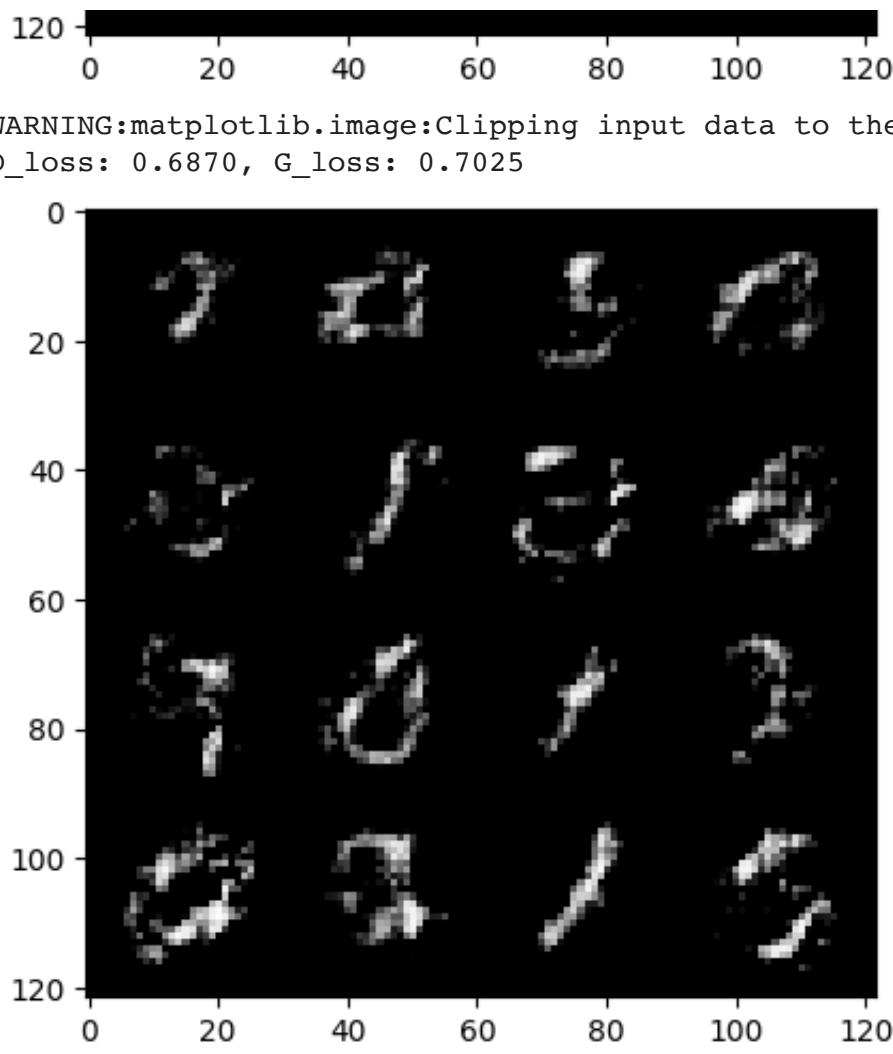


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=120
D_loss: 0.6871, G_loss: 0.7024

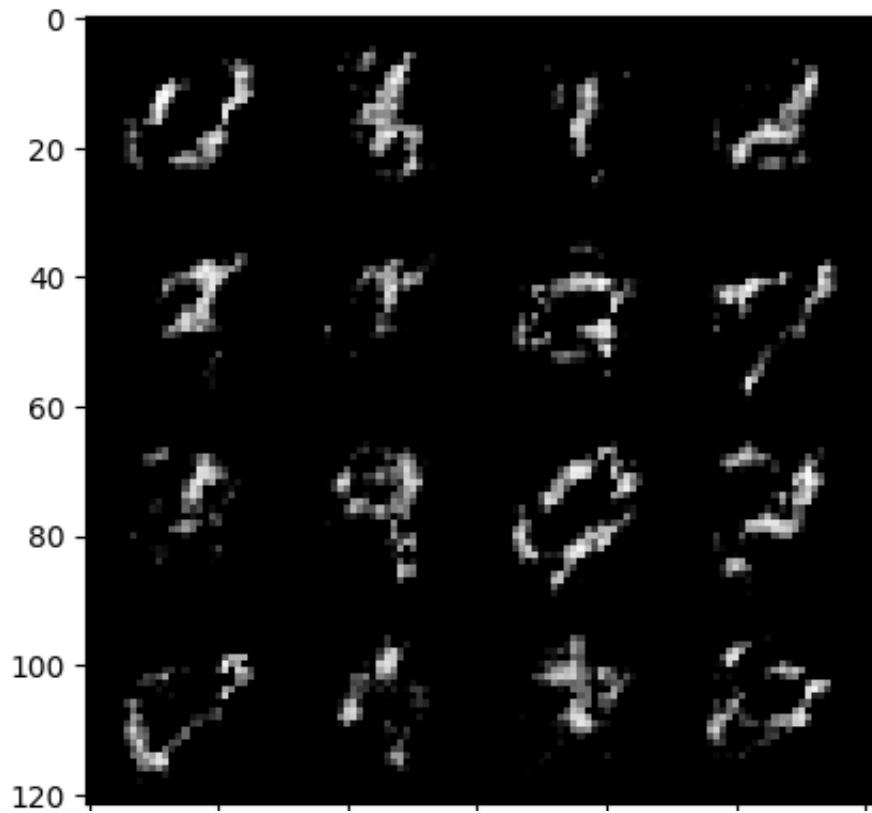


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=120
D_loss: 0.6870, G_loss: 0.7025



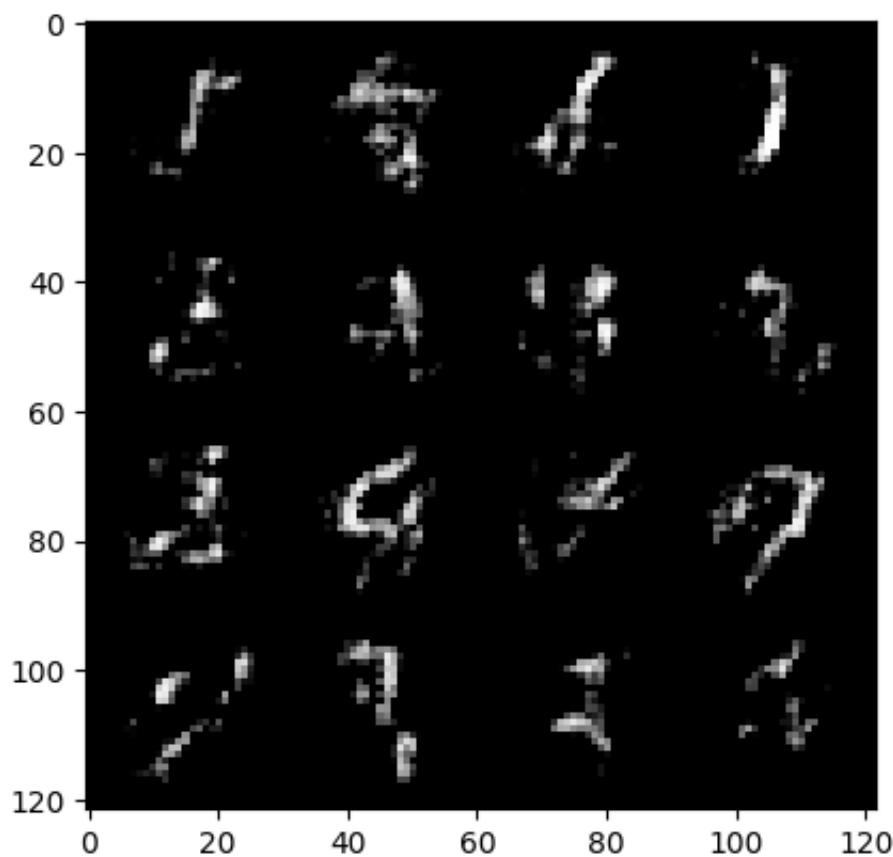


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6870, G_loss: 0.7025

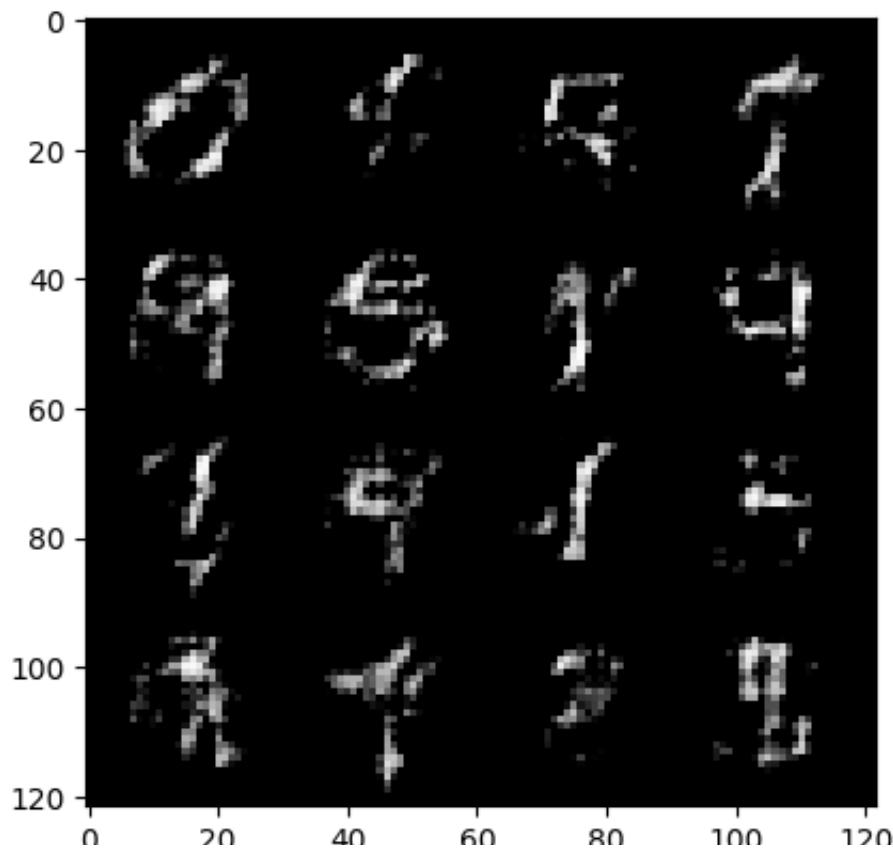


0 20 40 60 80 100 120

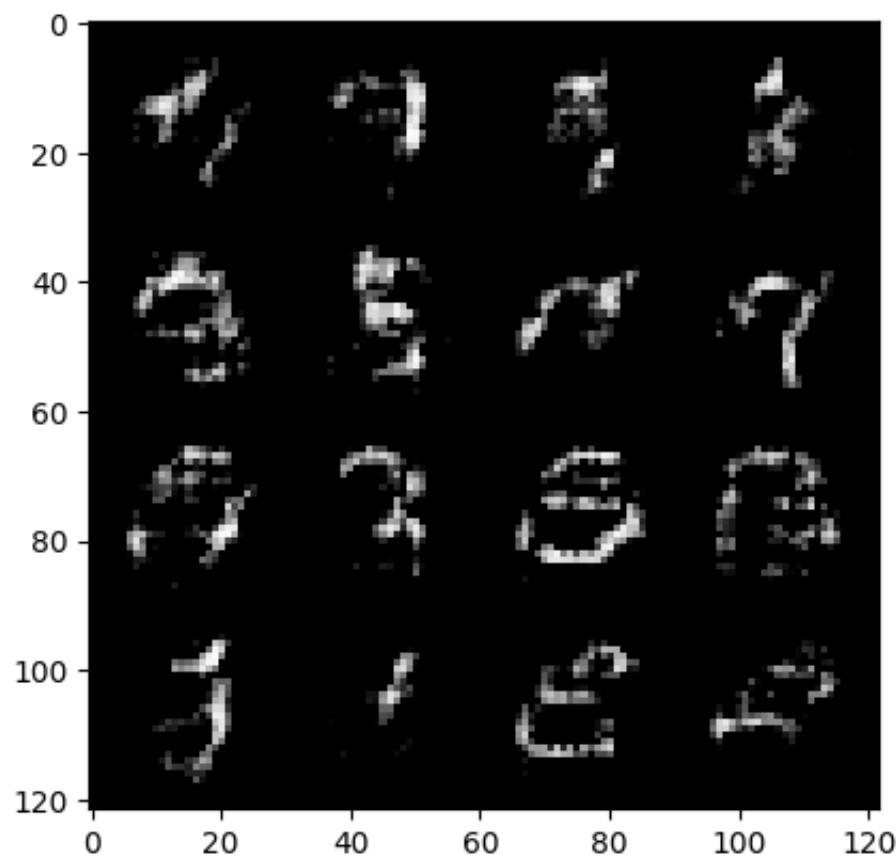
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6870, G_loss: 0.7025



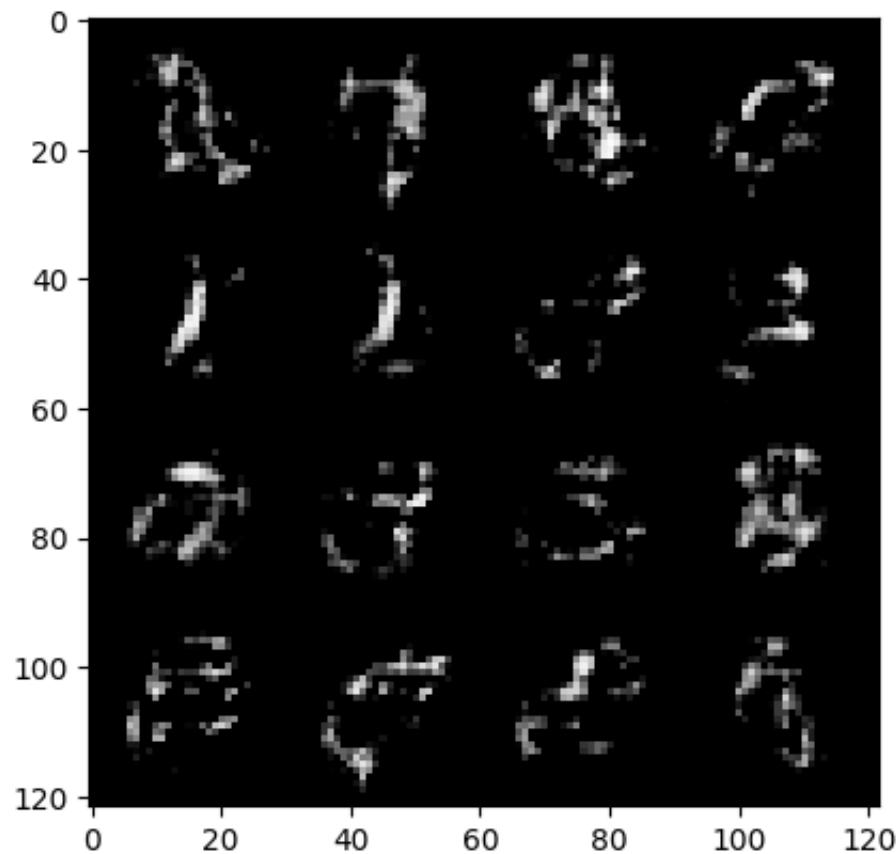
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6870, G_loss: 0.7026



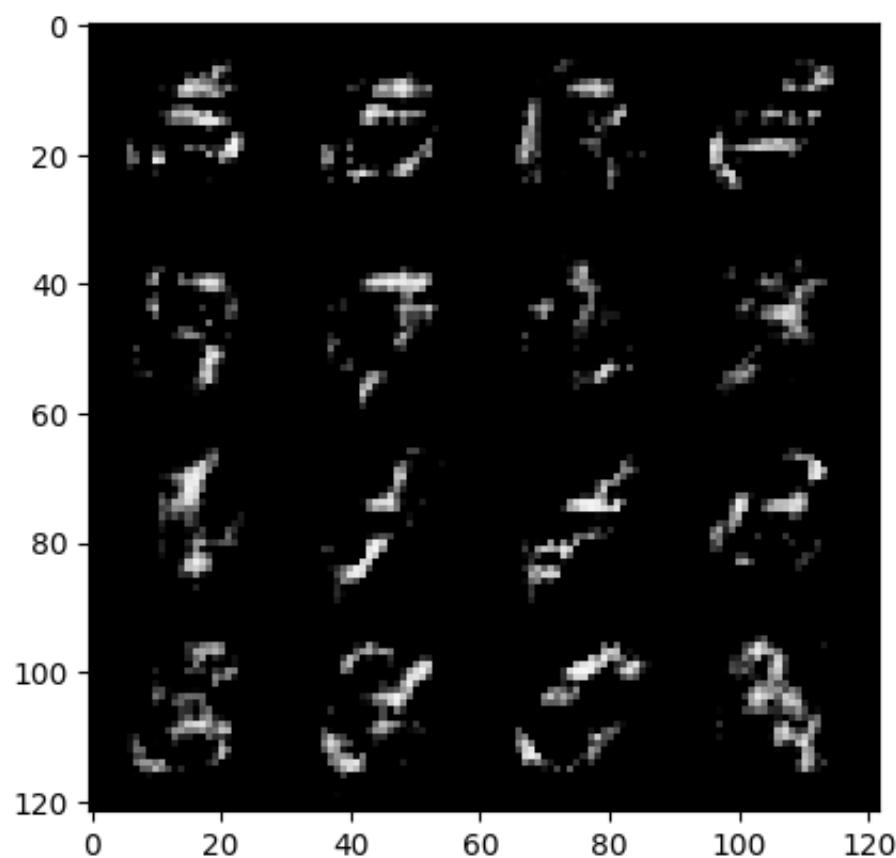
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6869, G_loss: 0.7025



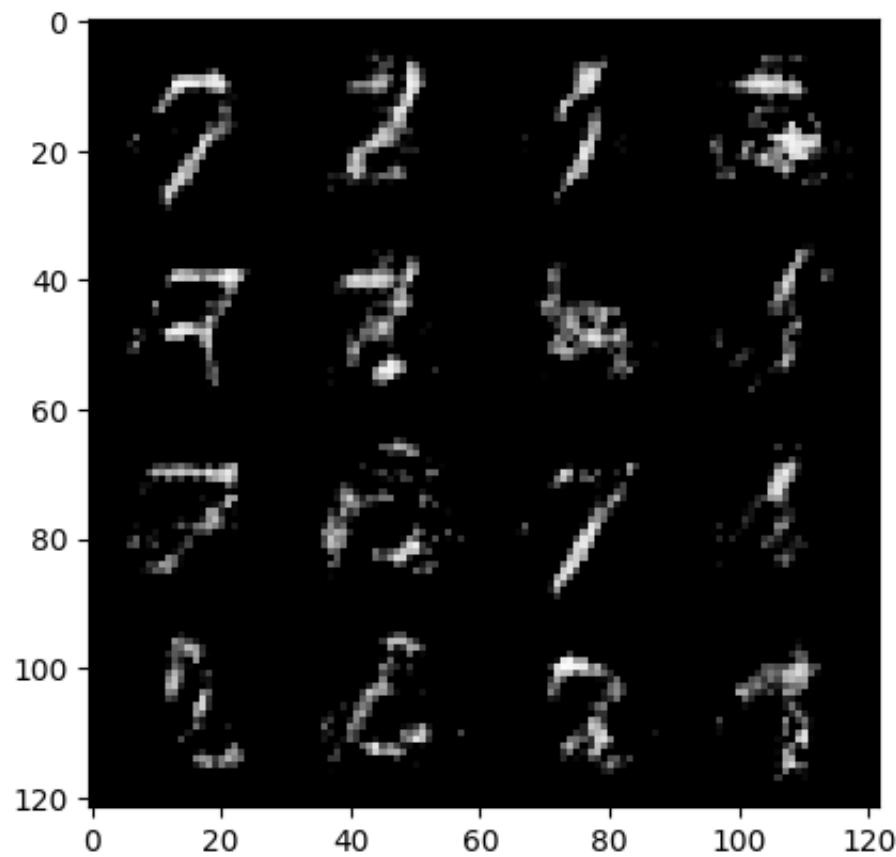
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6869, G_loss: 0.7026



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6869, G_loss: 0.7026

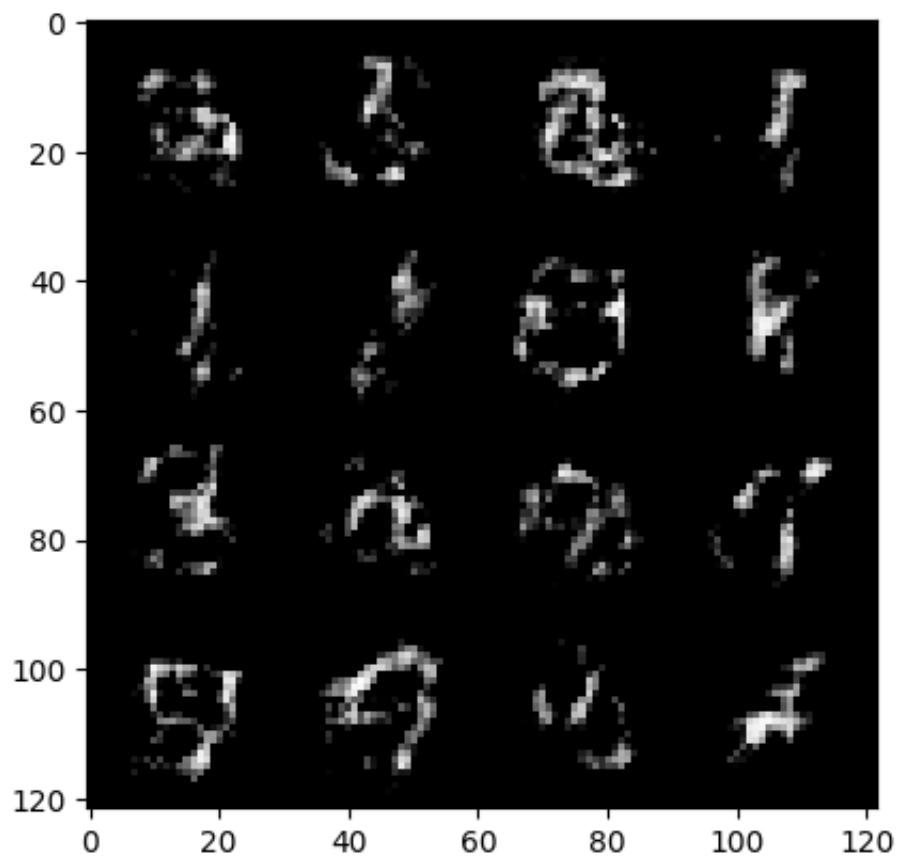


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6869, G_loss: 0.7026



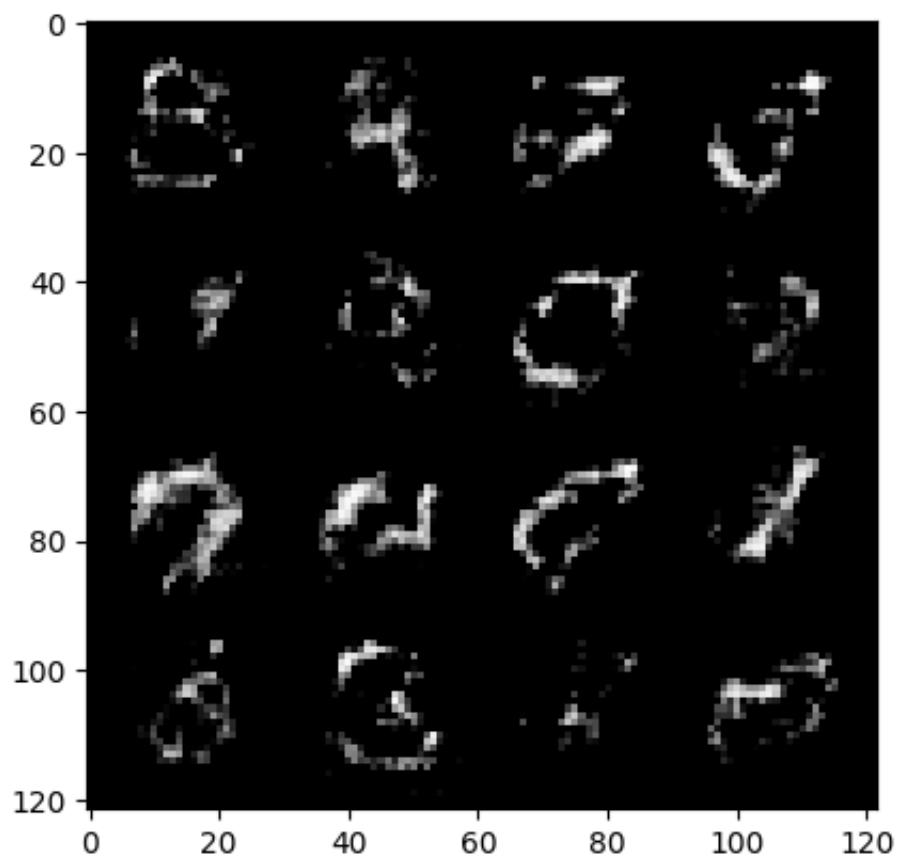
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6869, G_loss: 0.7026

D_loss: 0.6868, G_loss: 0.7026



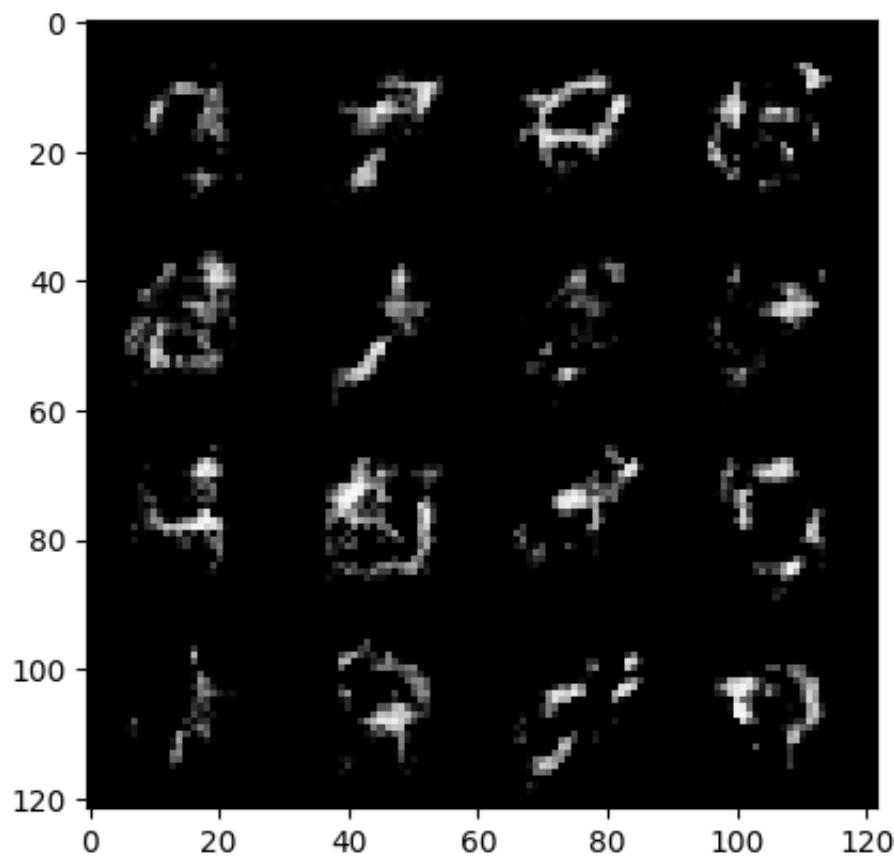
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

D_loss: 0.6868, G_loss: 0.7026

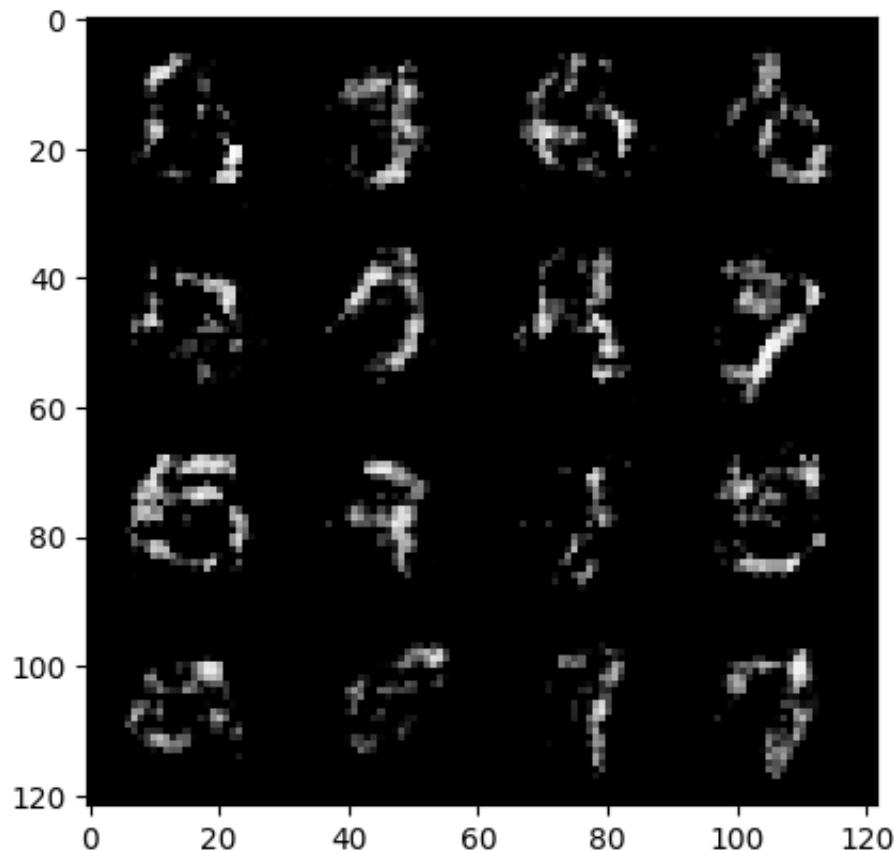


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

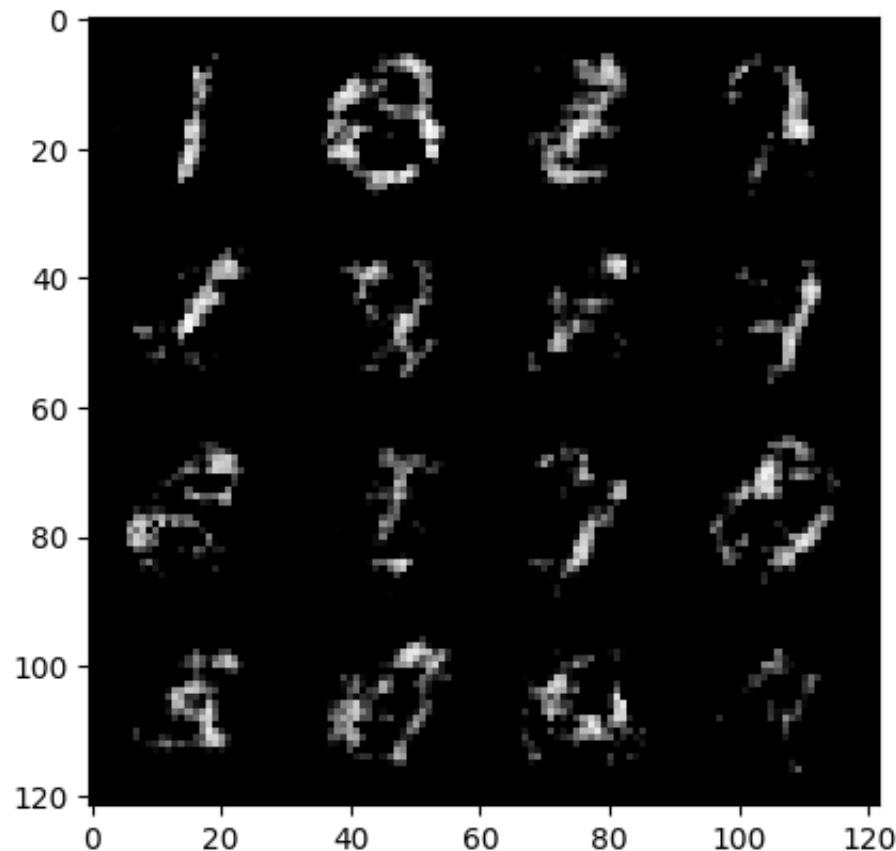
D loss: 0.6868. G loss: 0.7027



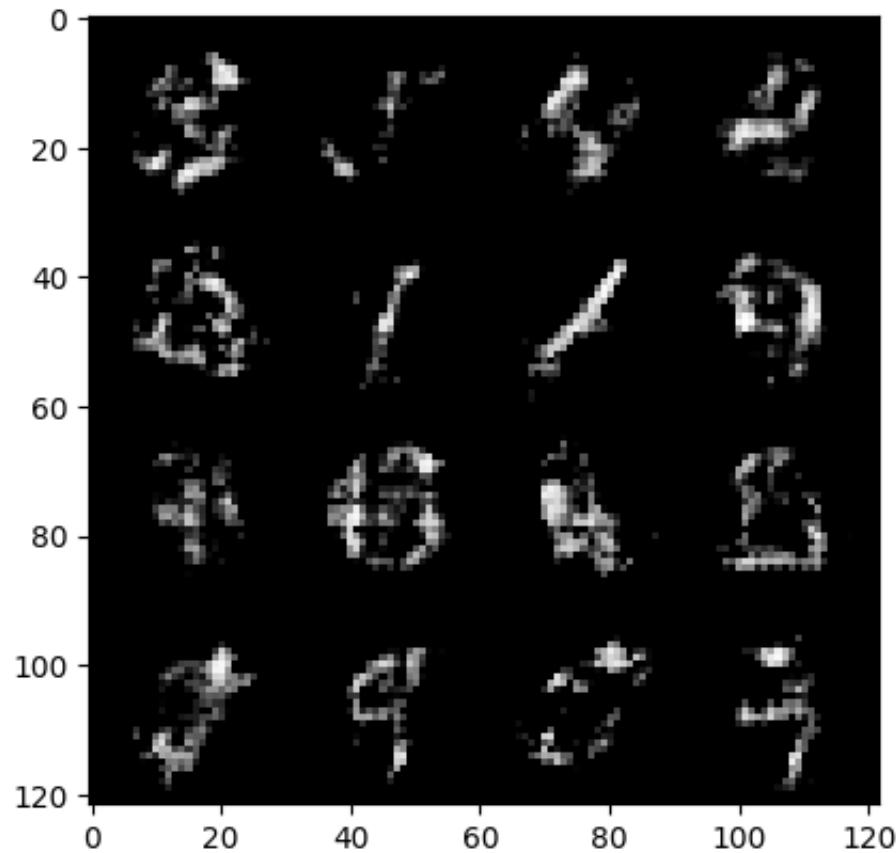
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6868, G_loss: 0.7027



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6868, G_loss: 0.7028

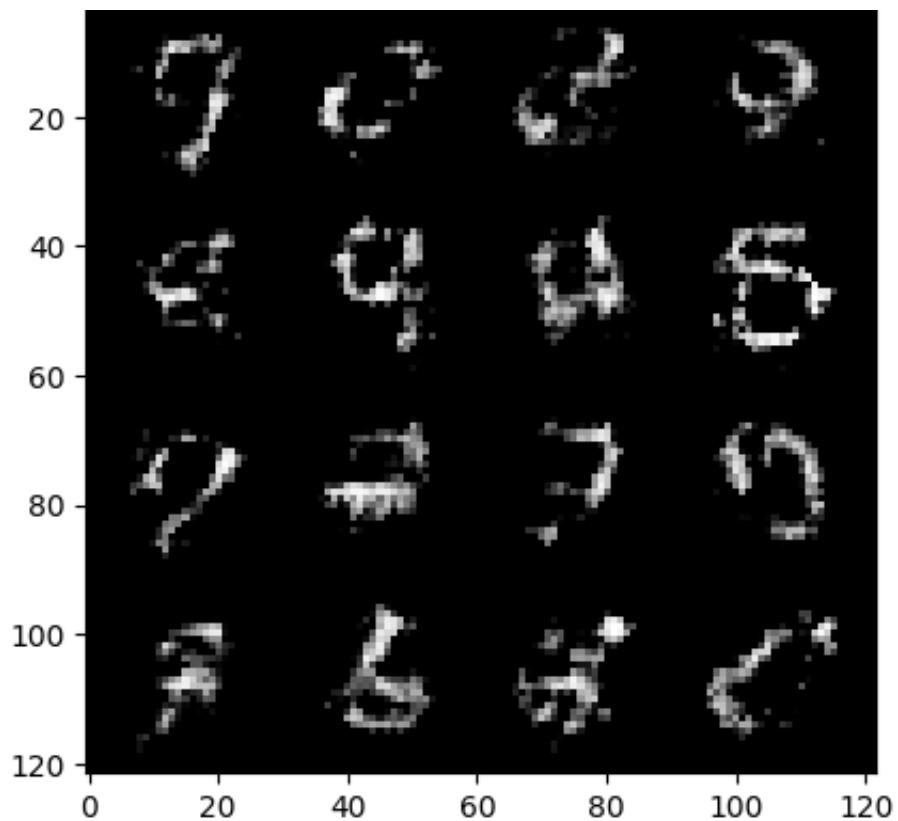


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6867, G_loss: 0.7028

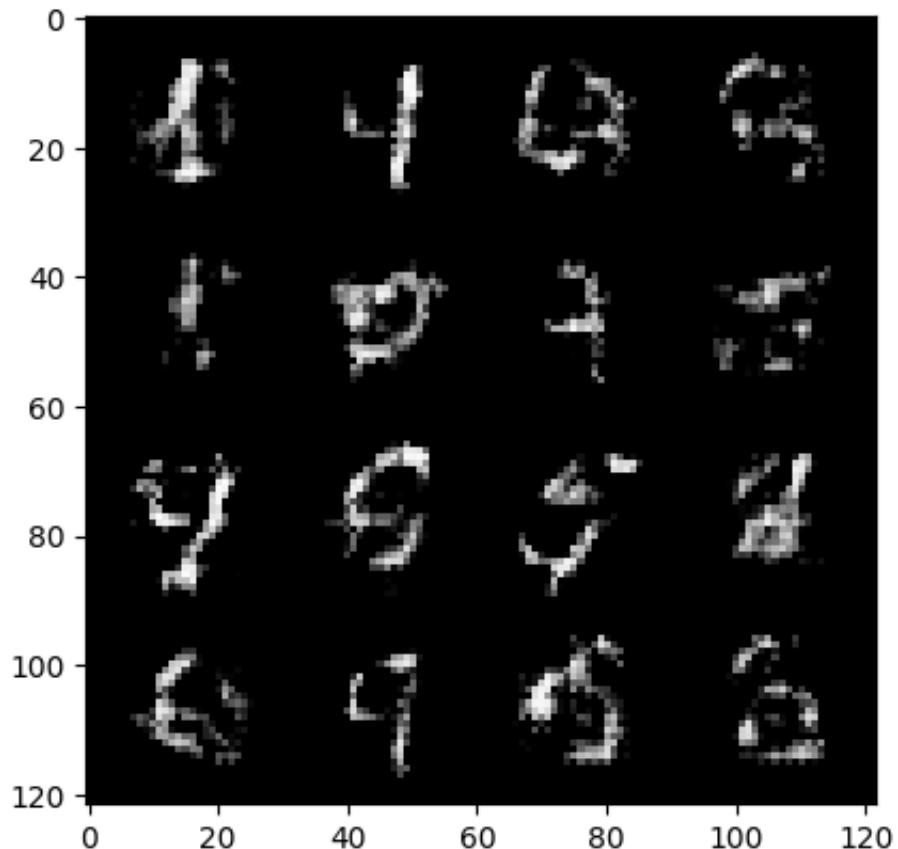


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6867, G_loss: 0.7028



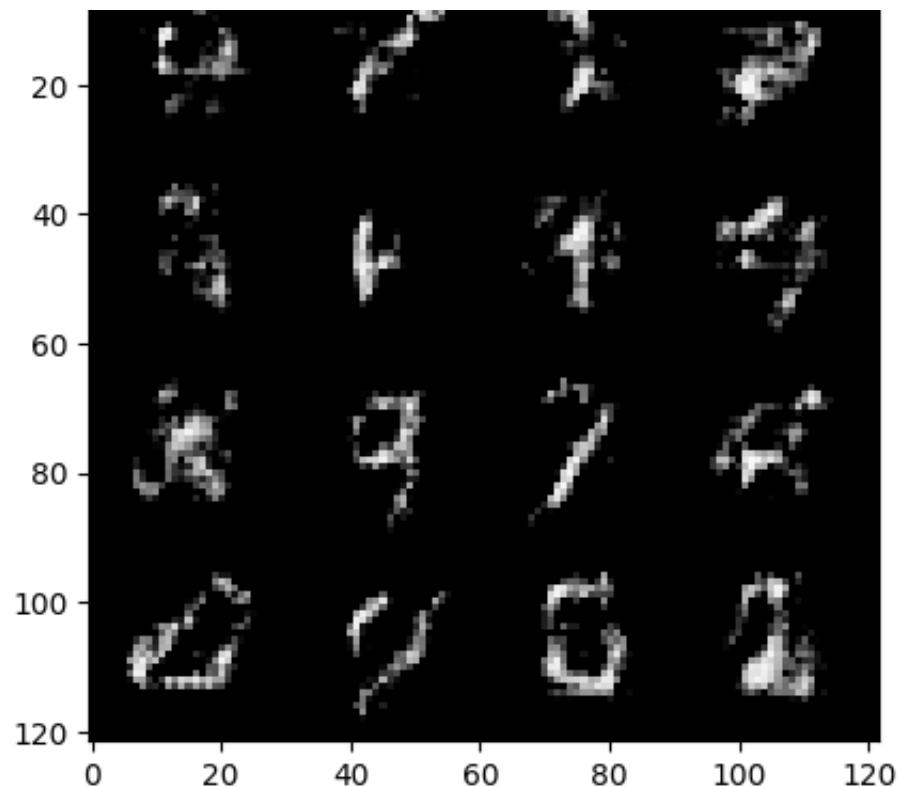


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6867, G_loss: 0.7028

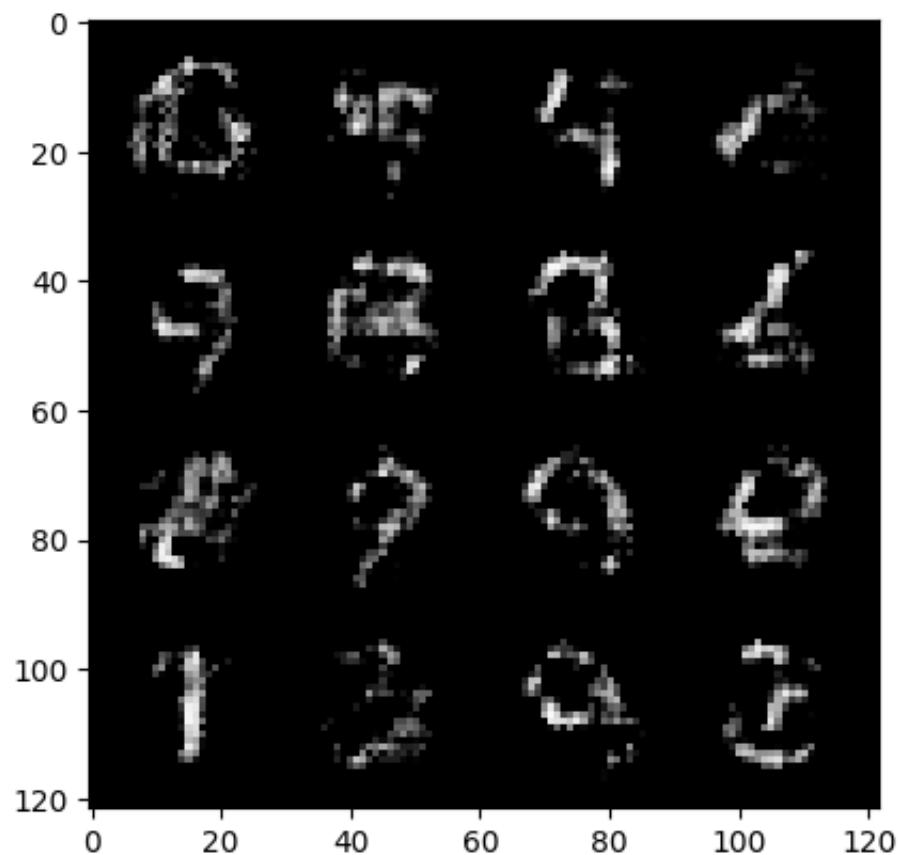


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6867, G_loss: 0.7029



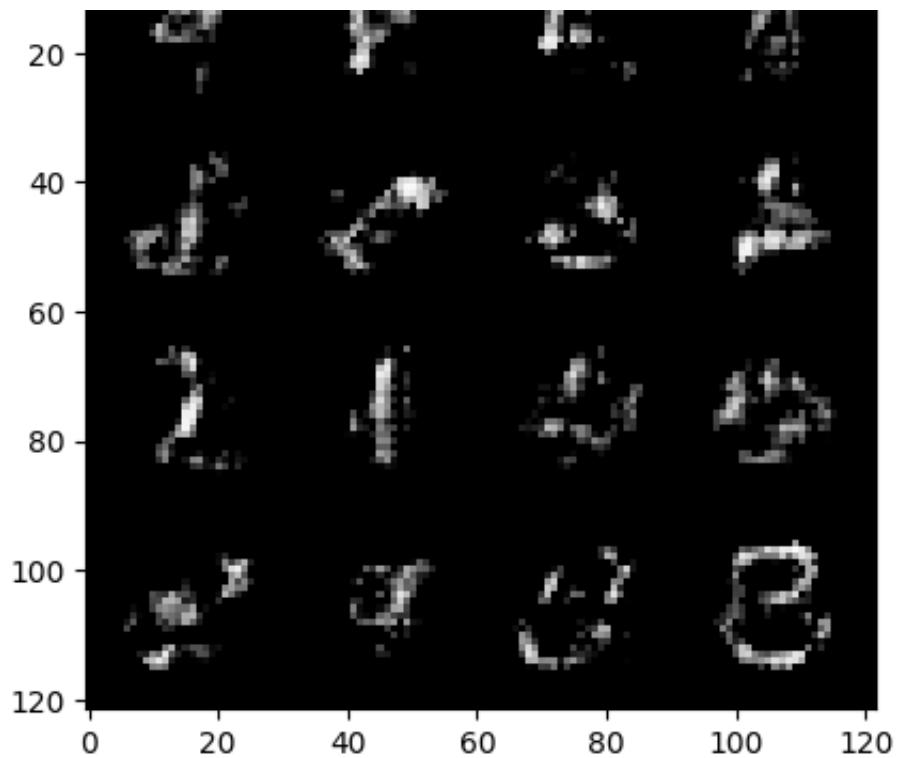


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6867, G_loss: 0.7028

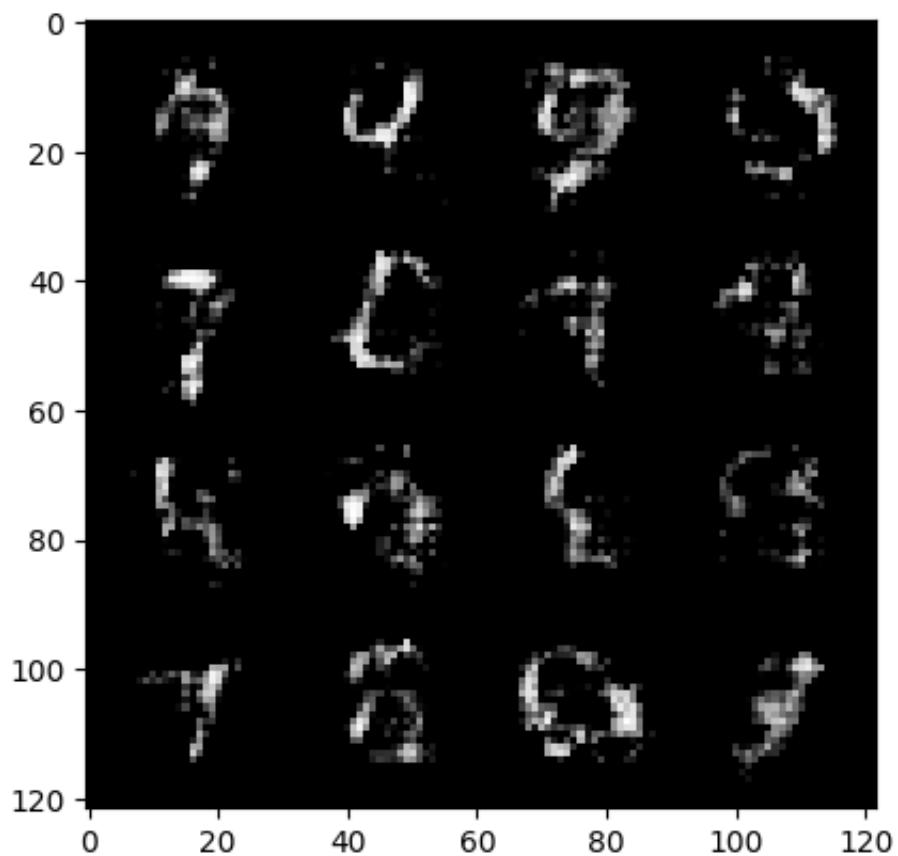


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6867, G_loss: 0.7029



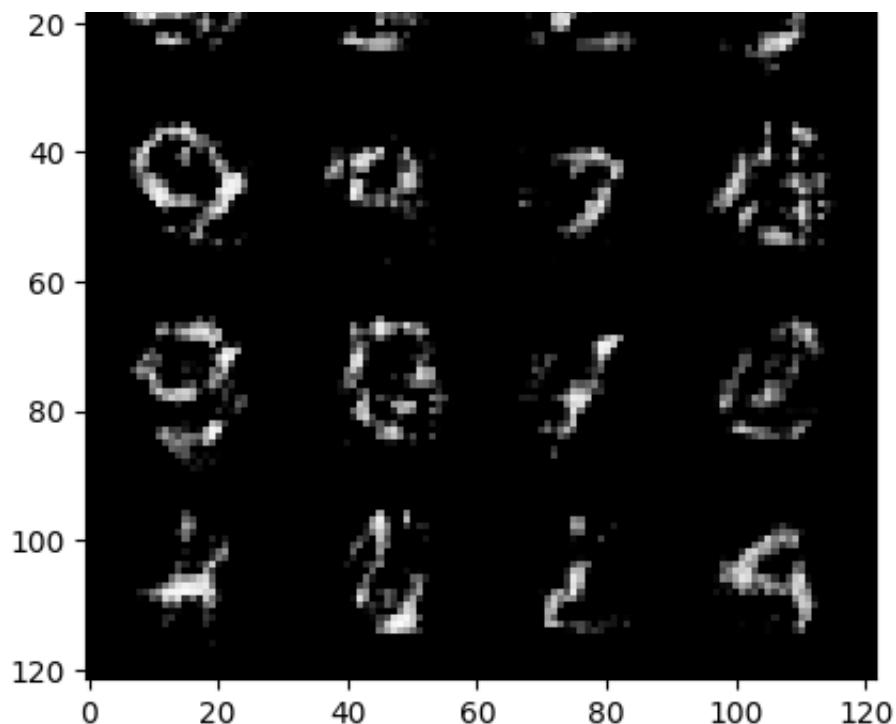


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6866, G_loss: 0.7029

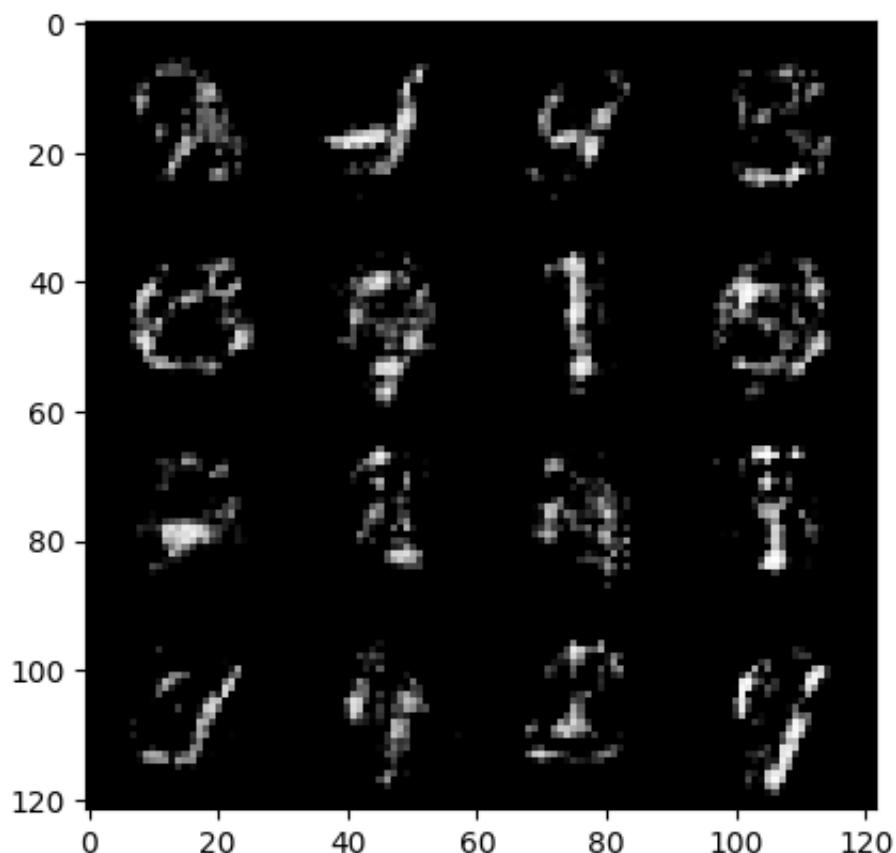


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6866, G_loss: 0.7028



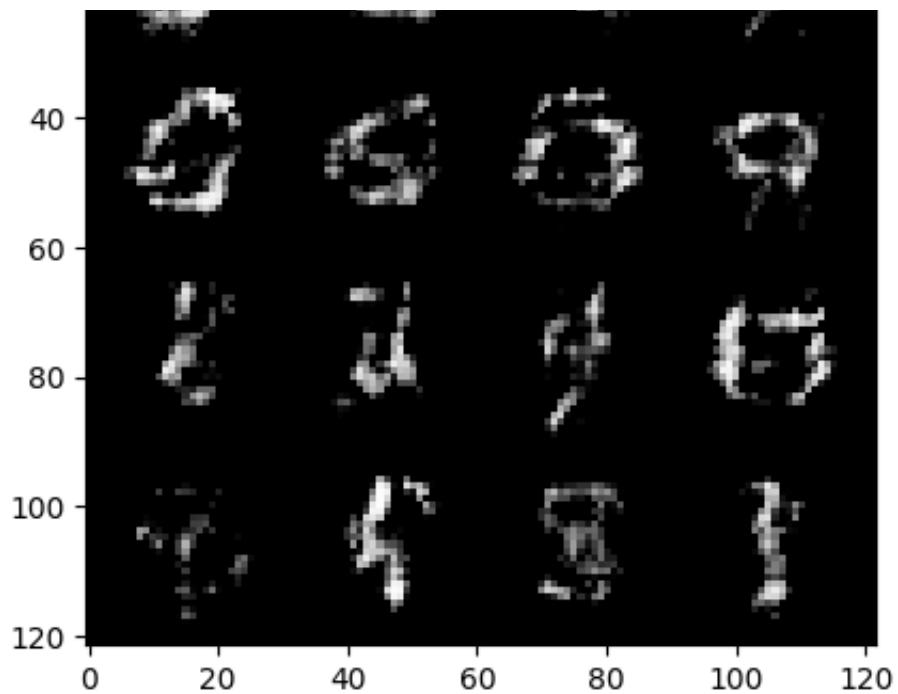


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.5, max=1.0
D_loss: 0.6866, G_loss: 0.7028

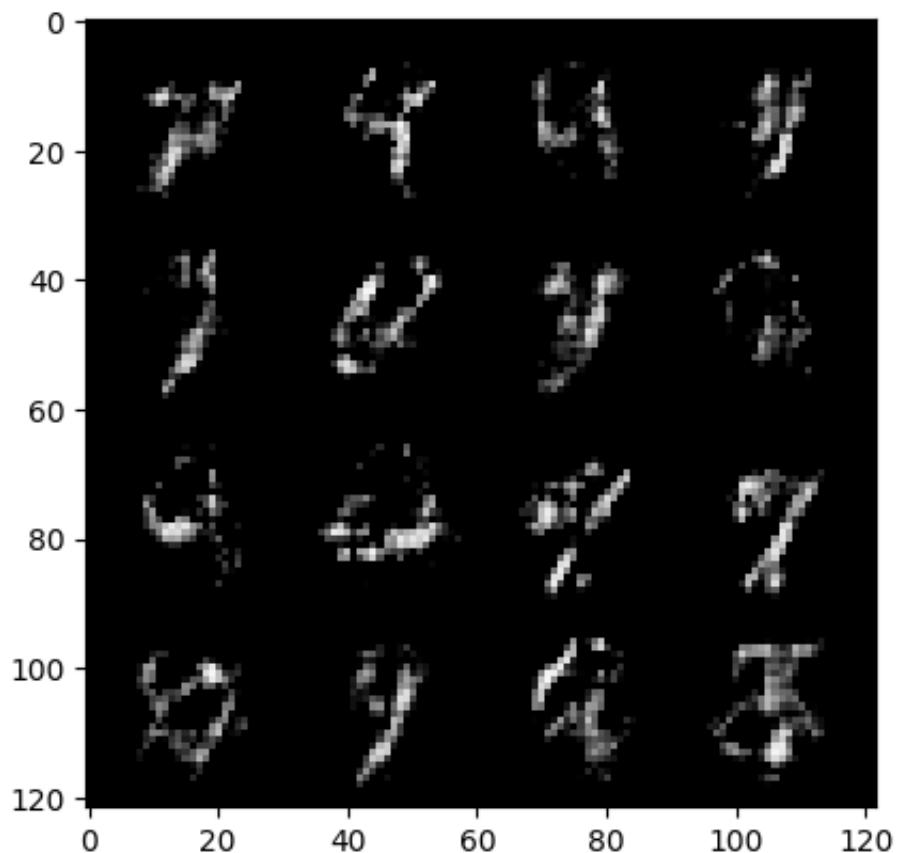


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.5, max=1.0
D_loss: 0.6866, G_loss: 0.7029



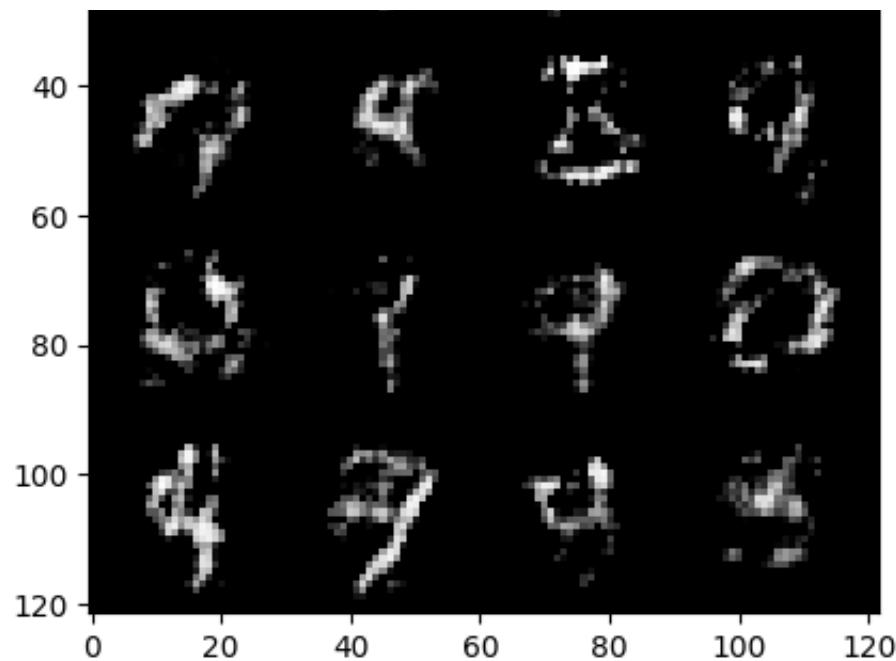


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6866, G_loss: 0.7028

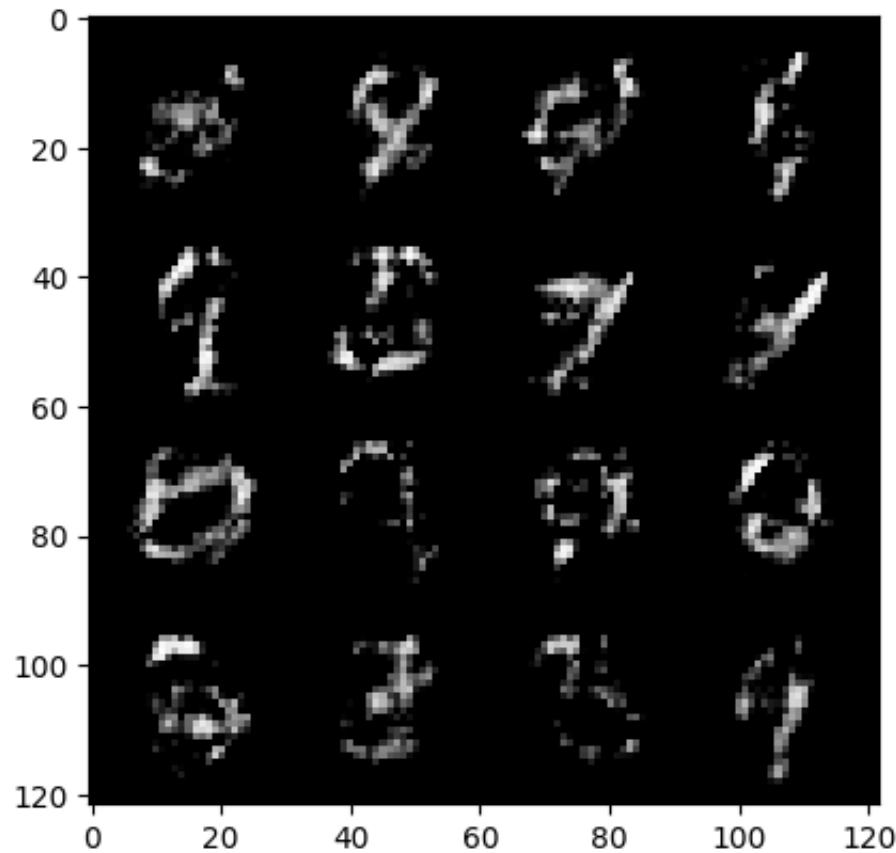


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6866, G_loss: 0.7028



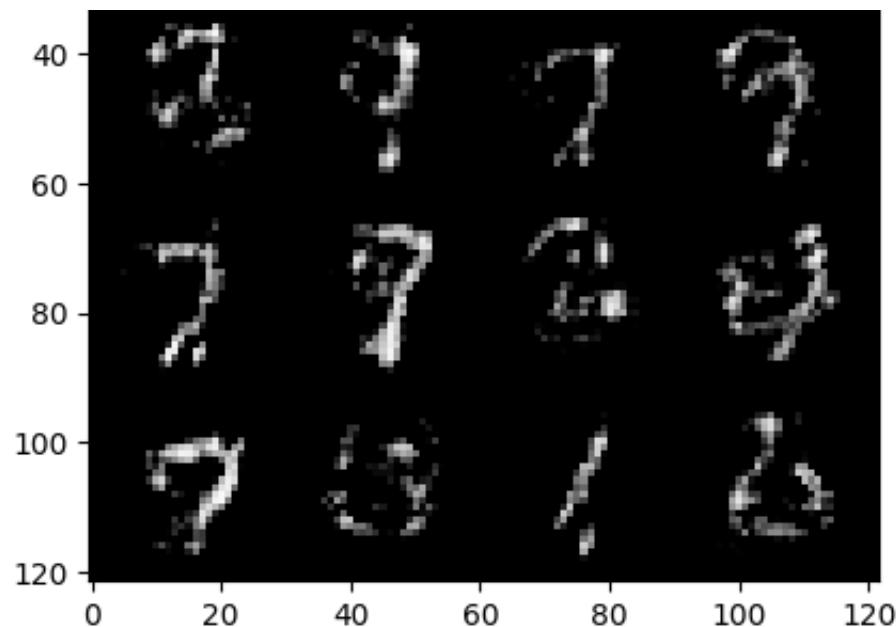


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6866, G_loss: 0.7028

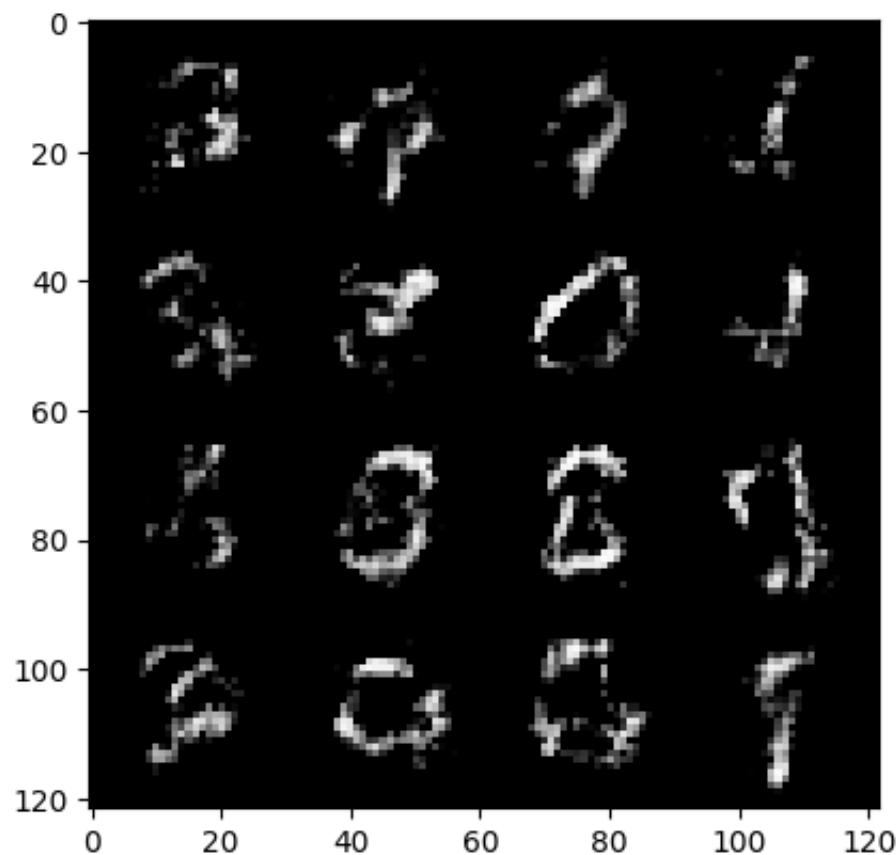


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6866, G_loss: 0.7028



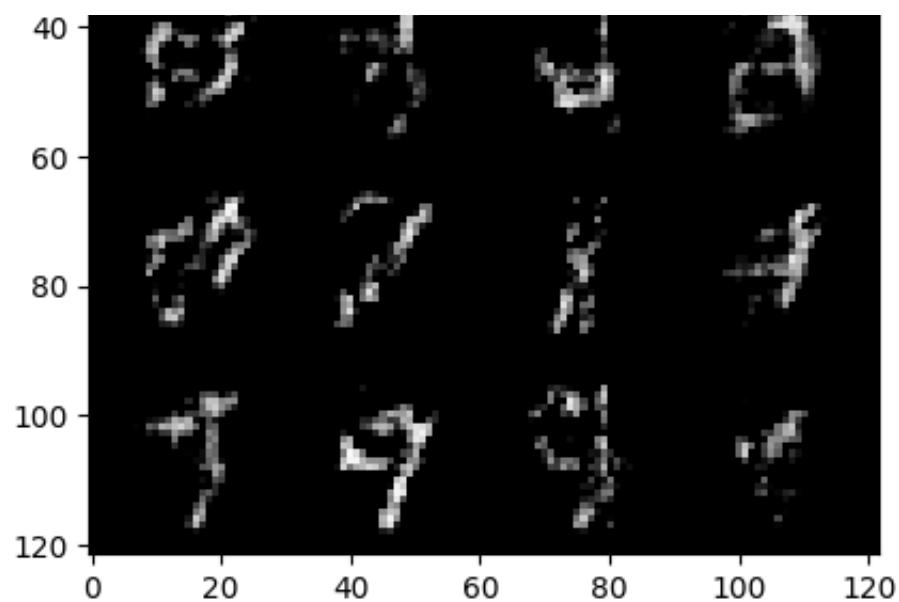


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6866, G_loss: 0.7028

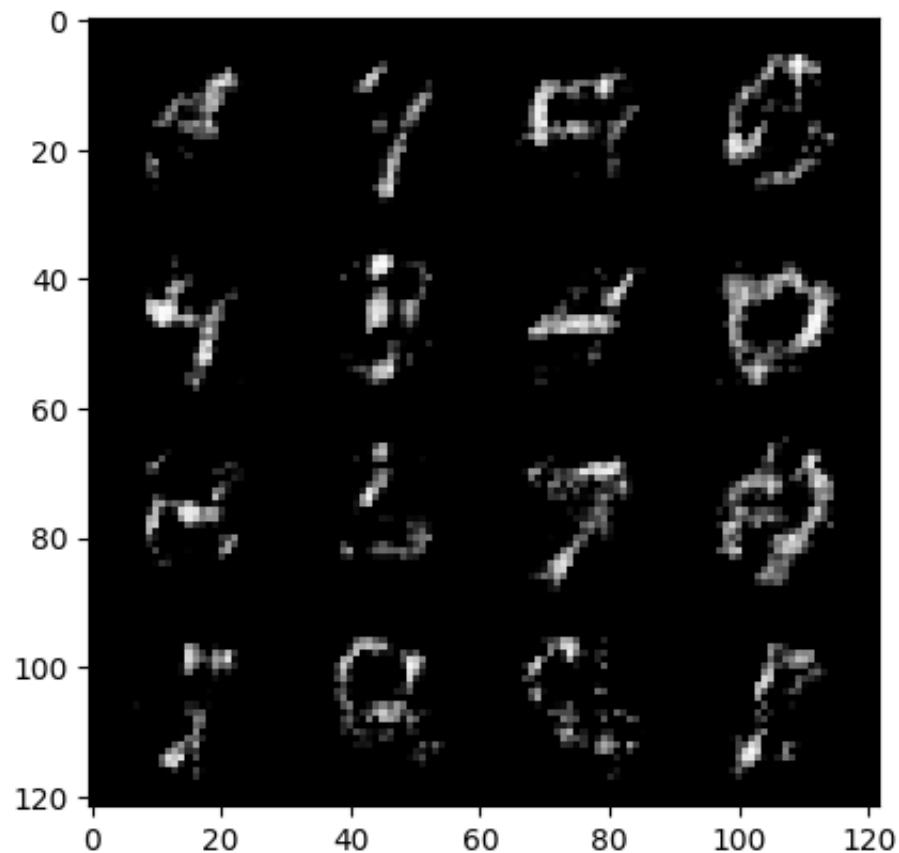


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6866, G_loss: 0.7029



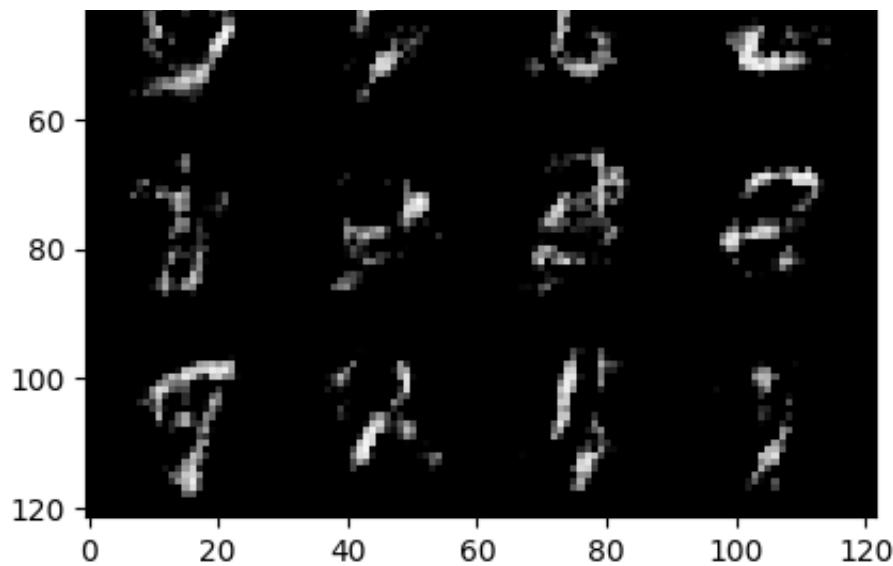


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0
D_loss: 0.6866, G_loss: 0.7029

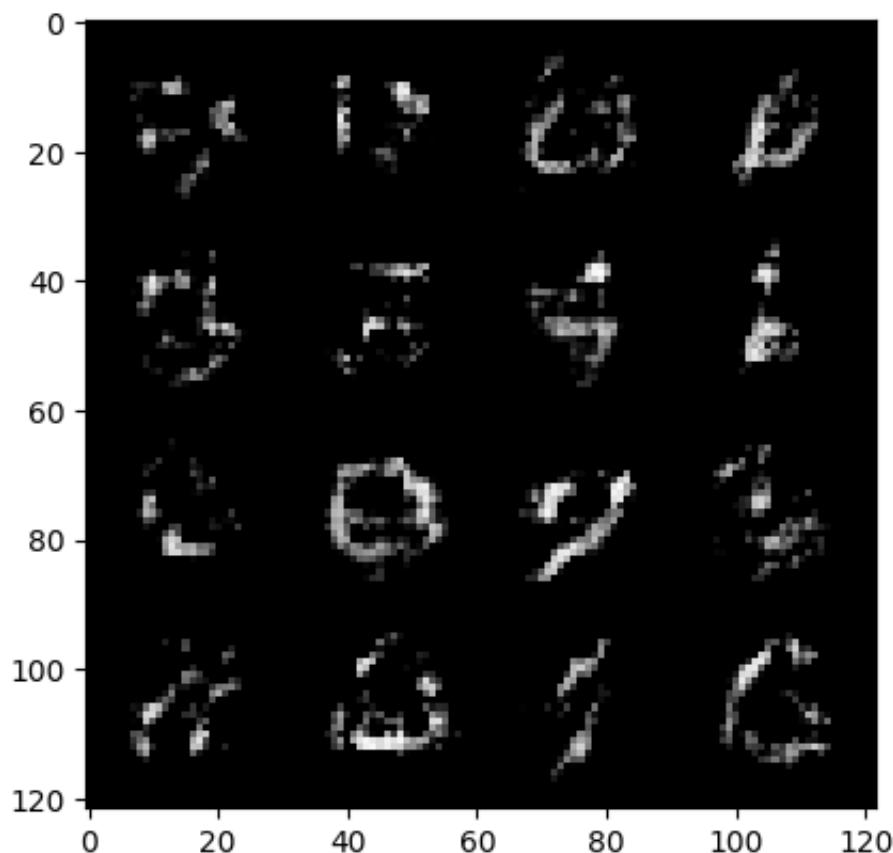


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0
D_loss: 0.6865, G_loss: 0.7029



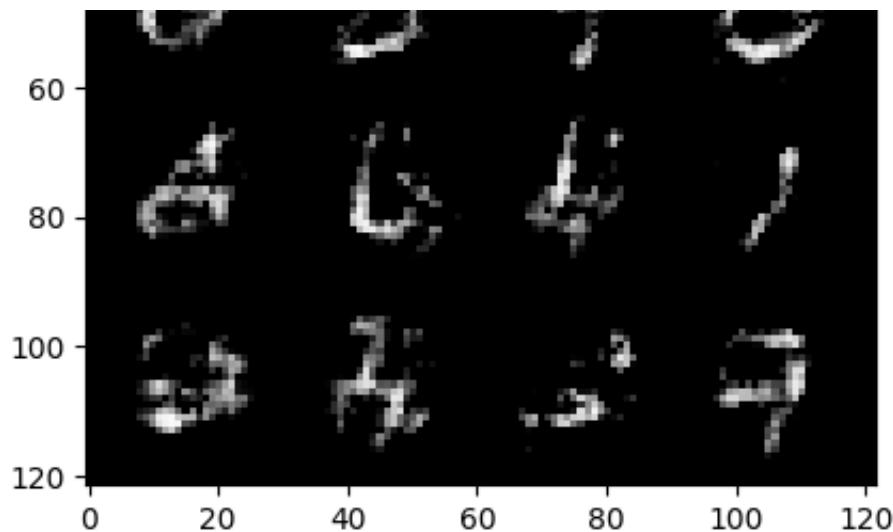


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.5, max=1.0
D_loss: 0.6865, G_loss: 0.7029

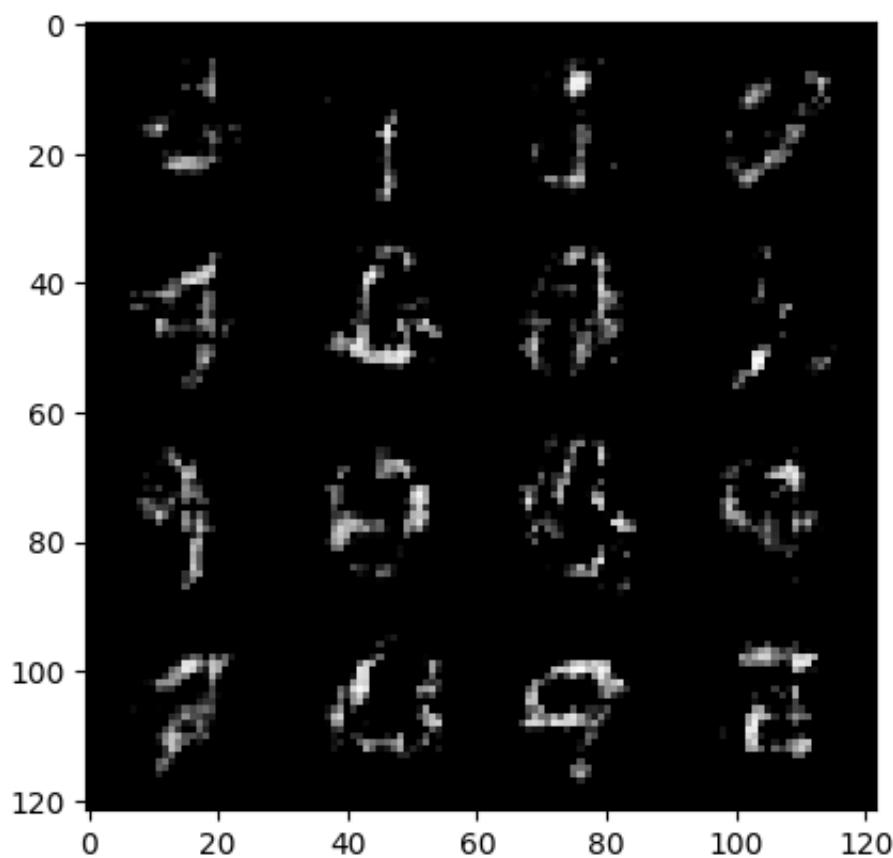


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D_loss: 0.6865, G_loss: 0.7029



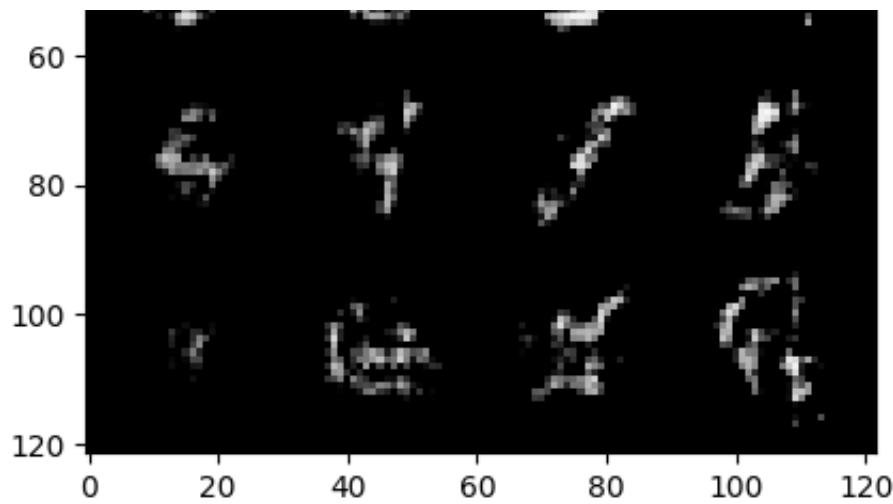


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6865, G_loss: 0.7029

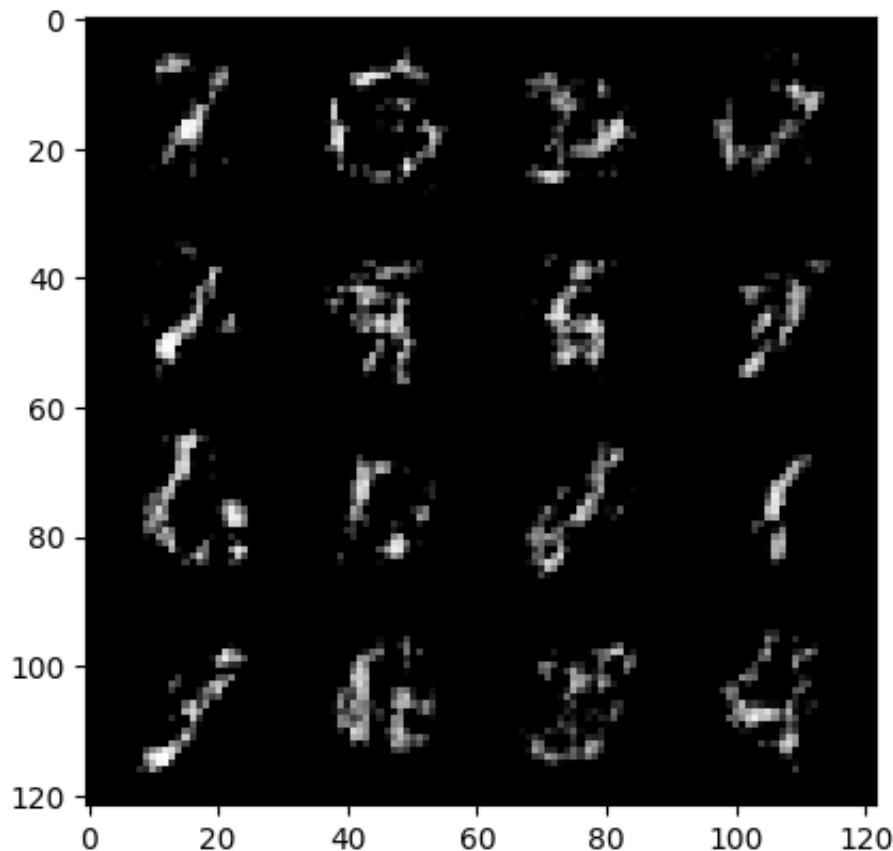


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6865, G_loss: 0.7029



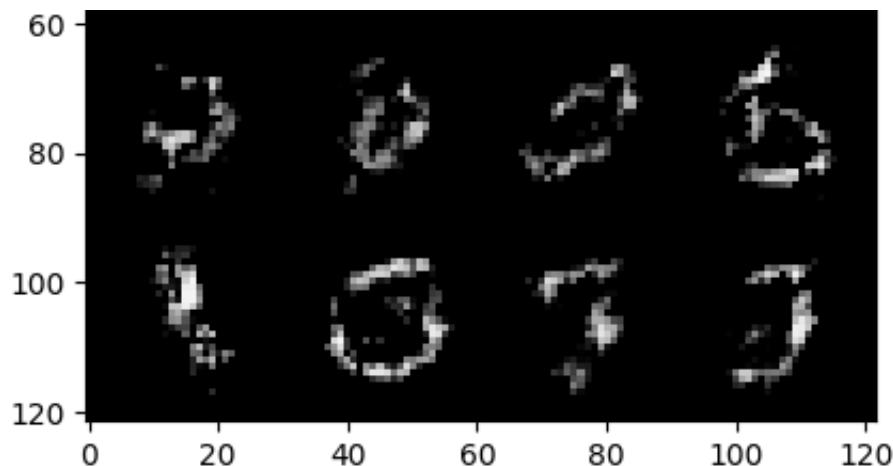


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6865, G_loss: 0.7029

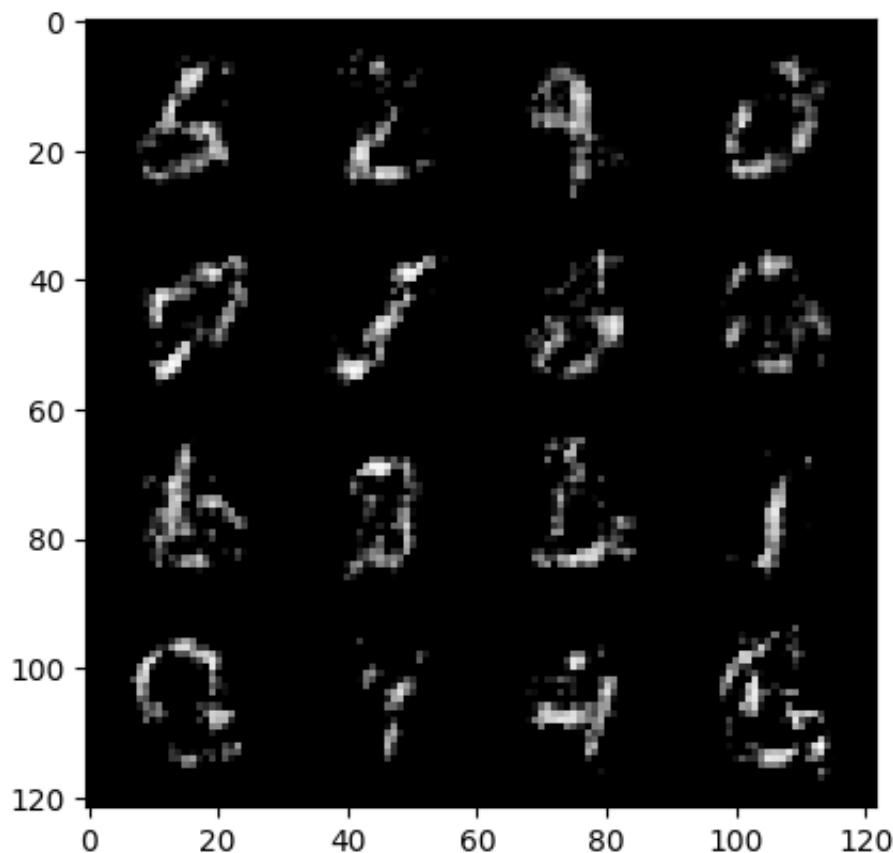


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D_loss: 0.6865, G_loss: 0.7029



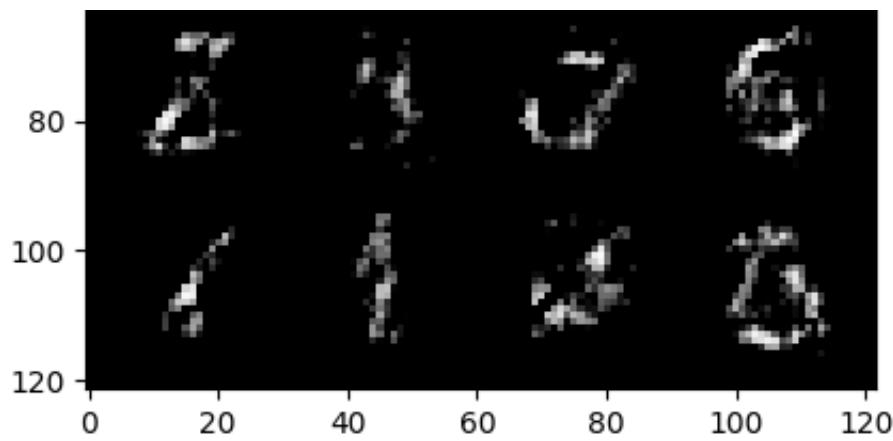


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6865, G_loss: 0.7029

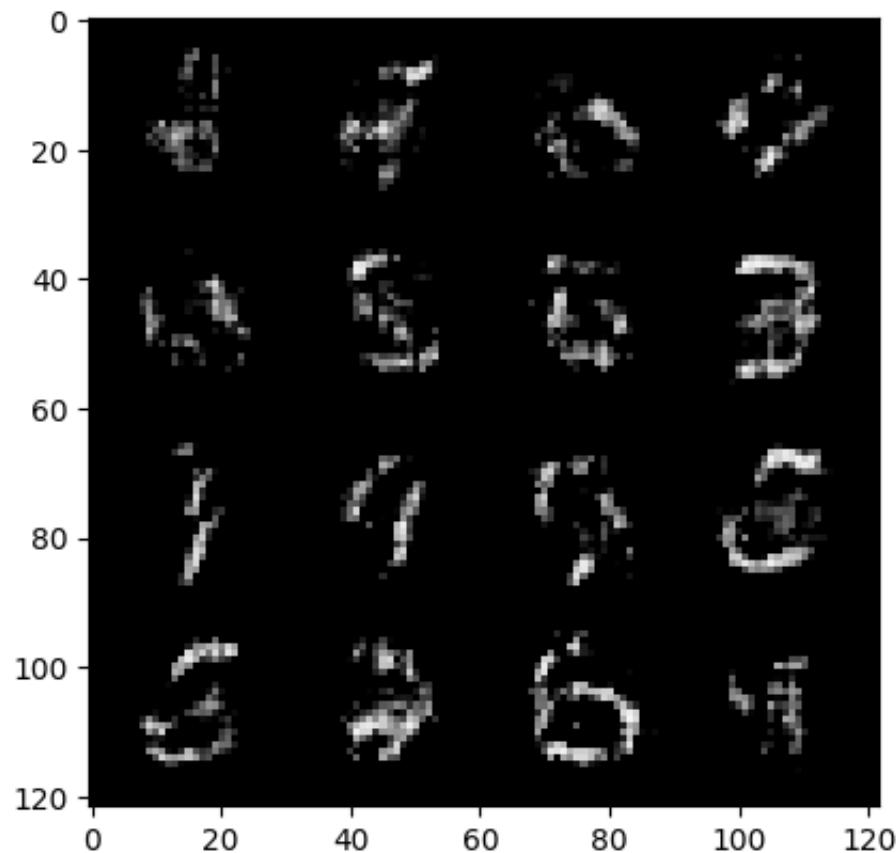


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6865, G_loss: 0.7029





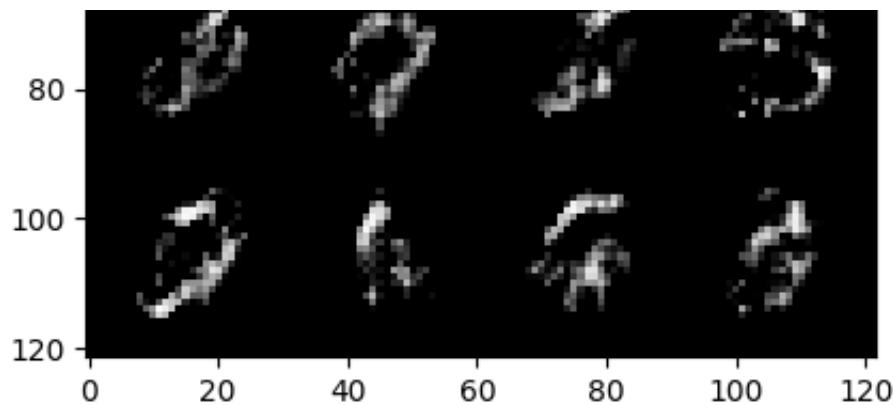
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6865, G_loss: 0.7029



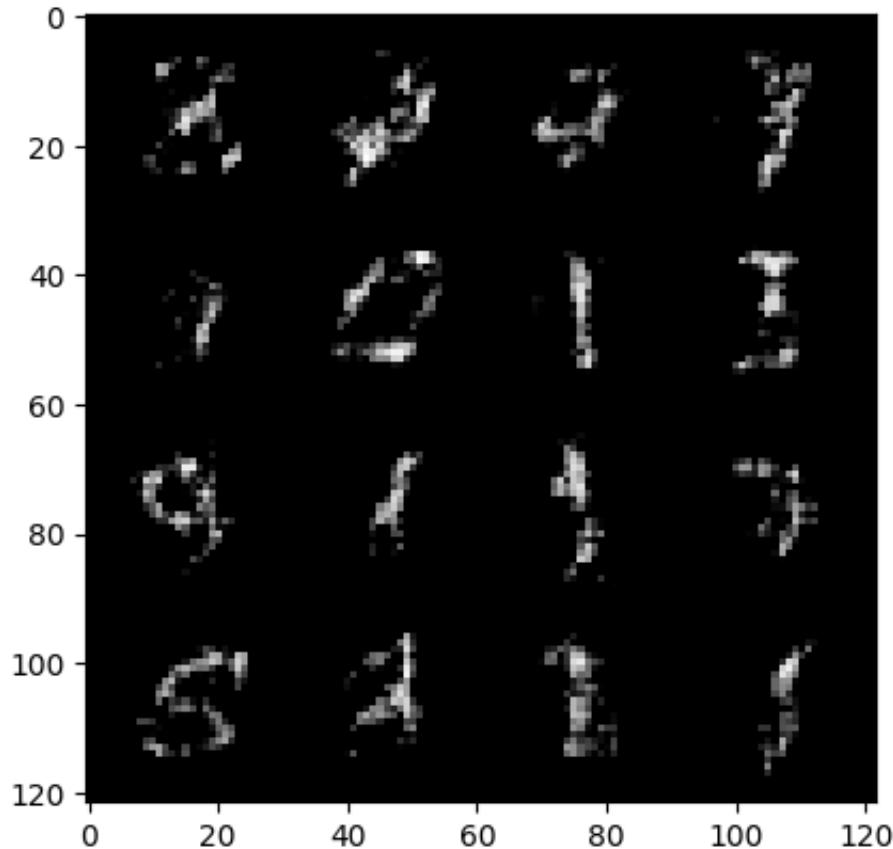
D_loss: 0.6865, G_loss: 0.7030

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32



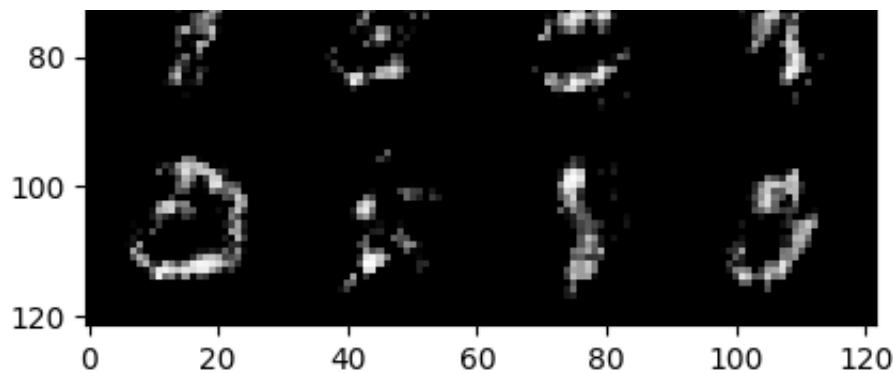


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6865, G_loss: 0.7029

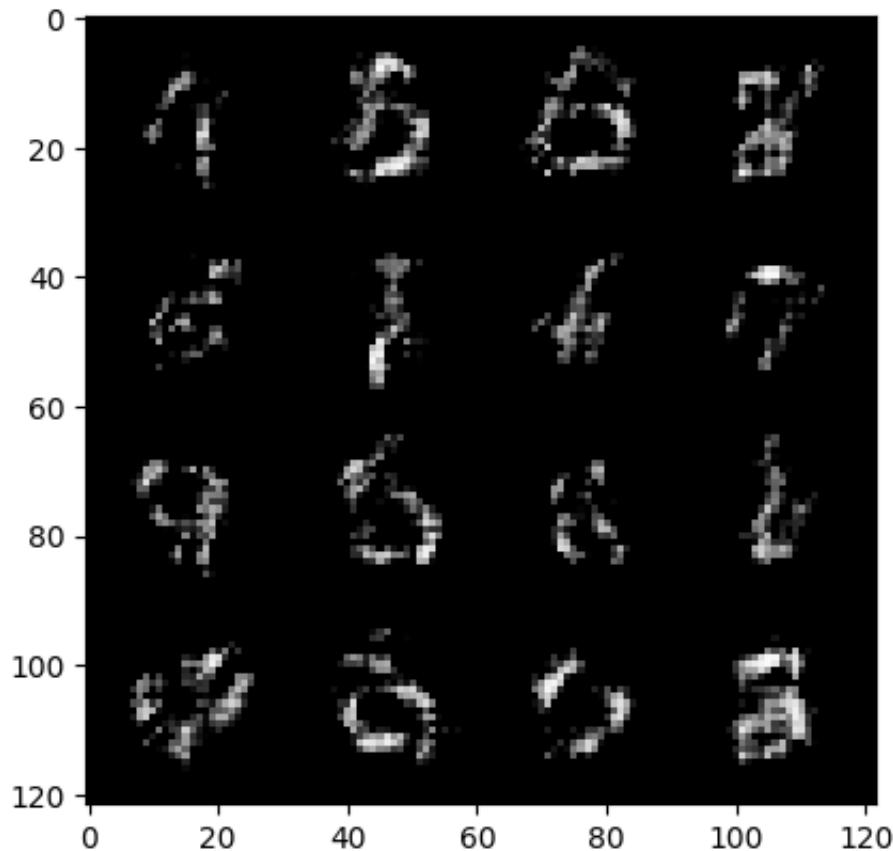


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6864, G_loss: 0.7030



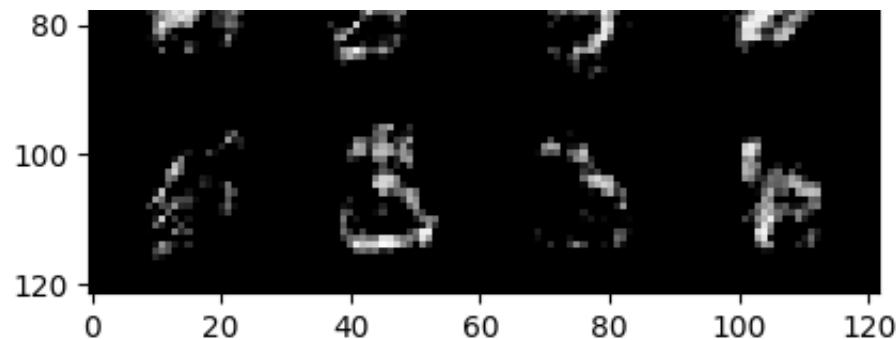


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6864, G_loss: 0.7030

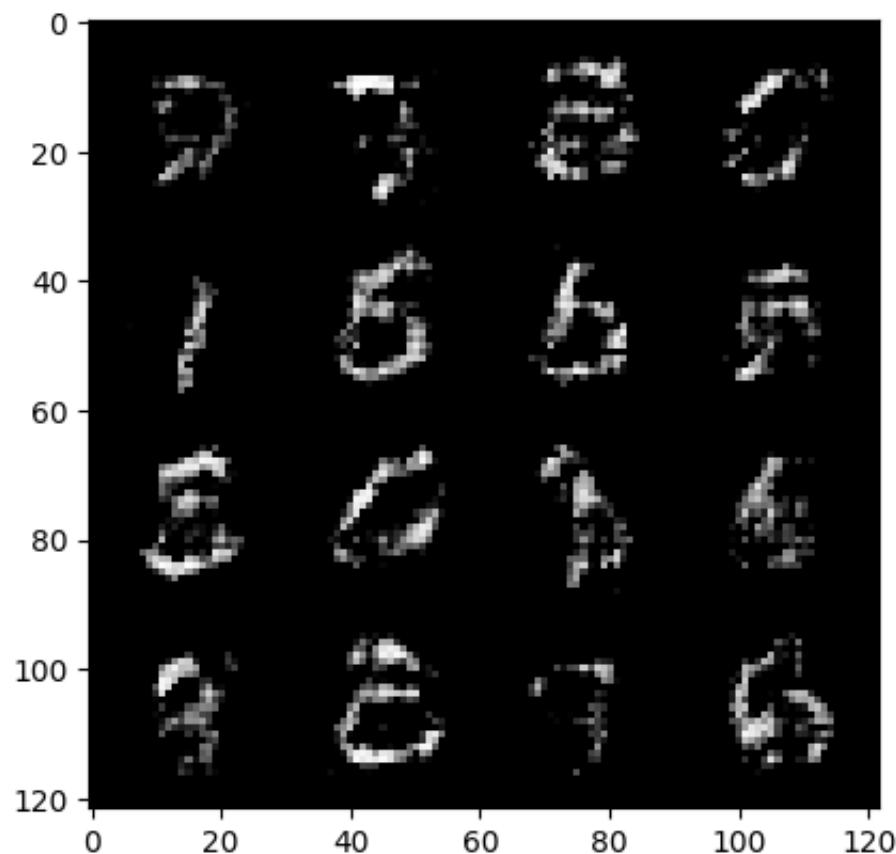


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6865, G_loss: 0.7029



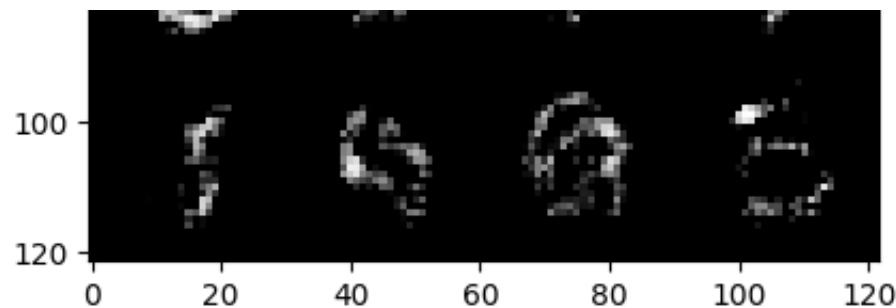


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6864, G_loss: 0.7029

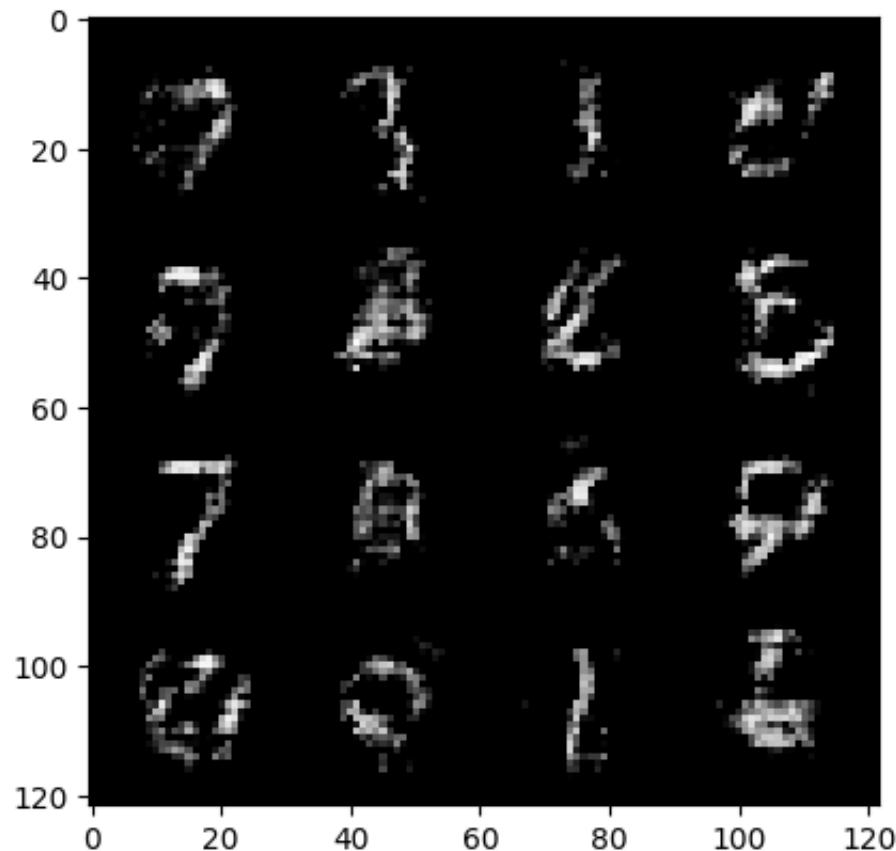


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6864, G_loss: 0.7030



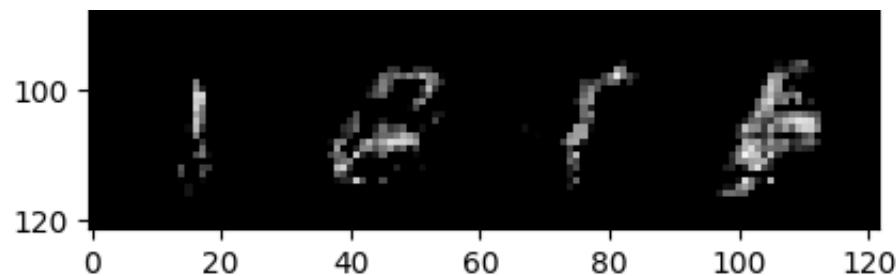


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6864, G_loss: 0.7029

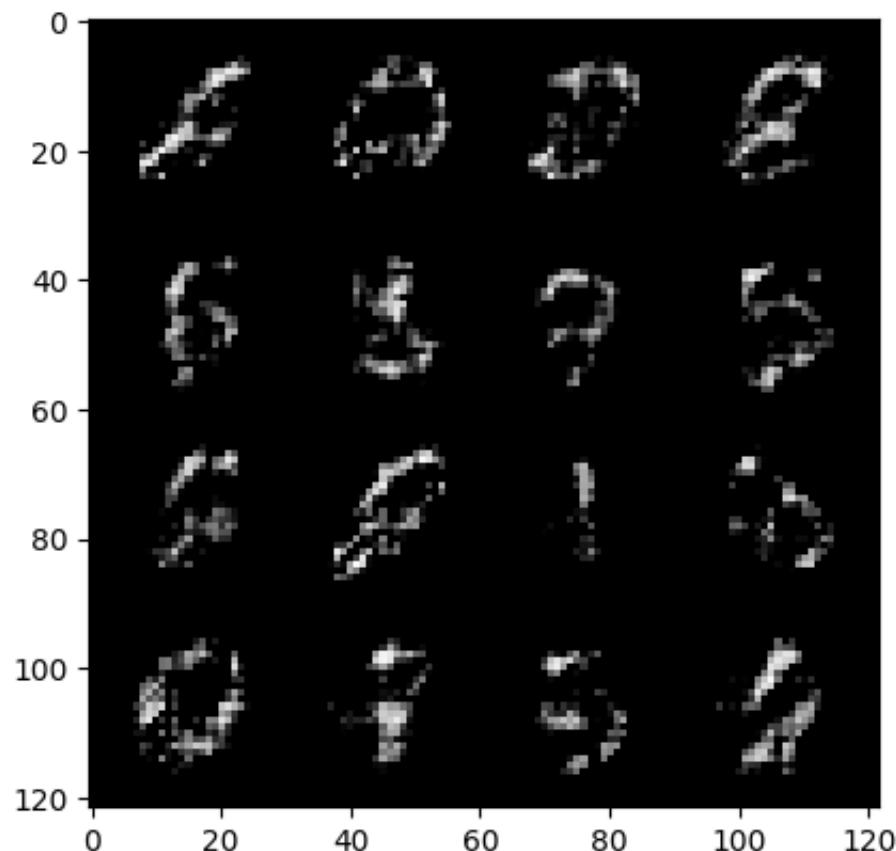


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6864, G_loss: 0.7029

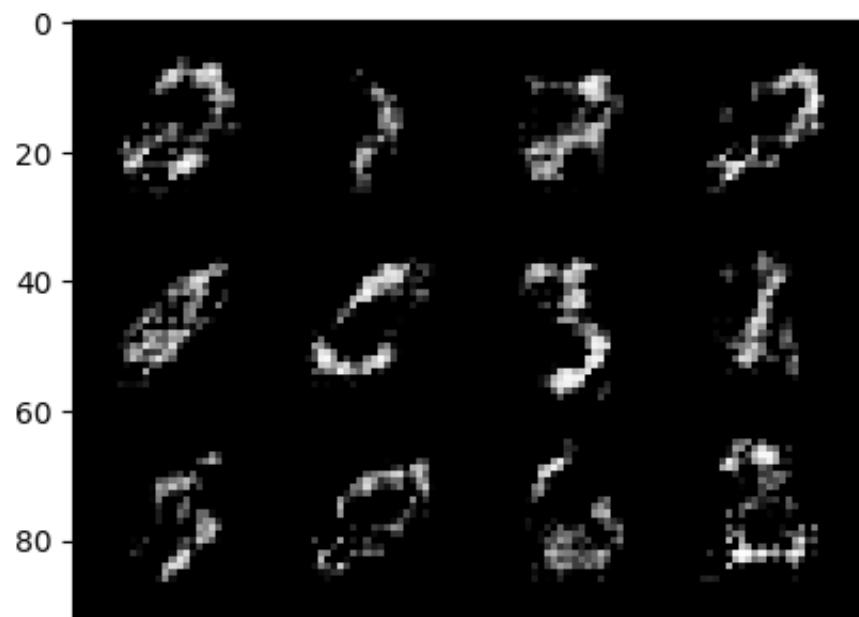


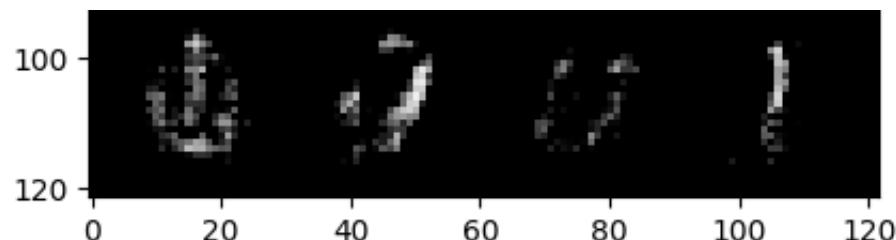


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6864, G_loss: 0.7029

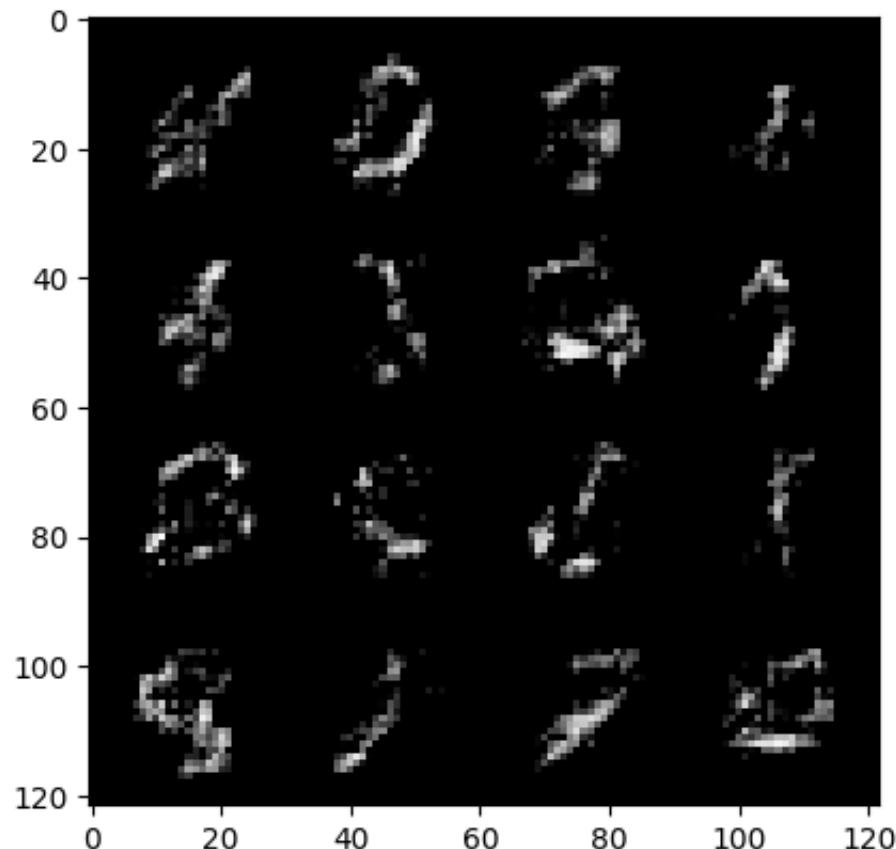


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6864, G_loss: 0.7029



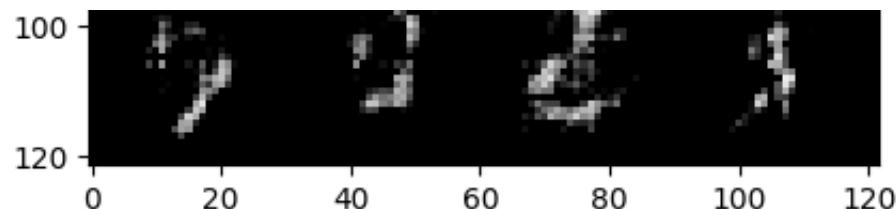


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6864, G_loss: 0.7030

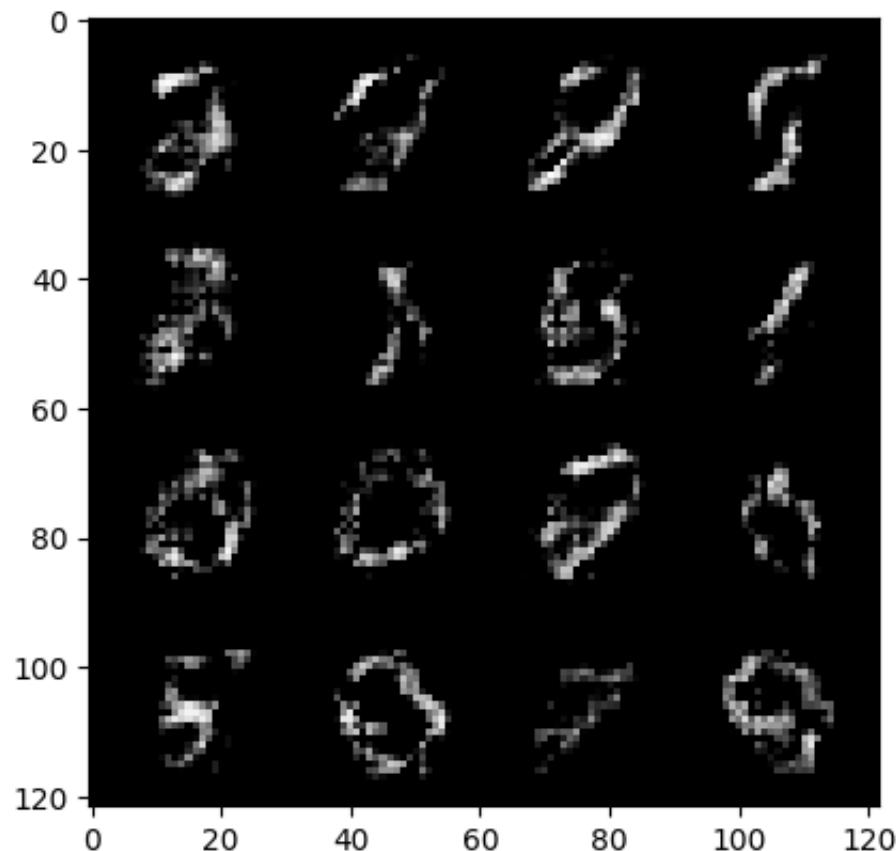


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6863, G_loss: 0.7031



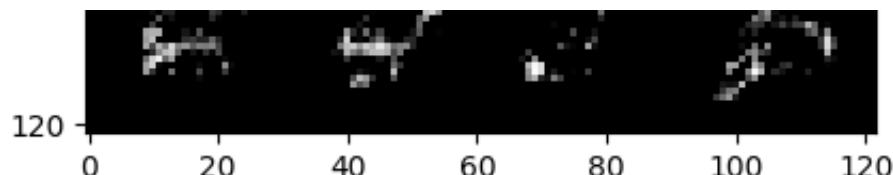


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6863, G_loss: 0.7030

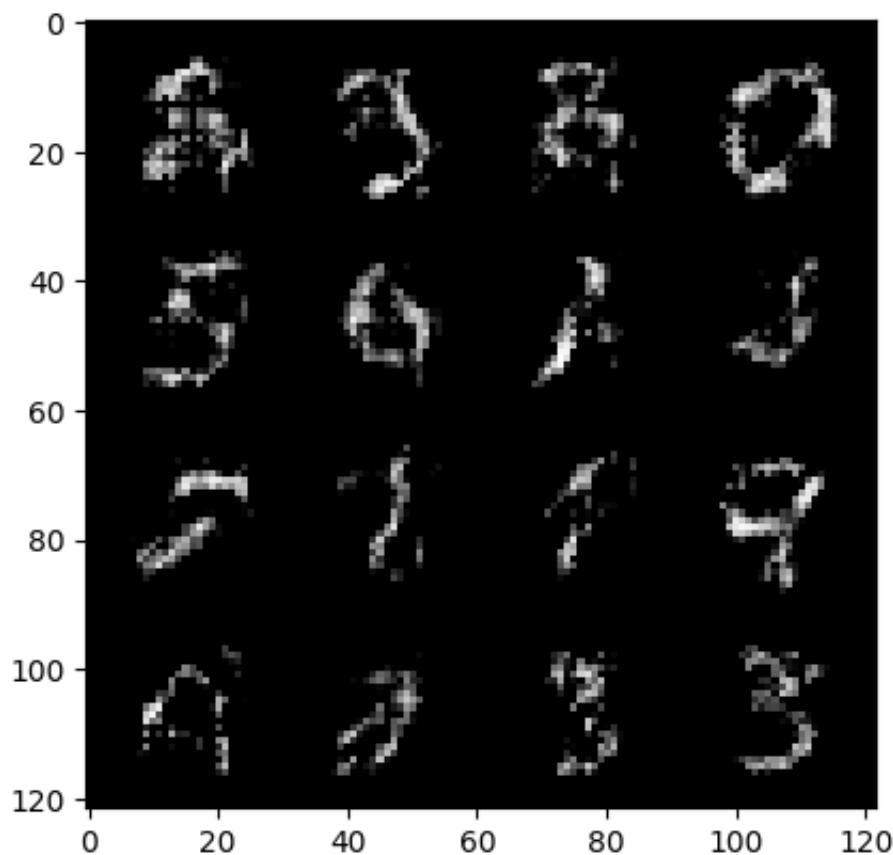


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6863, G_loss: 0.7031



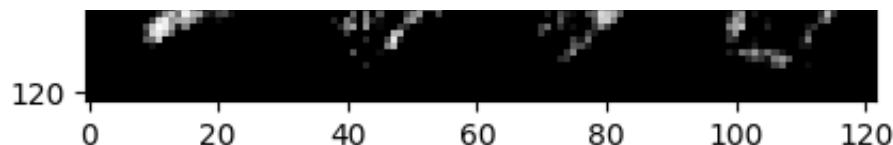


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6863, G_loss: 0.7032

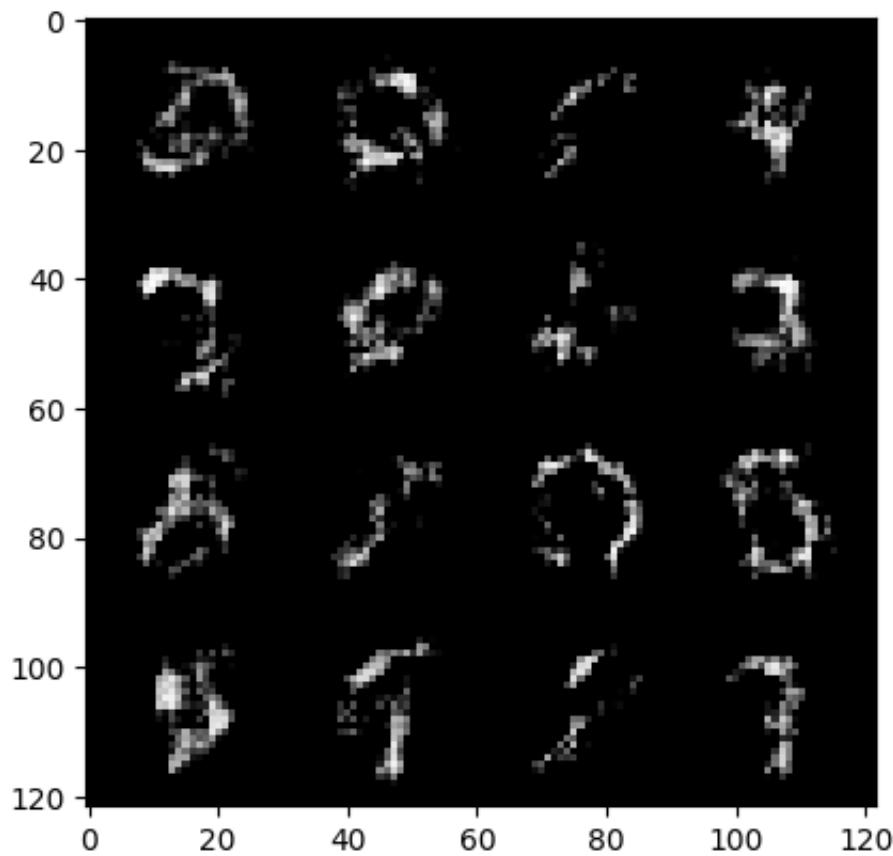


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6863, G_loss: 0.7031



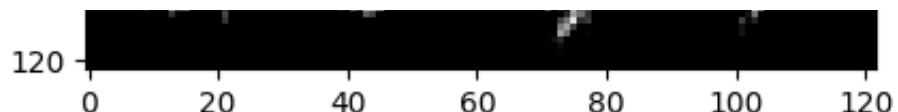


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6863, G_loss: 0.7031

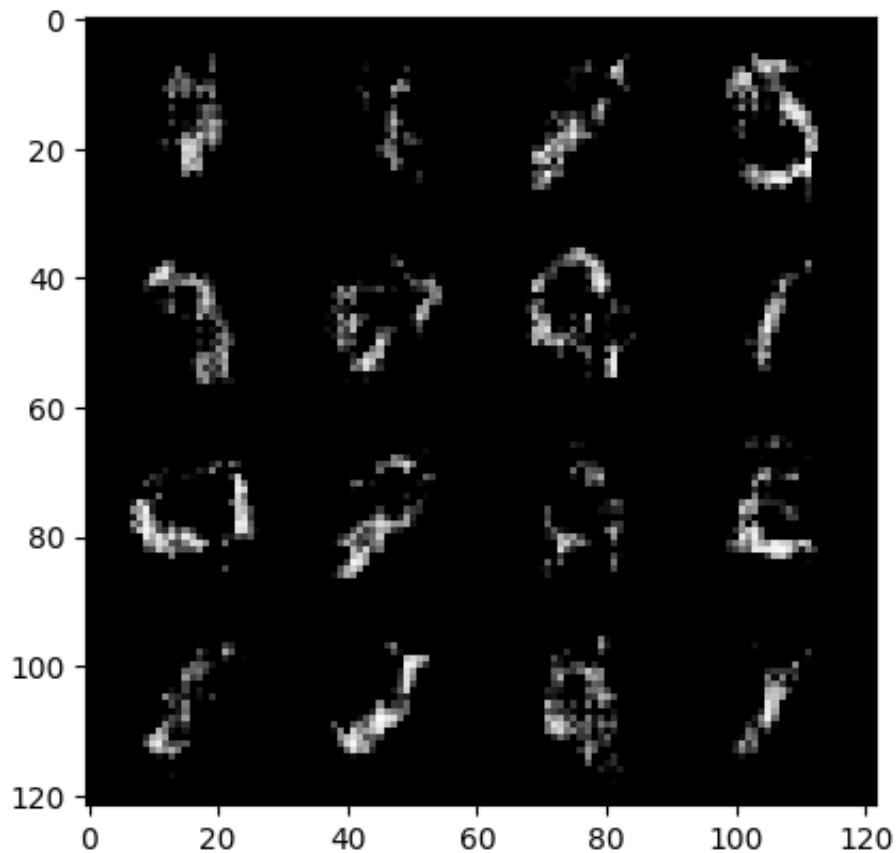


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6863, G_loss: 0.7031

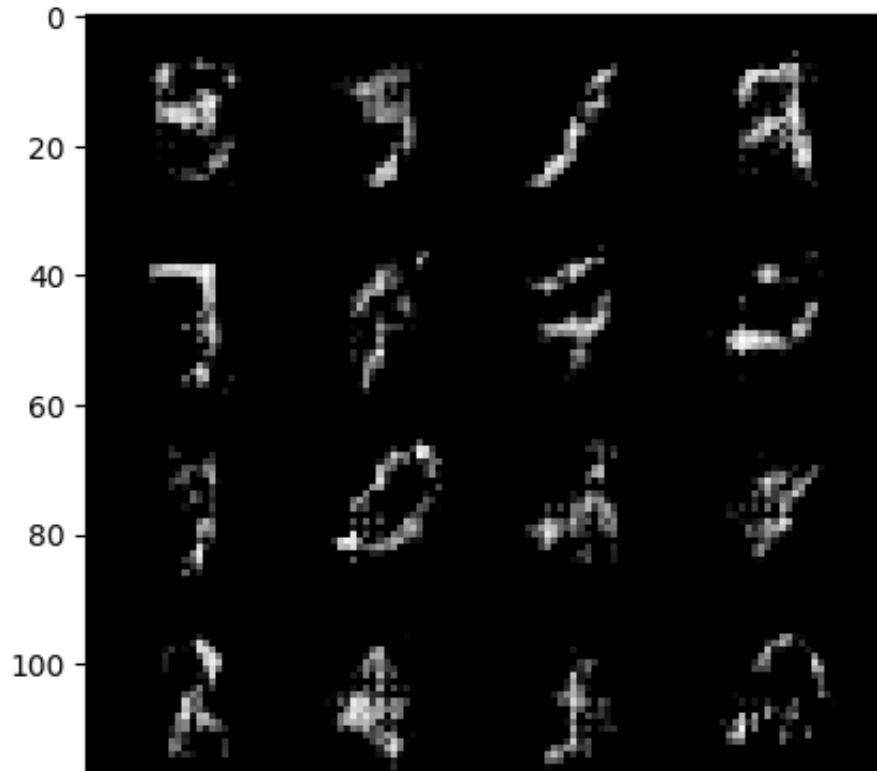


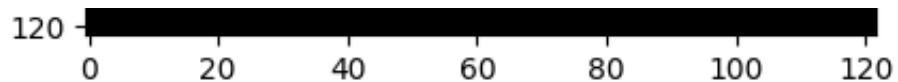


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6863, G_loss: 0.7032

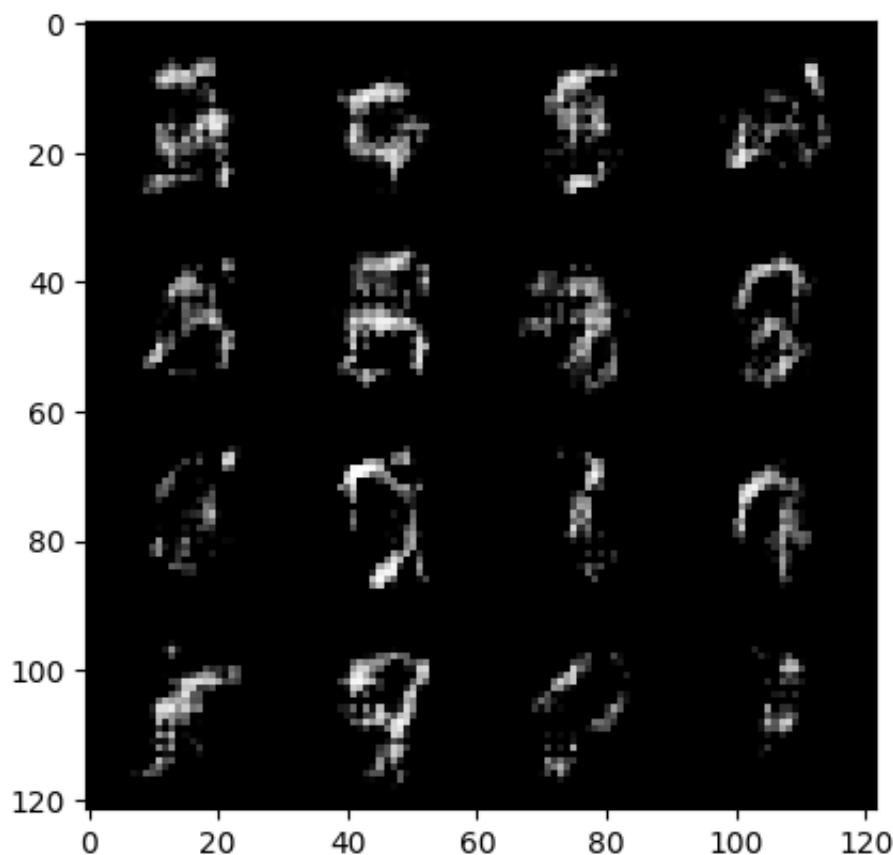


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6863, G_loss: 0.7032

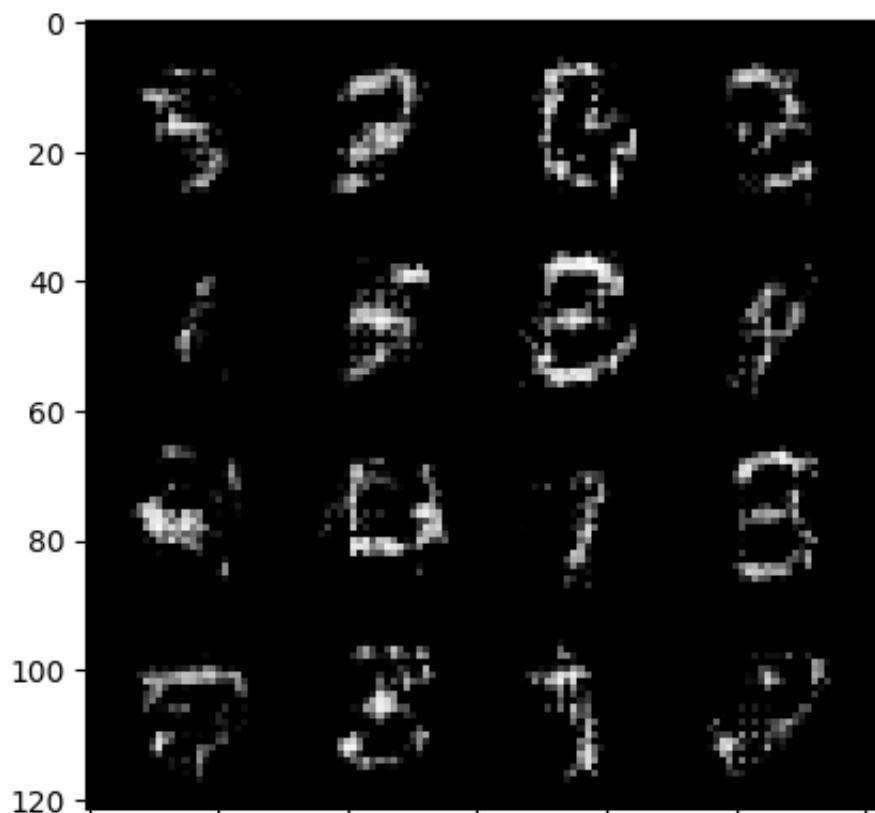




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6863, G_loss: 0.7032

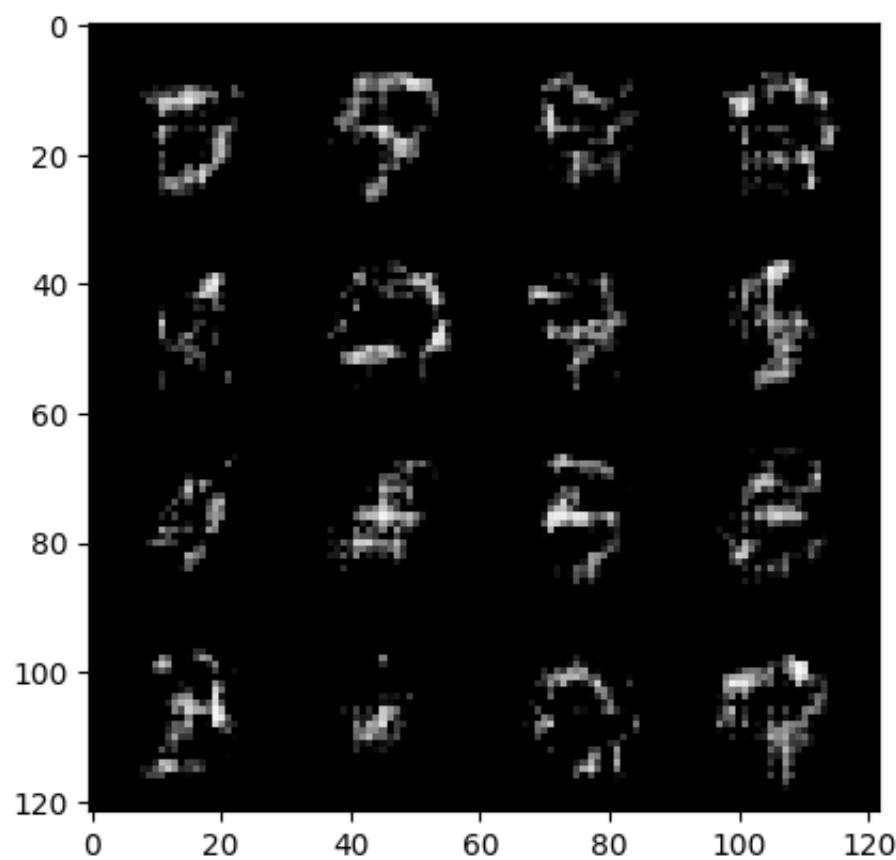


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6862, G_loss: 0.7032

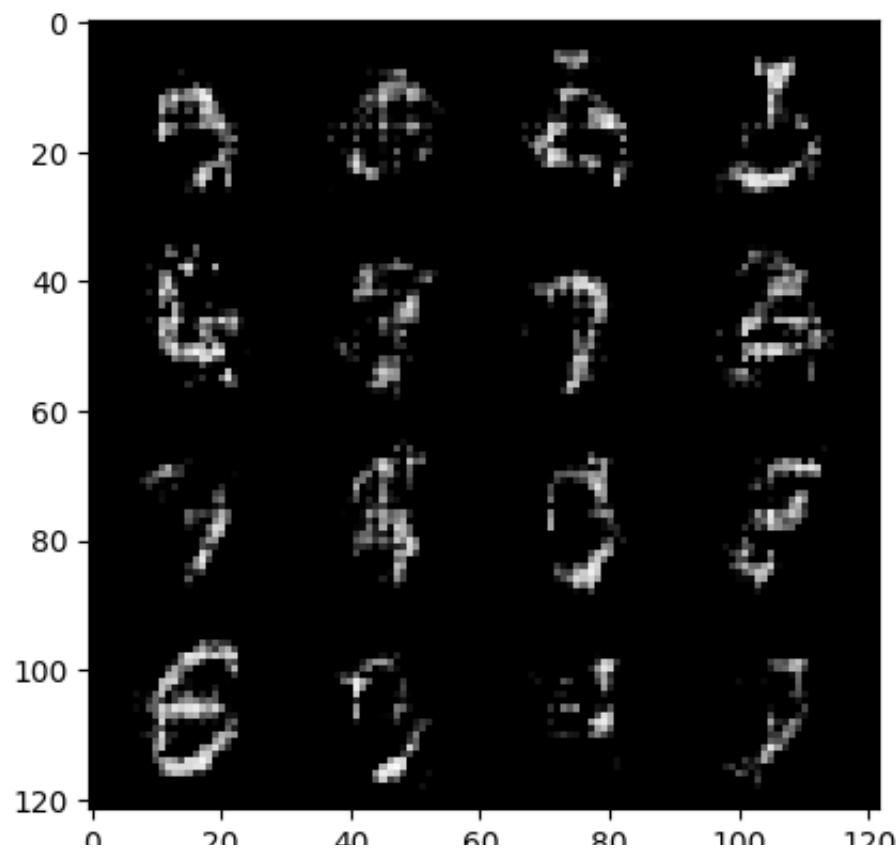


0 20 40 60 80 100 120

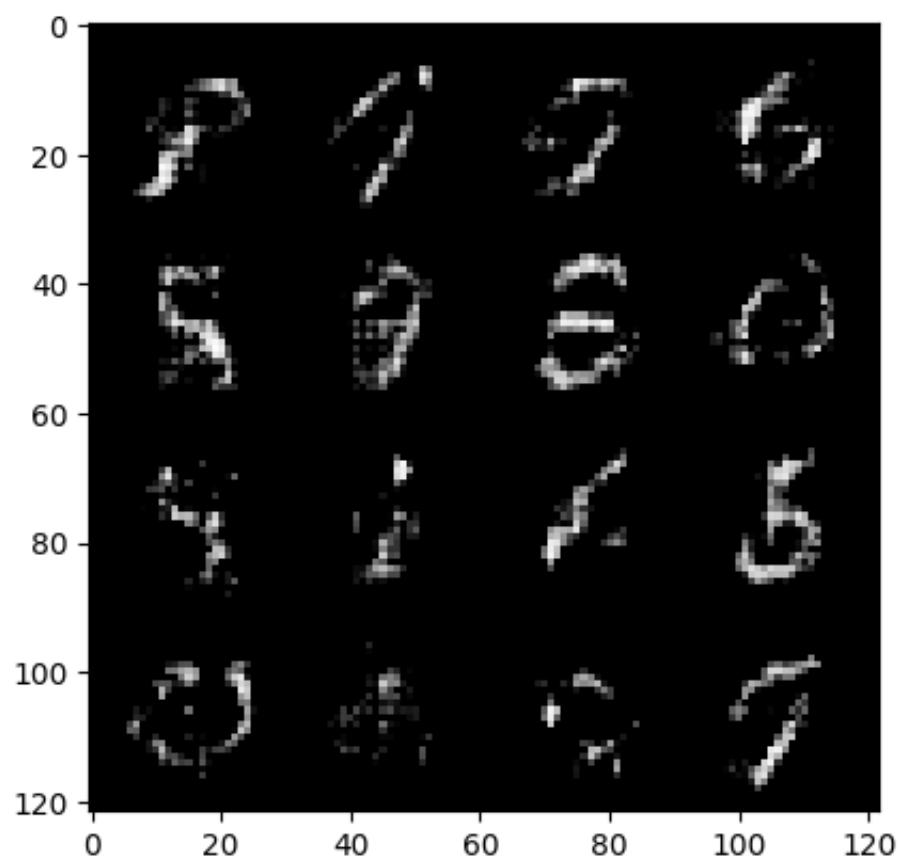
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6862, G_loss: 0.7032



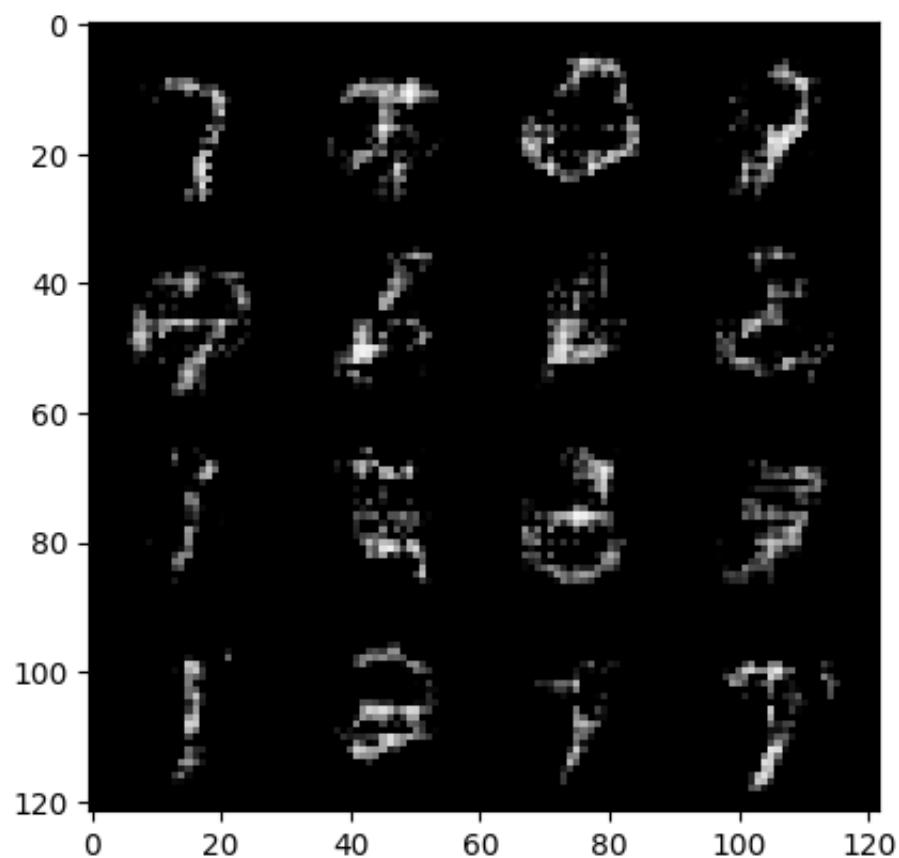
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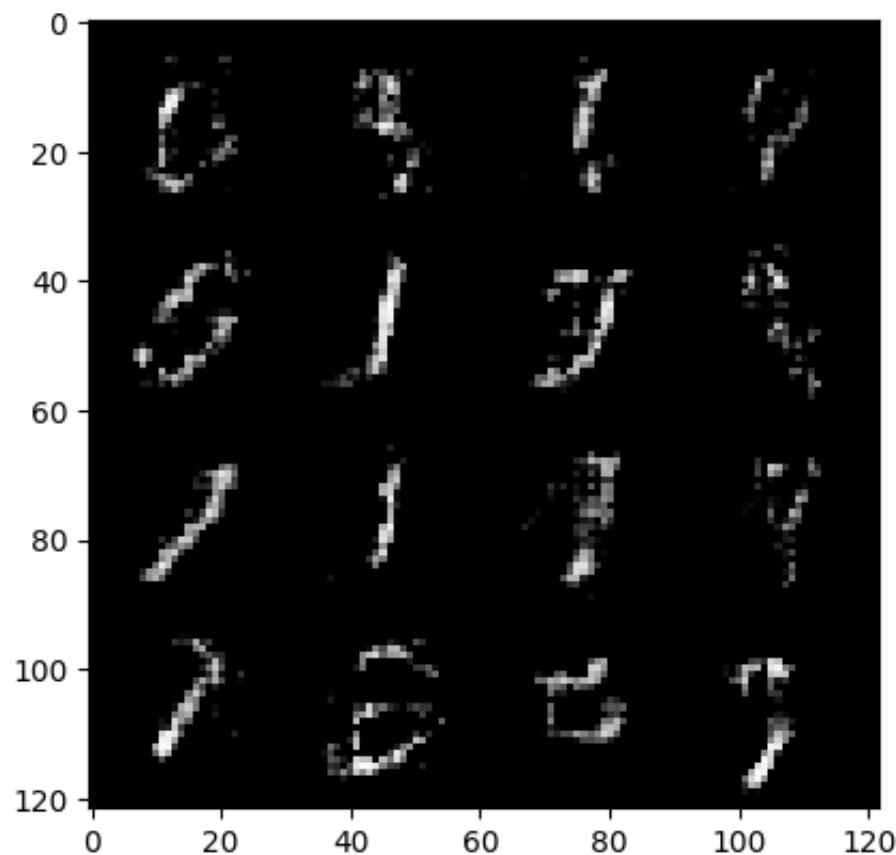
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6862, G_loss: 0.7033



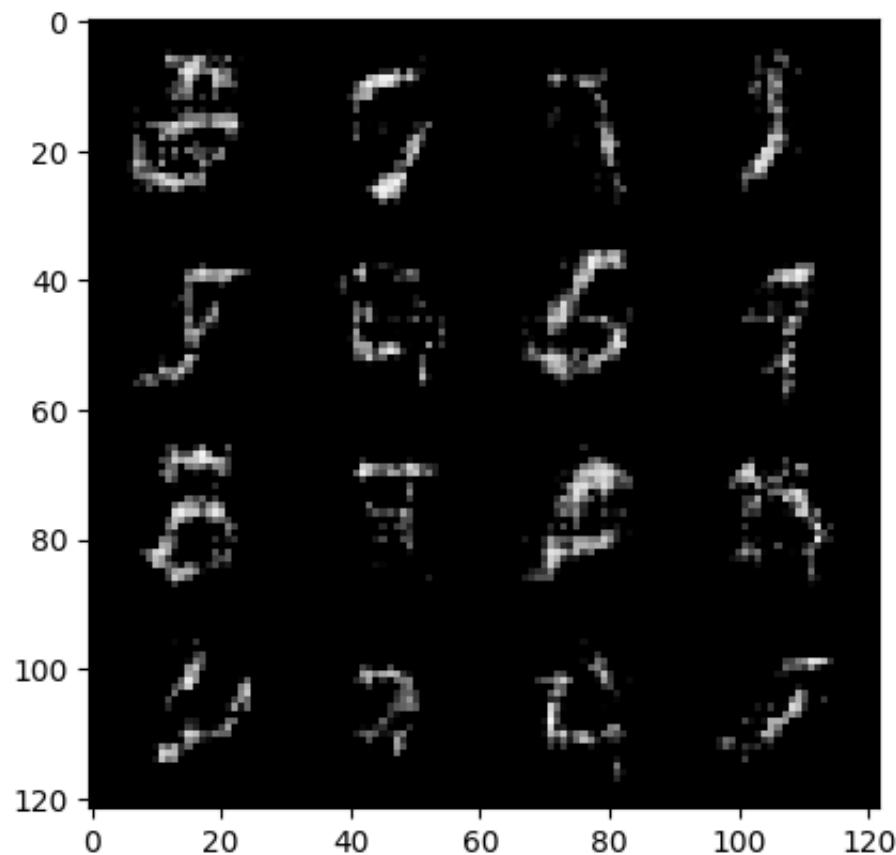
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6862, G_loss: 0.7033



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6862, G_loss: 0.7033

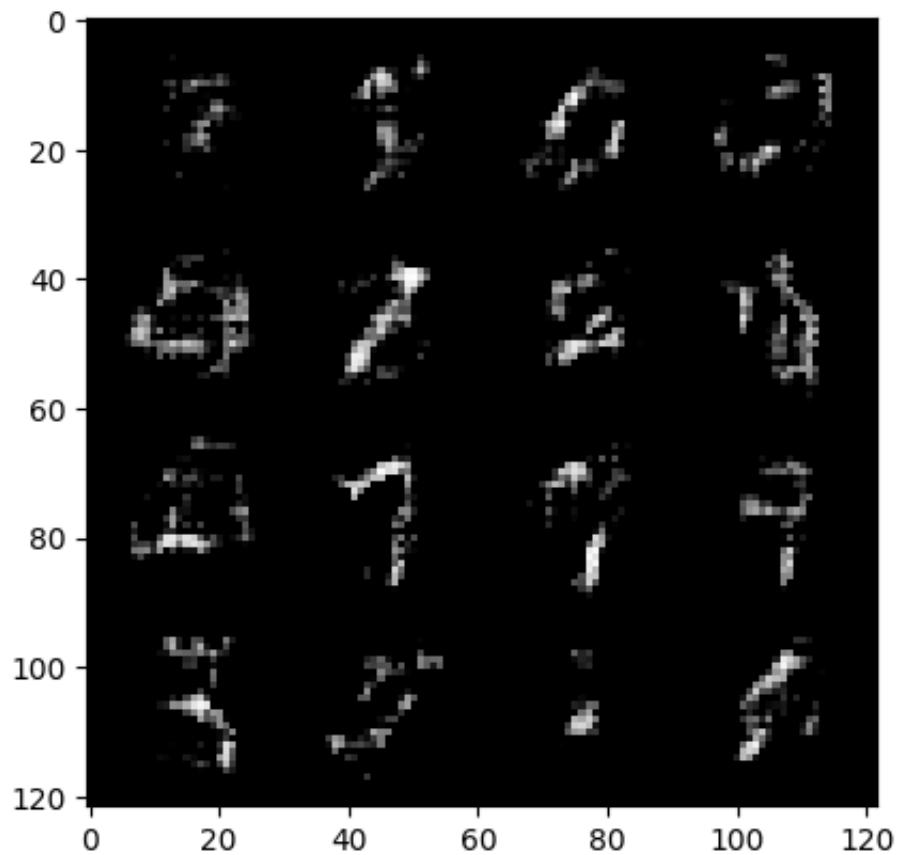


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6862, G_loss: 0.7034

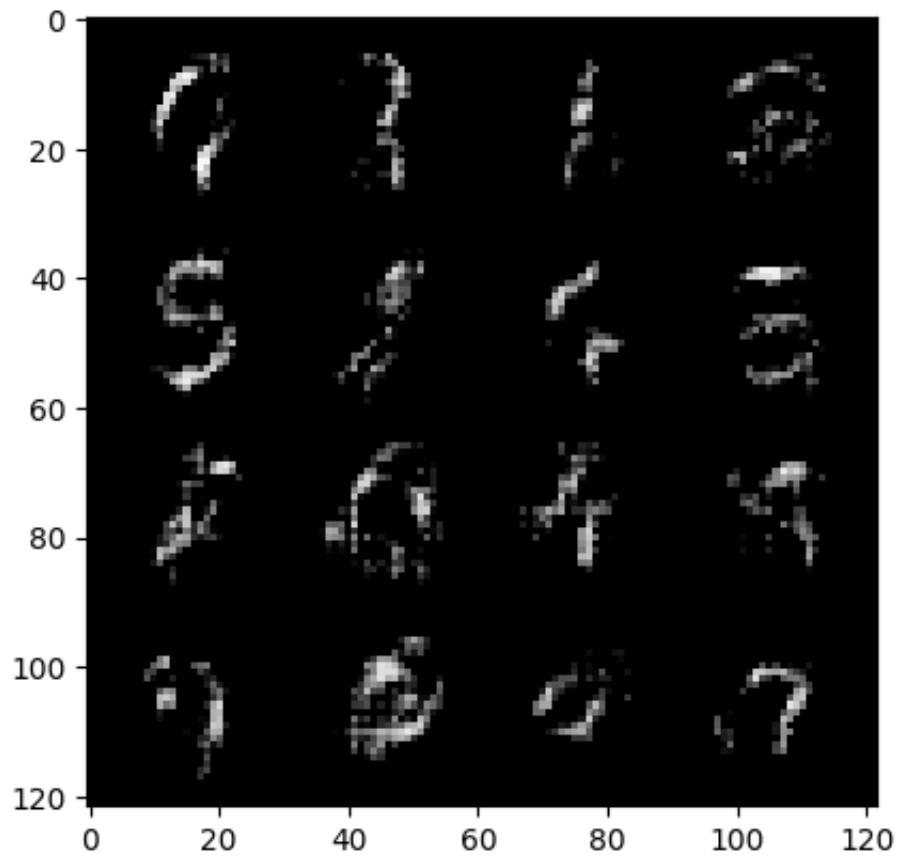


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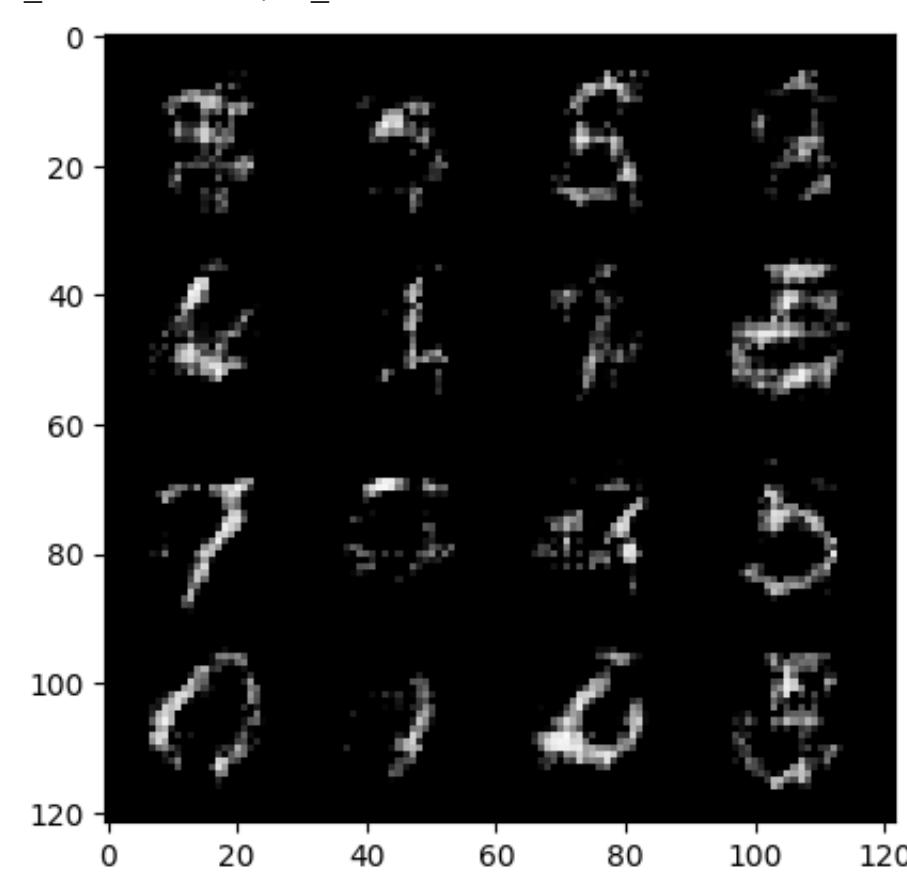
D_loss: 0.6862, G_loss: 0.7034



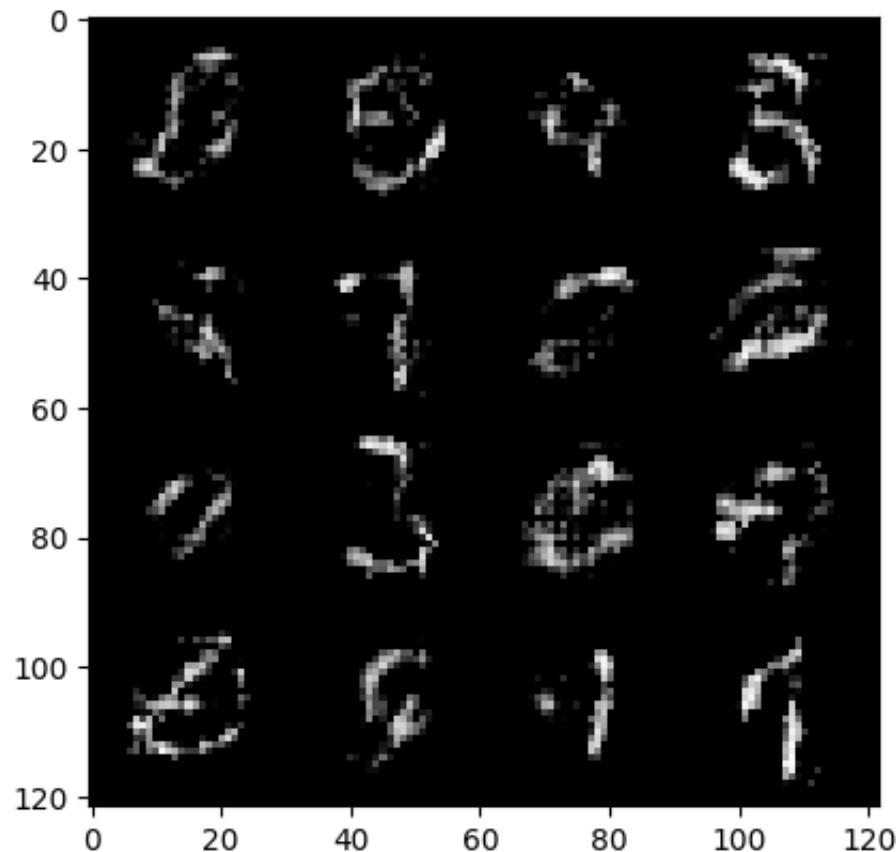
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6862, G_loss: 0.7034



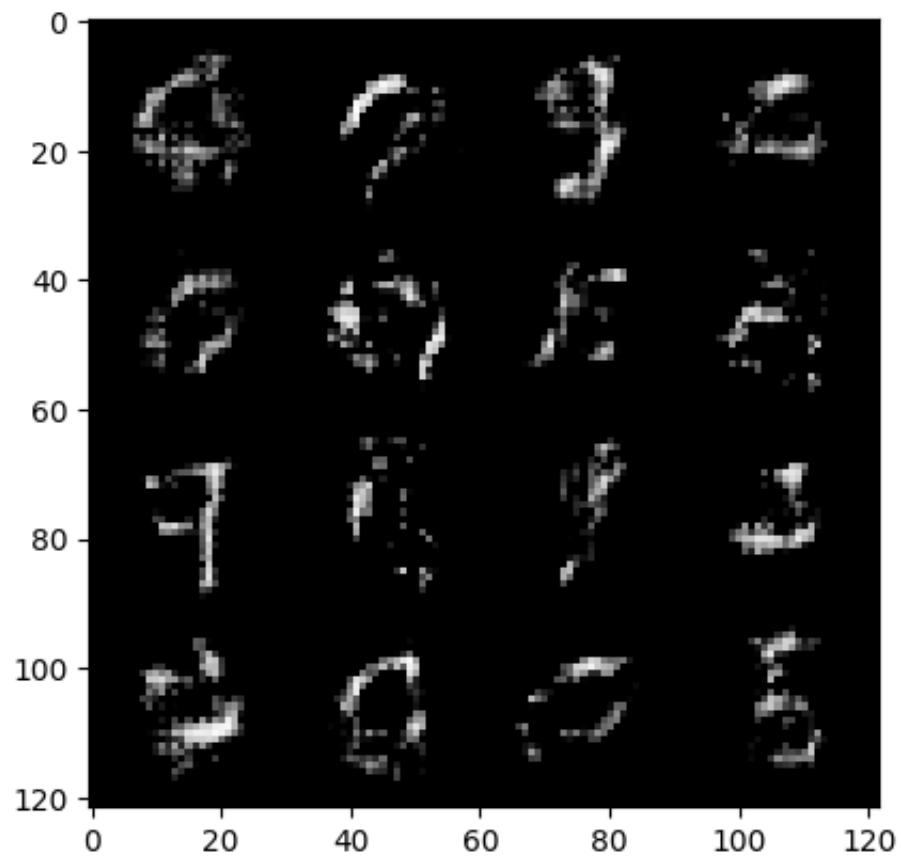
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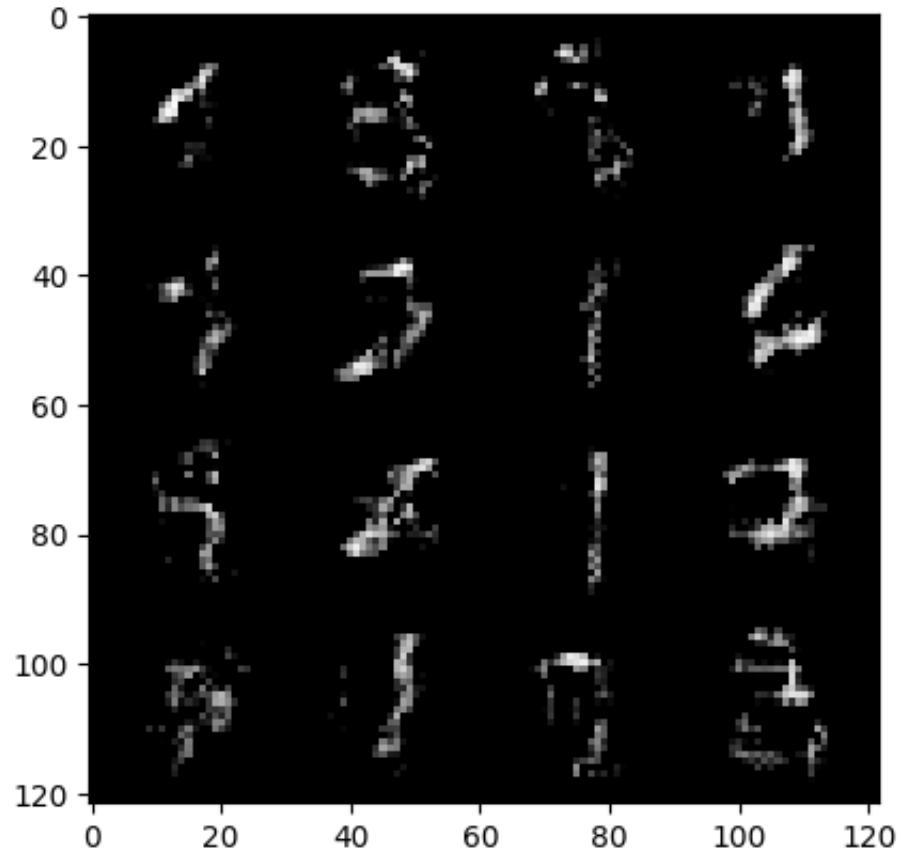
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with d_loss: 0.6862, G_loss: 0.7034



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with d_loss: 0.6862, G_loss: 0.7034

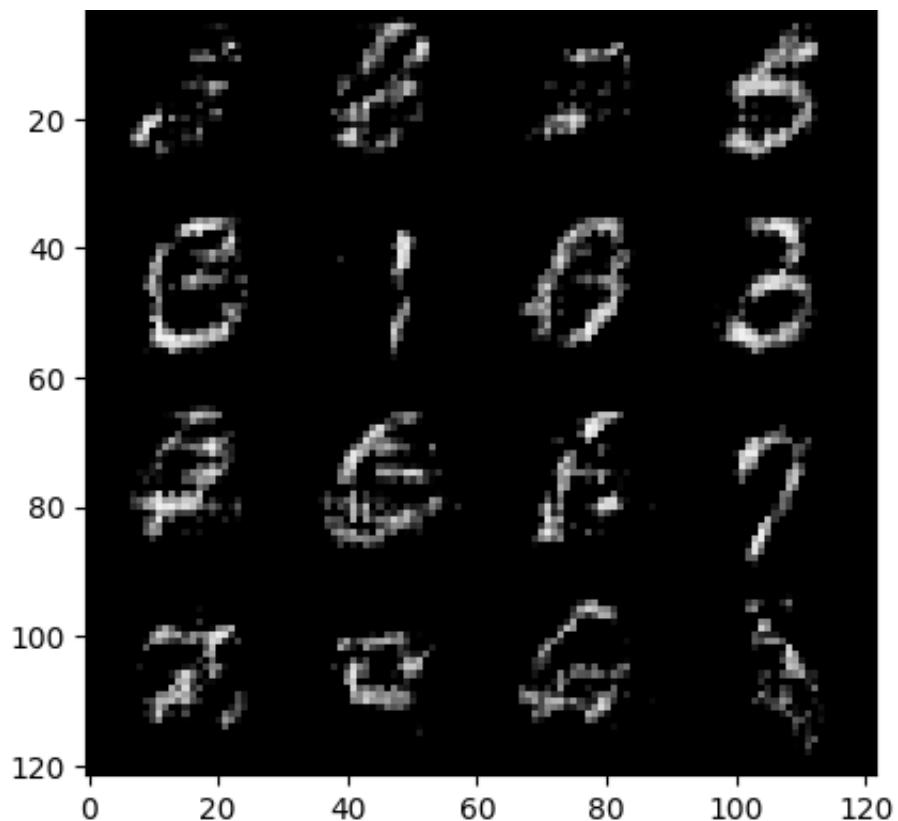


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0000000000000002
D_loss: 0.6861, G_loss: 0.7034

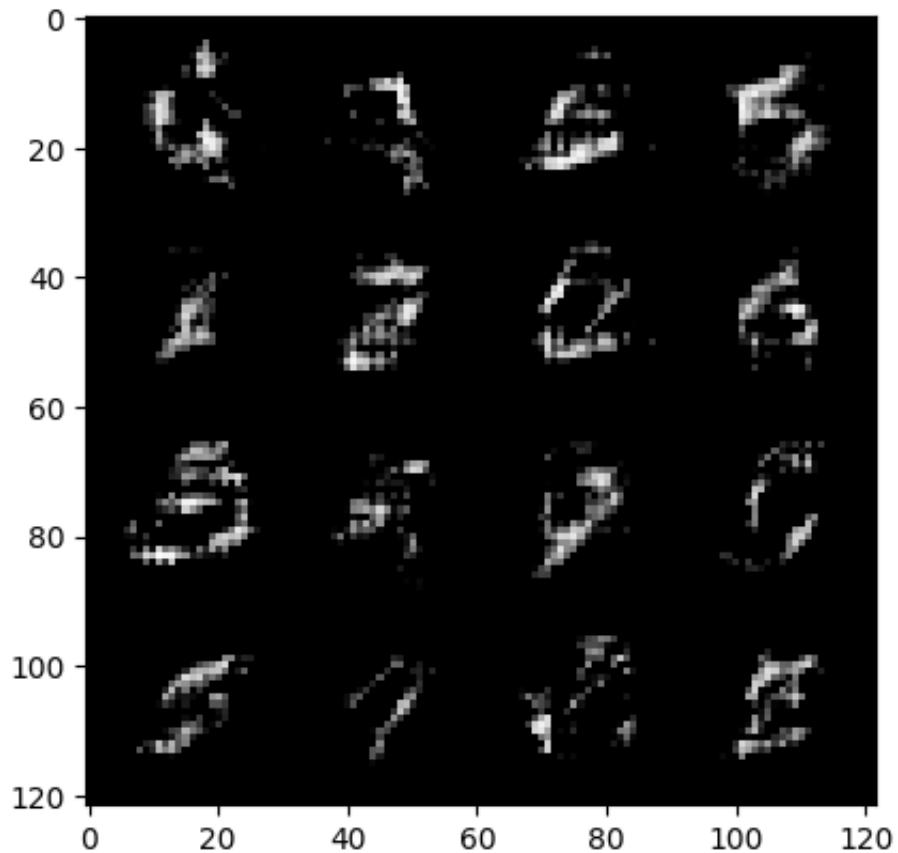


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.9999999999999998, max=1.0000000000000002
D_loss: 0.6861, G_loss: 0.7034



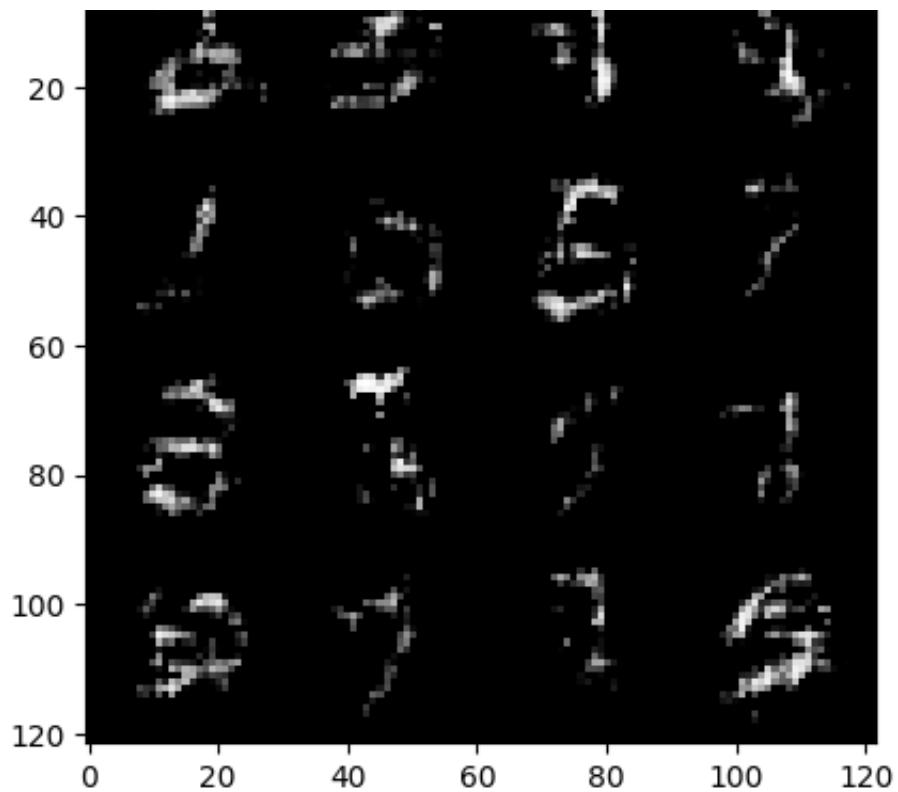


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6861, G_loss: 0.7034

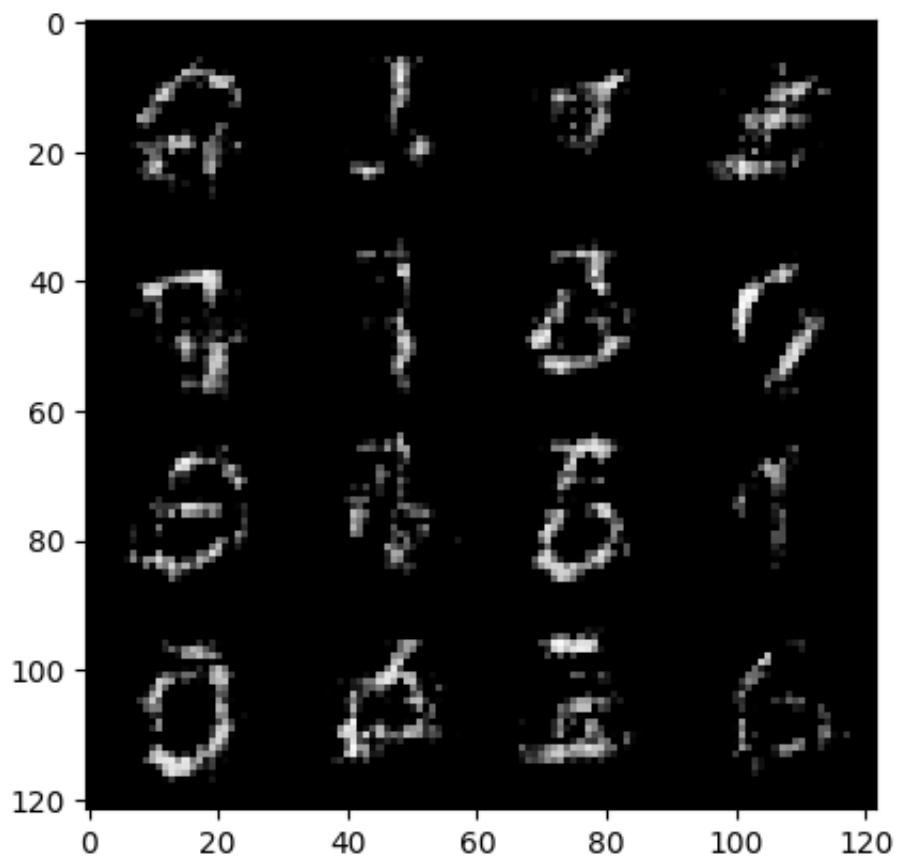


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6861, G_loss: 0.7034



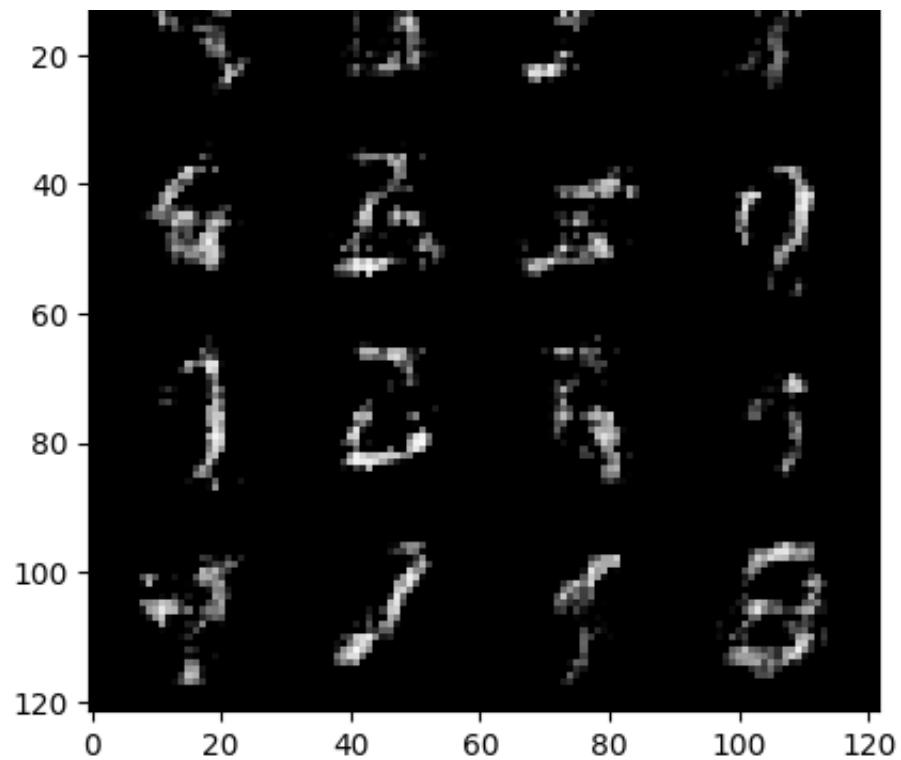


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6861, G_loss: 0.7034

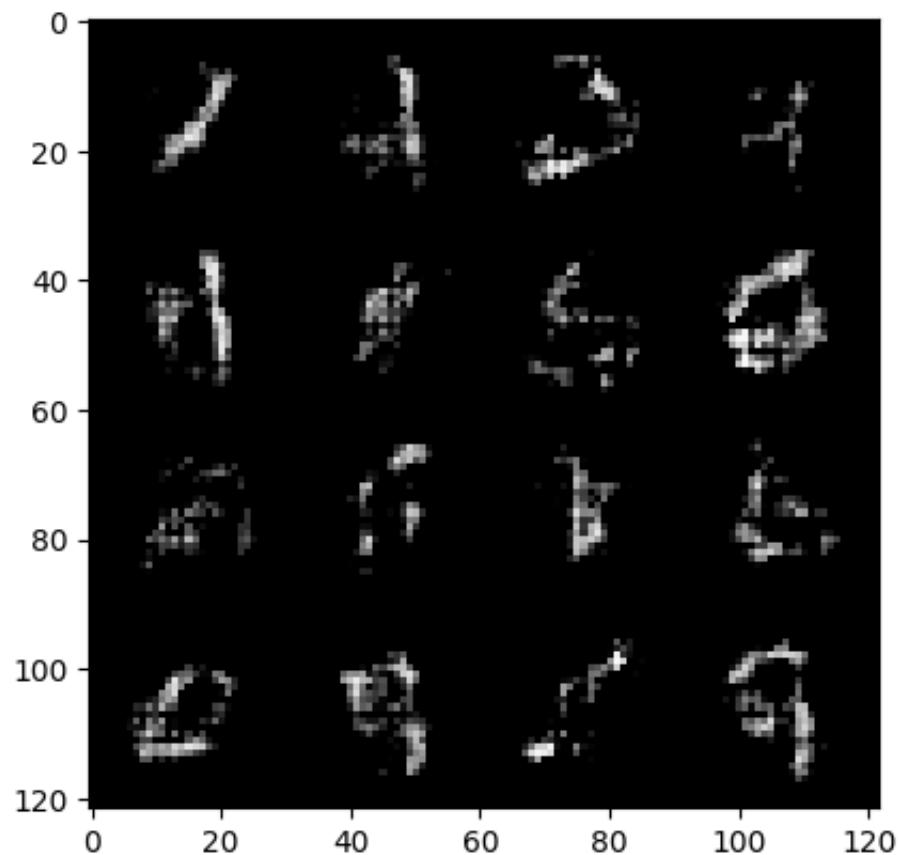


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6861, G_loss: 0.7034



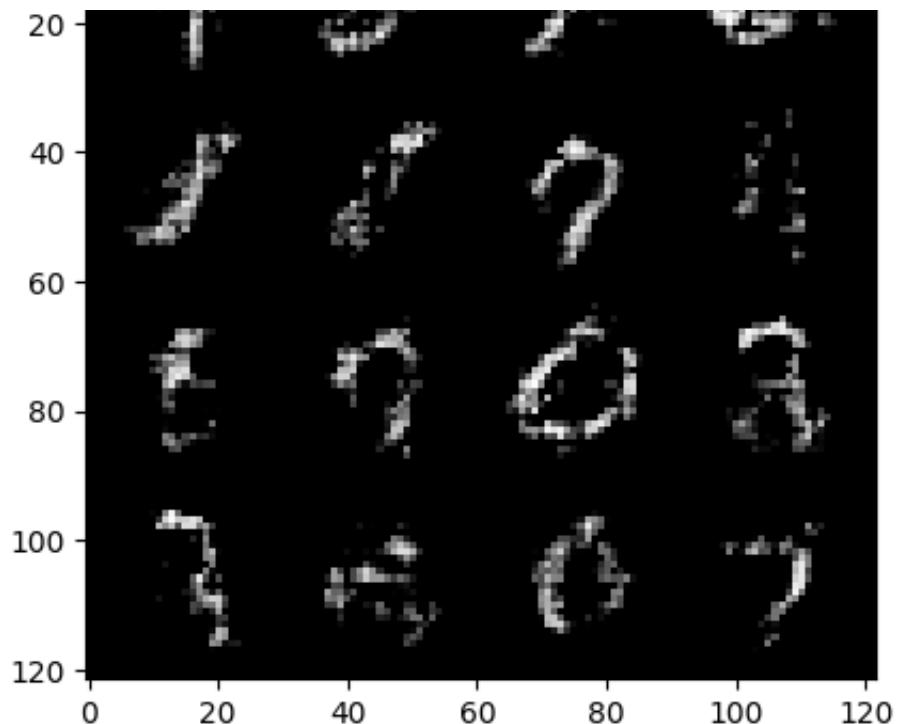


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6861, G_loss: 0.7034

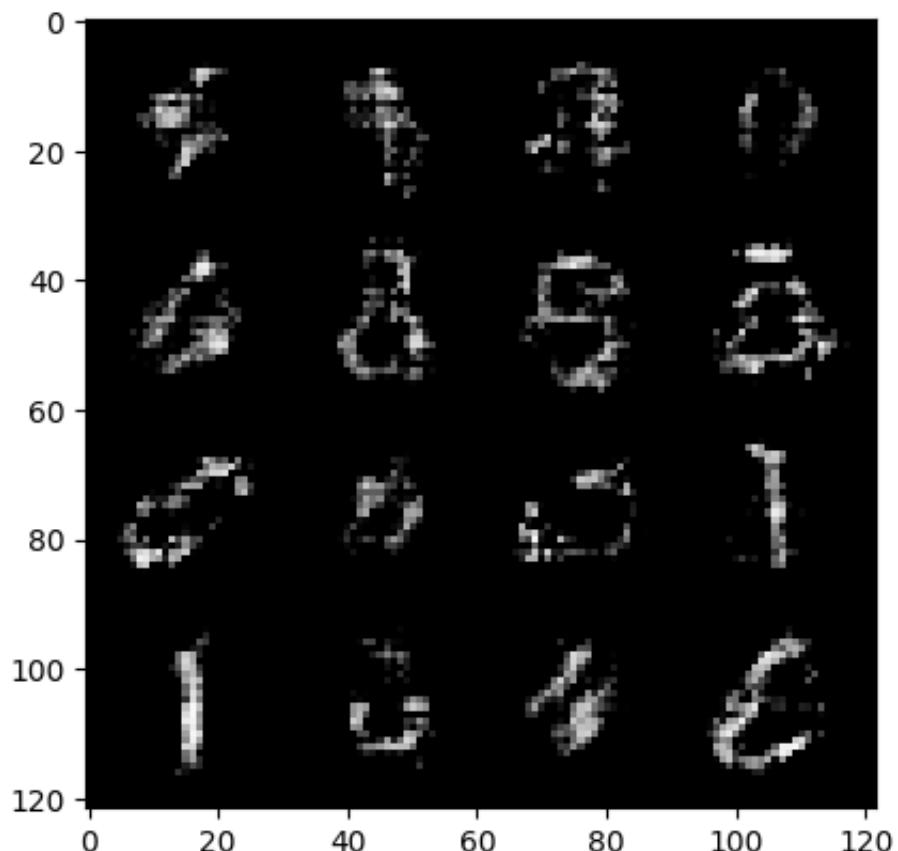


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6861, G_loss: 0.7035



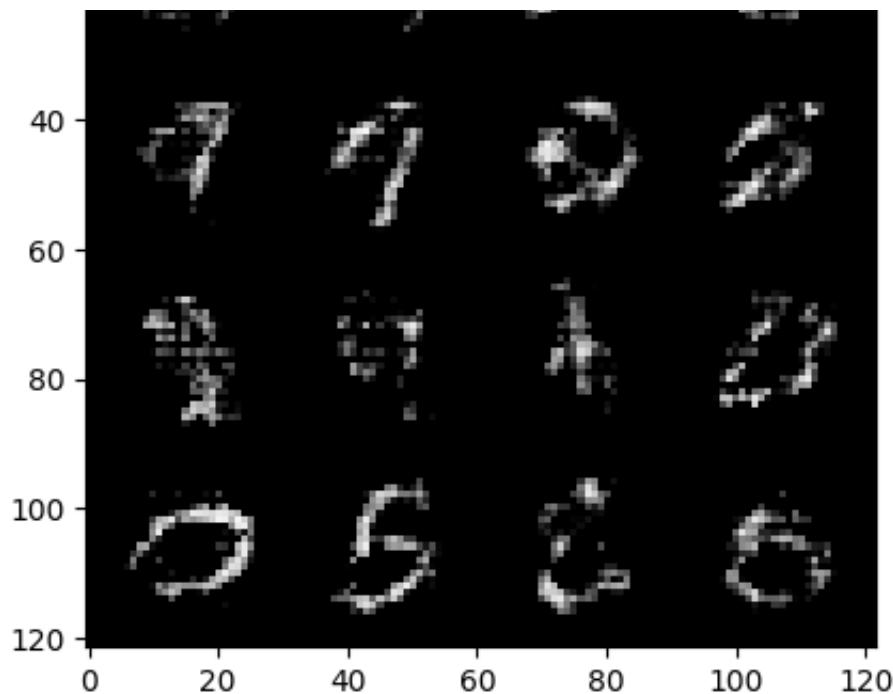


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.6860, max=0.7035

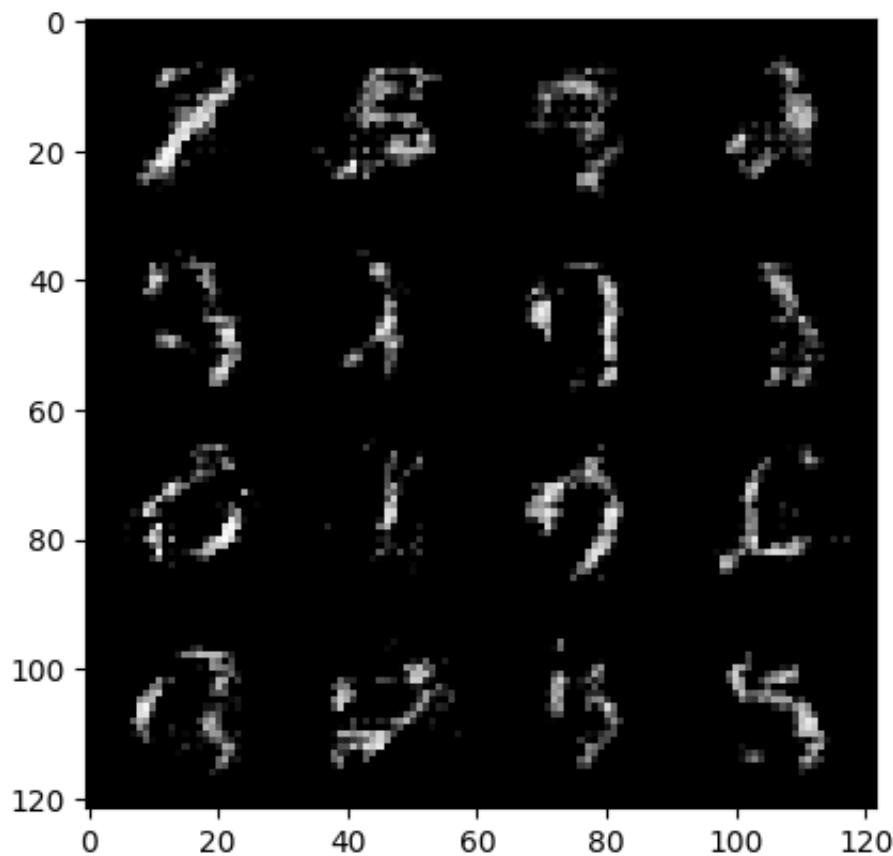


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.6860, max=0.7035





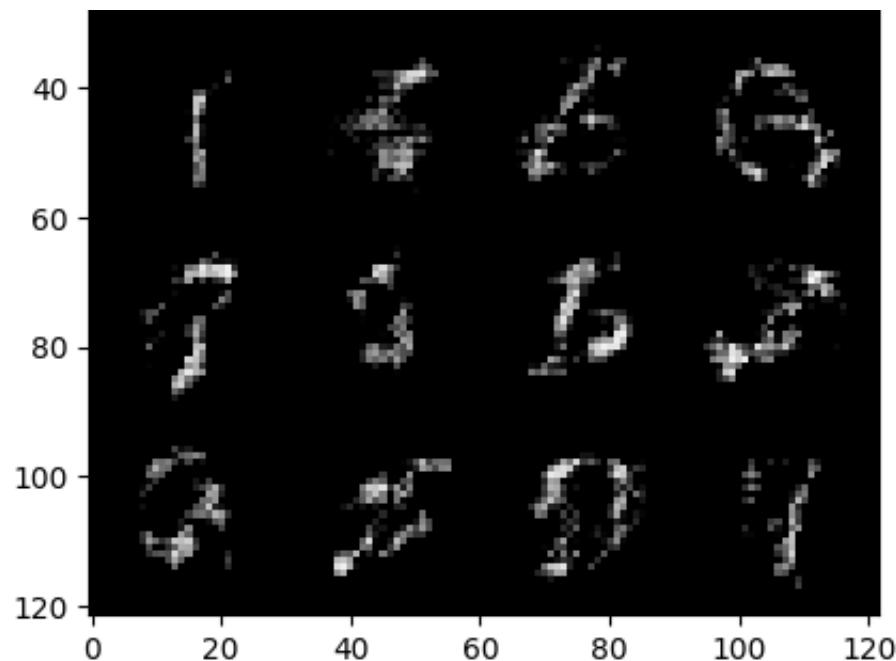
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=255
D_loss: 0.6860, G_loss: 0.7036



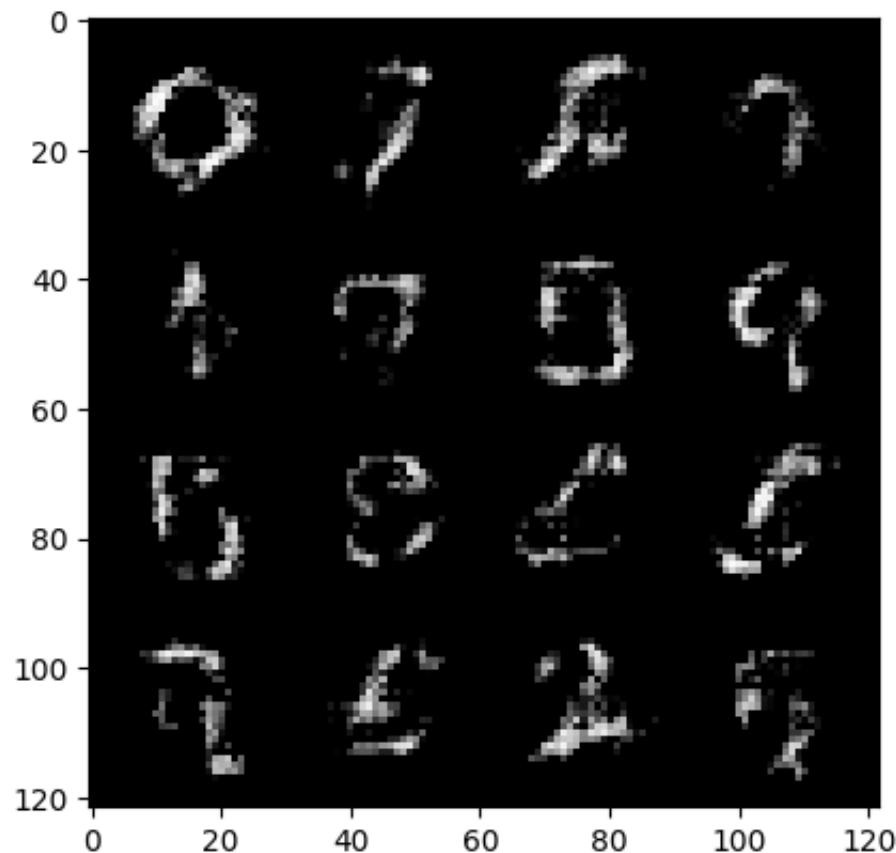
D_loss: 0.6860, G_loss: 0.7035

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=255



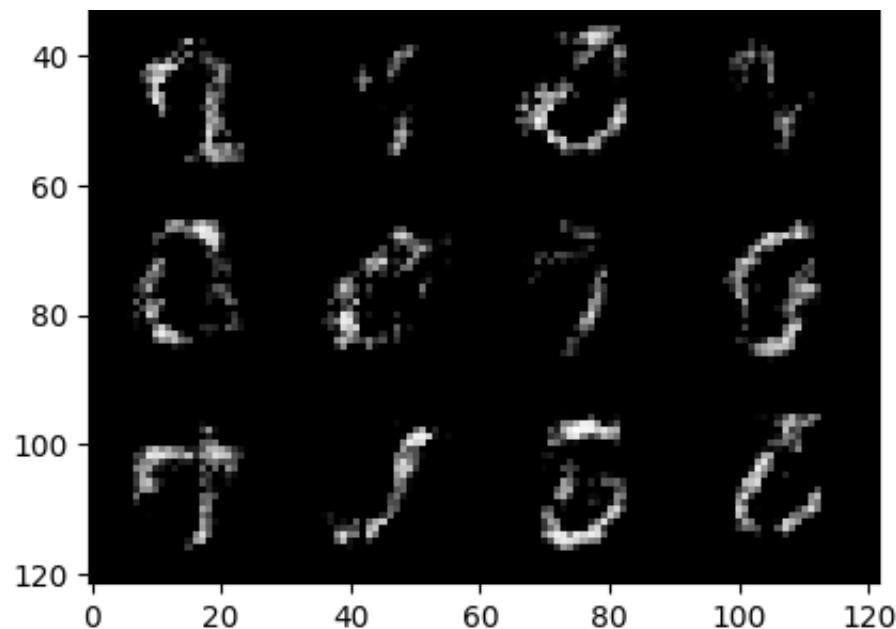


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6860, G_loss: 0.7035

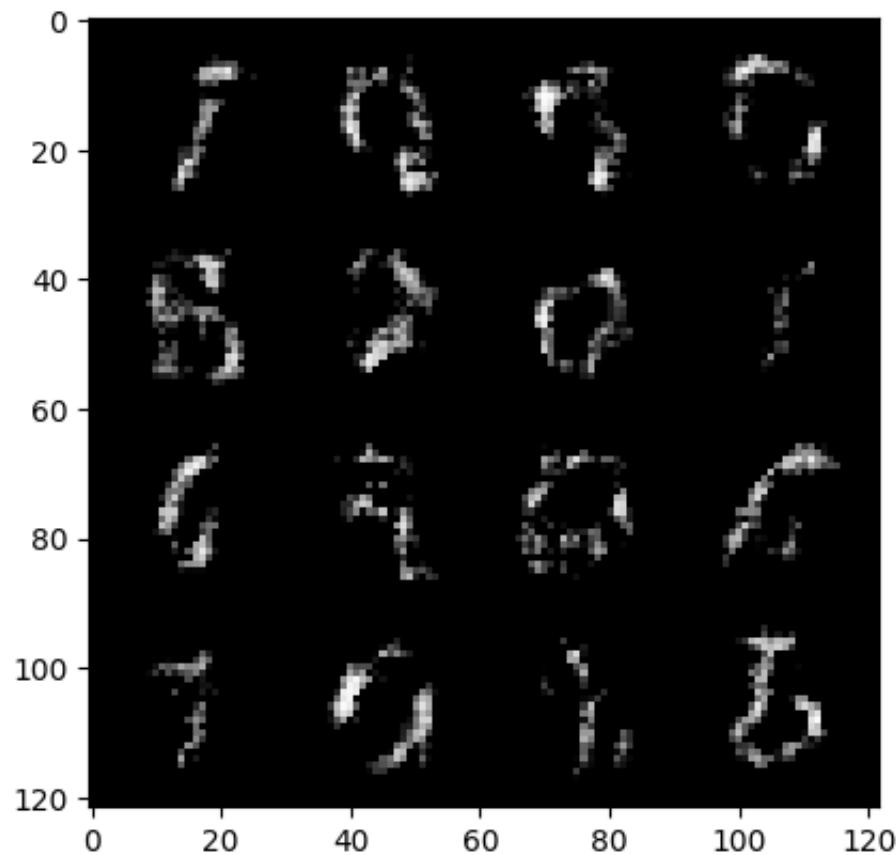


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6860, G_loss: 0.7036



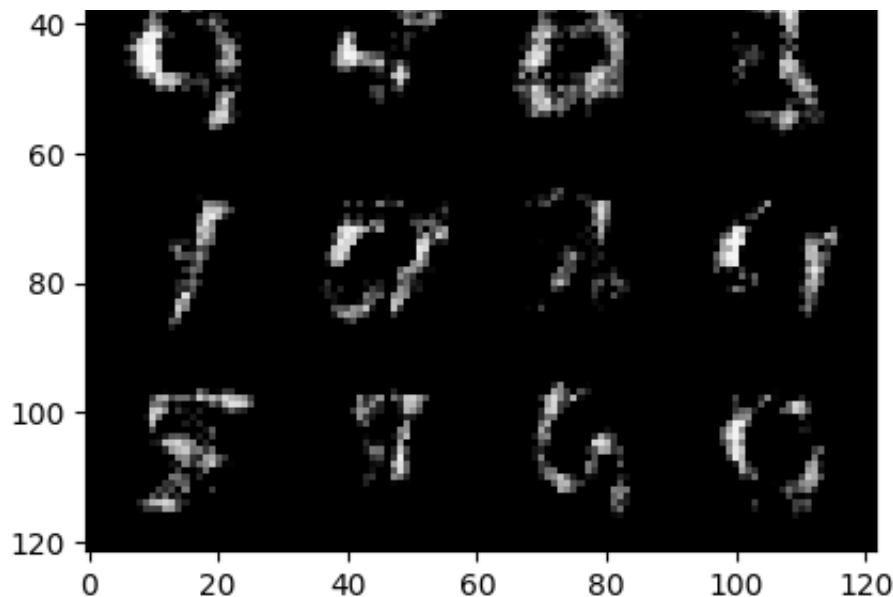


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6860, G_loss: 0.7035

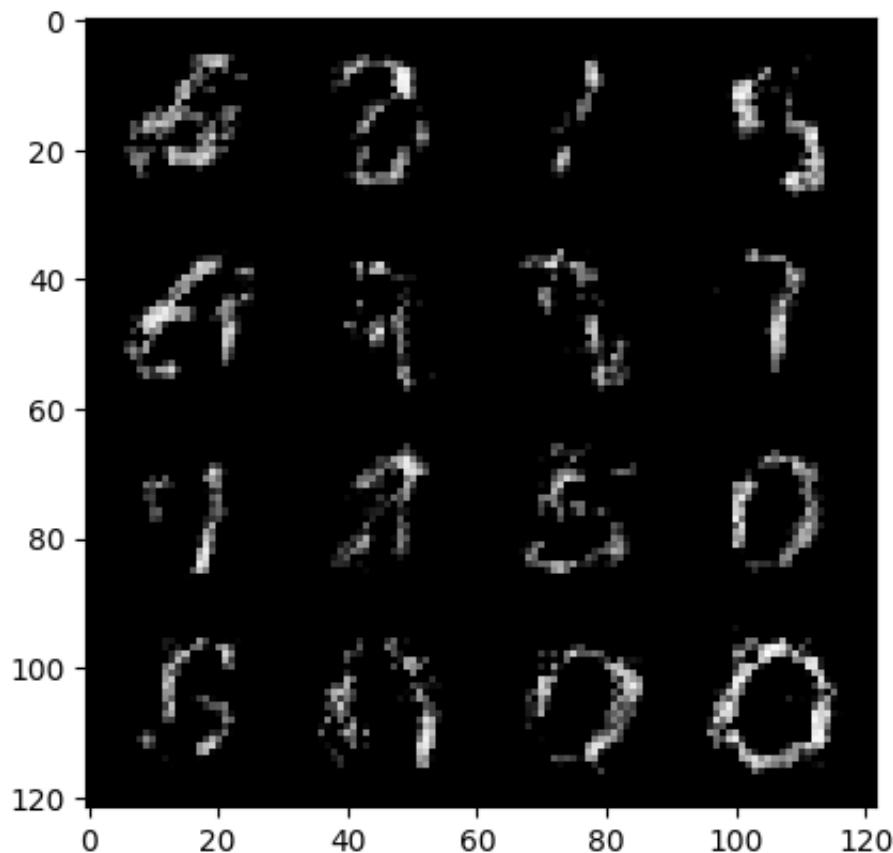


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6860, G_loss: 0.7035



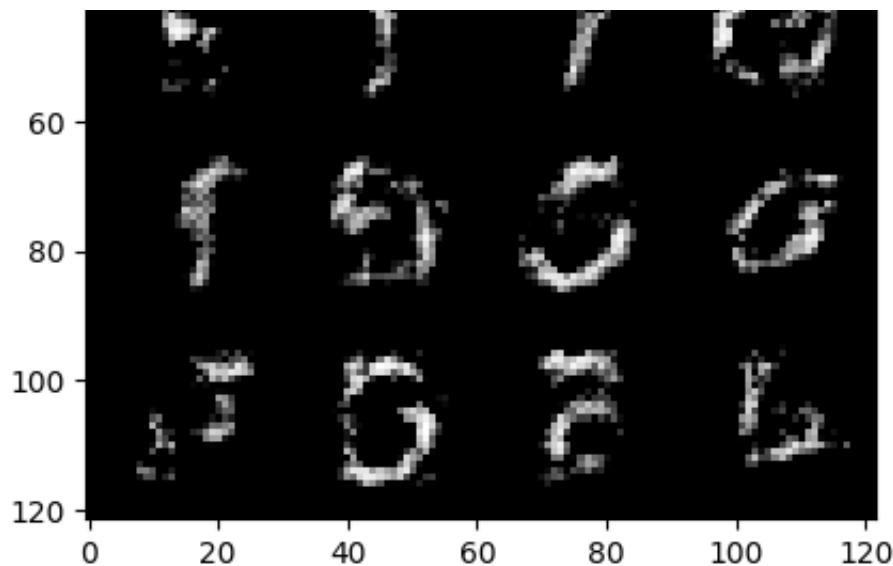


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6860, G_loss: 0.7035

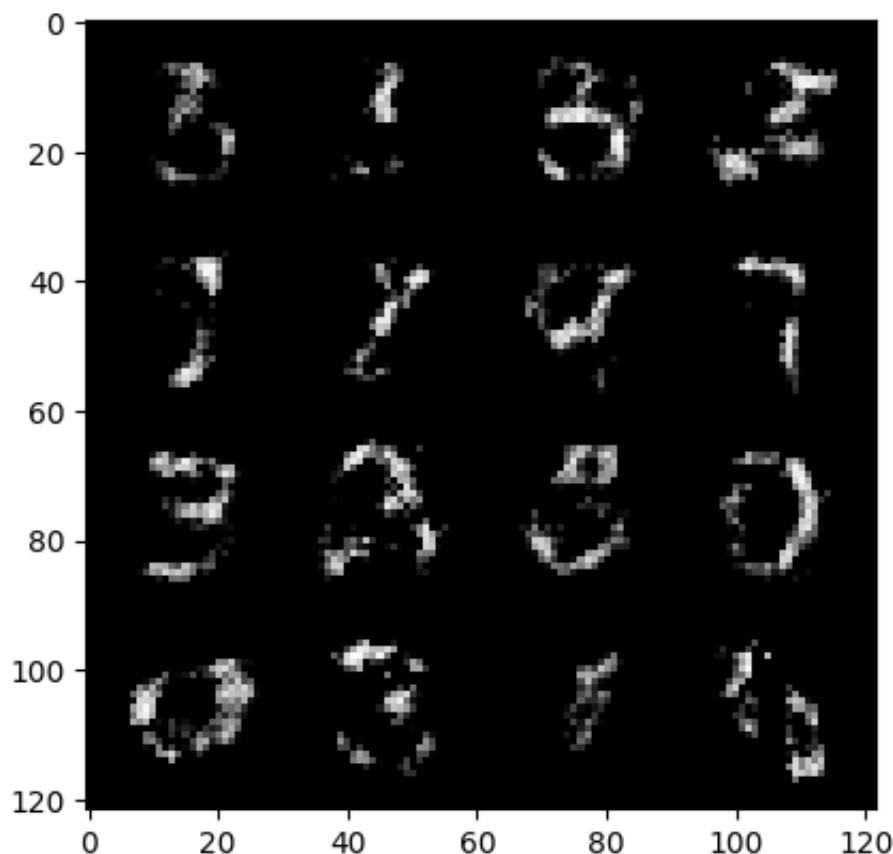


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6860, G_loss: 0.7035



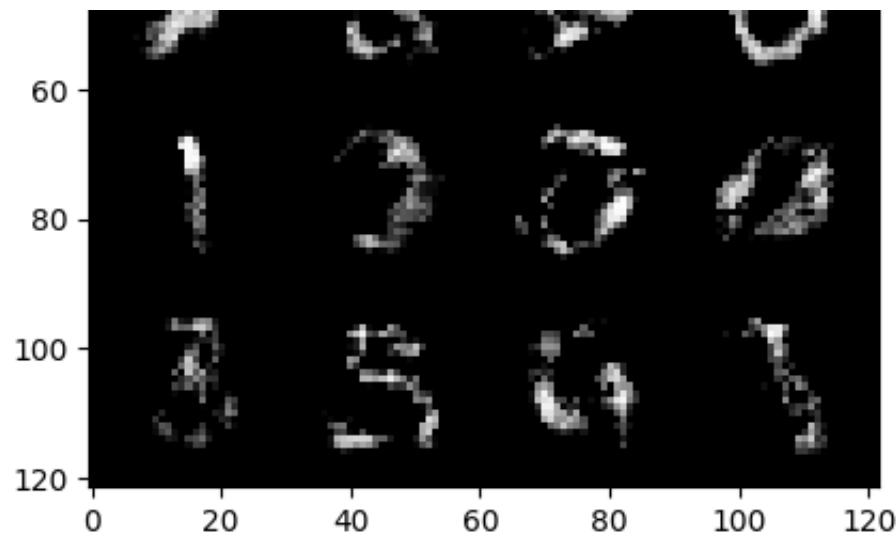


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6860, G_loss: 0.7036

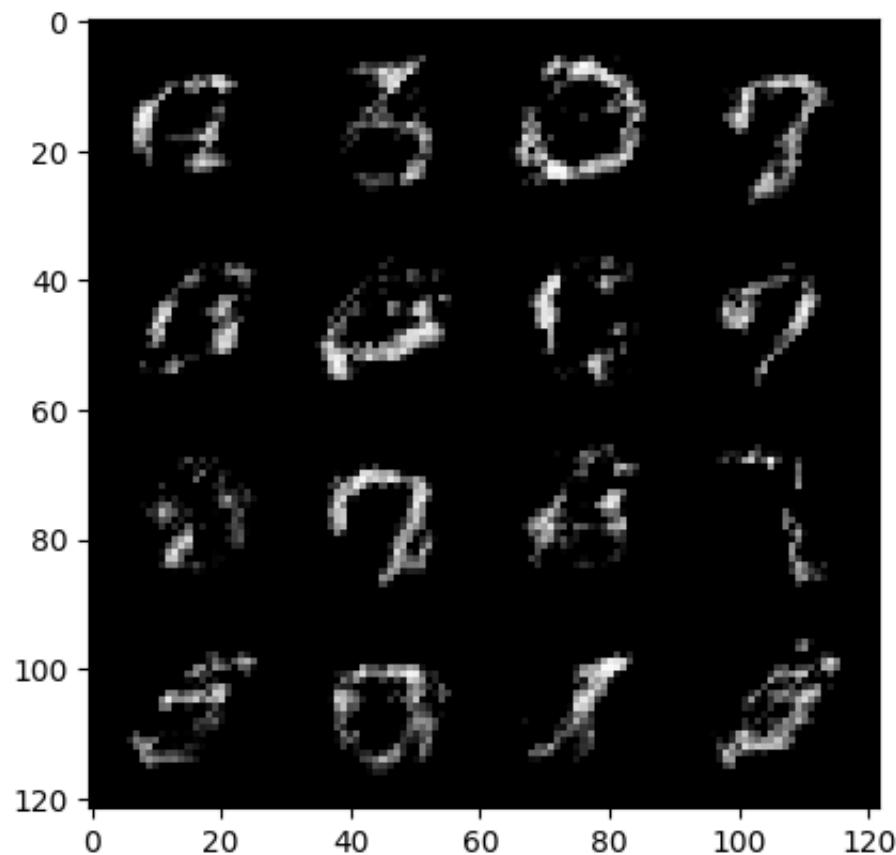


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6859, G_loss: 0.7036



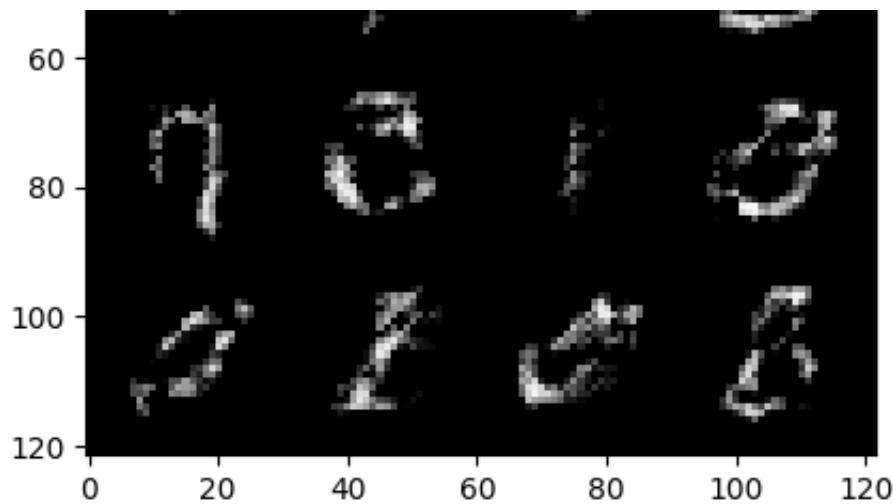


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6859, G_loss: 0.7036

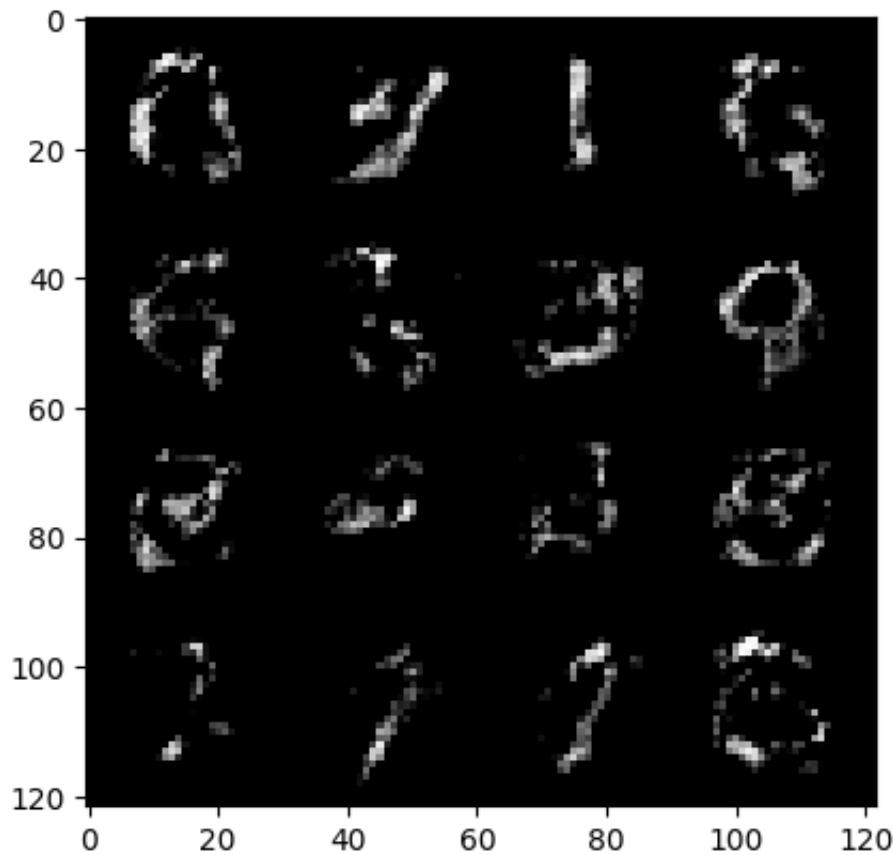


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6859, G_loss: 0.7036



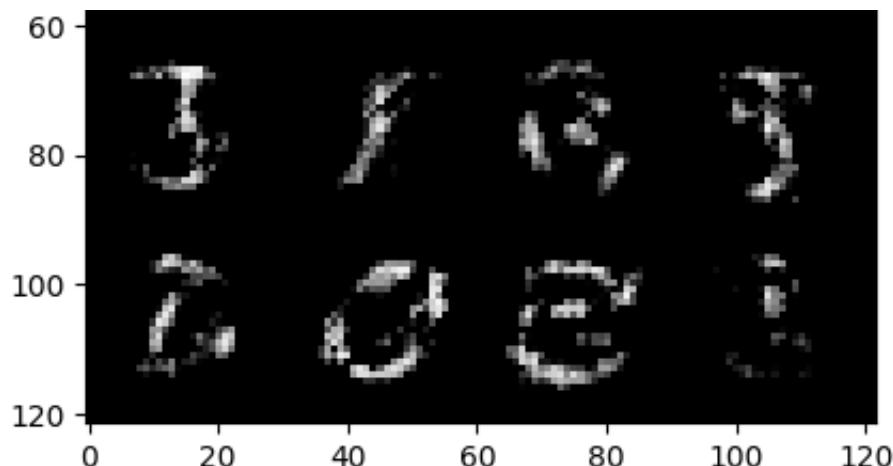


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6859, G_loss: 0.7037

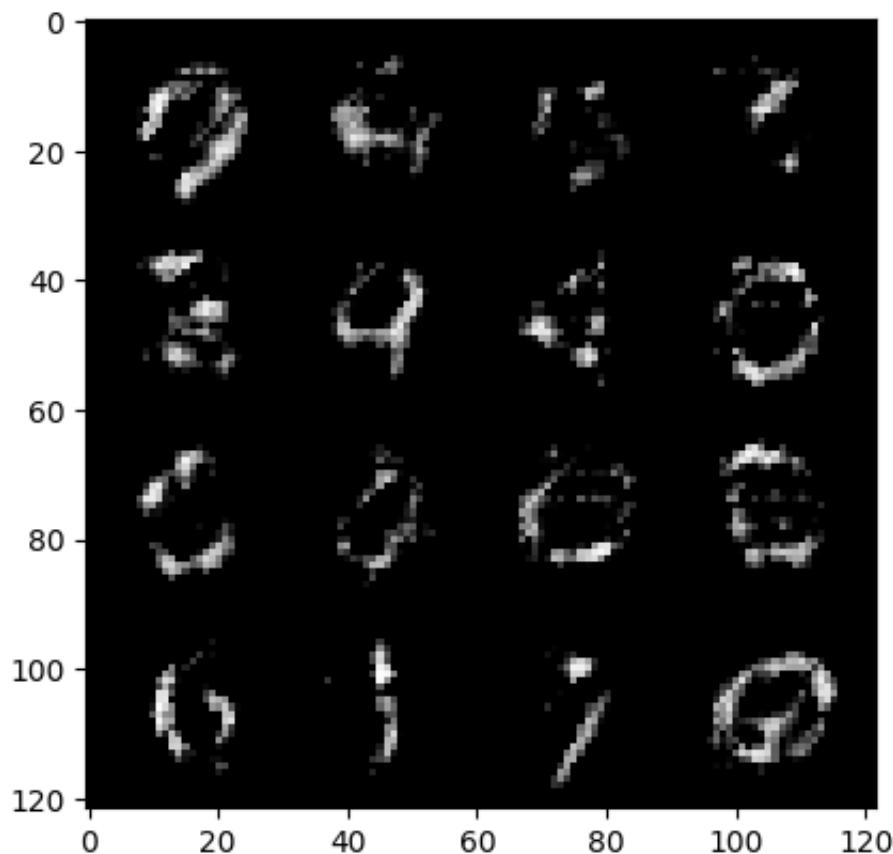


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6859, G_loss: 0.7037



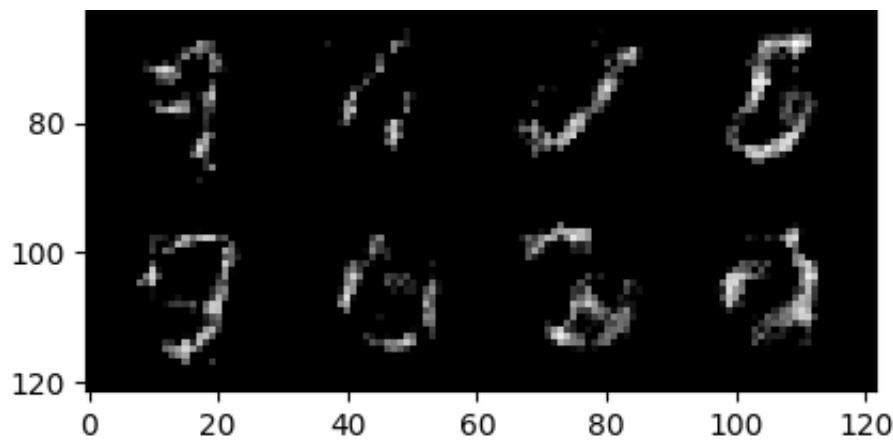


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6859, G_loss: 0.7037

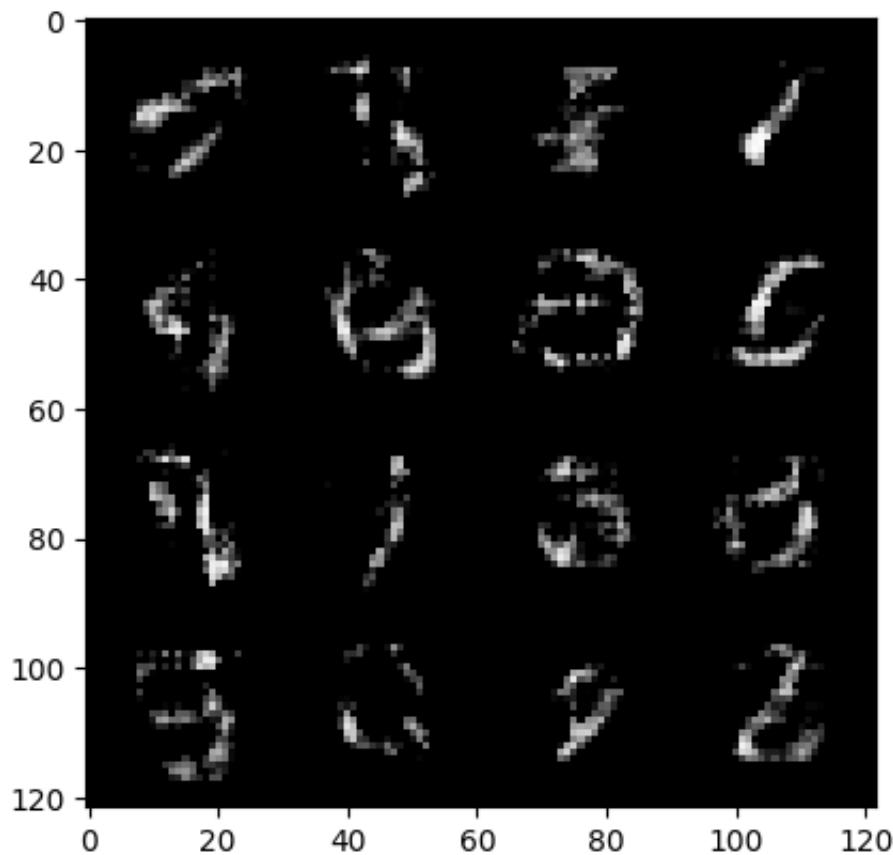


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6858, G_loss: 0.7037



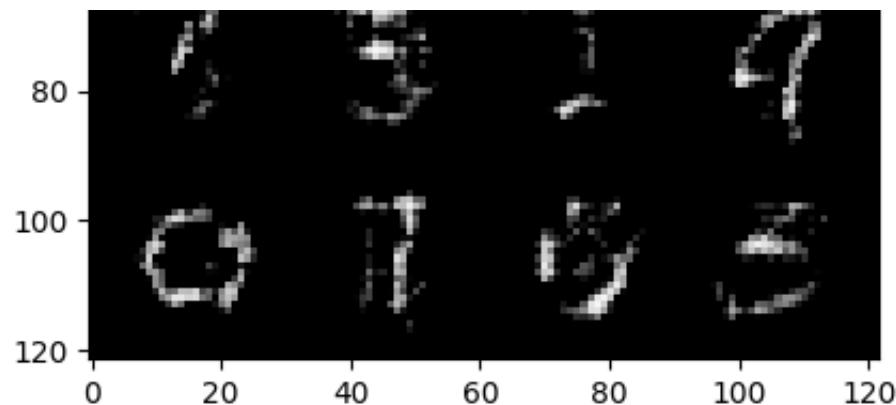


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6858, G_loss: 0.7037

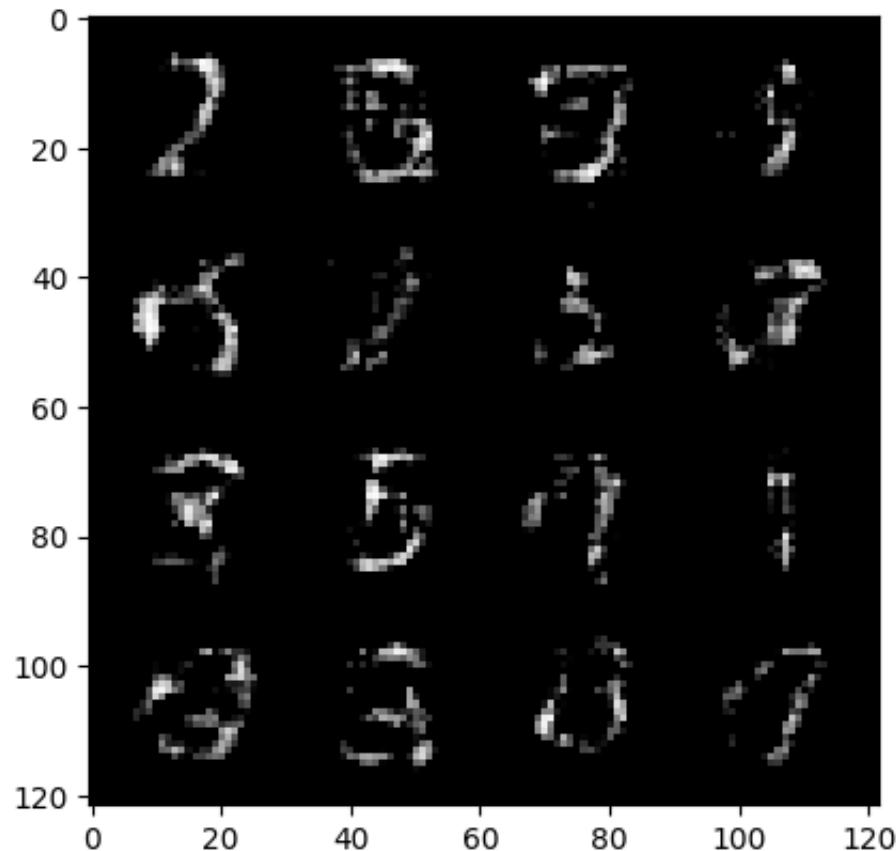


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6858, G_loss: 0.7038



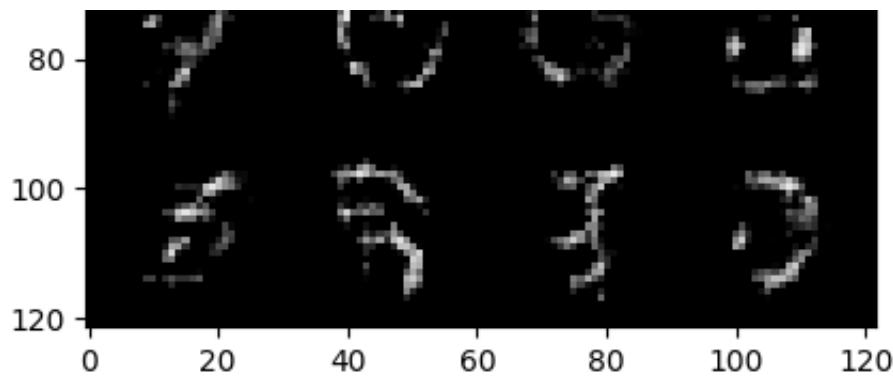


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6858, G_loss: 0.7037

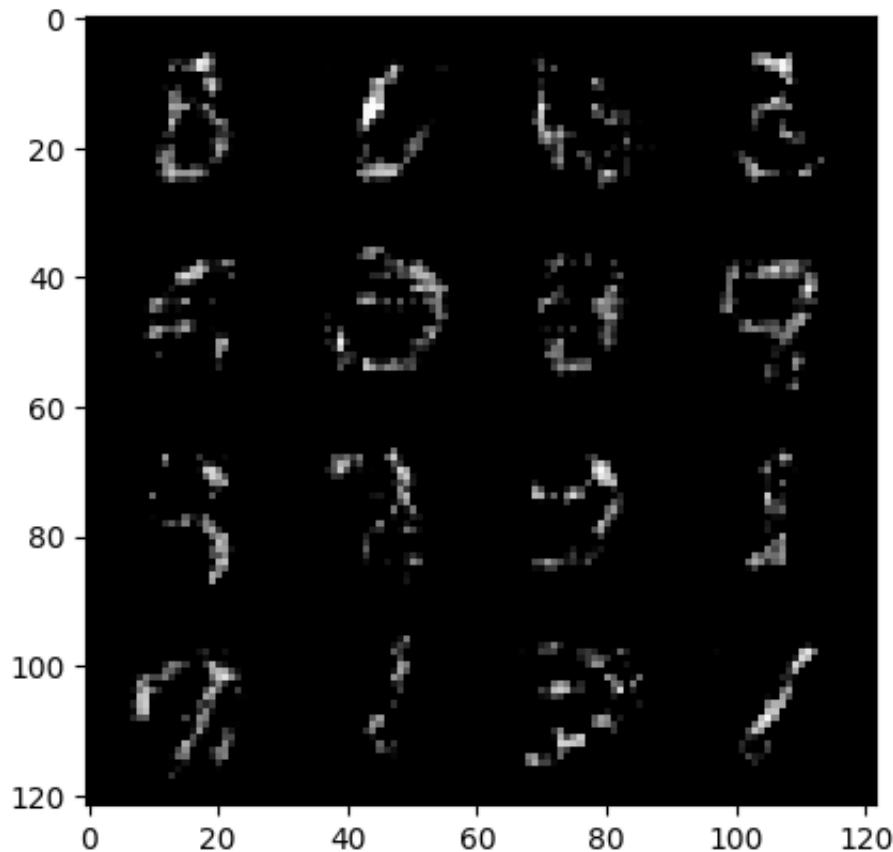


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6858, G_loss: 0.7038



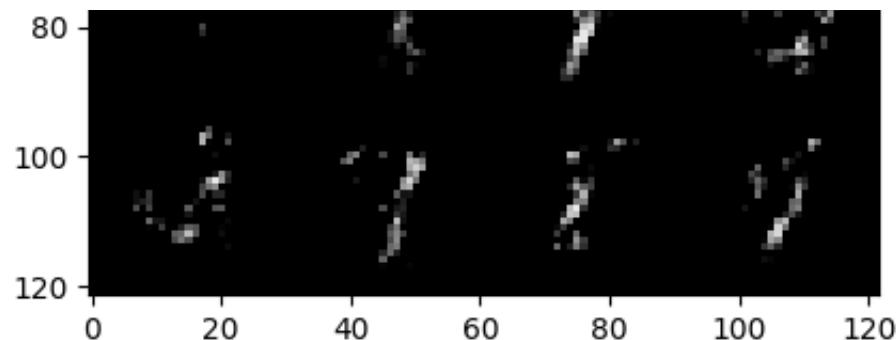


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6858, G_loss: 0.7038

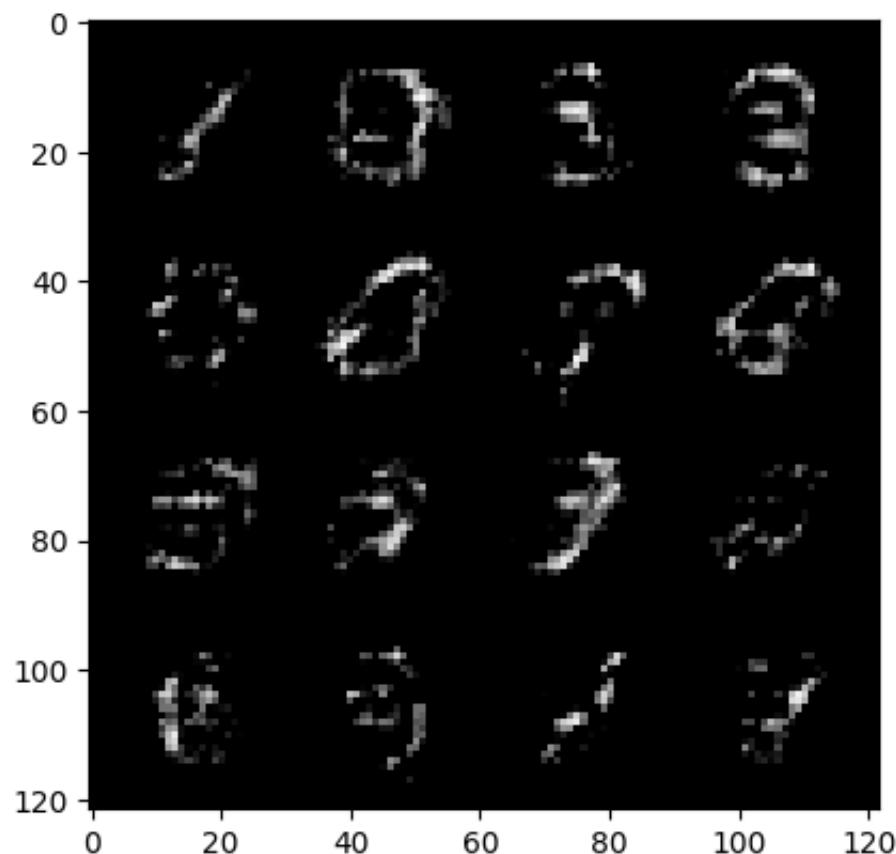


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6858, G_loss: 0.7038



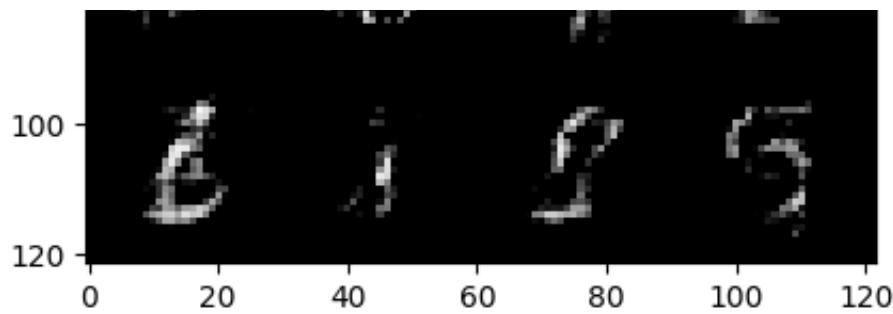


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.999 and max=1.000
D_loss: 0.6858, G_loss: 0.7038

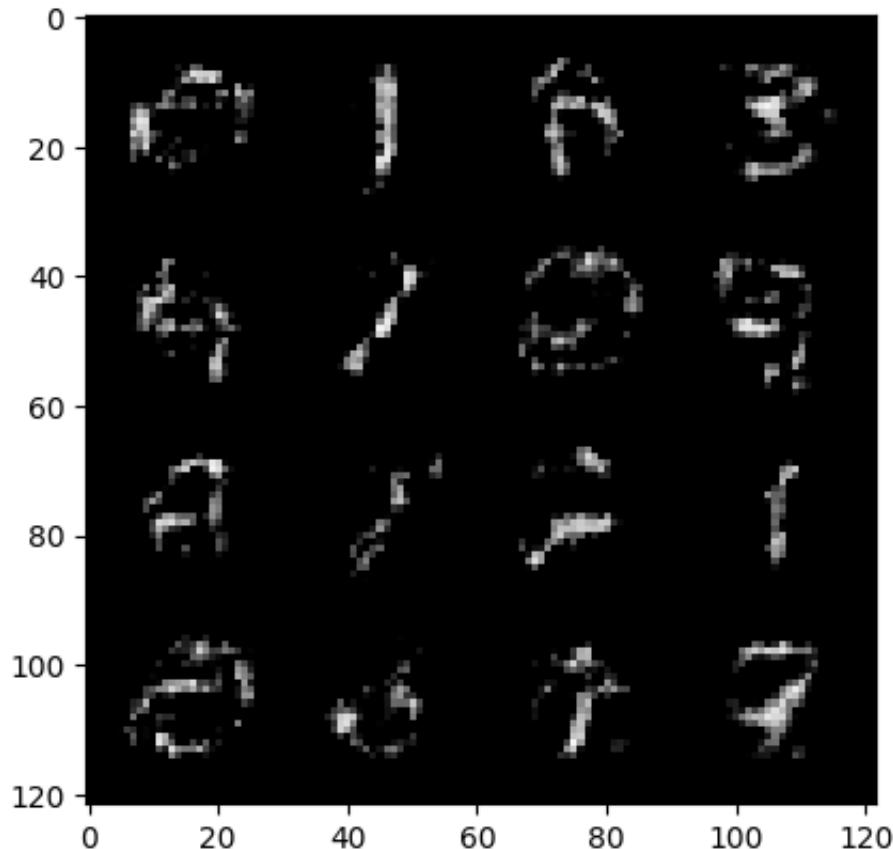


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.999 and max=1.000
D_loss: 0.6857, G_loss: 0.7038



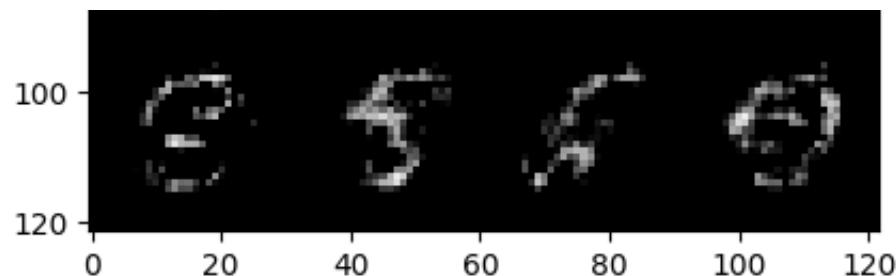


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6857, G_loss: 0.7038

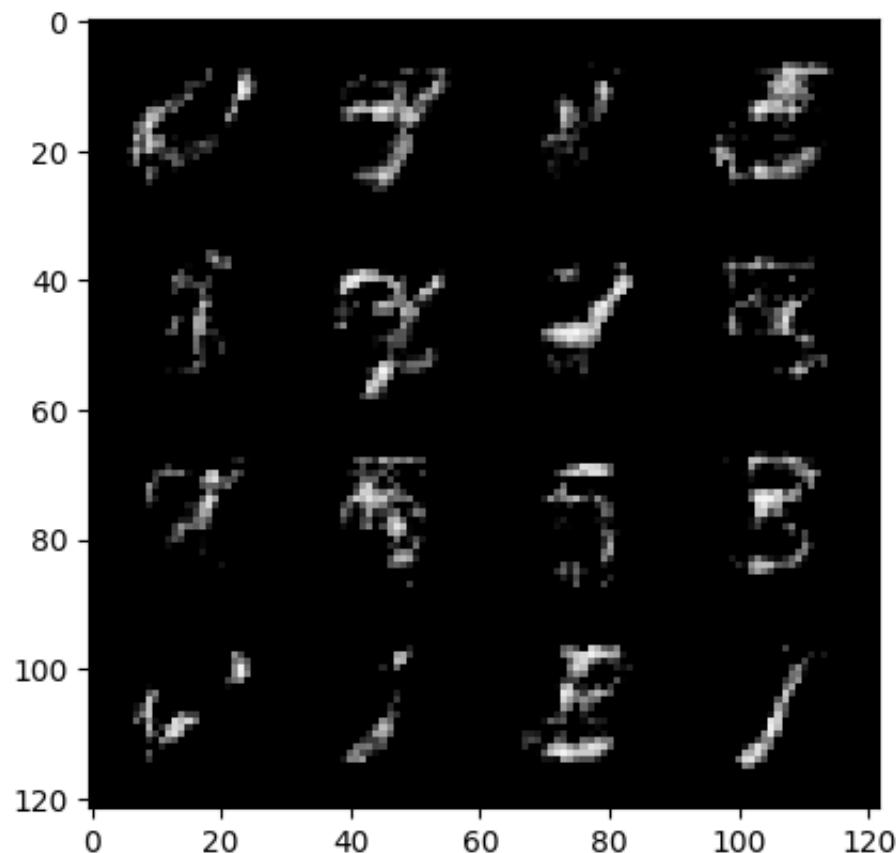


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6857, G_loss: 0.7039



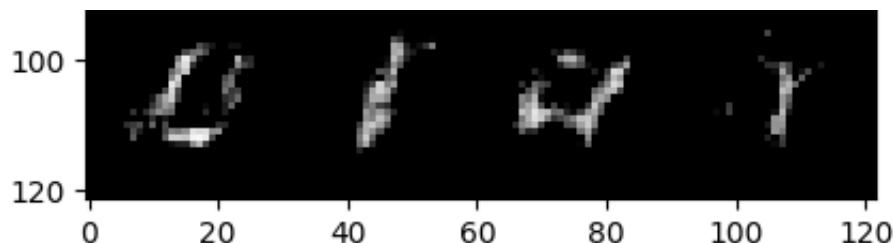


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6857, G_loss: 0.7039

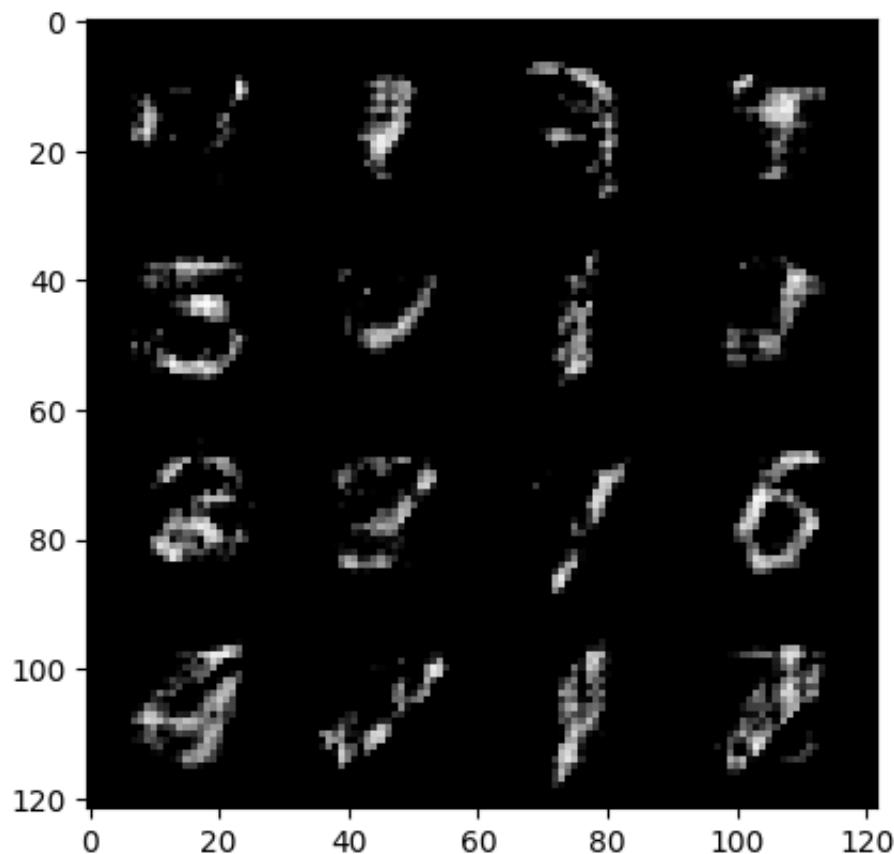


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6857, G_loss: 0.7039



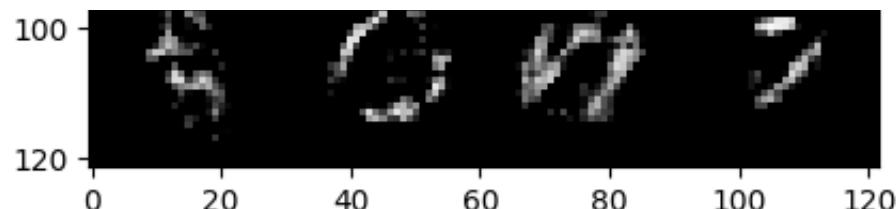


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6856, G_loss: 0.7039

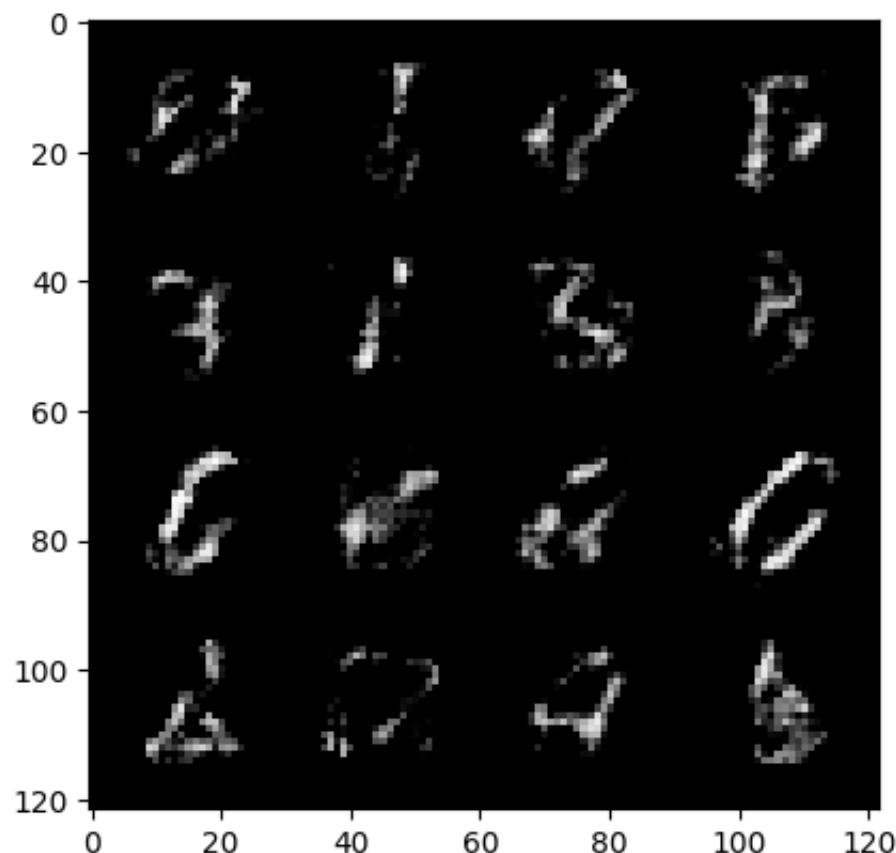


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6856, G_loss: 0.7039



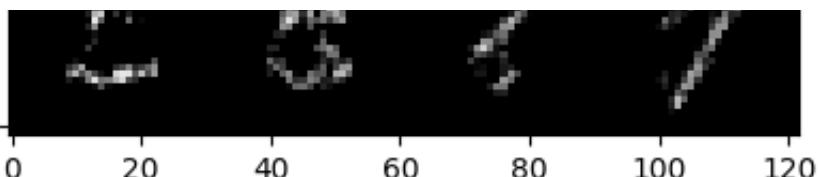


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6856, G_loss: 0.7040

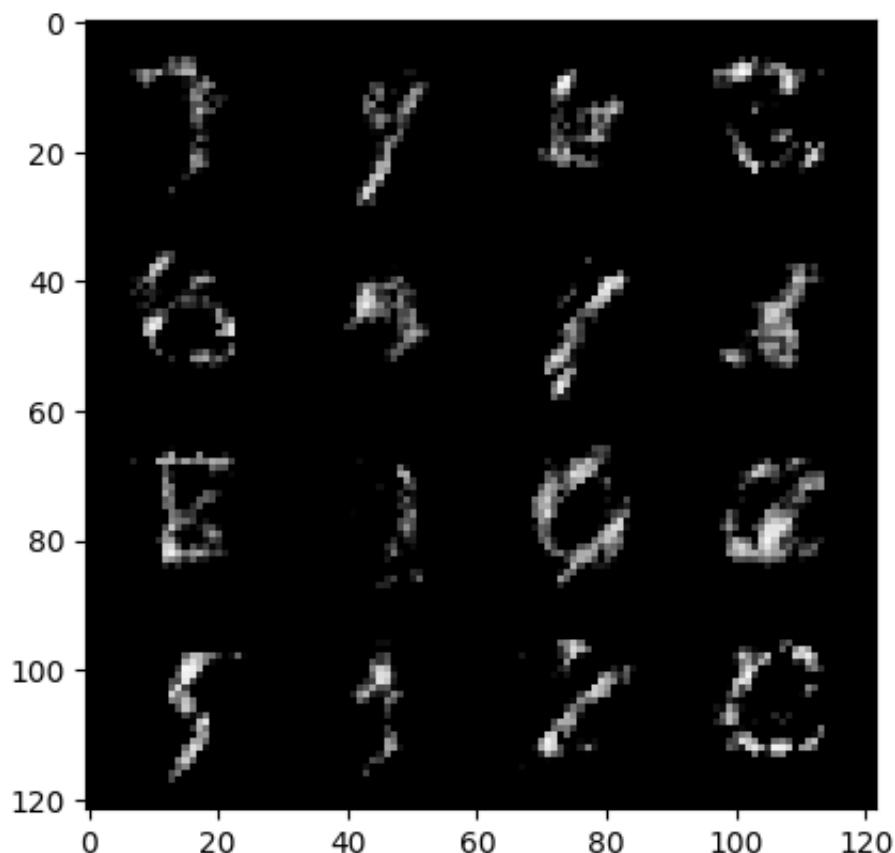


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6856, G_loss: 0.7040



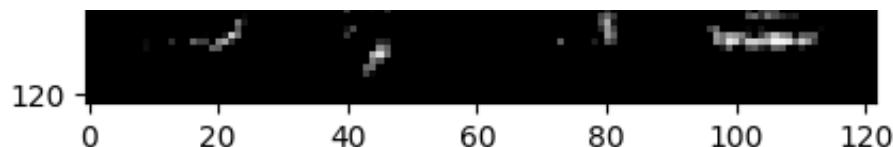


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6856, G_loss: 0.7040

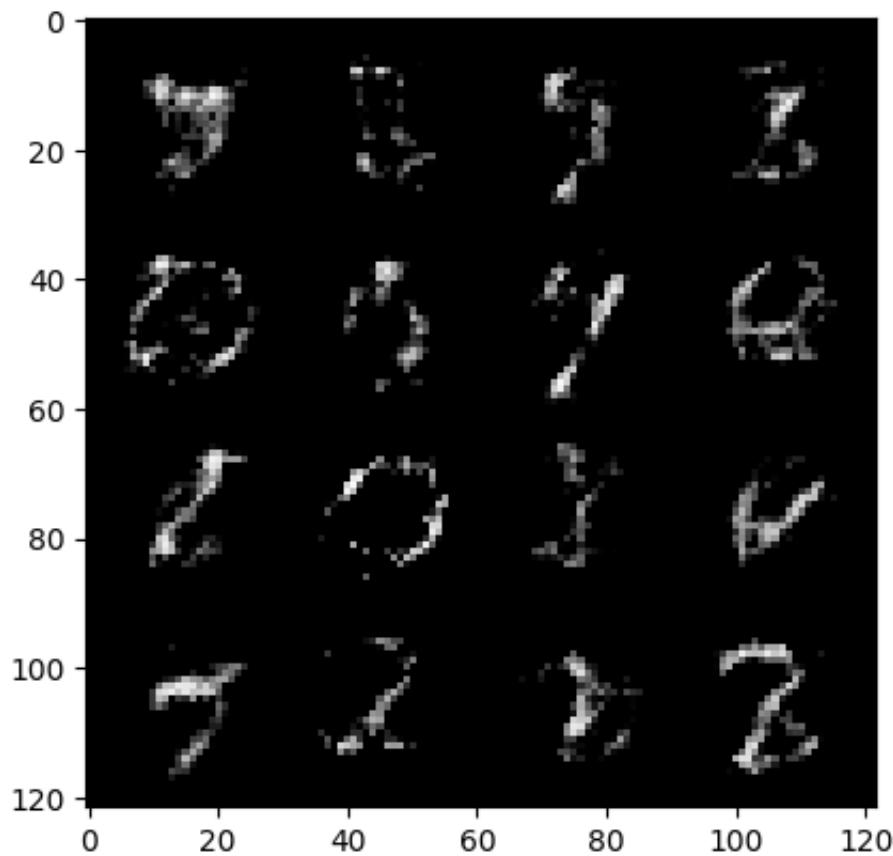


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6856, G_loss: 0.7041

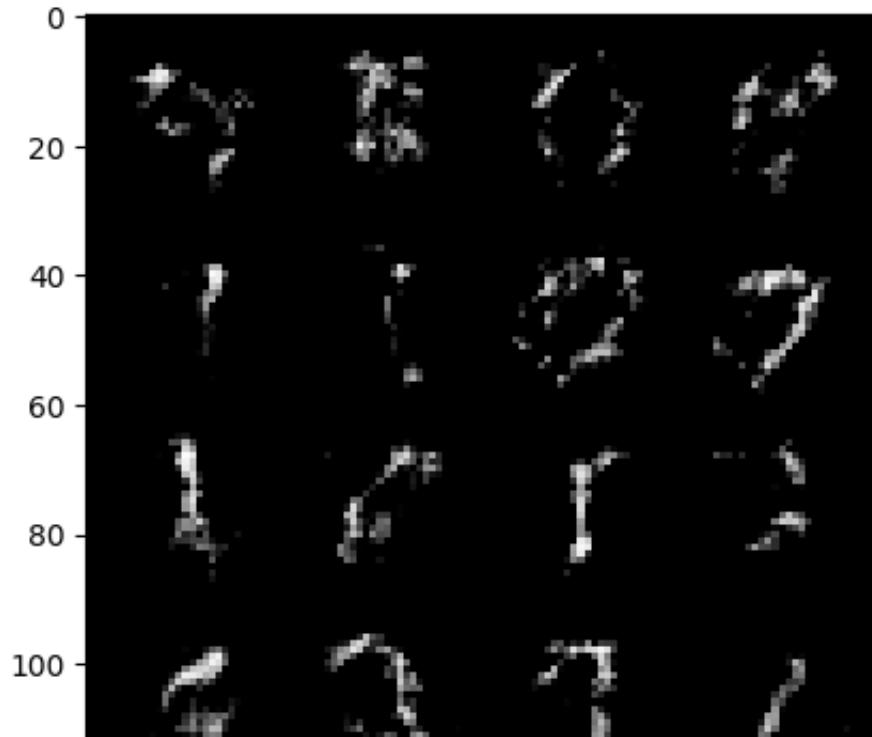




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6855, G_loss: 0.7041

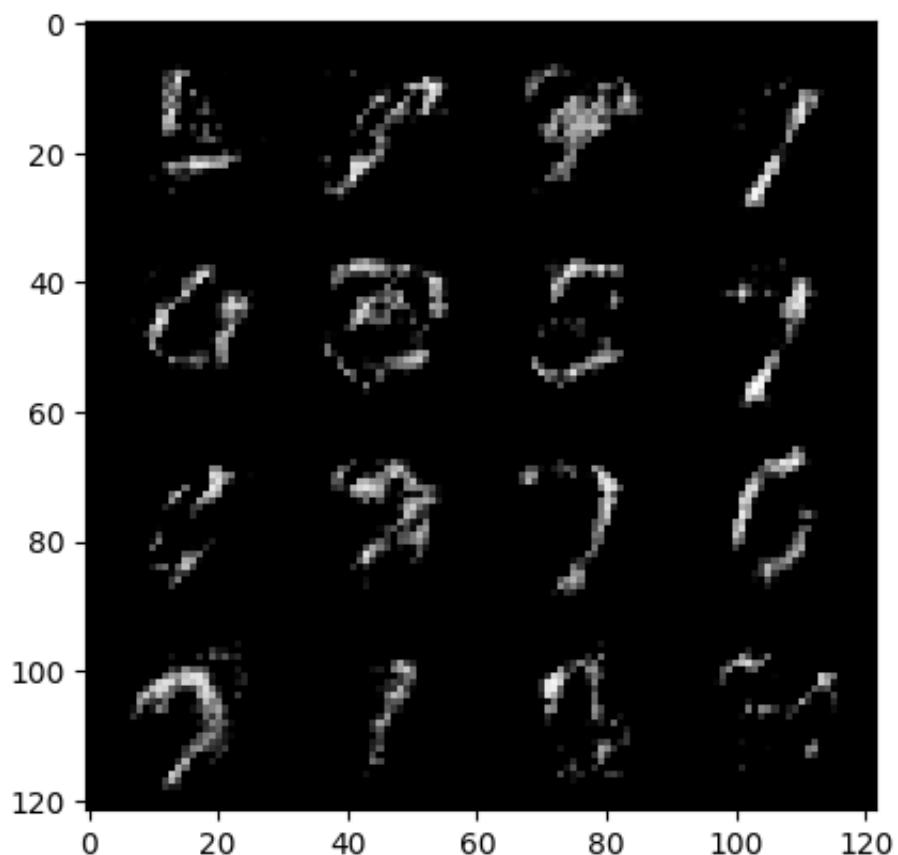


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6855, G_loss: 0.7042

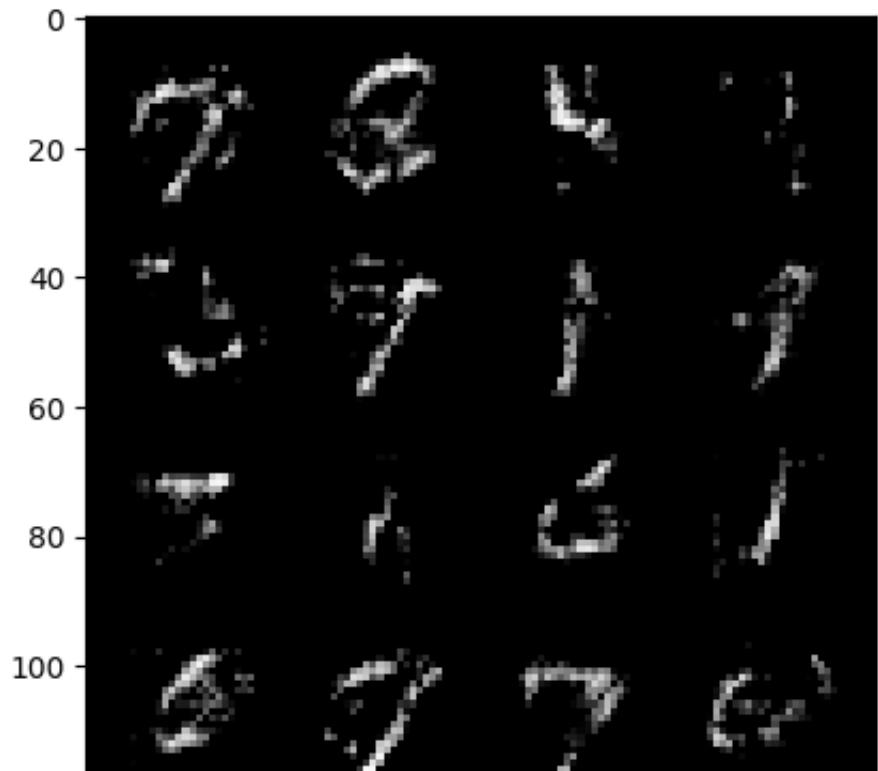


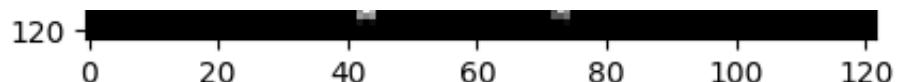


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6855, G_loss: 0.7042

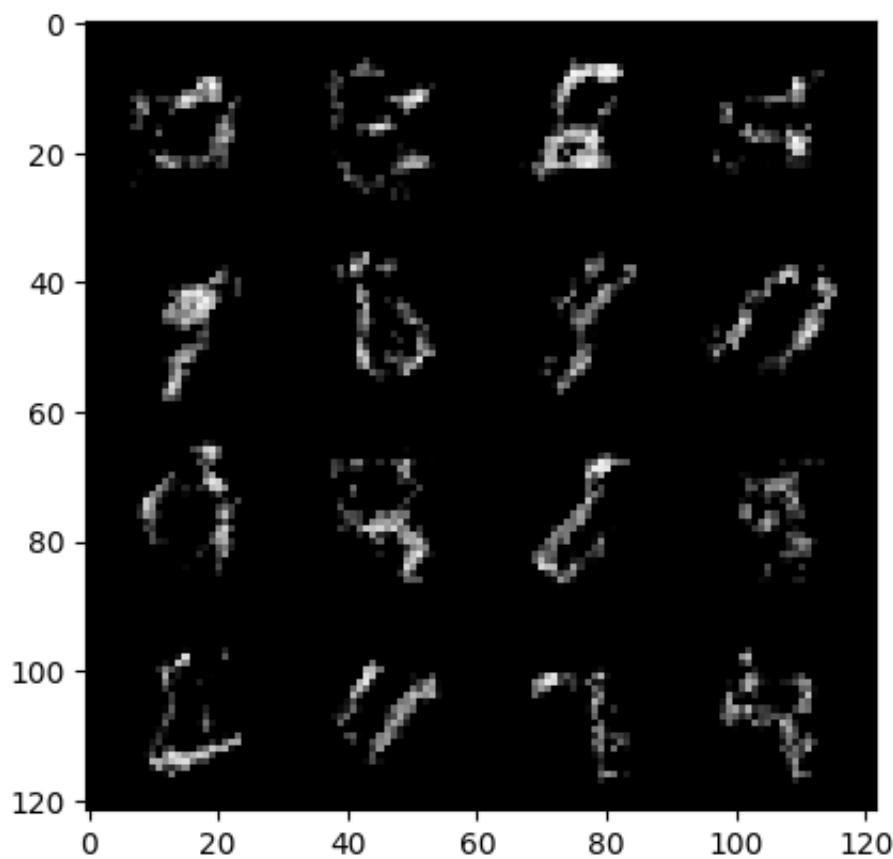


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6855, G_loss: 0.7042

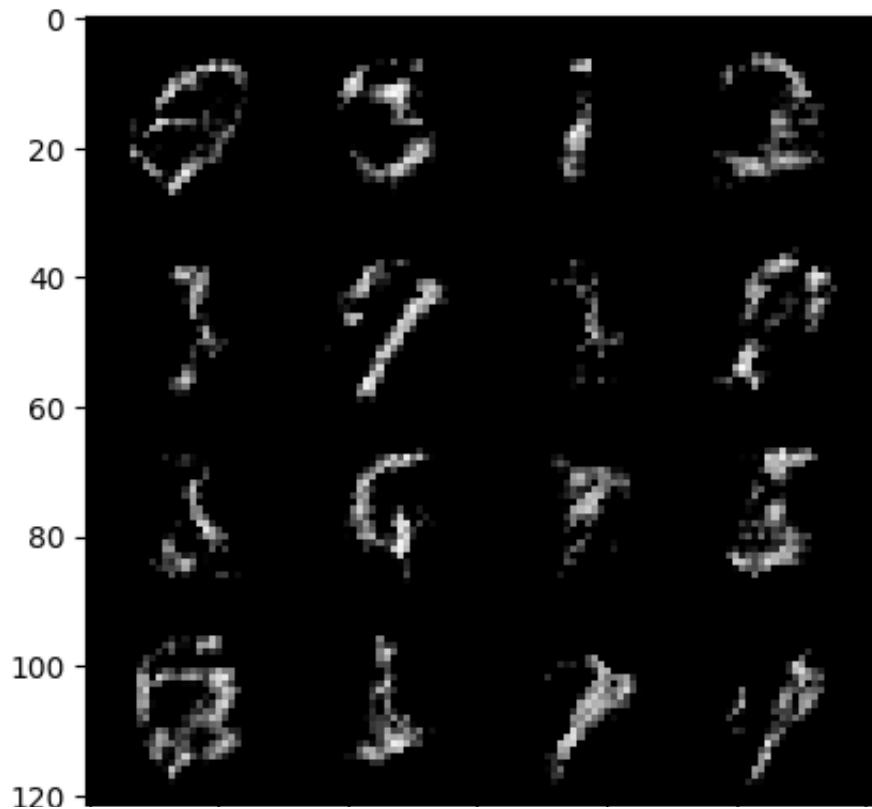




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6854, G_loss: 0.7043

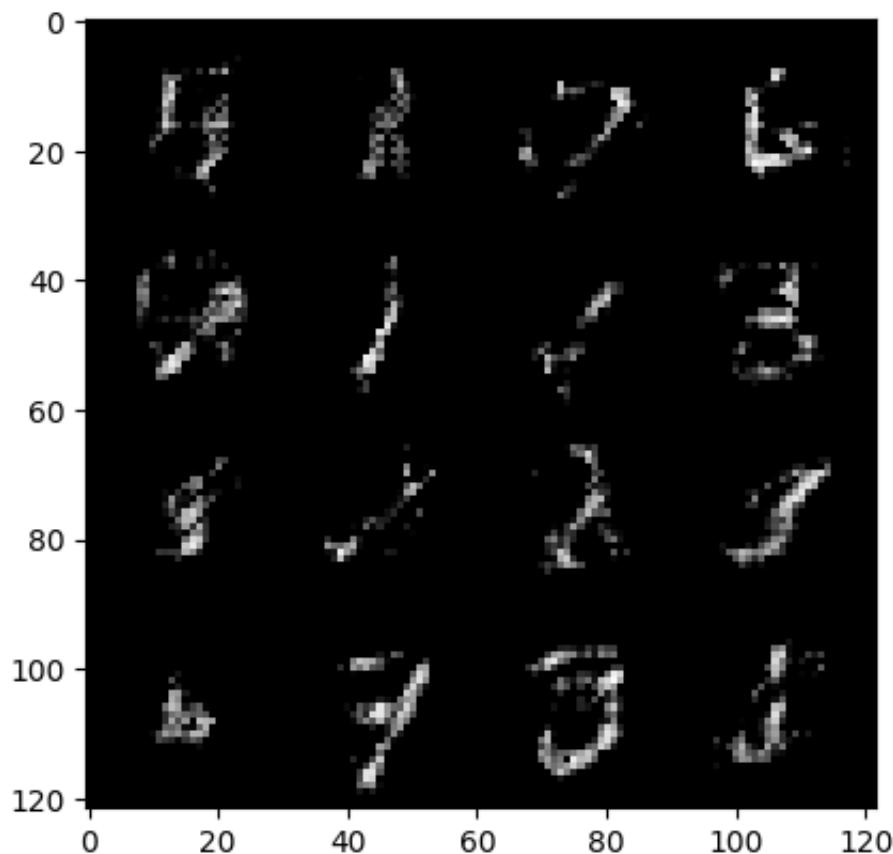


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6854, G_loss: 0.7043

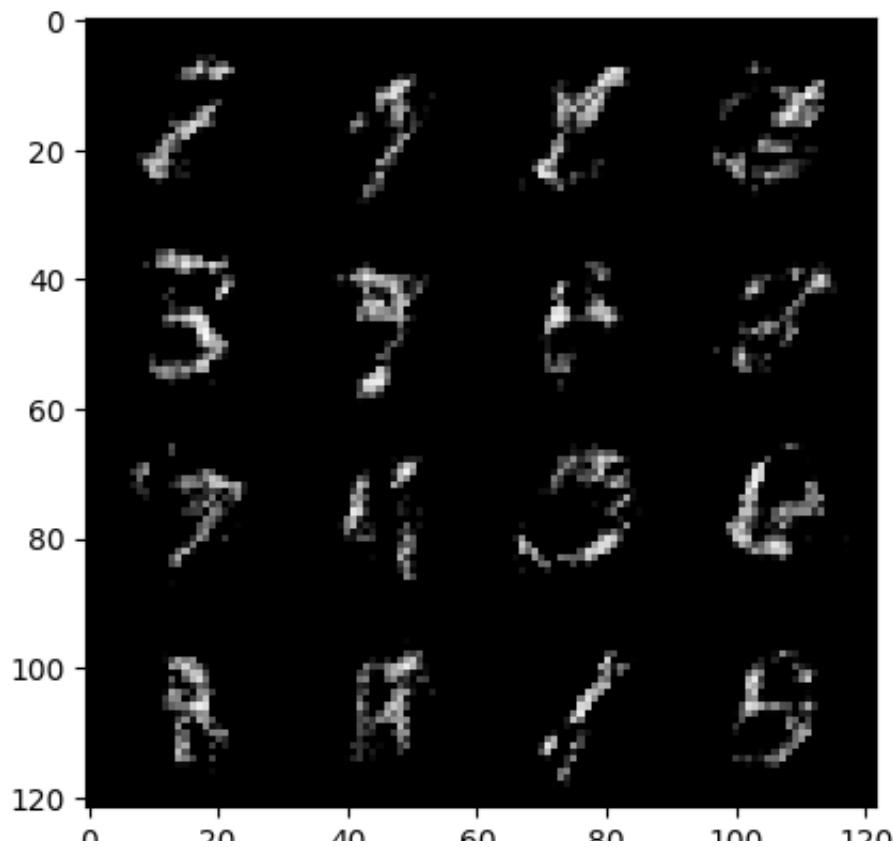




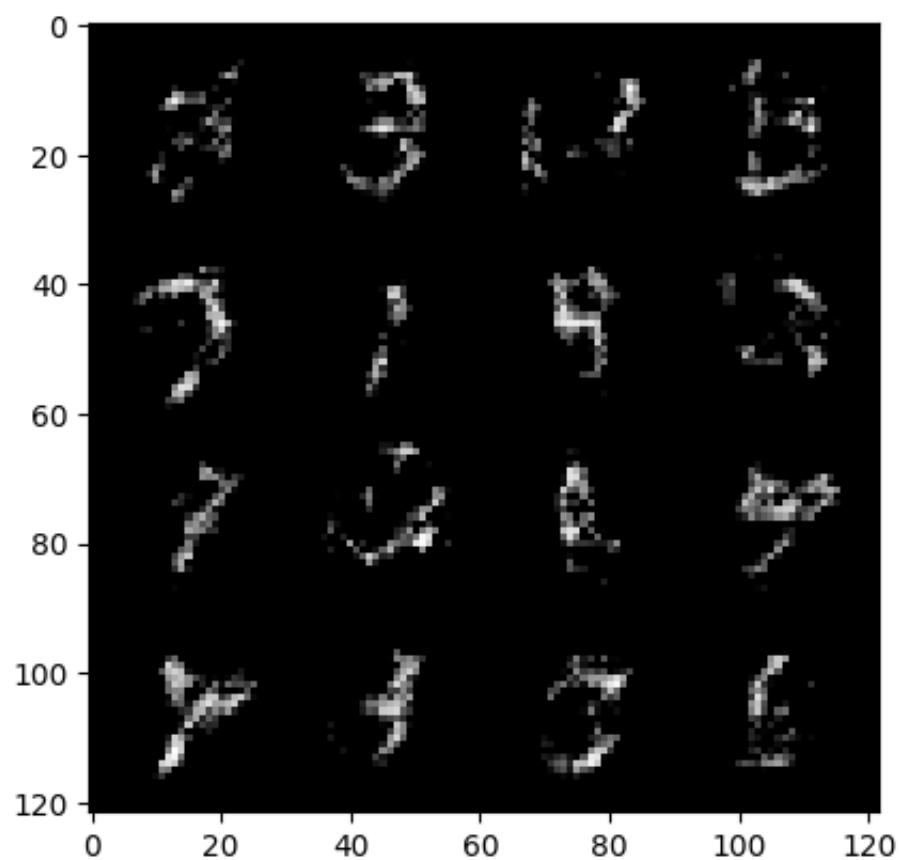
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6854, G_loss: 0.7043



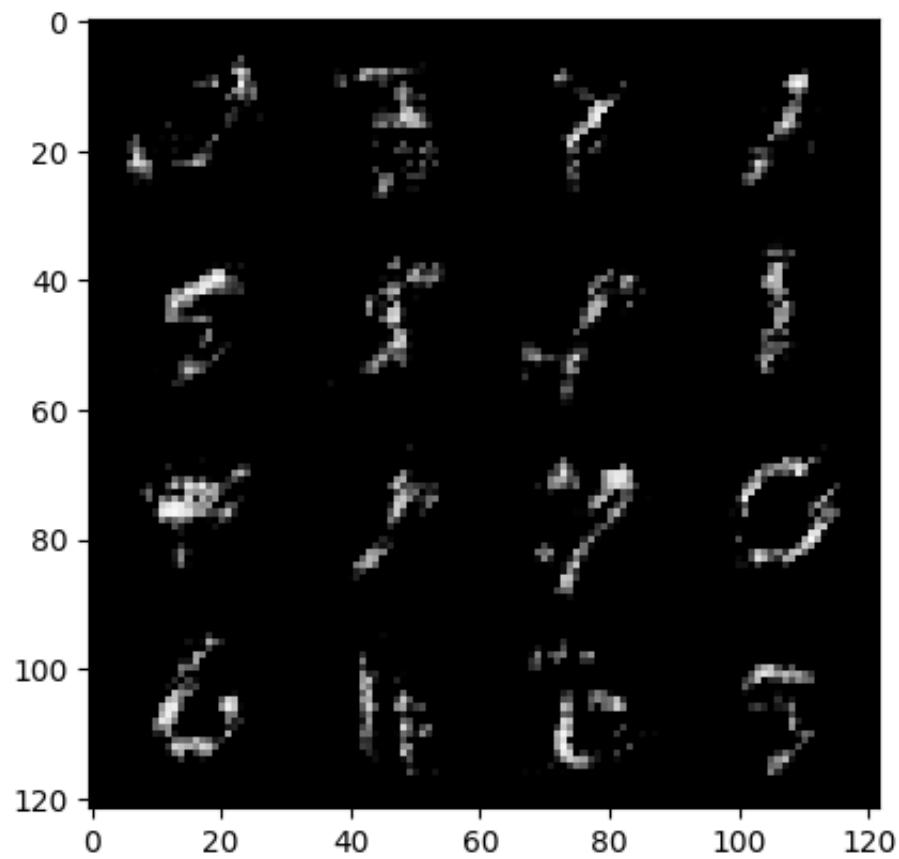
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6854, G_loss: 0.7044



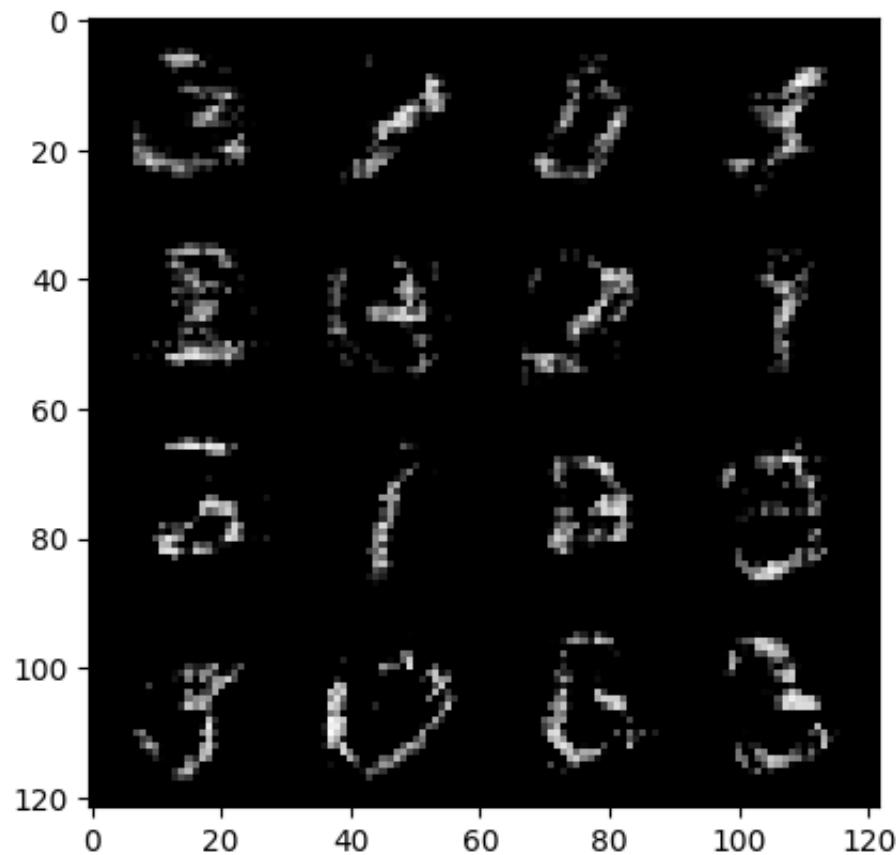
v 20 40 60 80 100 120
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6854, G_loss: 0.7044



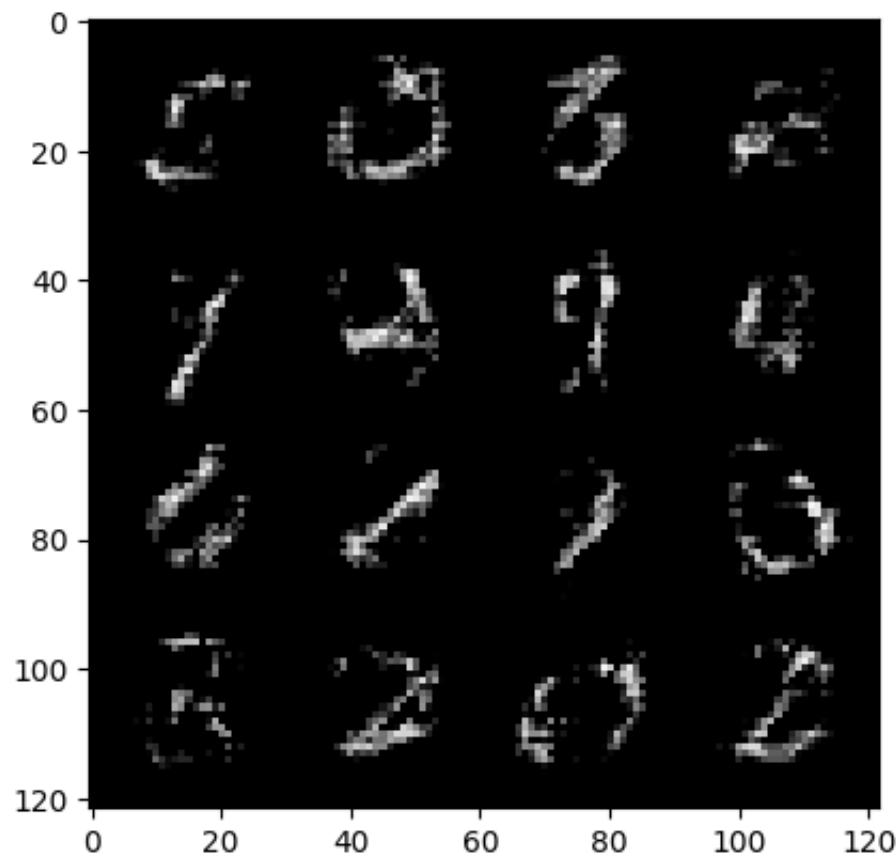
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6853, G_loss: 0.7044



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6853, G_loss: 0.7045

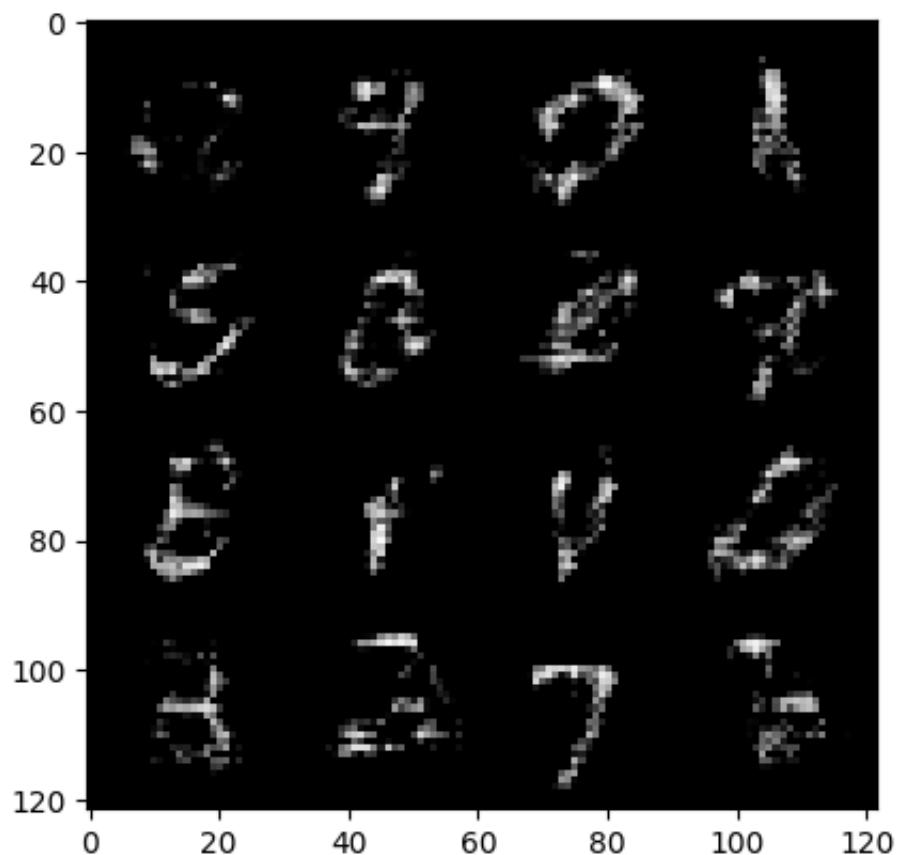


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6853, G_loss: 0.7045

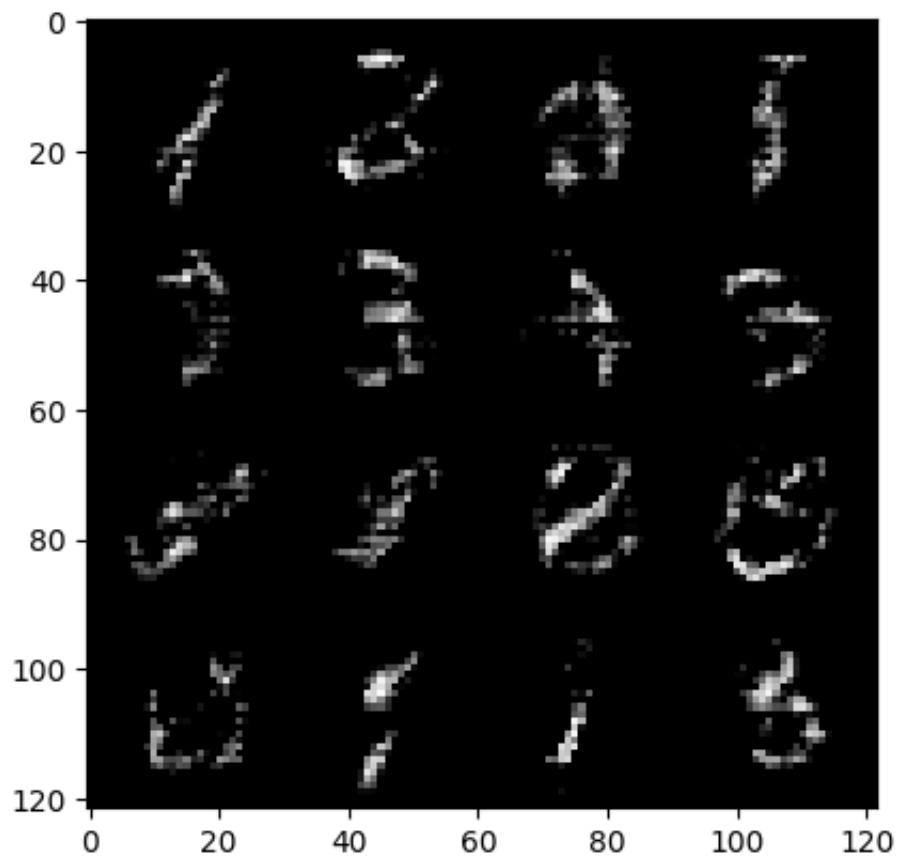


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

D_loss: 0.6852, G_loss: 0.7046

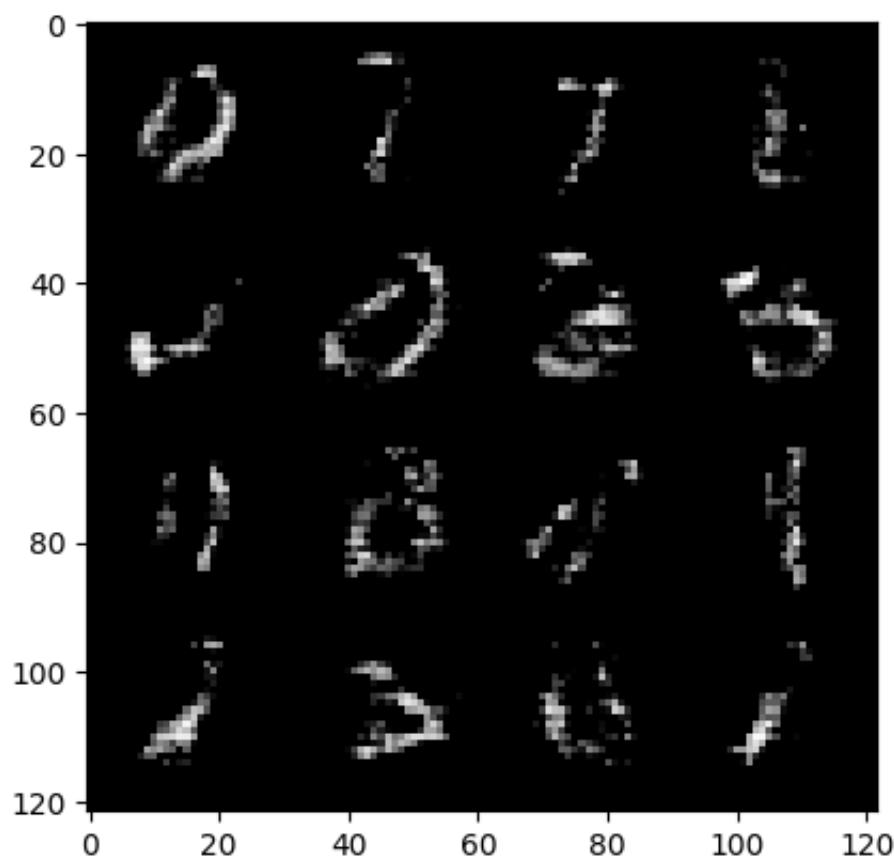


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6852, G_loss: 0.7046

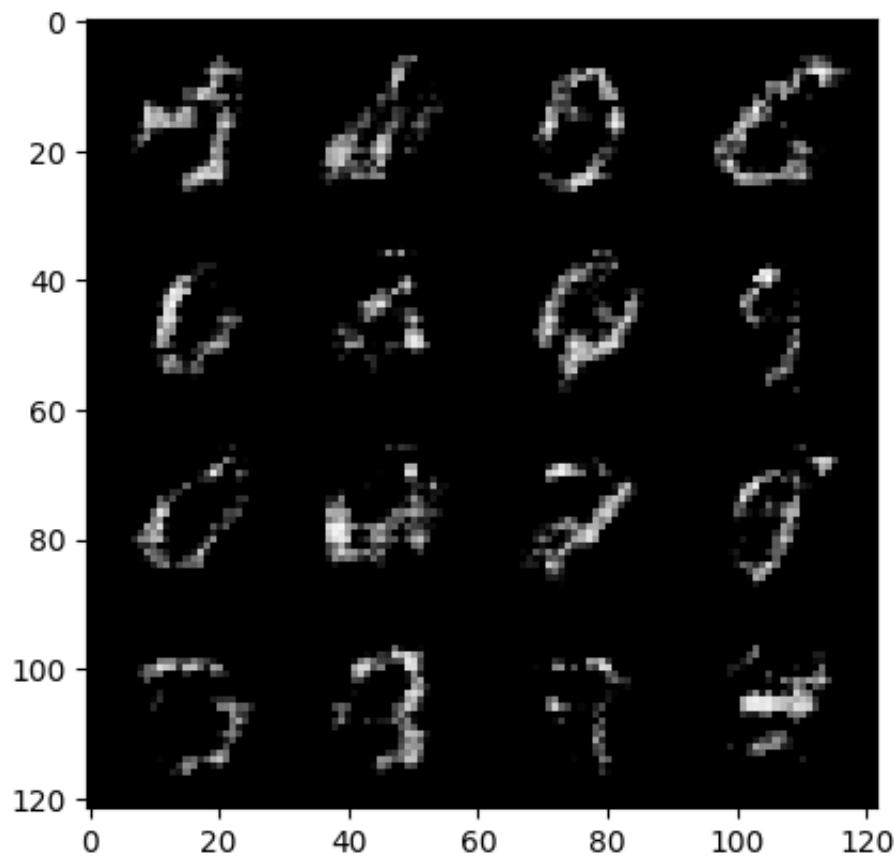


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6852, G_loss: 0.7046

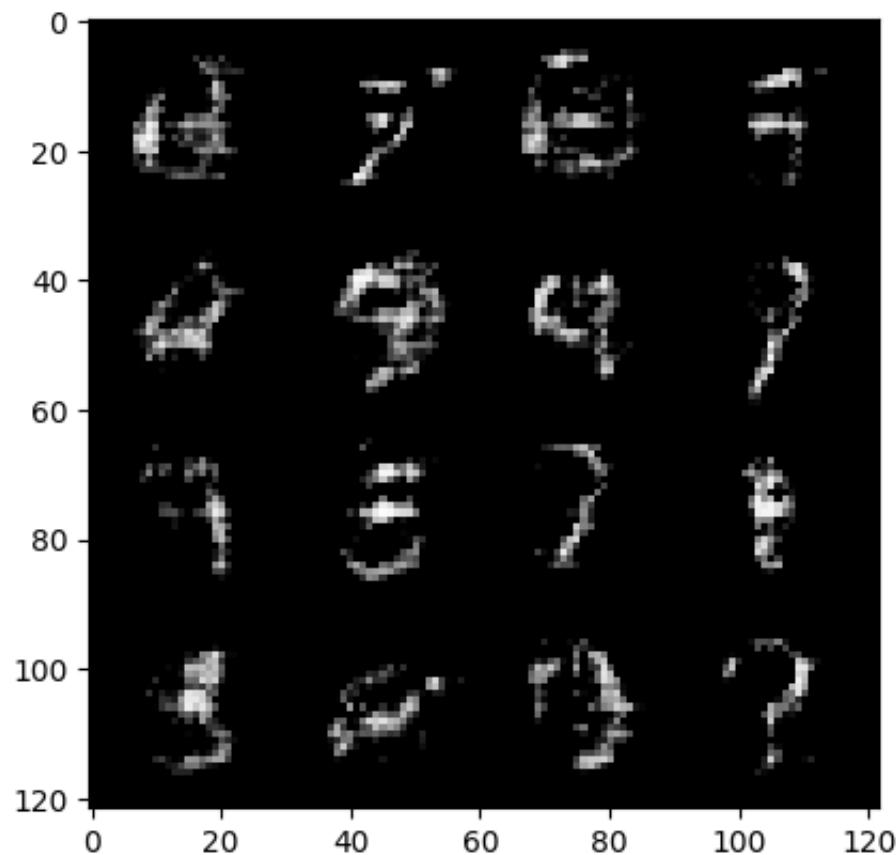
D_loss: 0.6852, G_loss: 0.7047



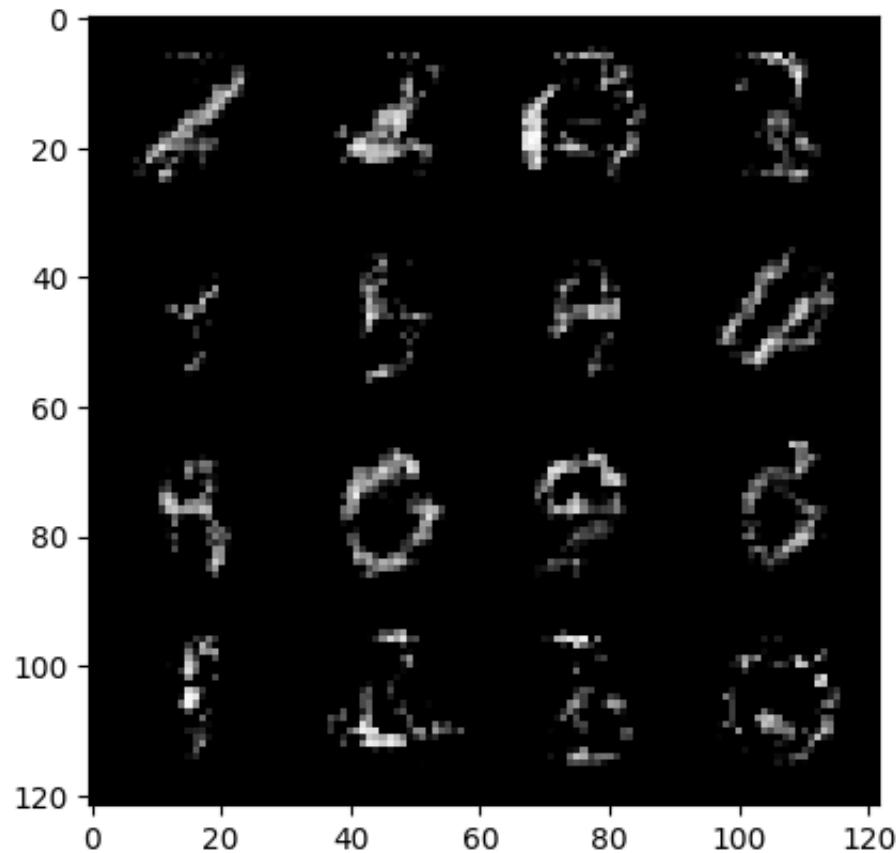
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6852, G_loss: 0.7047



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6852, G_loss: 0.7047

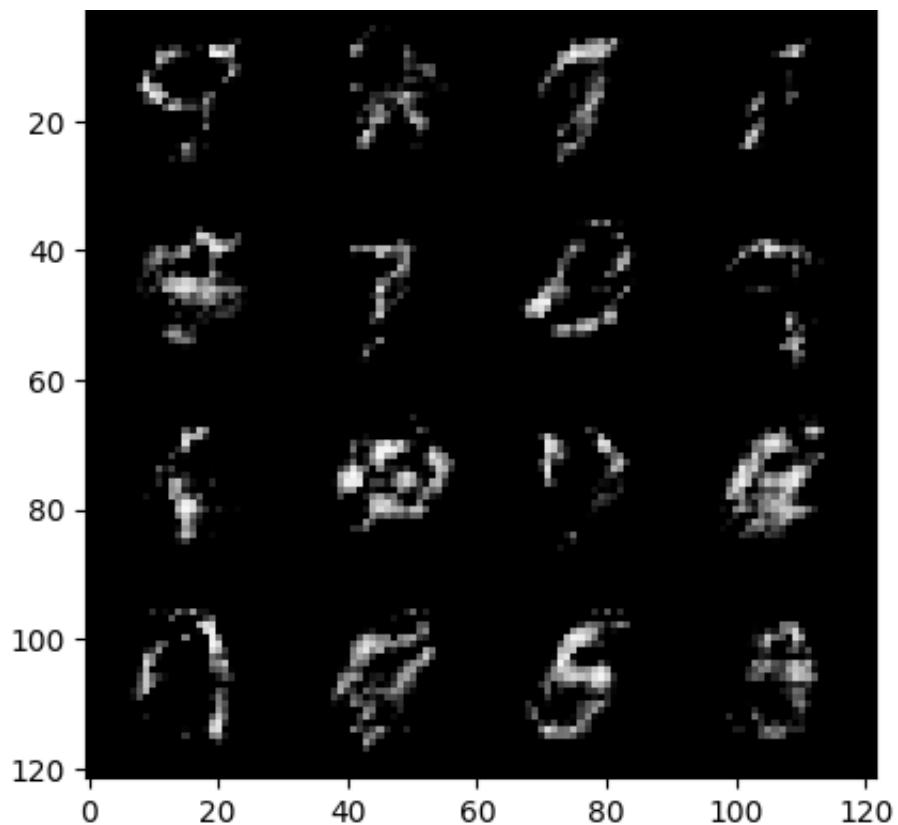


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6851, G_loss: 0.7047

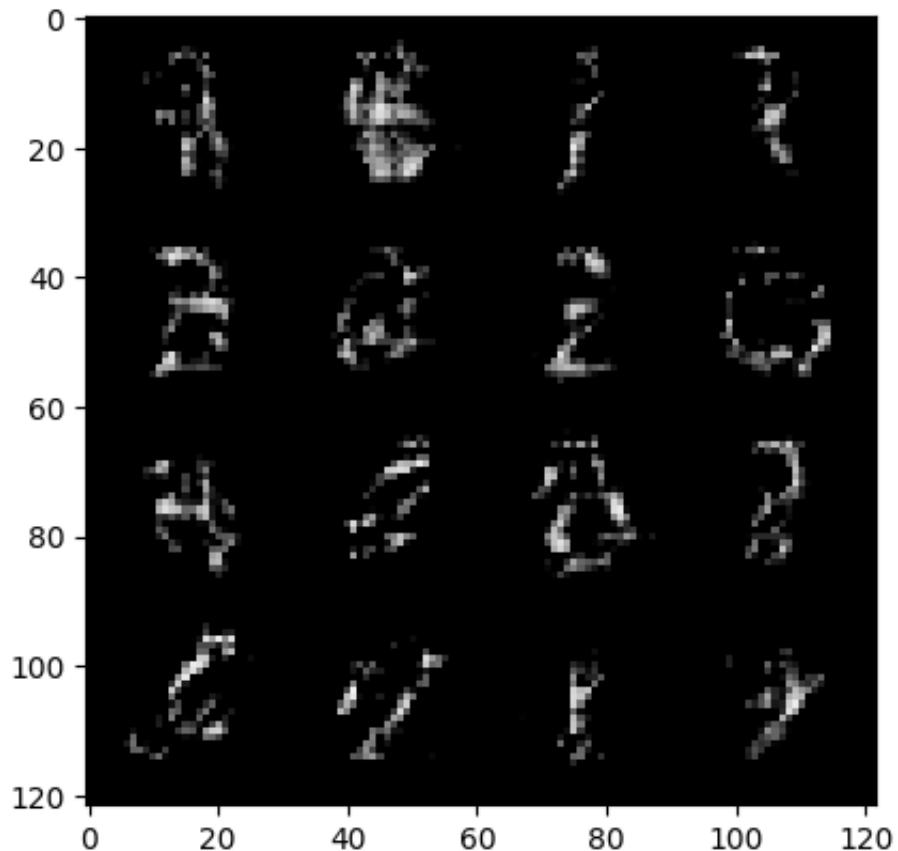


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6851, G_loss: 0.7048



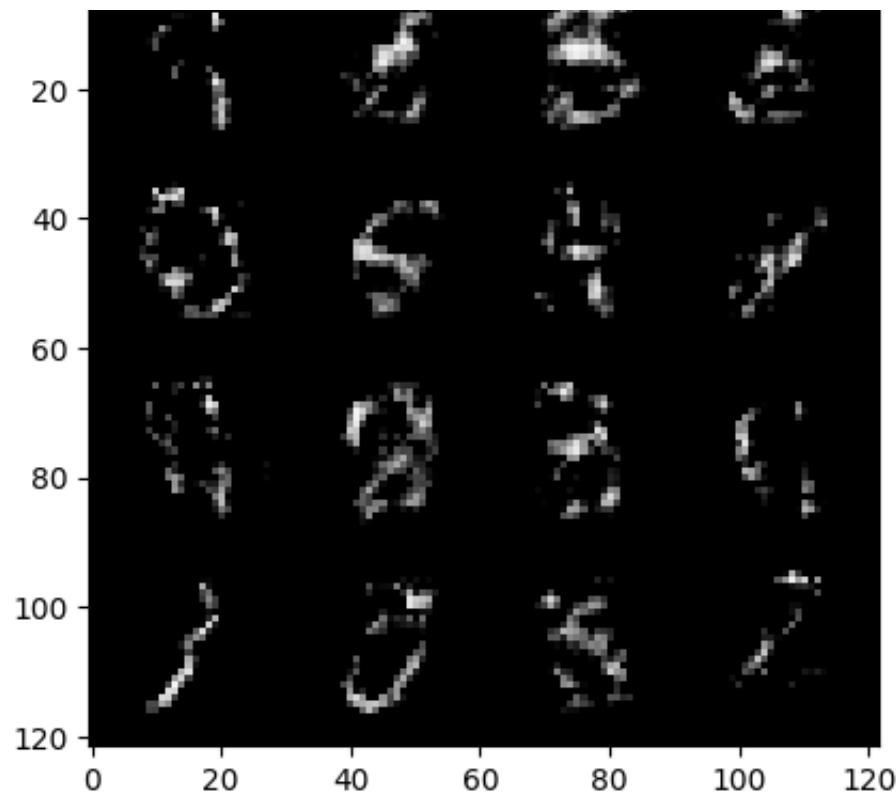


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6851, G_loss: 0.7048

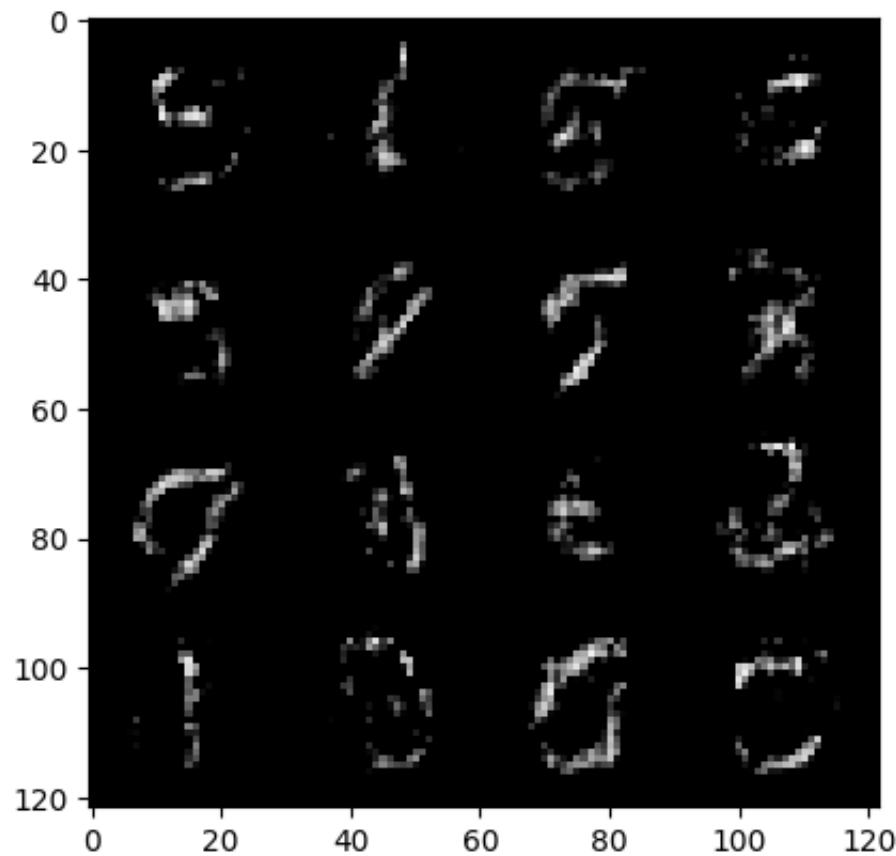


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6851, G_loss: 0.7048



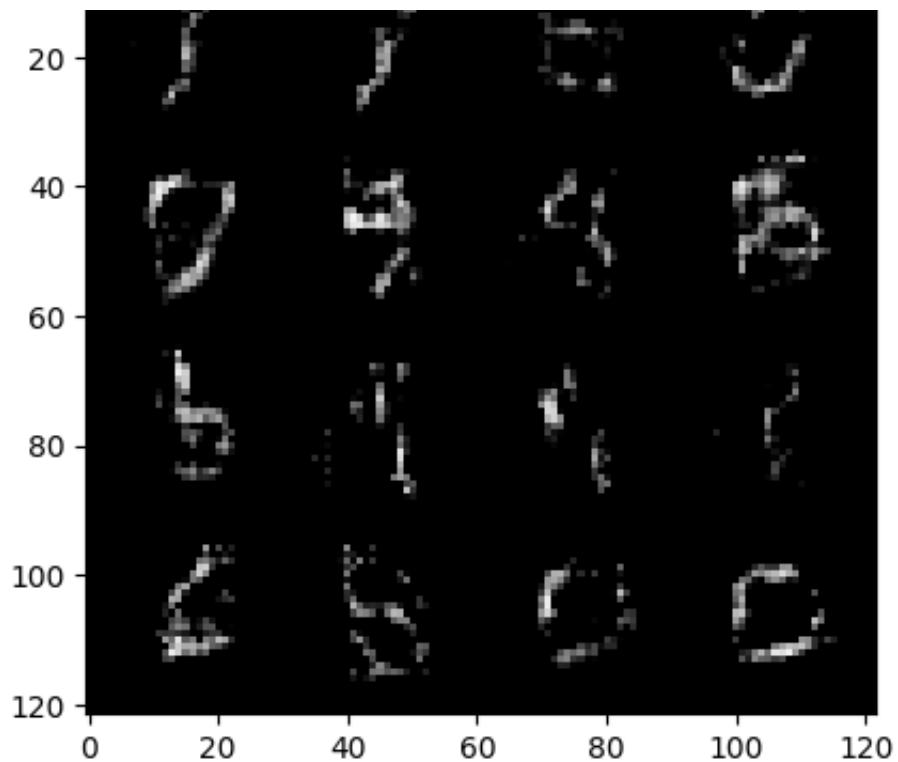


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6851, G_loss: 0.7049

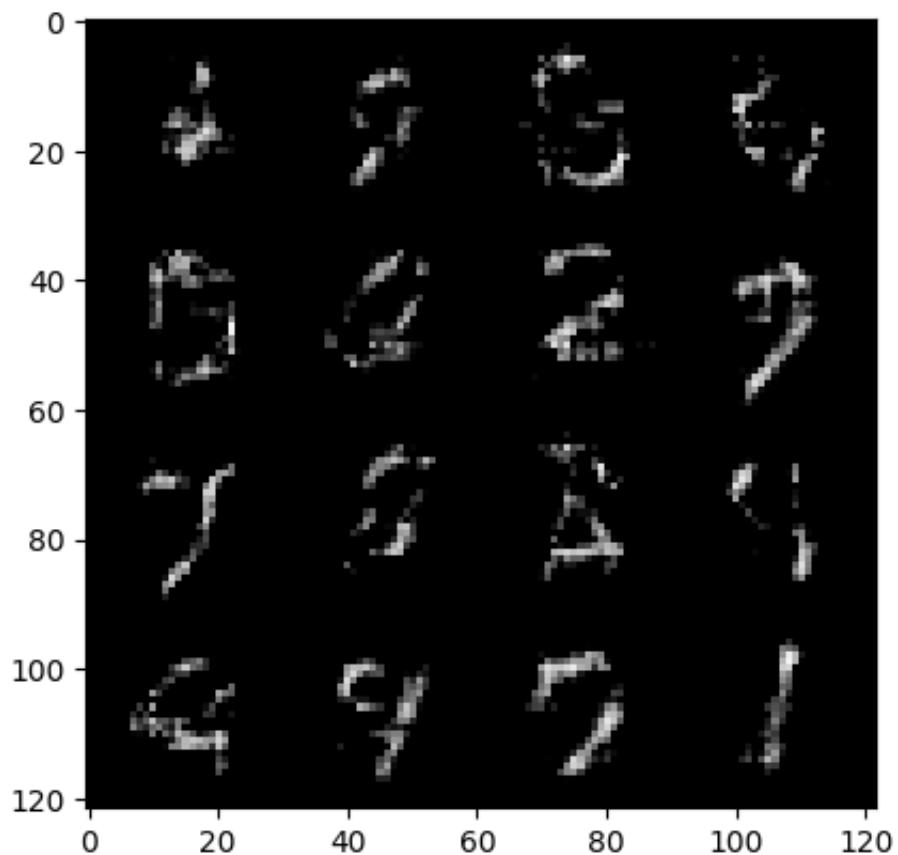


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6850, G_loss: 0.7049



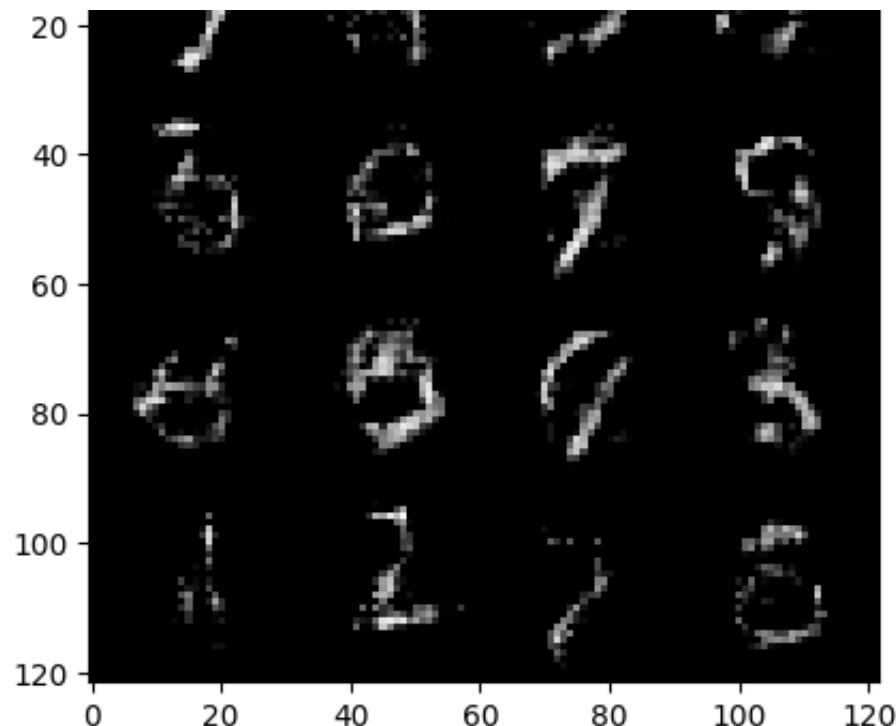


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6850, G_loss: 0.7049

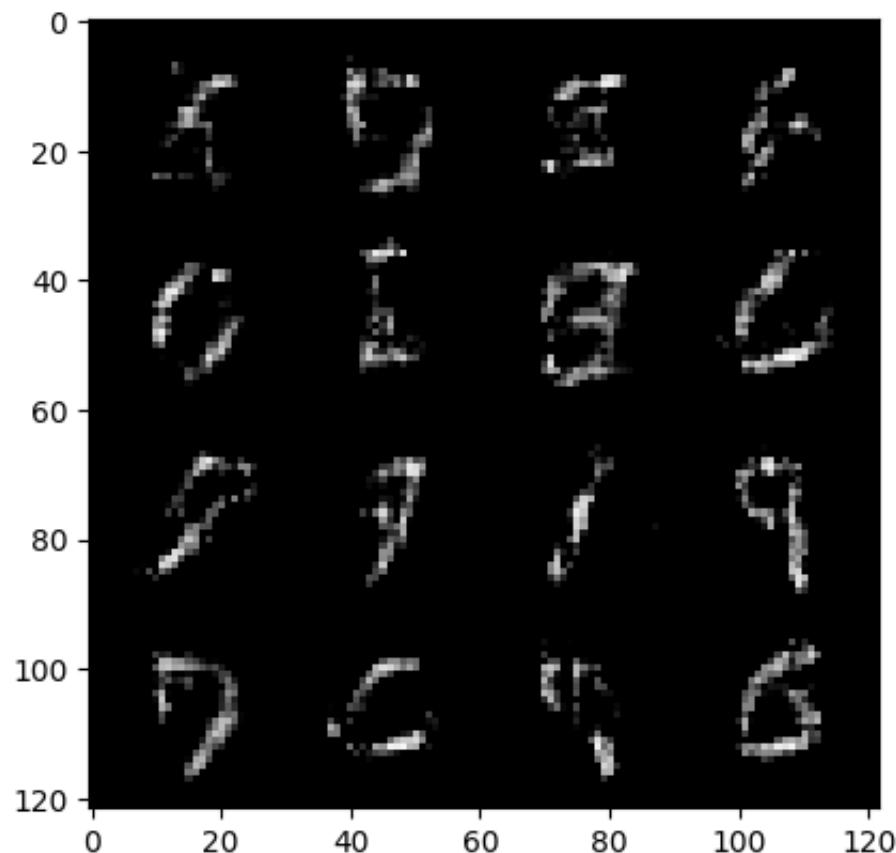


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6850, G_loss: 0.7049



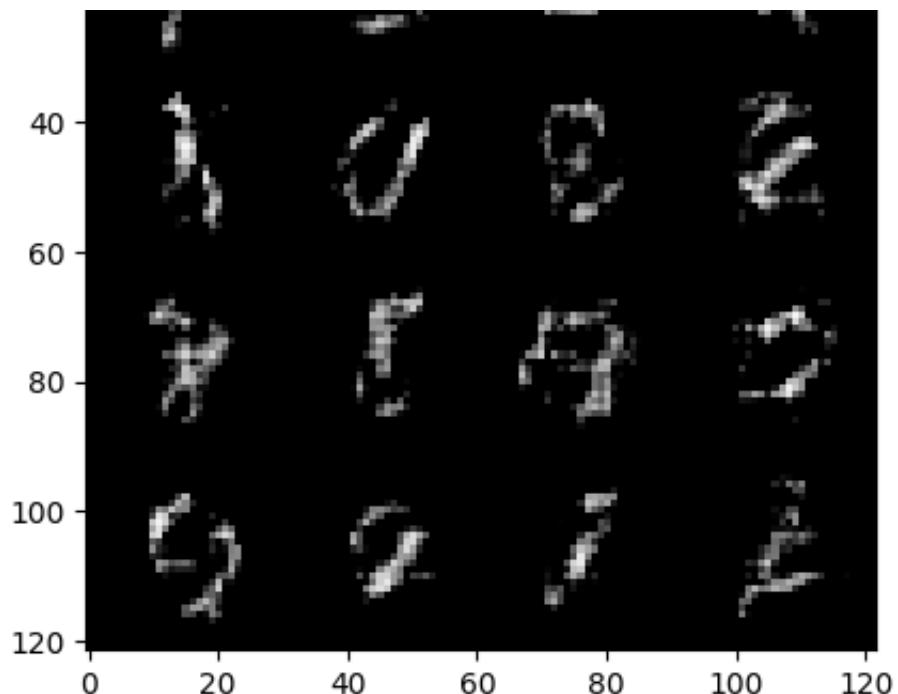


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.7050

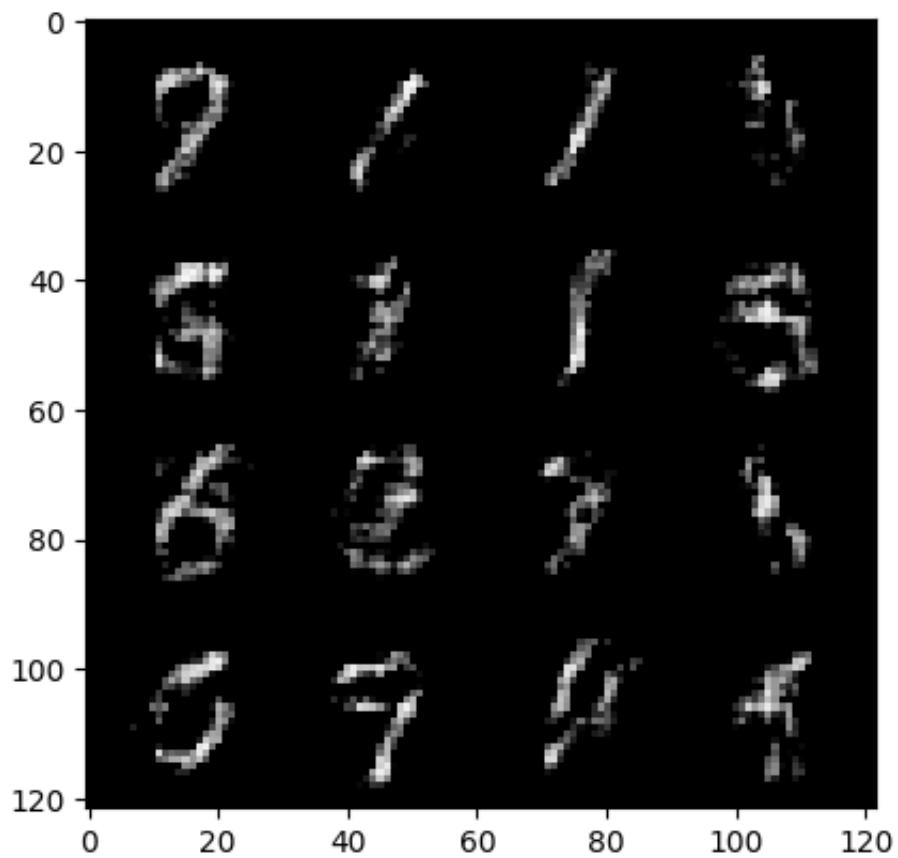


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.7050



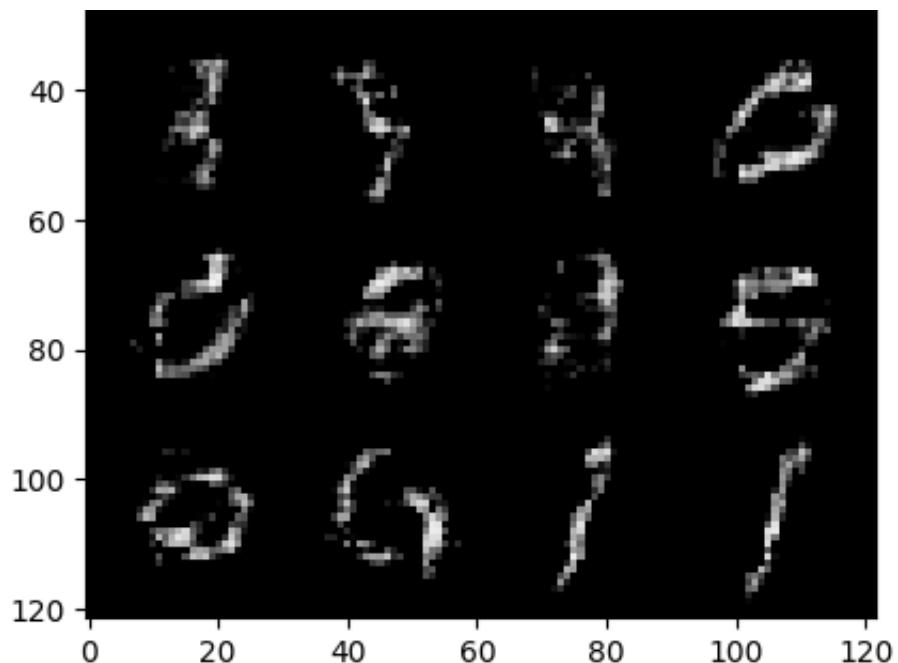


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.7050

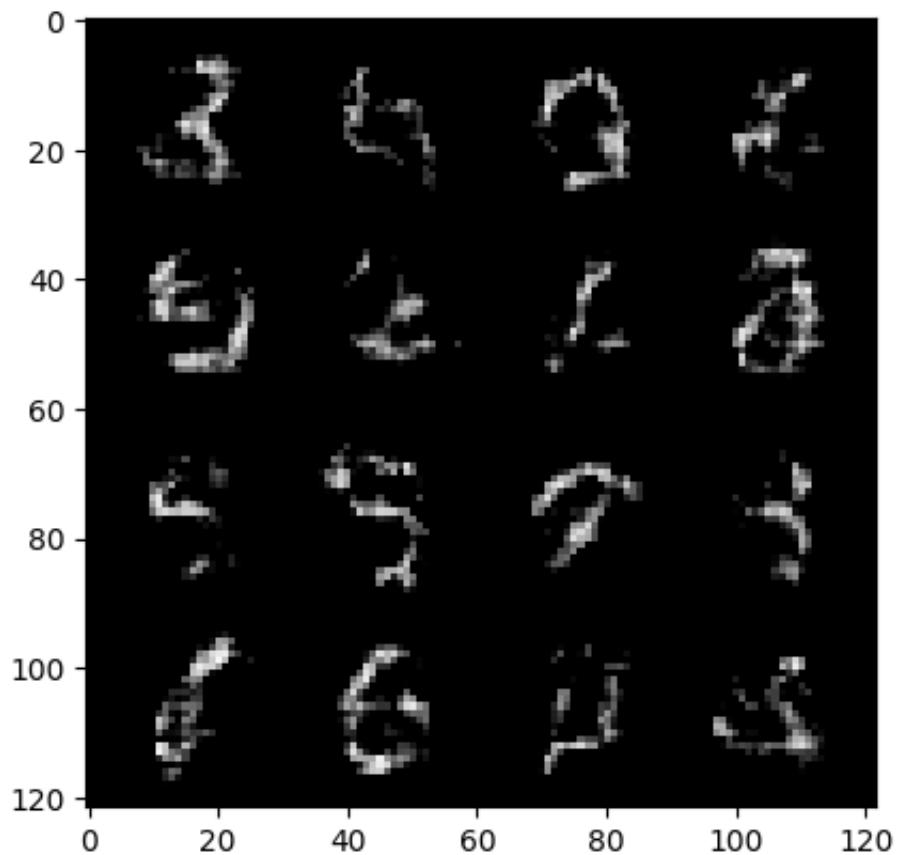


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.7051



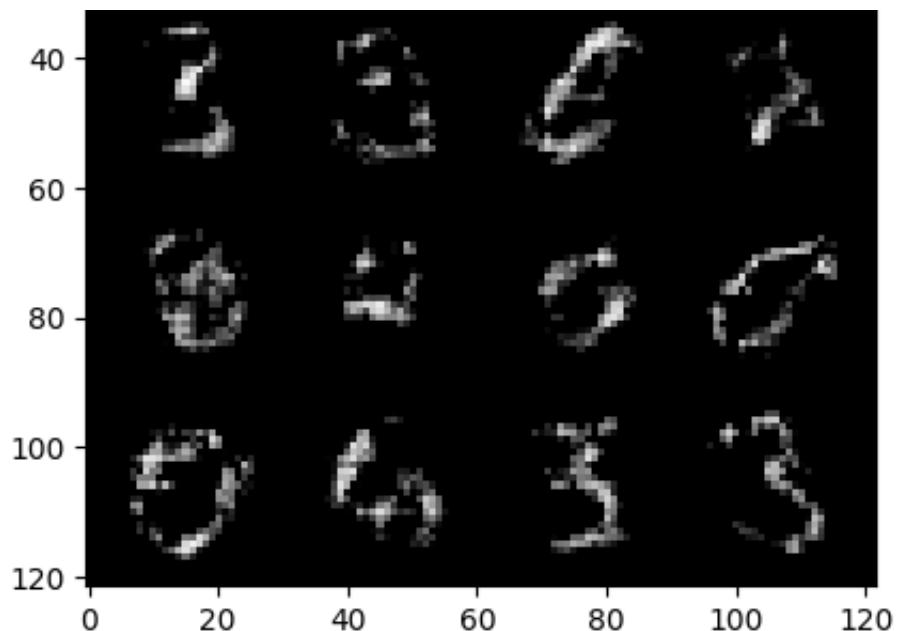


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.7050

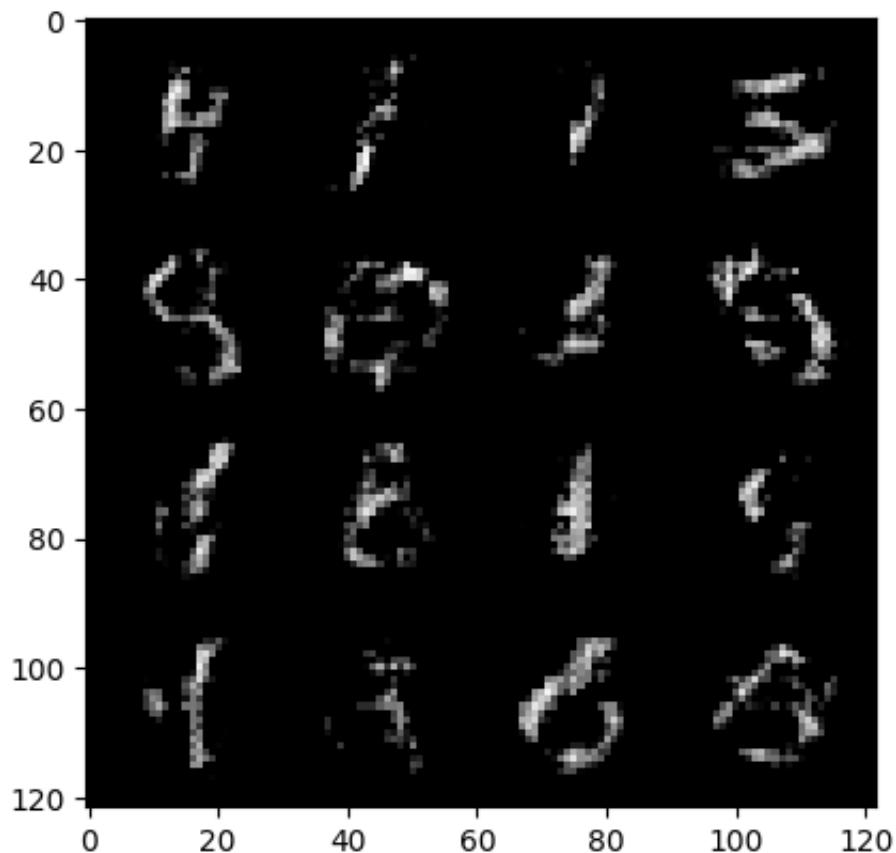


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.7050



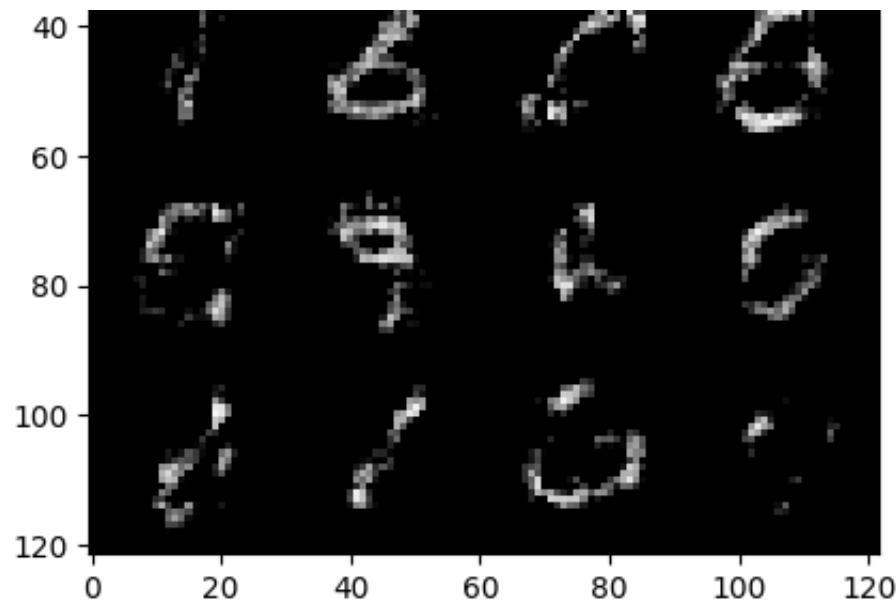


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.7051

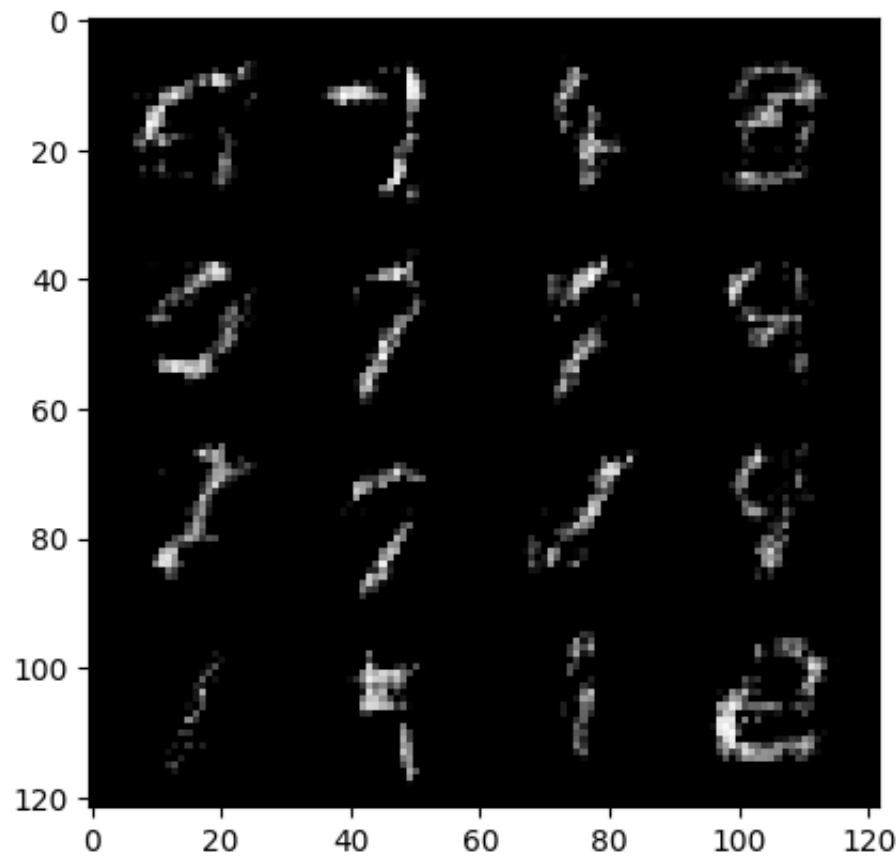


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6849, G_loss: 0.7052



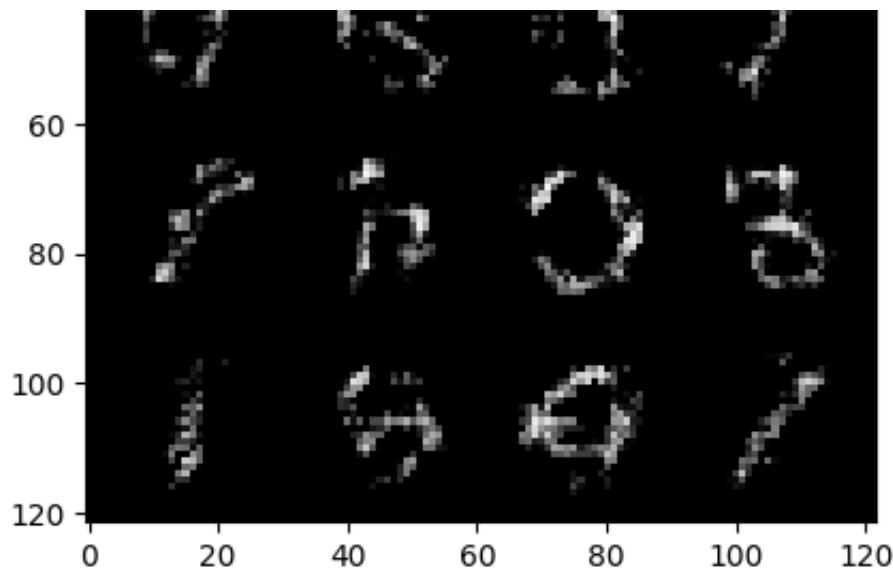


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6848, G_loss: 0.7052

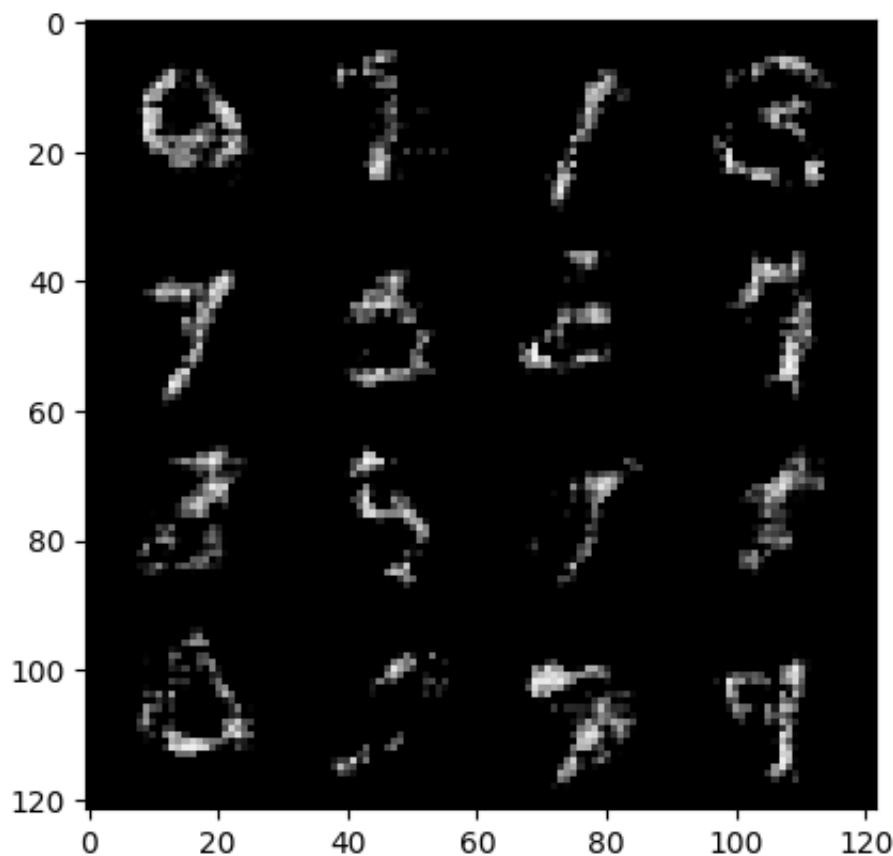


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6848, G_loss: 0.7052



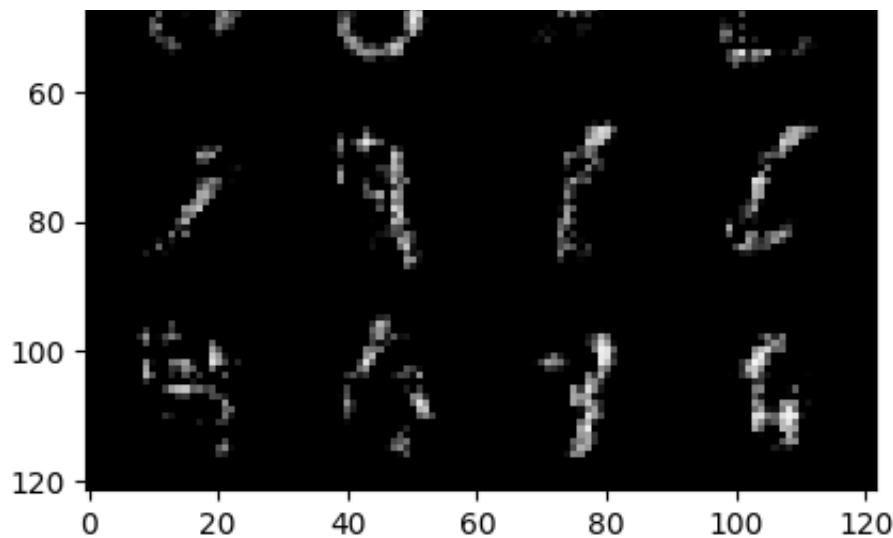


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.7053

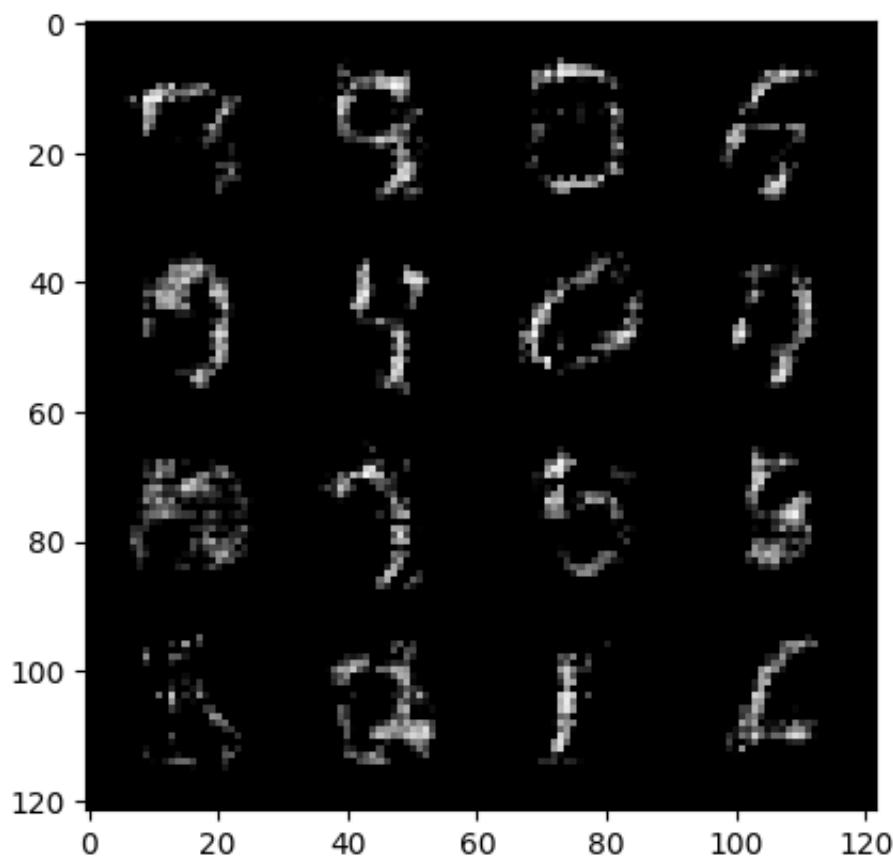


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.7053



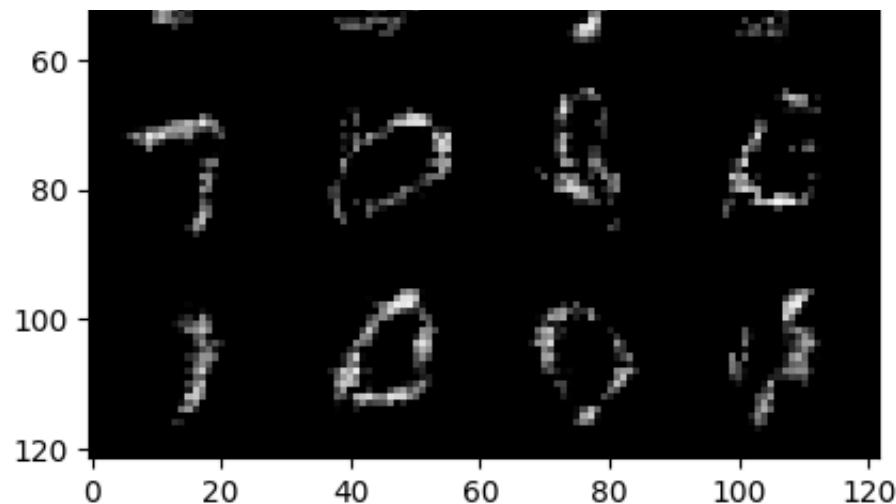


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6848, G_loss: 0.7053

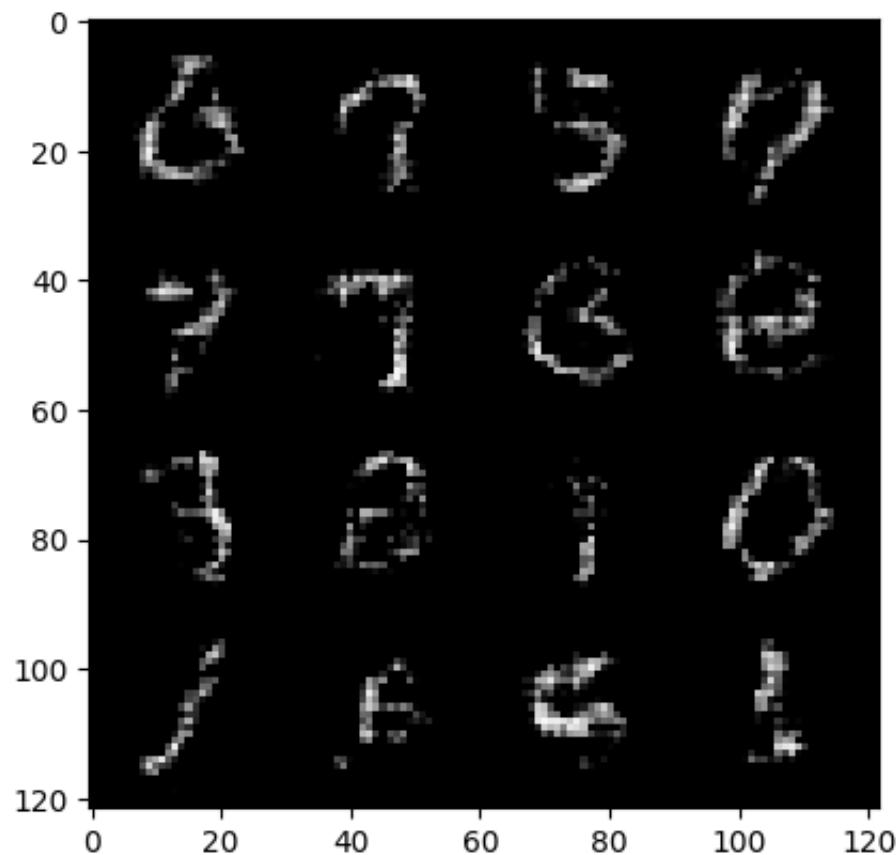


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6847, G_loss: 0.7054



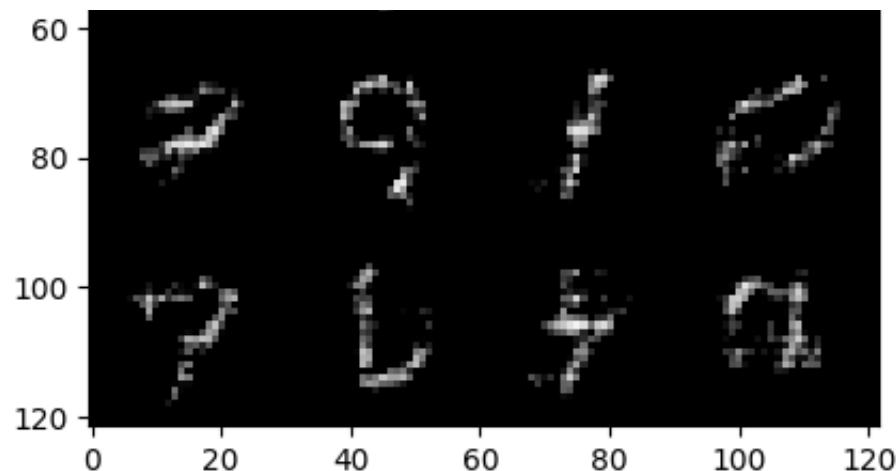


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6847, G_loss: 0.7054

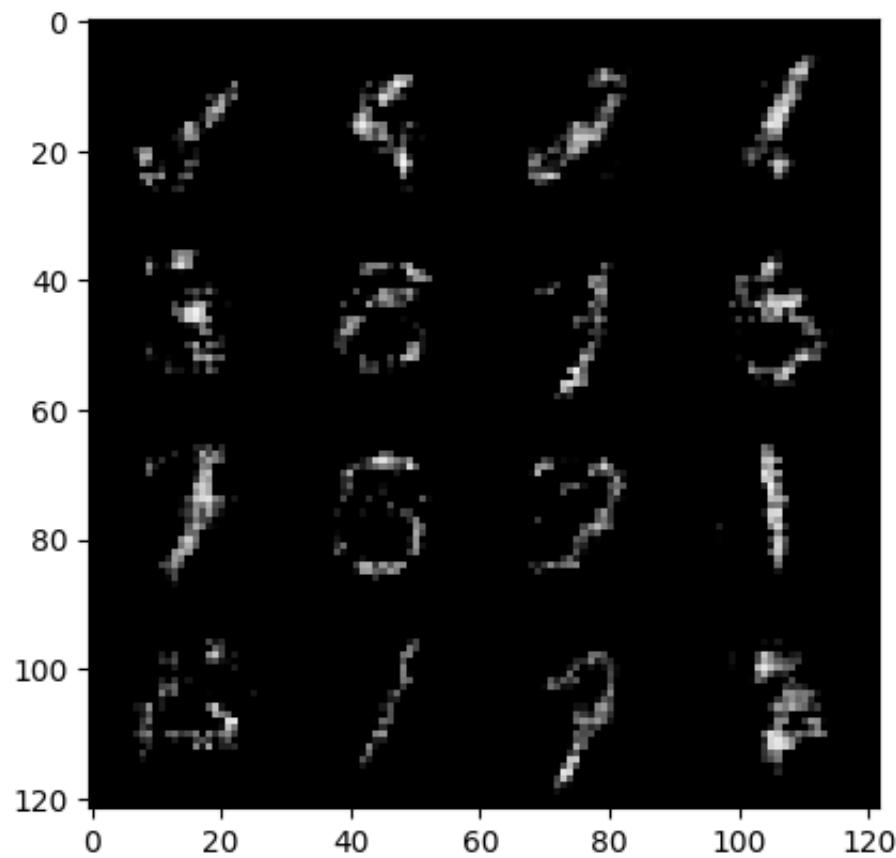


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6847, G_loss: 0.7054



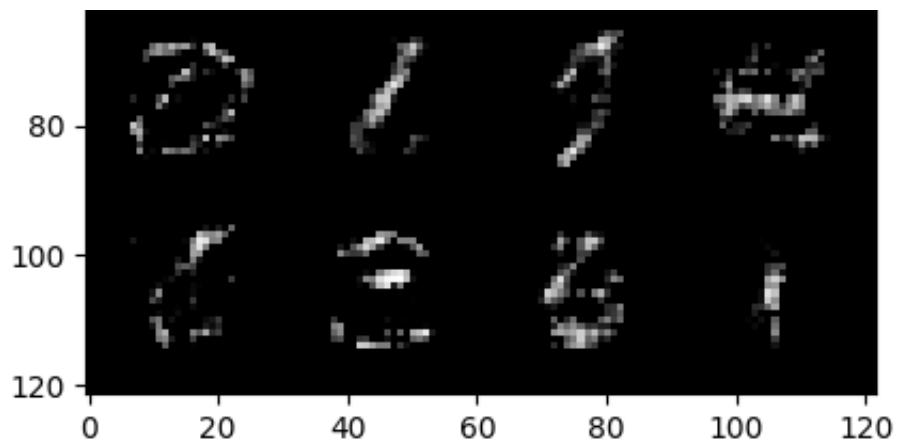


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6847, G_loss: 0.7055

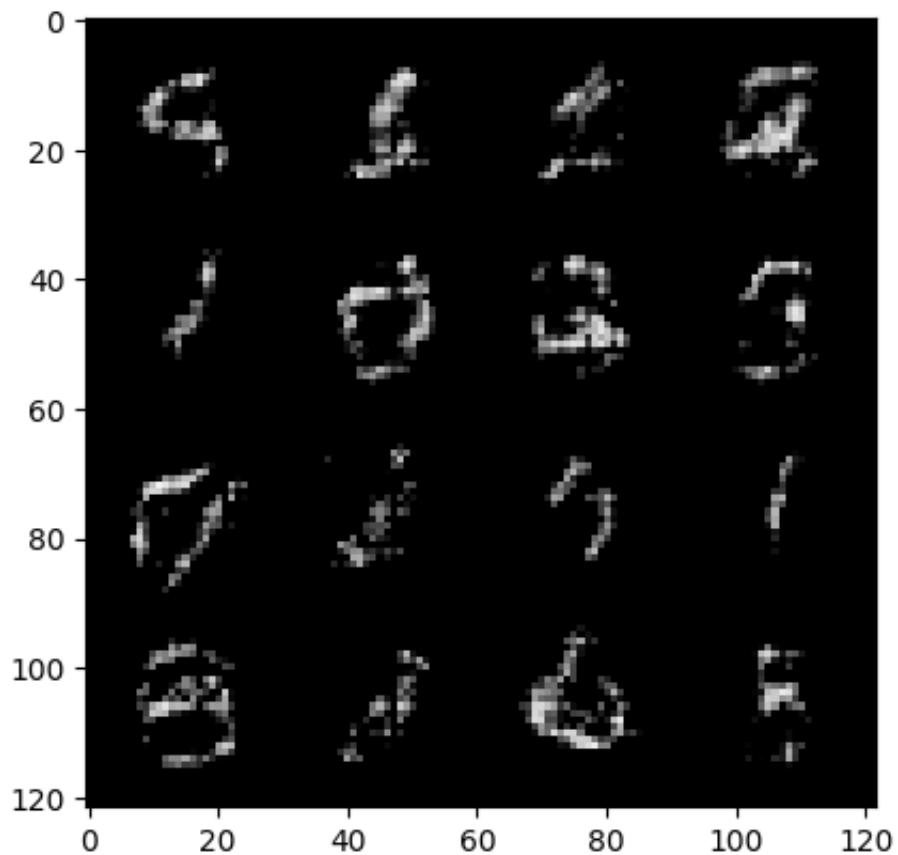


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6846, G_loss: 0.7055



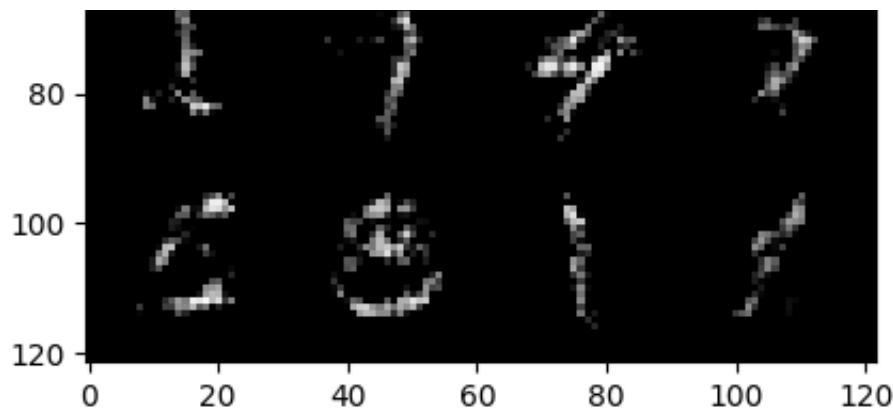


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6846, G_loss: 0.7055

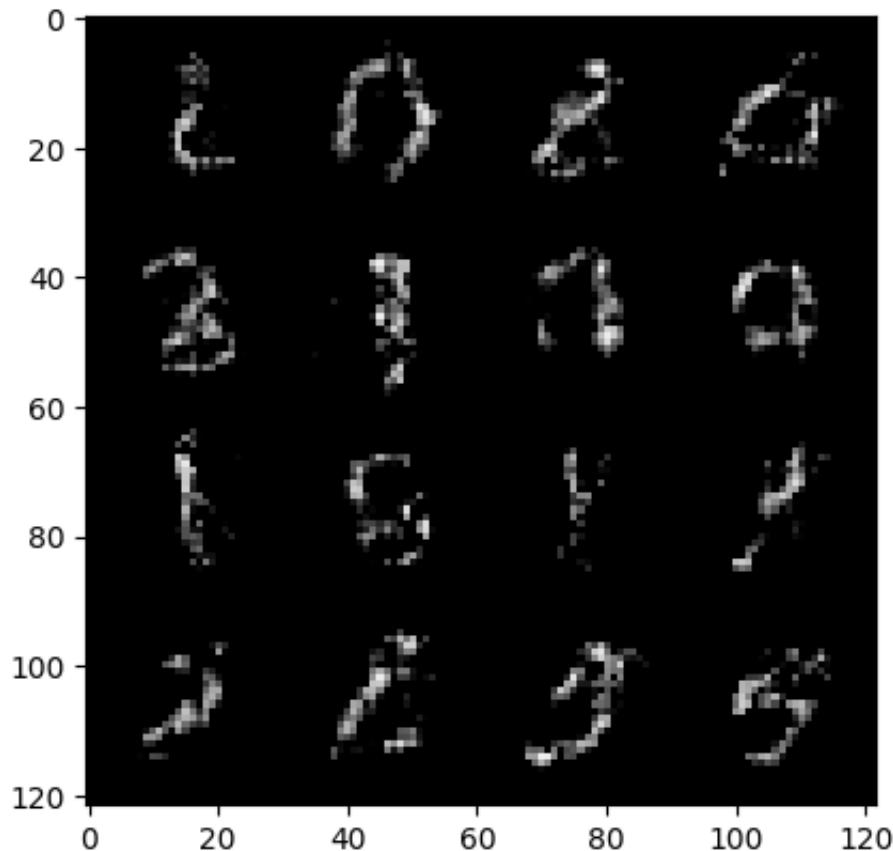


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6846, G_loss: 0.7056



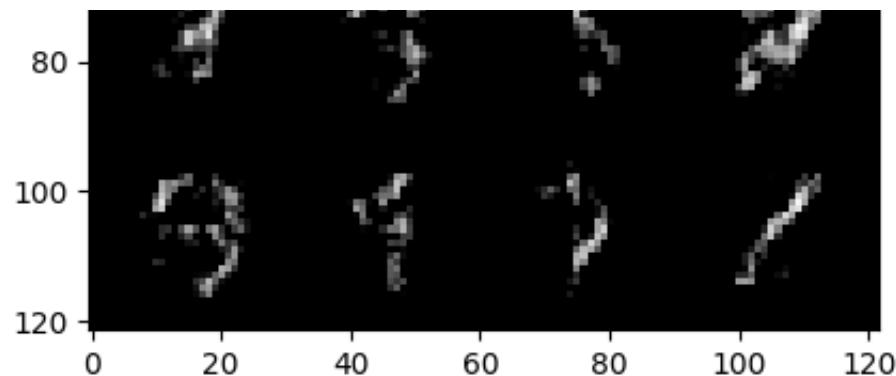


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6846, G_loss: 0.7056

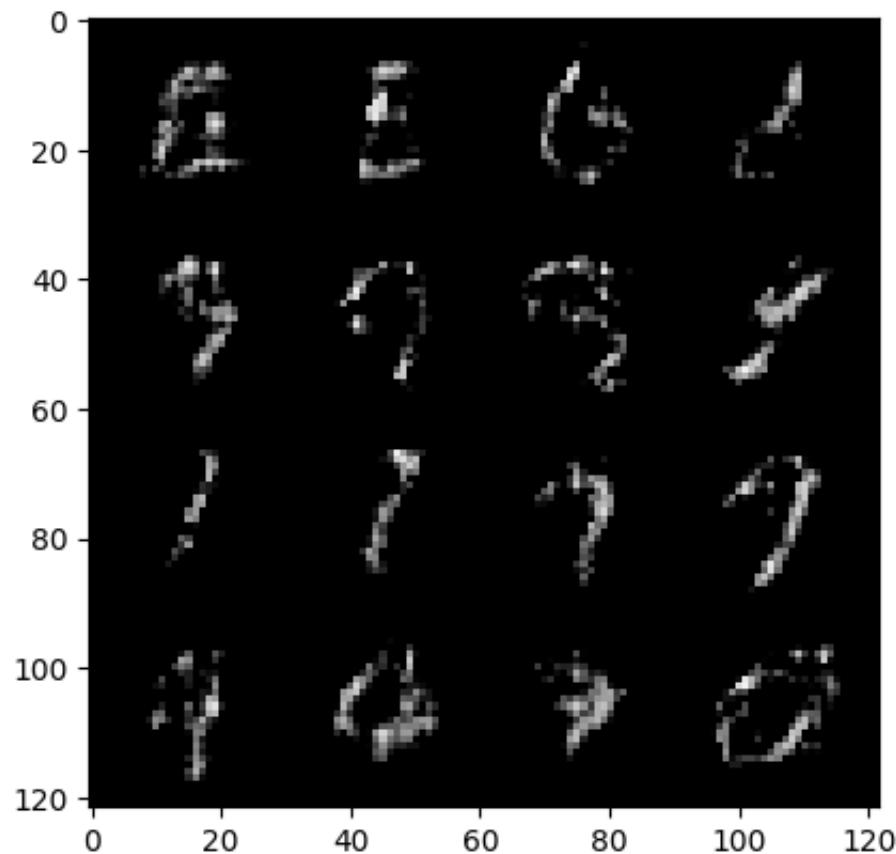


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6846, G_loss: 0.7056



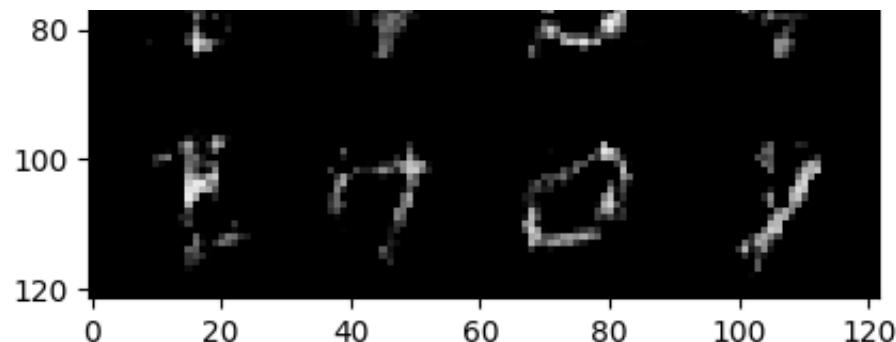


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6845, G_loss: 0.7057

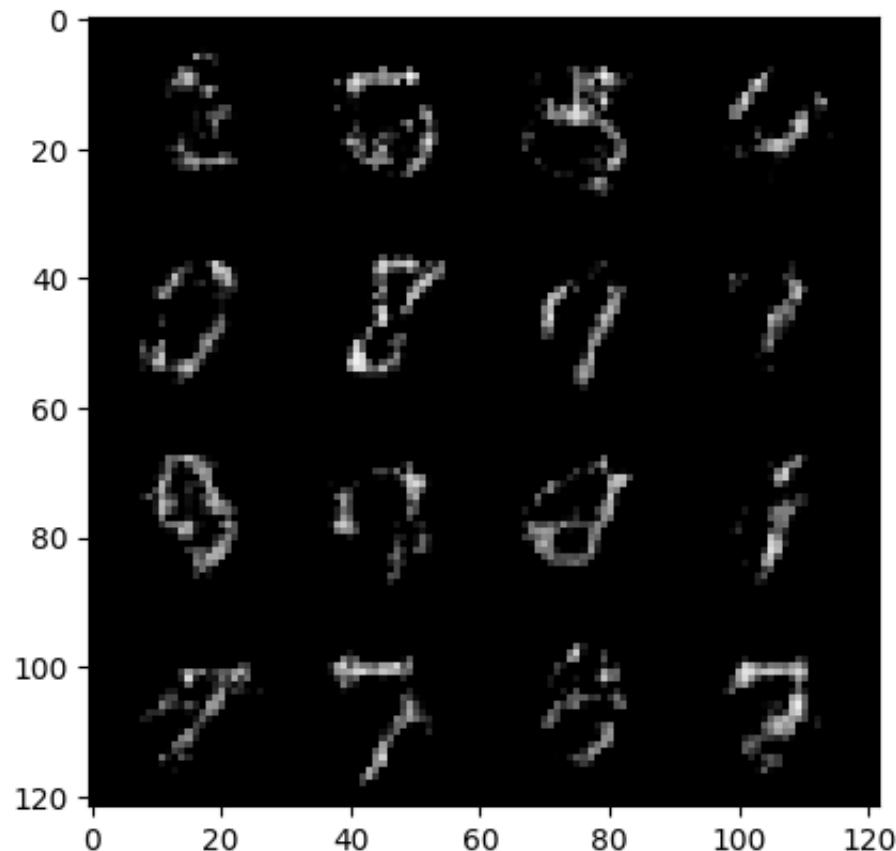


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6845, G_loss: 0.7057

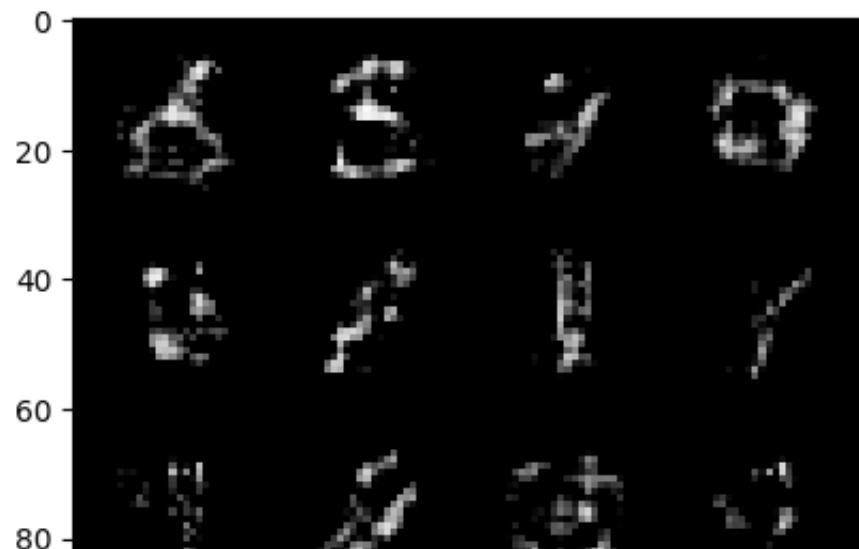


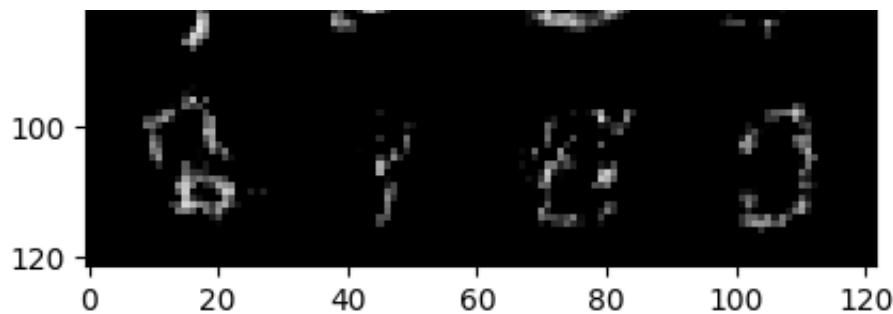


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6845, G_loss: 0.7057

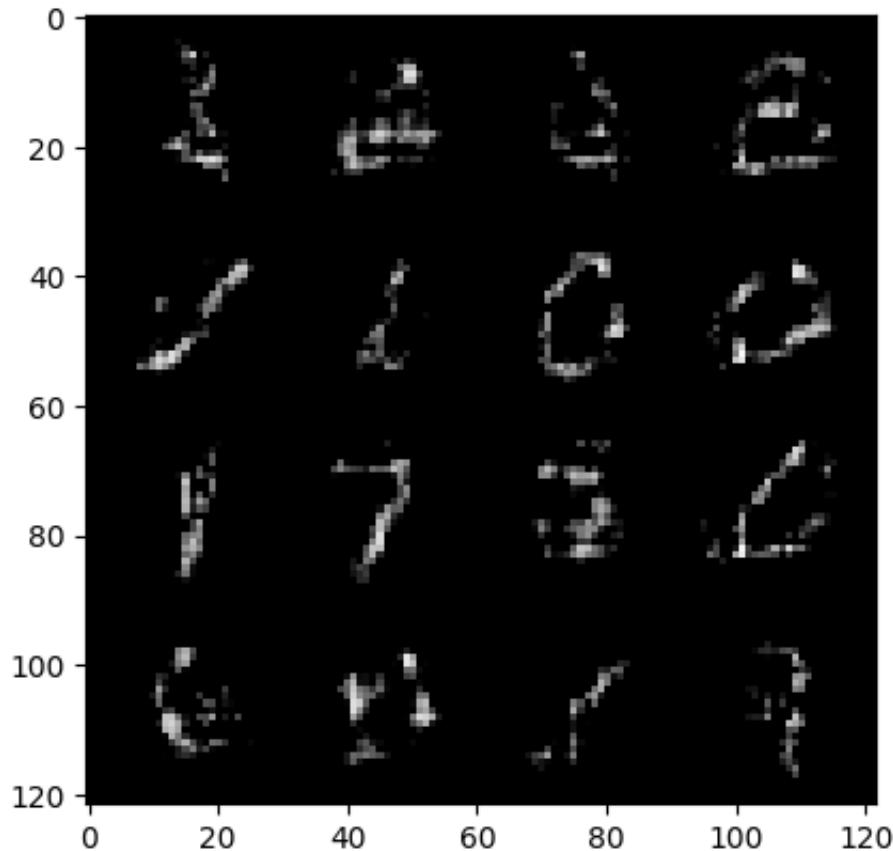


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6844, G_loss: 0.7057



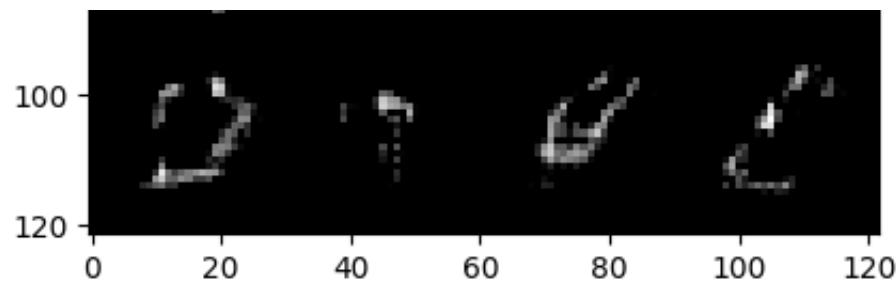


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6844, G_loss: 0.7058

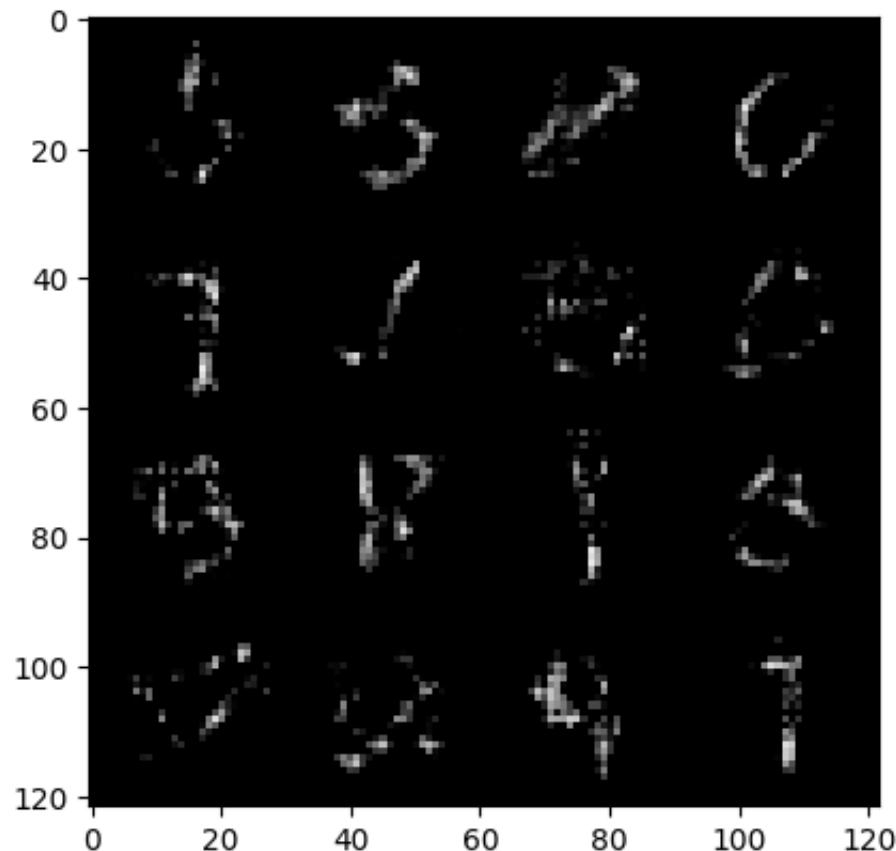


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6844, G_loss: 0.7058

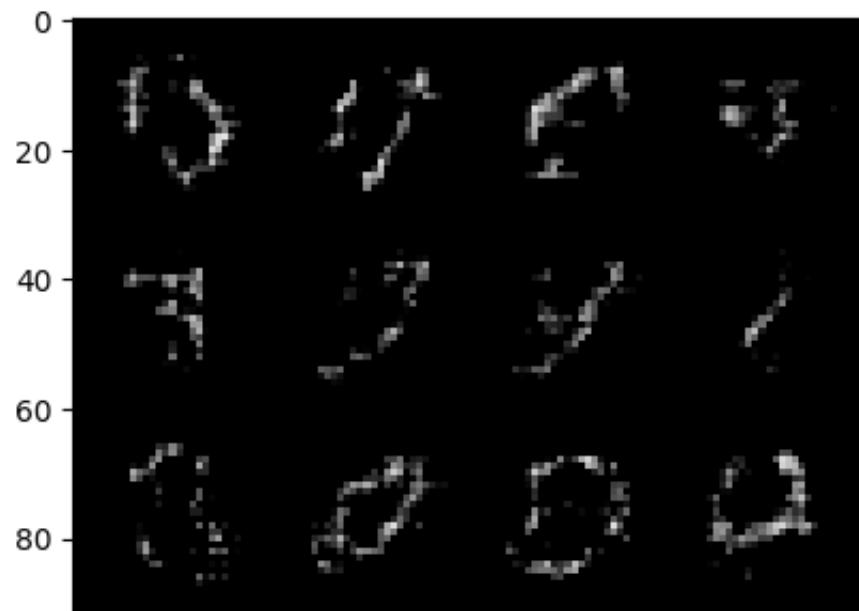


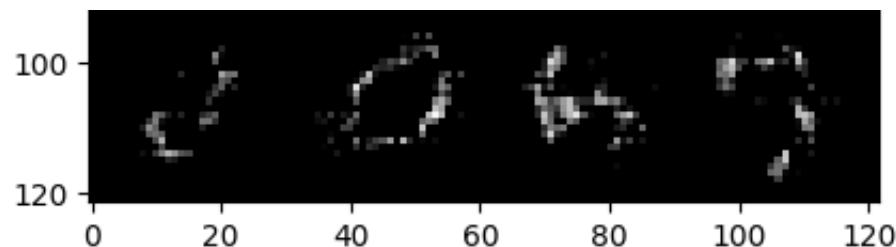


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6844, G_loss: 0.7059

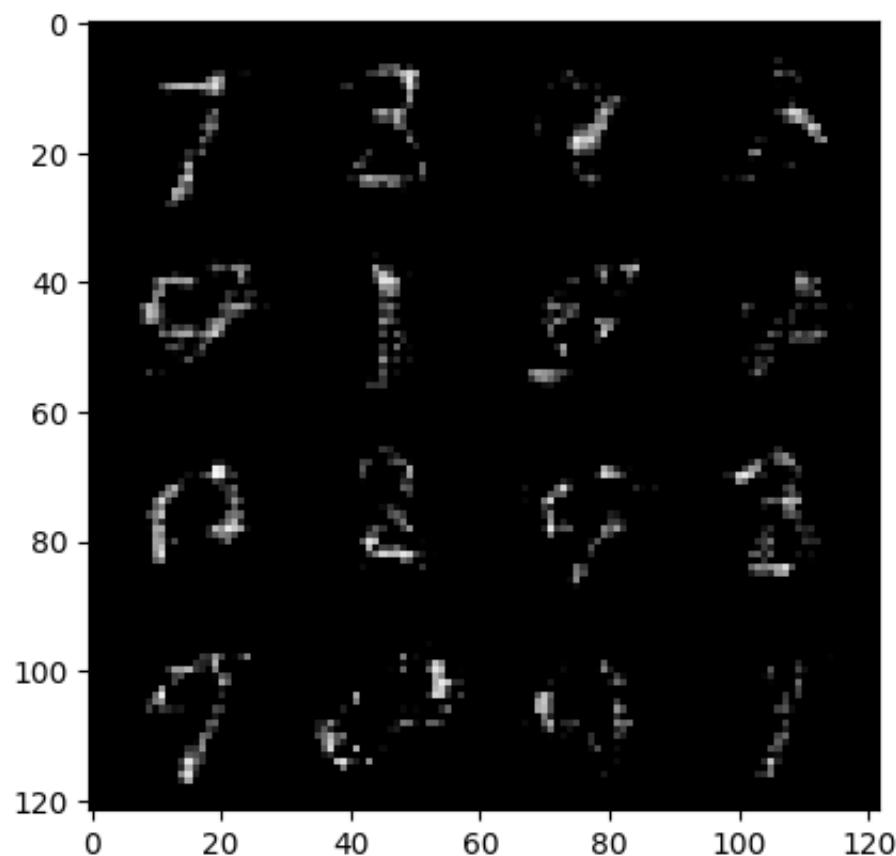


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data loss: 0.6843, G_loss: 0.7059

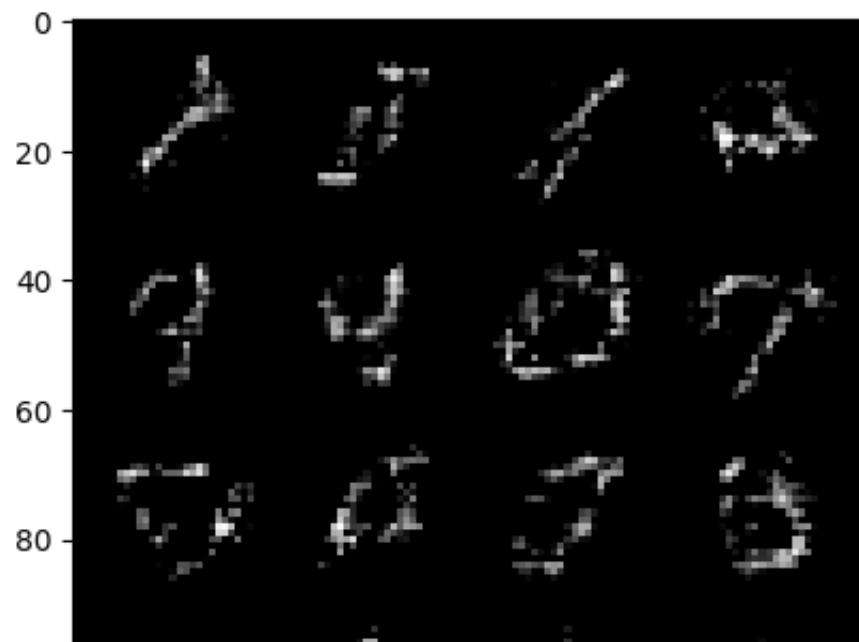


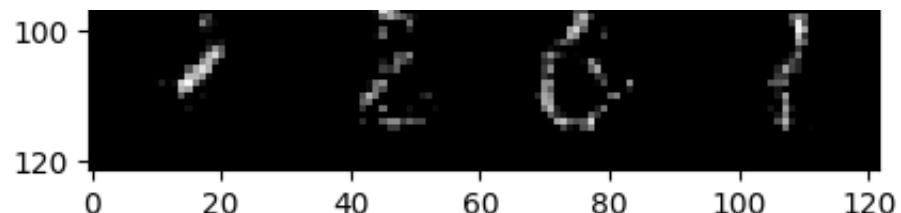


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6843, G_loss: 0.7059

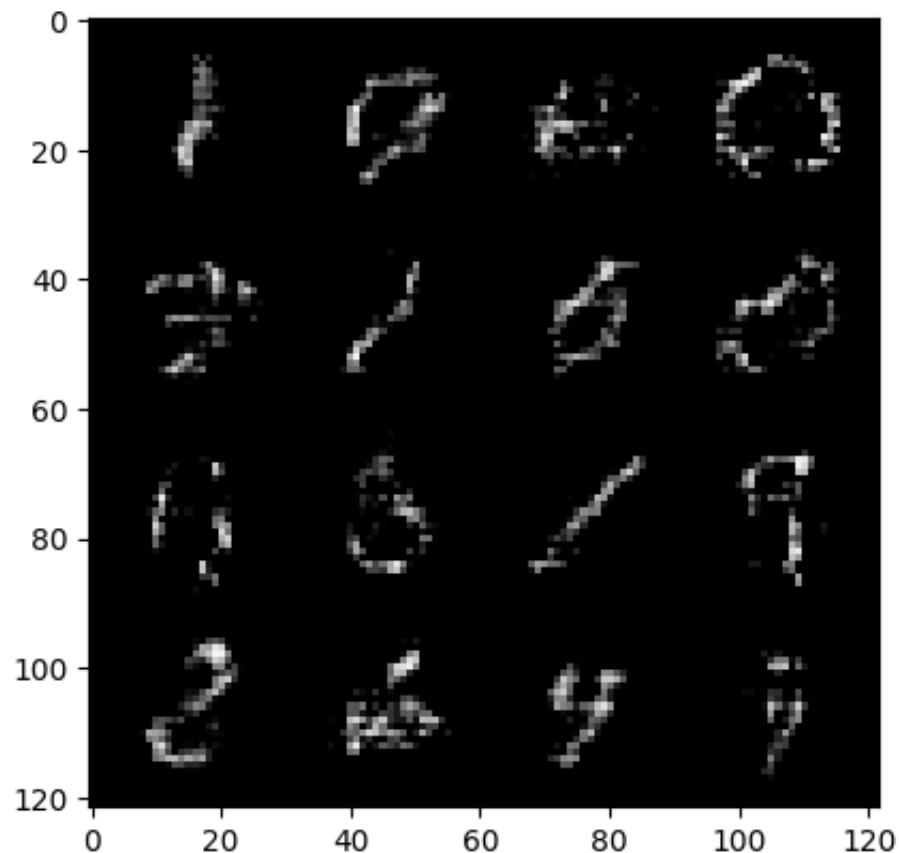


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6843, G_loss: 0.7060

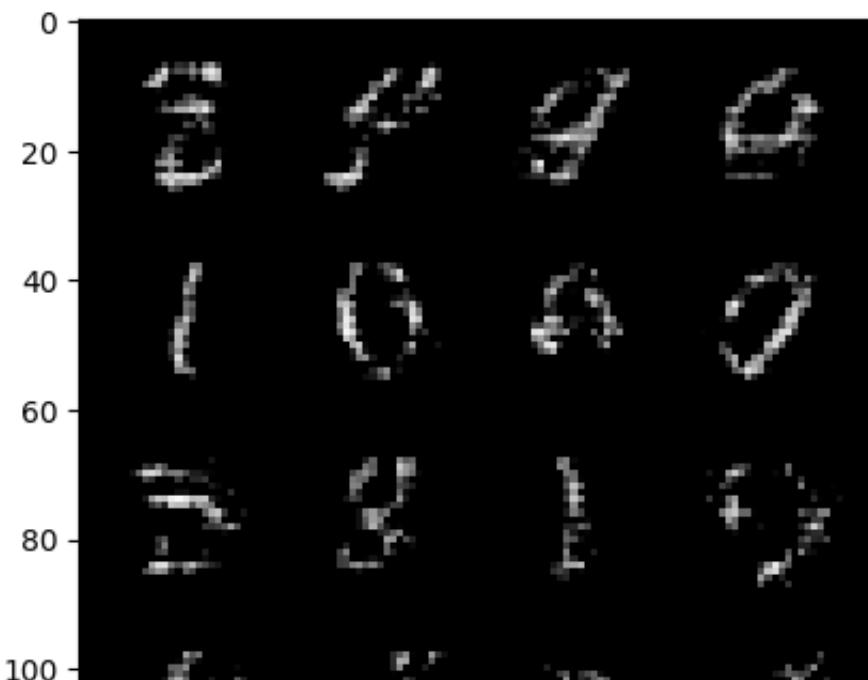


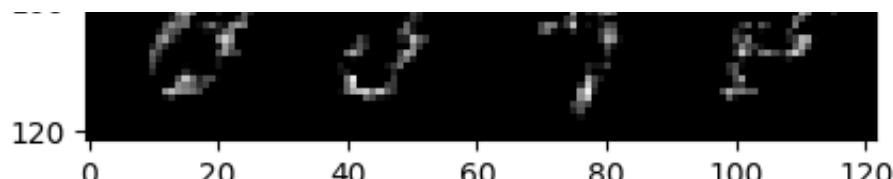


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6843, G_loss: 0.7060

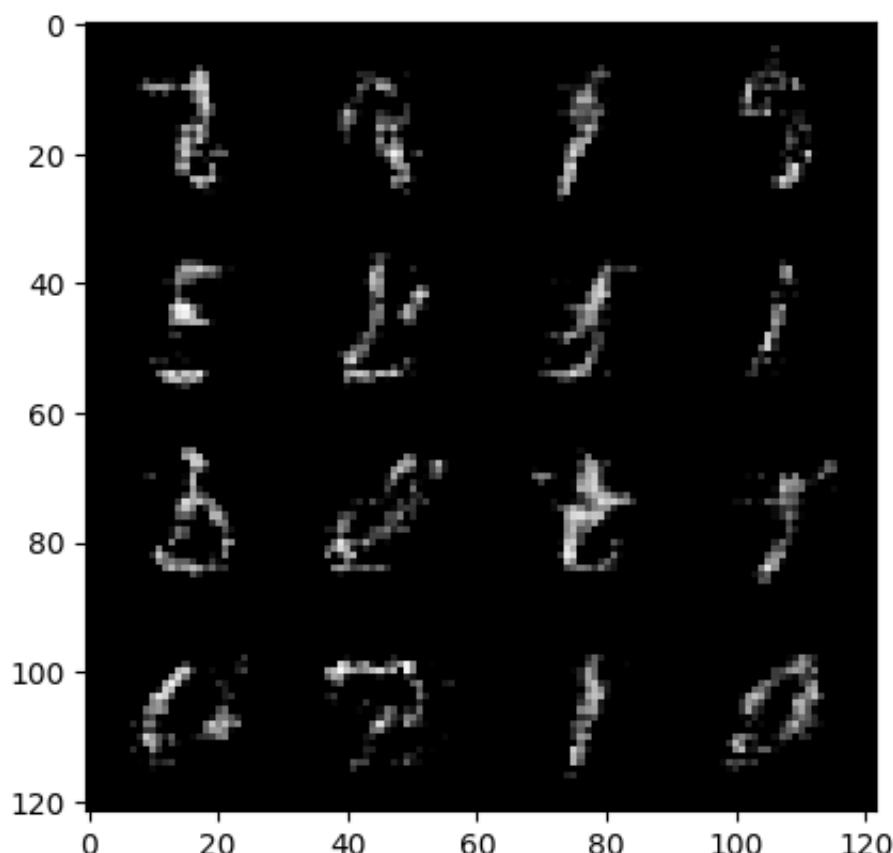


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6842, G_loss: 0.7061



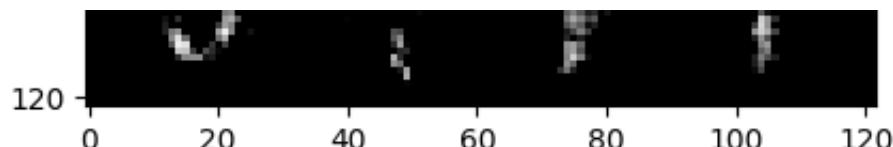


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6842, G_loss: 0.7061

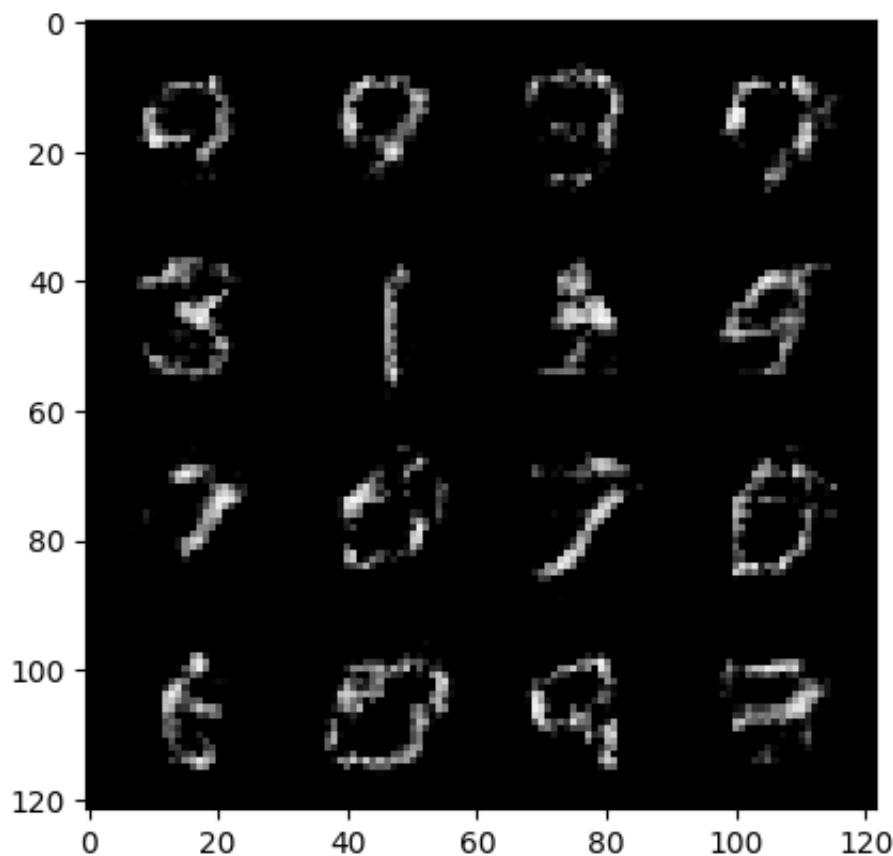


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6842, G_loss: 0.7061



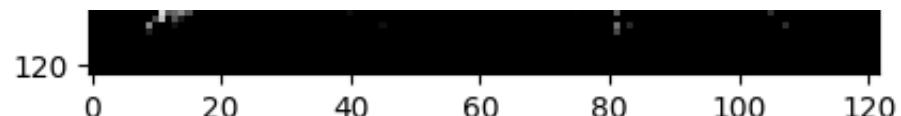


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6842, G_loss: 0.7062

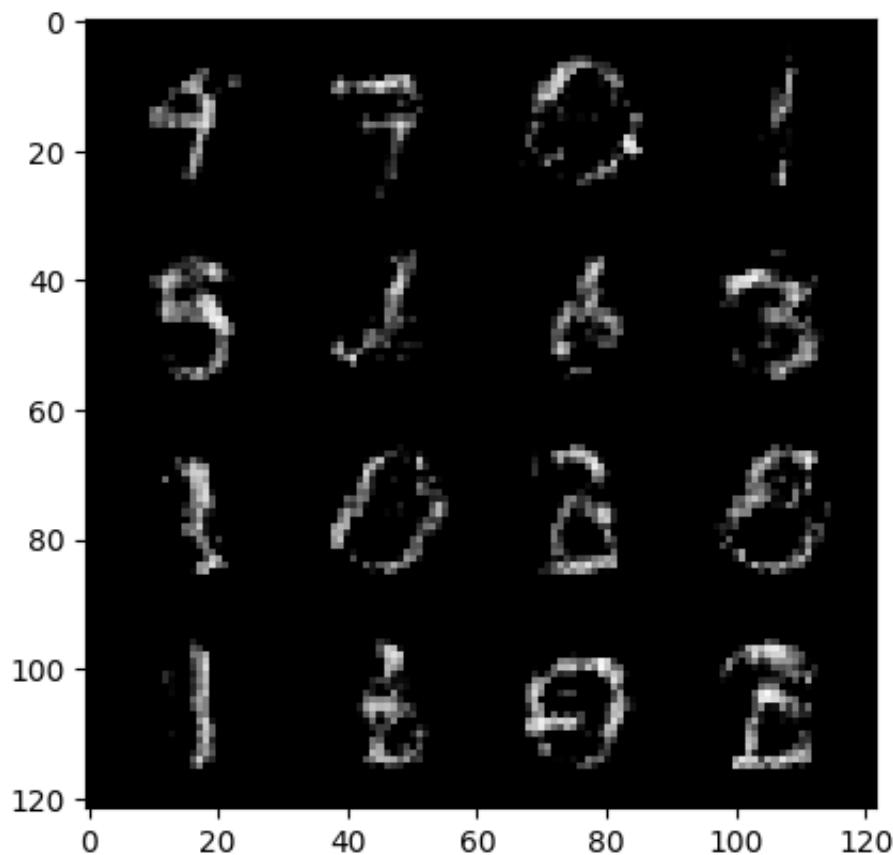


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6842, G_loss: 0.7062

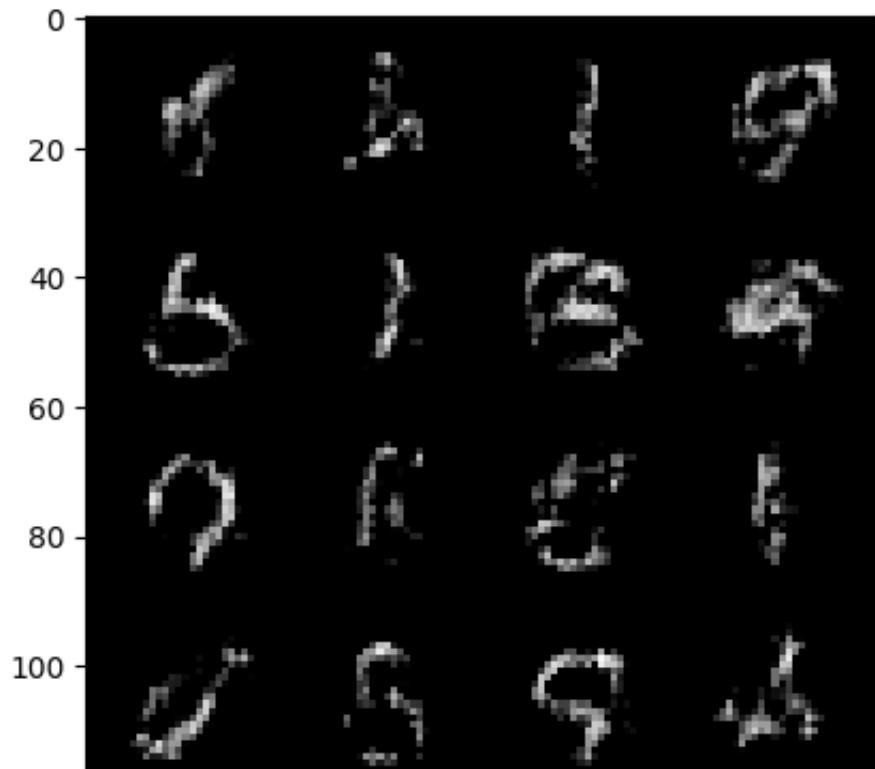


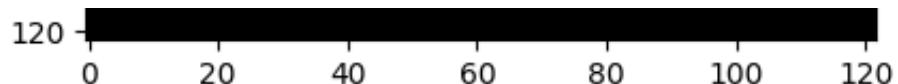


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6841, G_loss: 0.7063

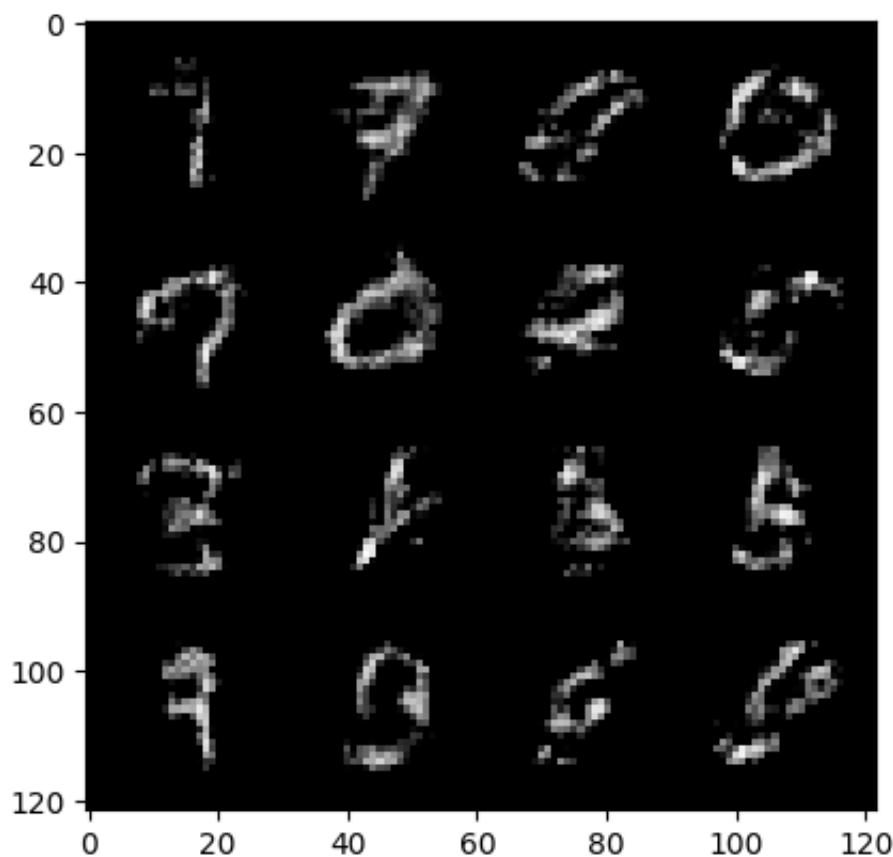


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6841, G_loss: 0.7064

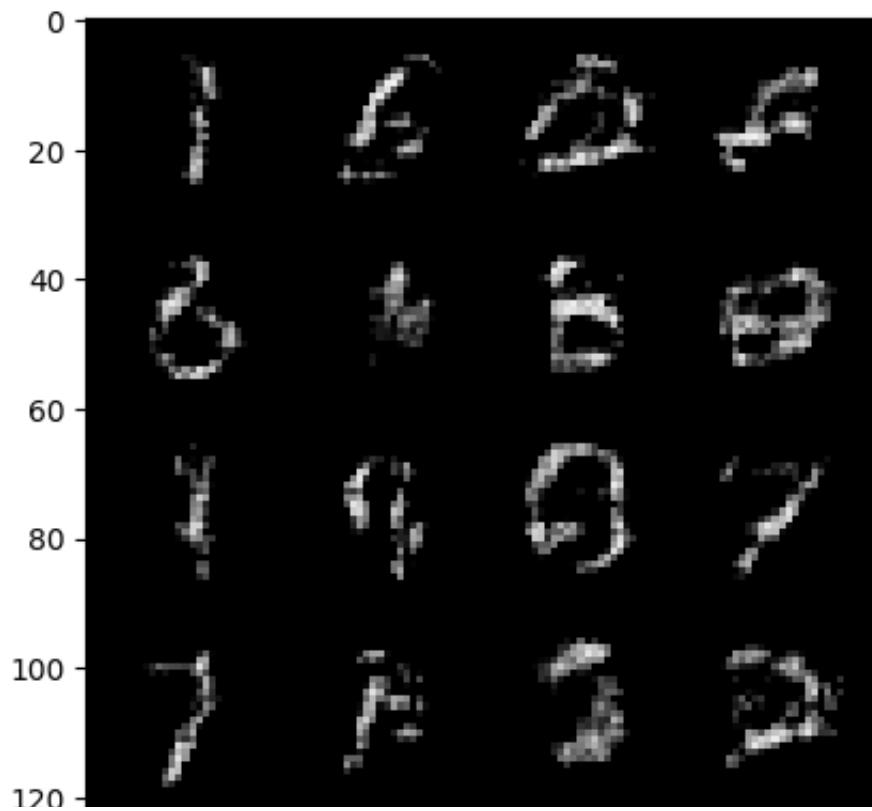


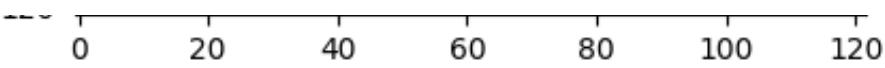


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6841, G_loss: 0.7064

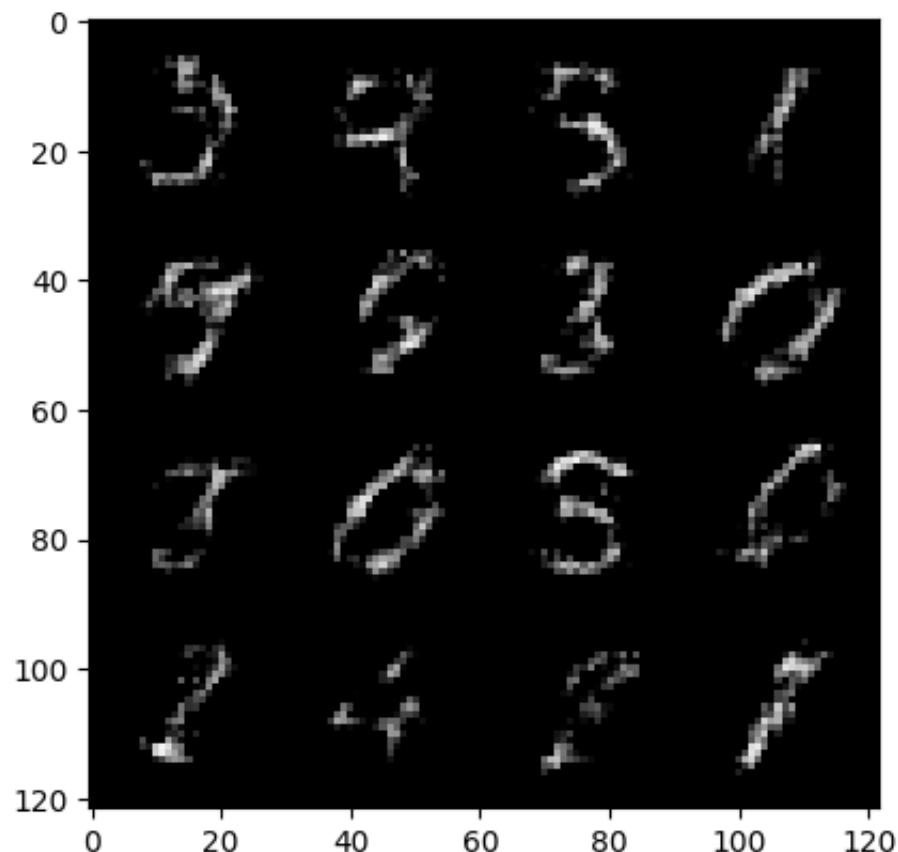


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.7064

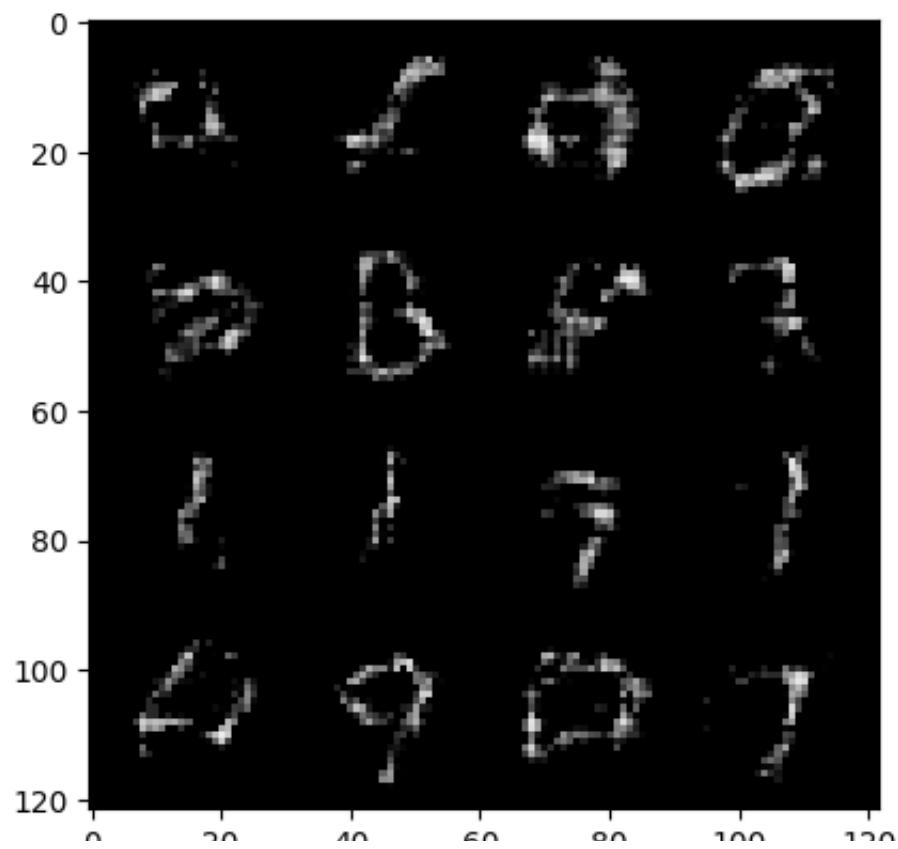




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.7065

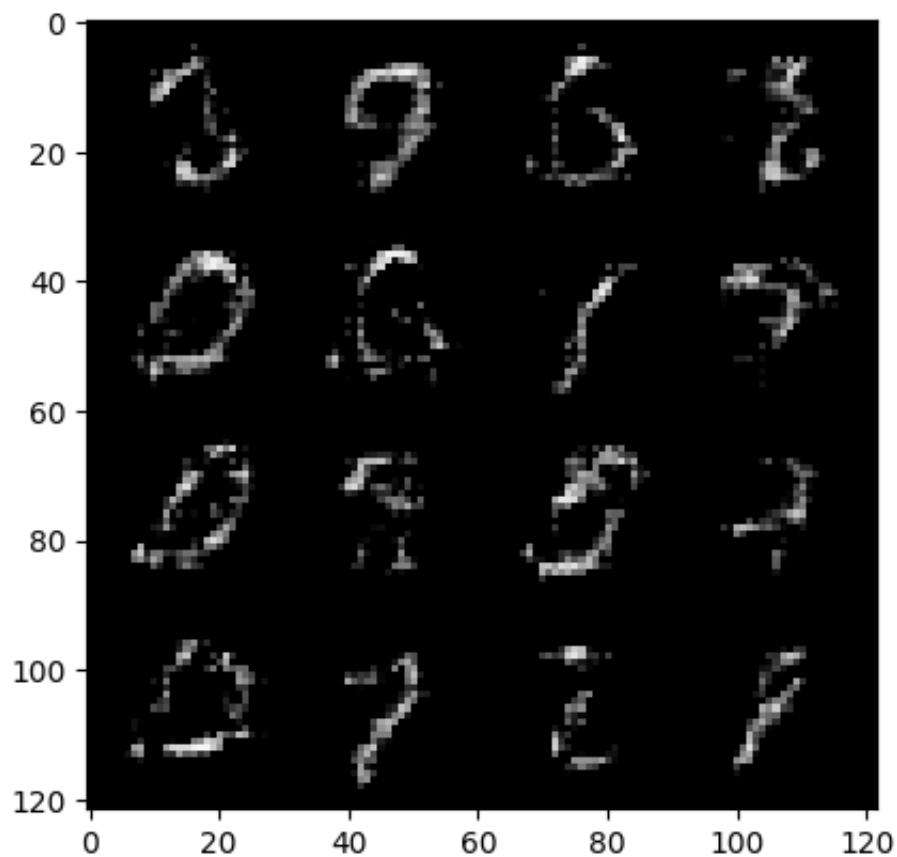


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.7065

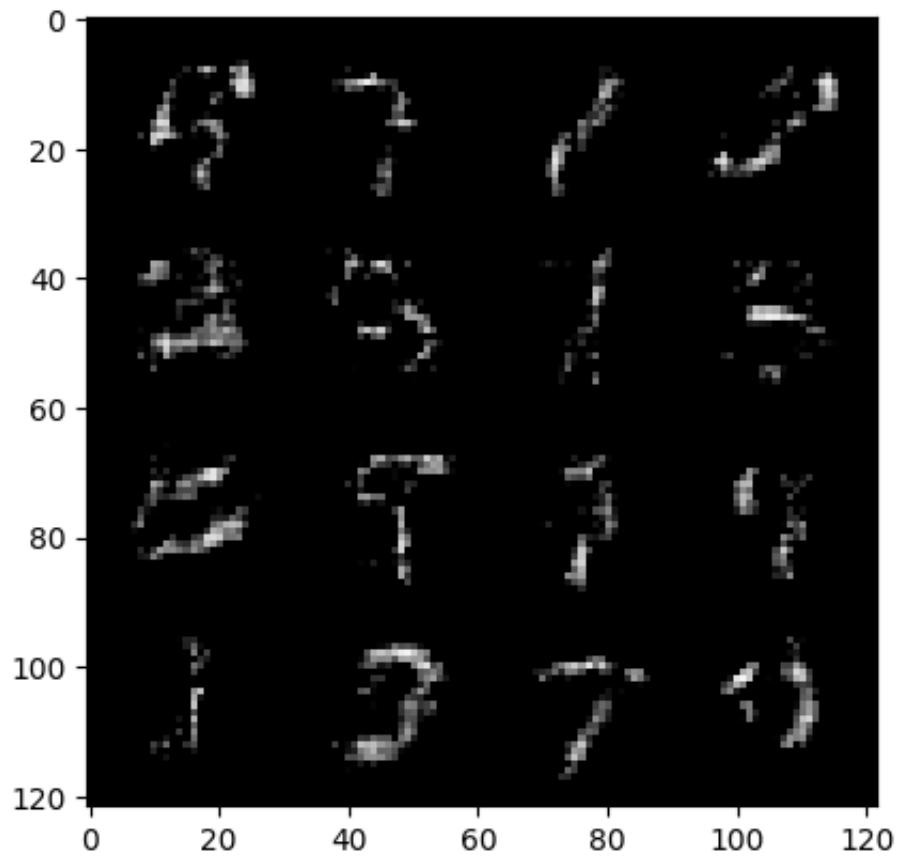


0 20 40 60 80 100 120

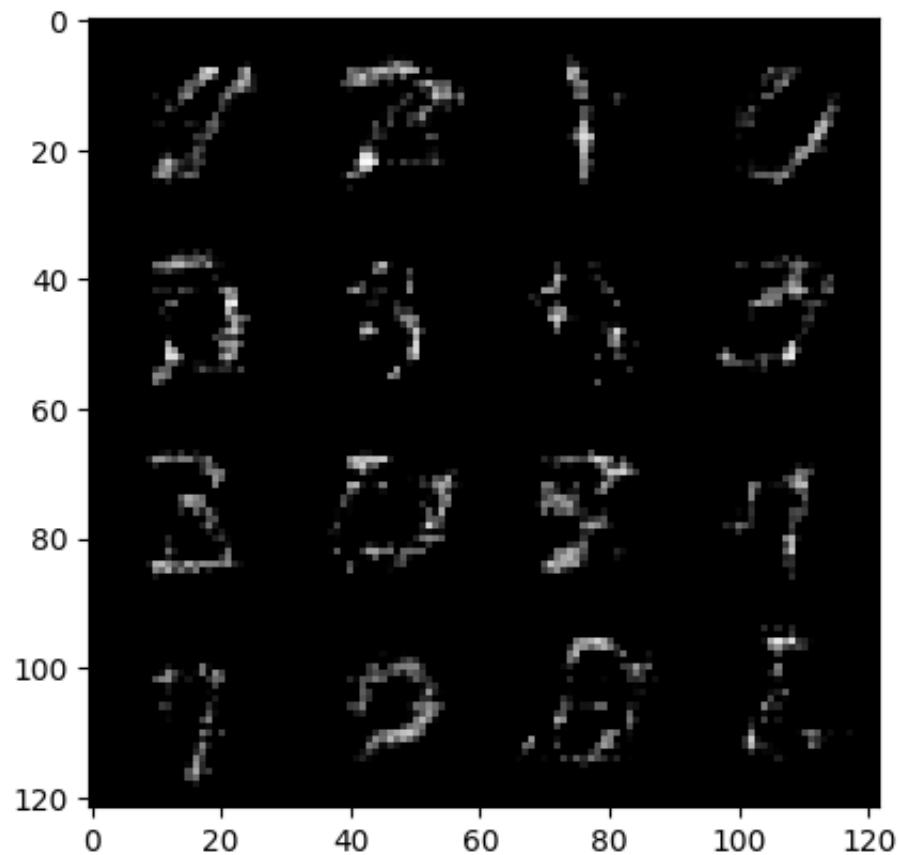
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6840, G_loss: 0.7066



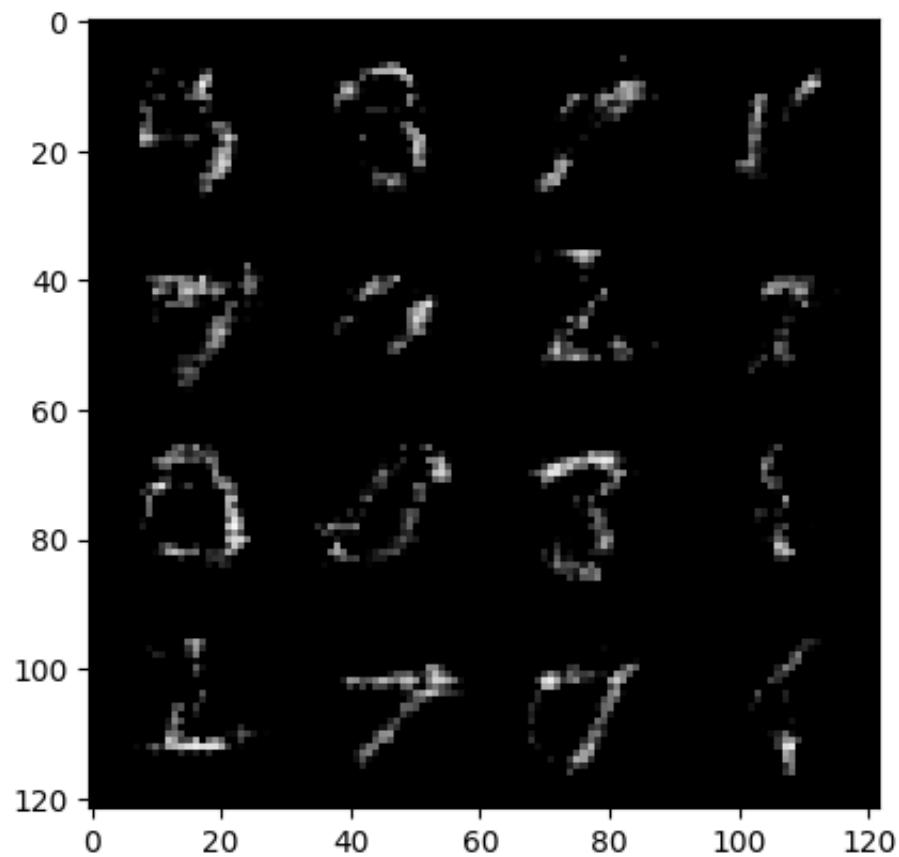
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6839, G_loss: 0.7066



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6839, G_loss: 0.7067

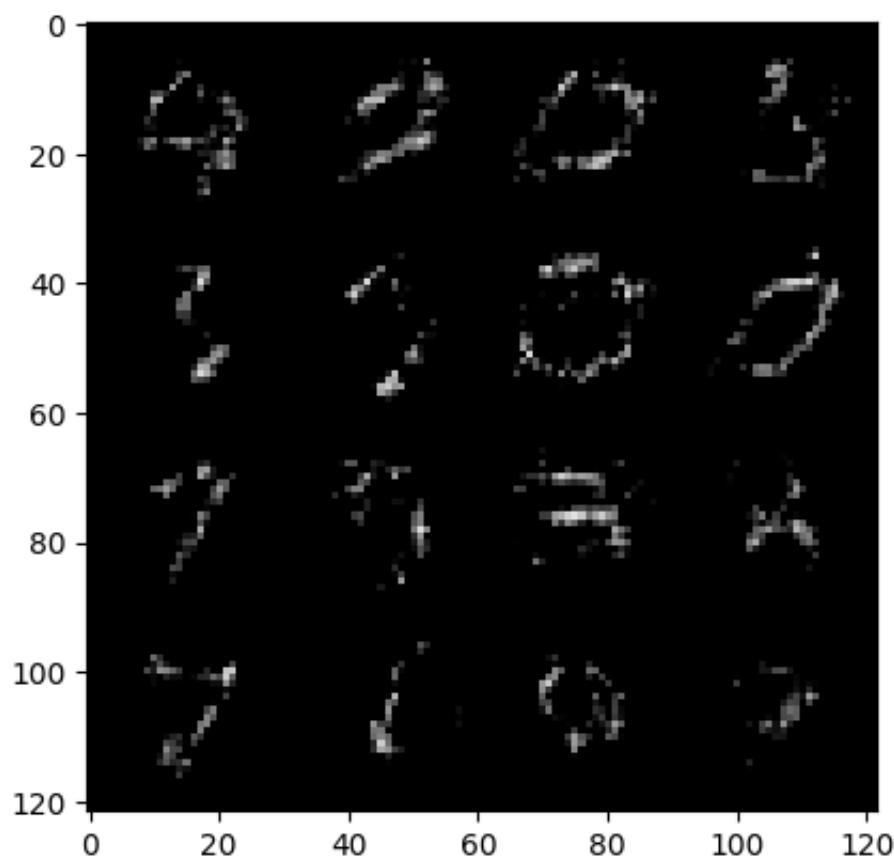


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6839, G_loss: 0.7067

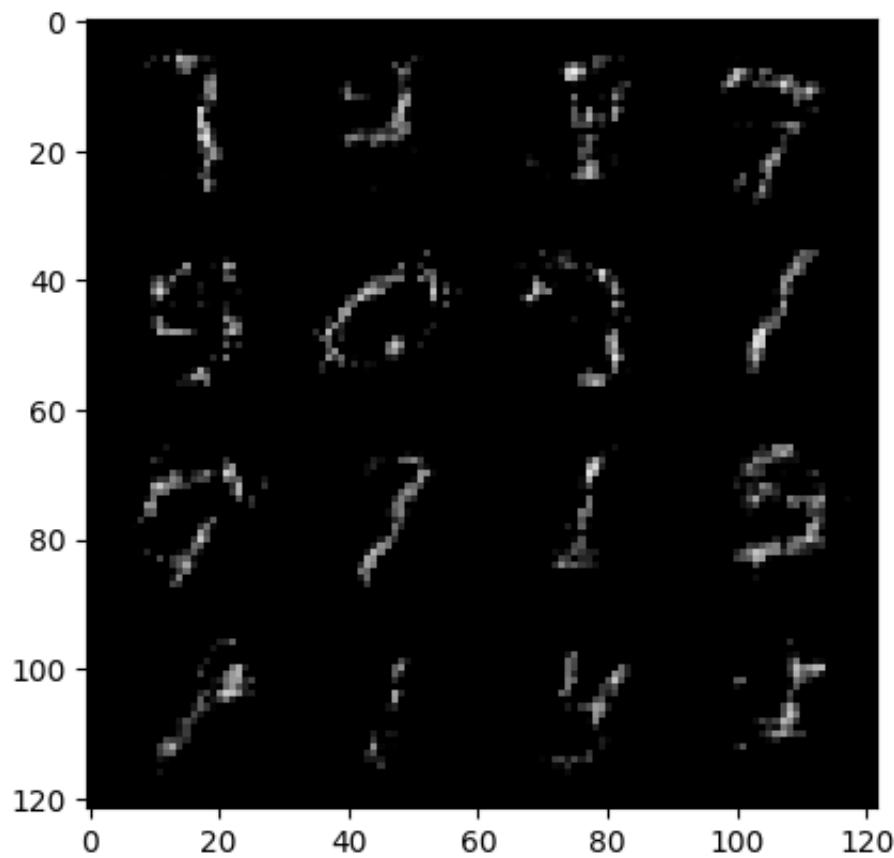


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

D_loss: 0.6838, G_loss: 0.7067

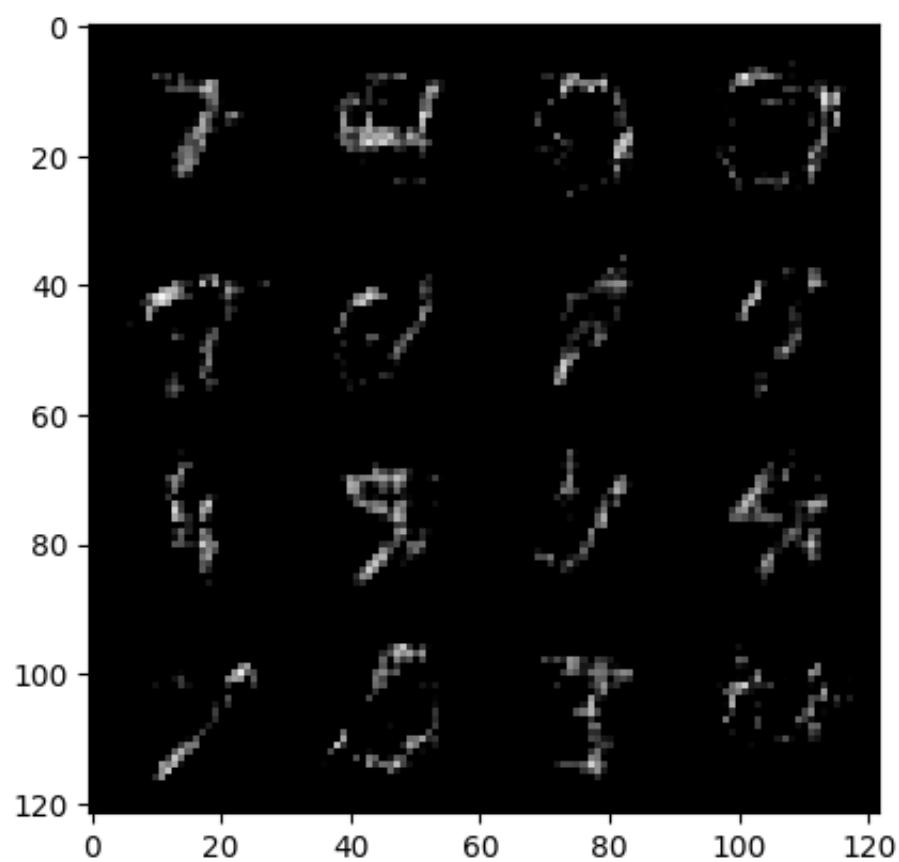


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.7067

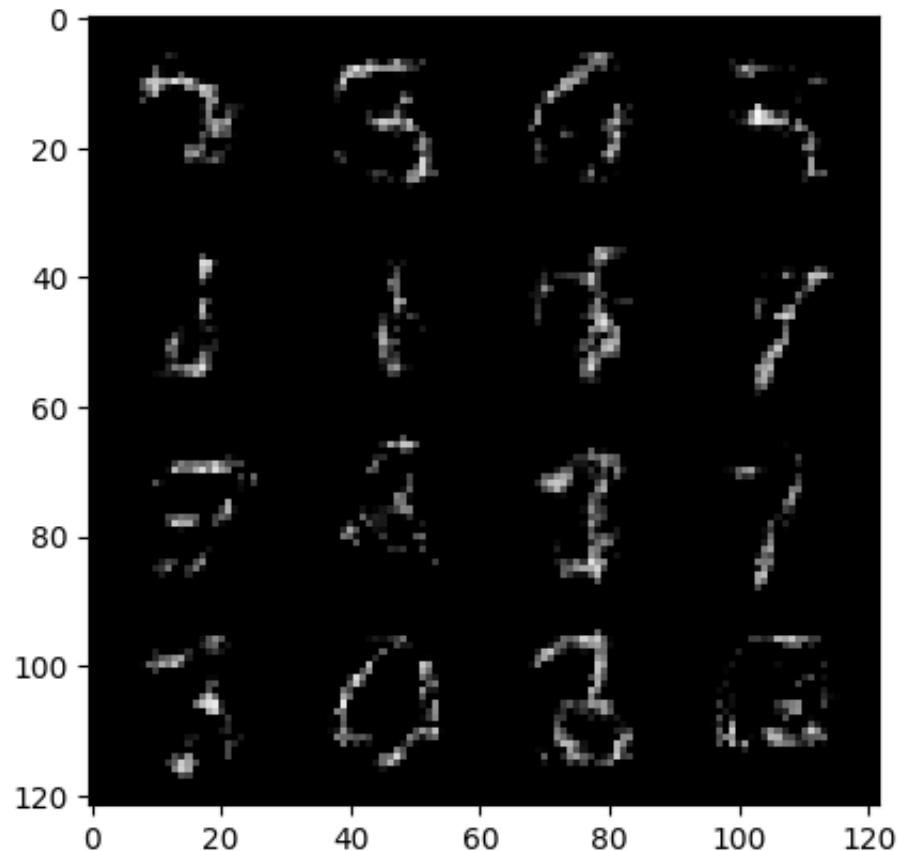


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.7067

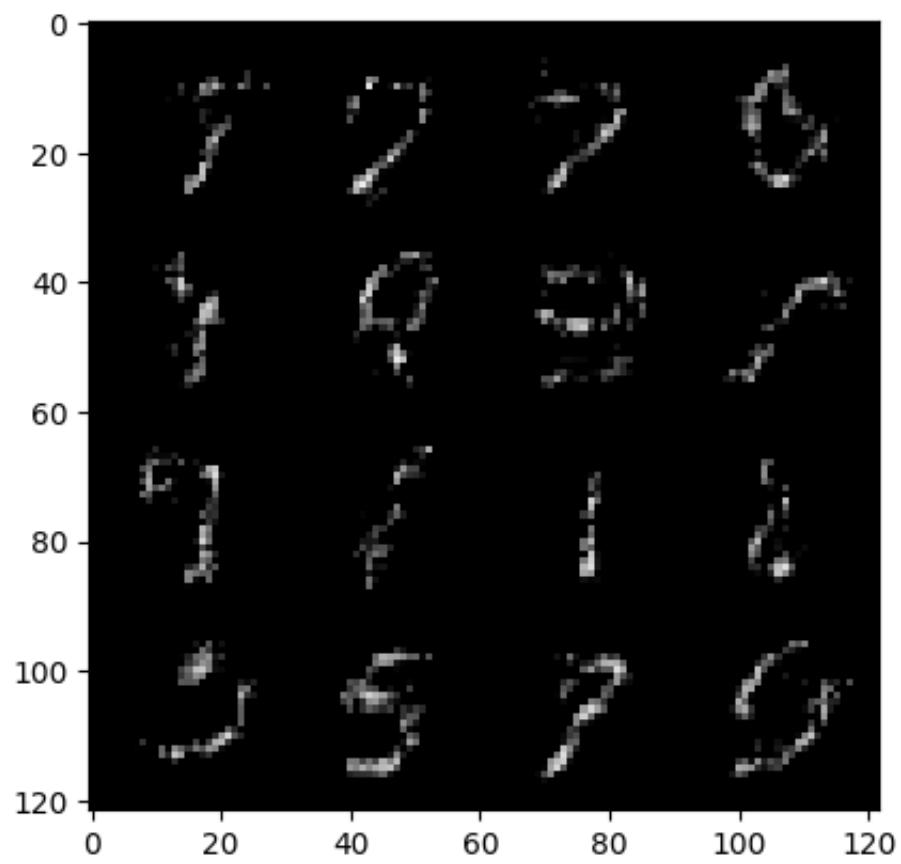
D_loss: 0.6838, G_loss: 0.7068



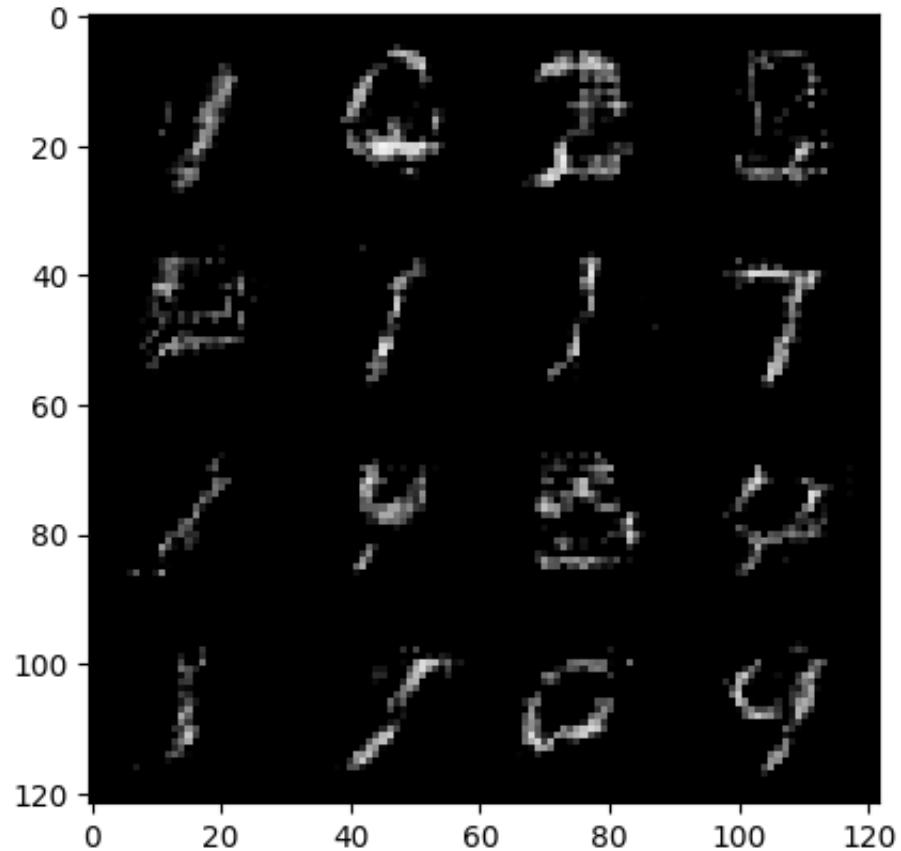
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6838, G_loss: 0.7068



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6837, G_loss: 0.7068

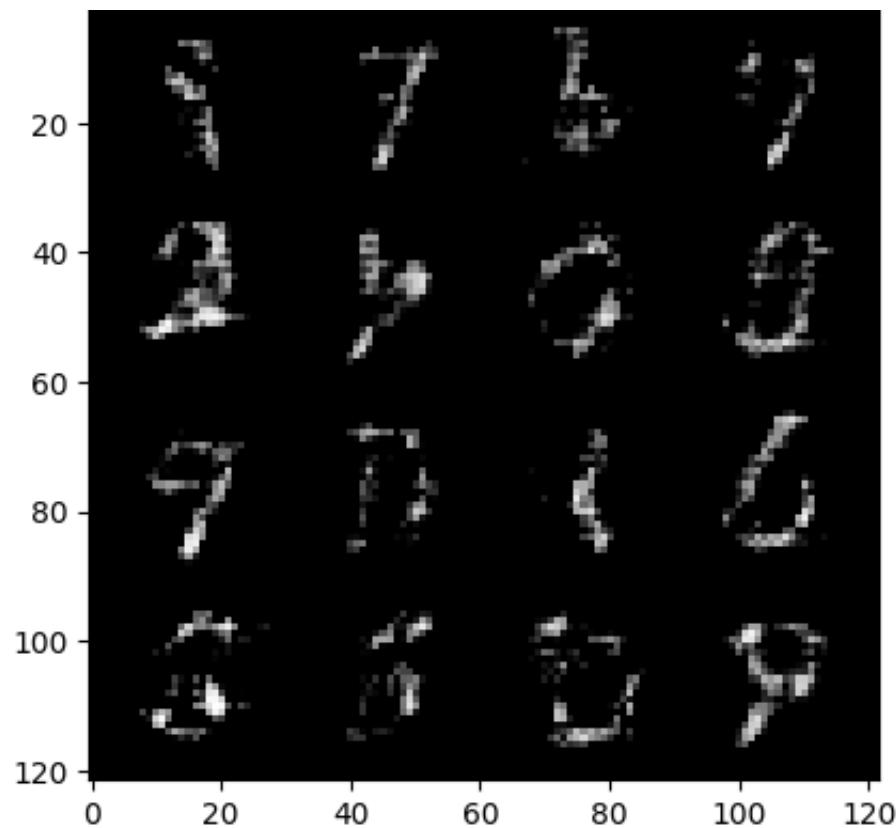


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6837, G_loss: 0.7069

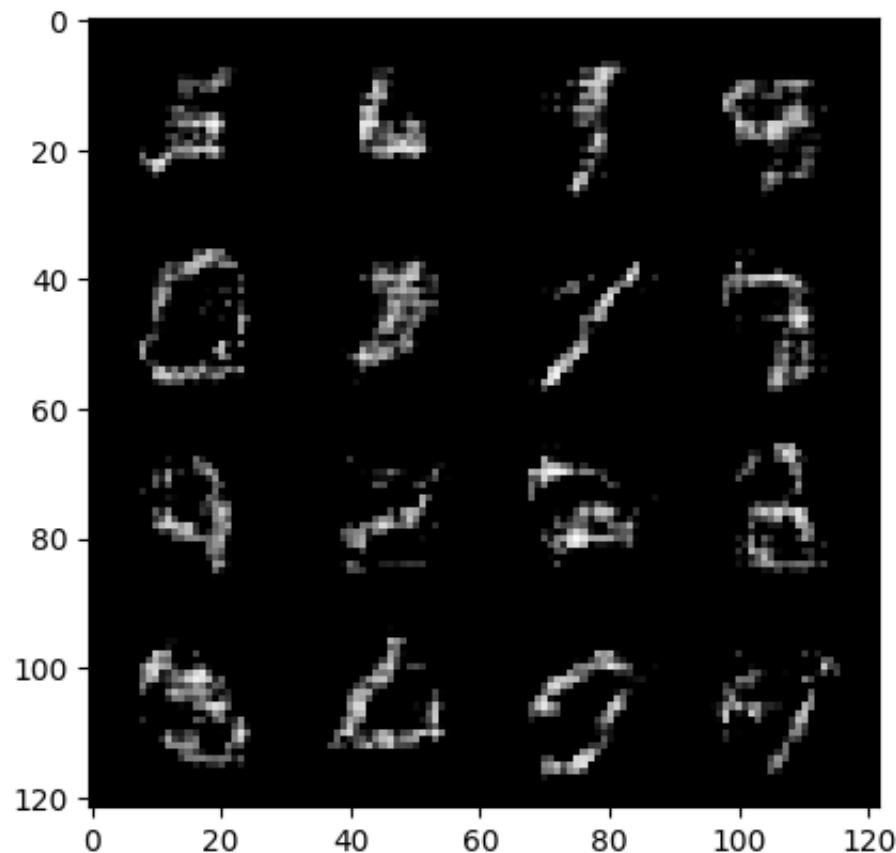


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6837, G_loss: 0.7069



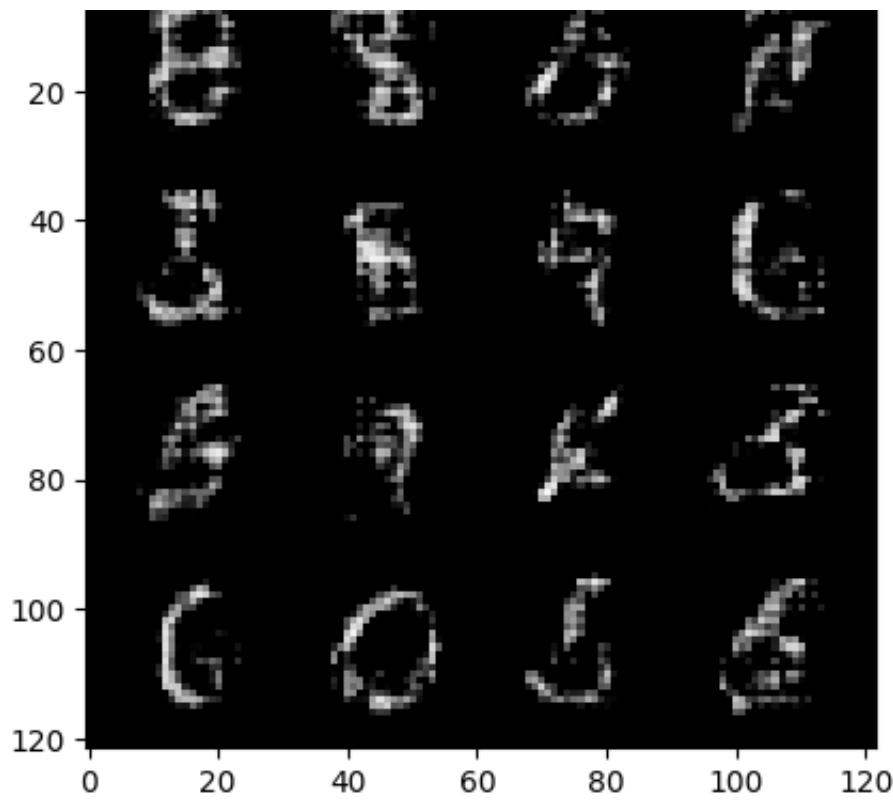


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.7069

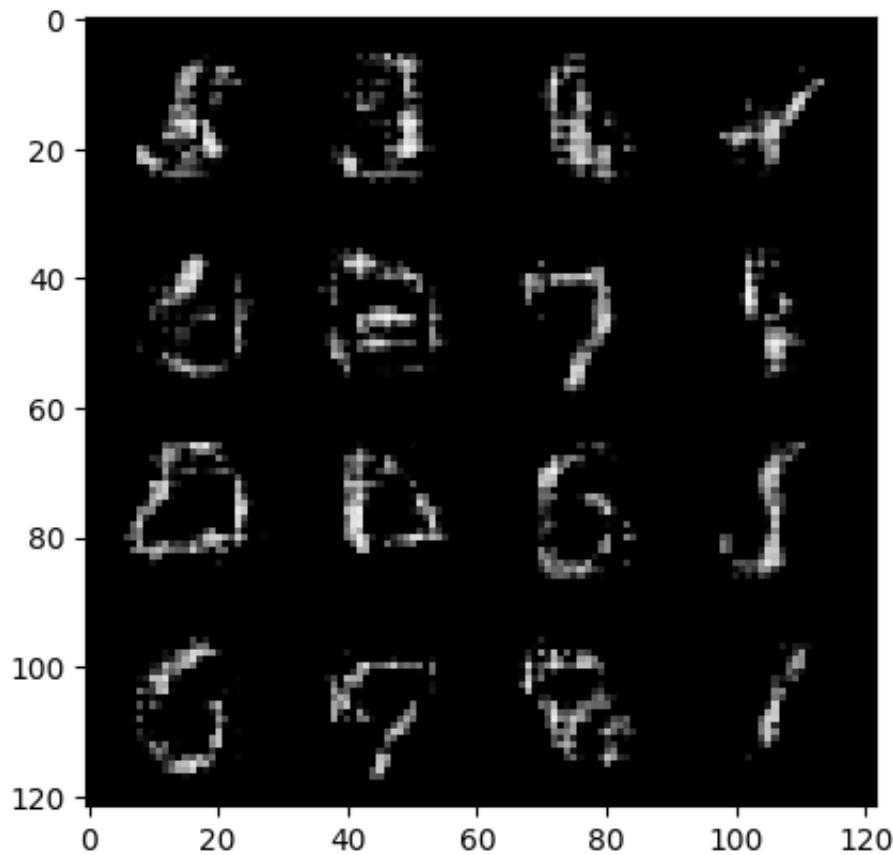


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.7070



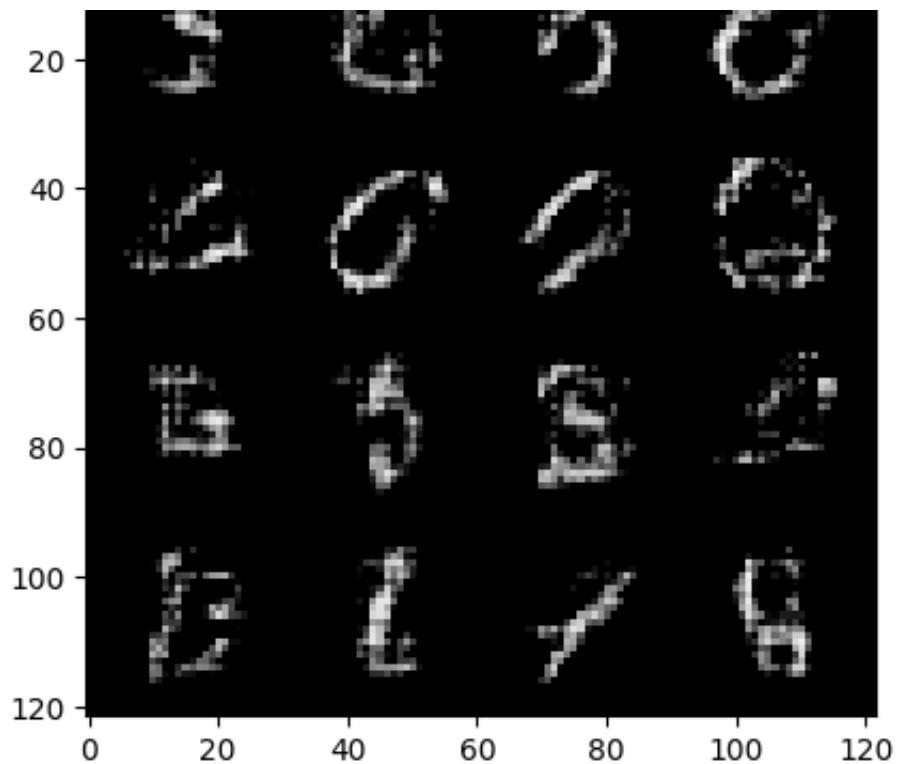


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.7069

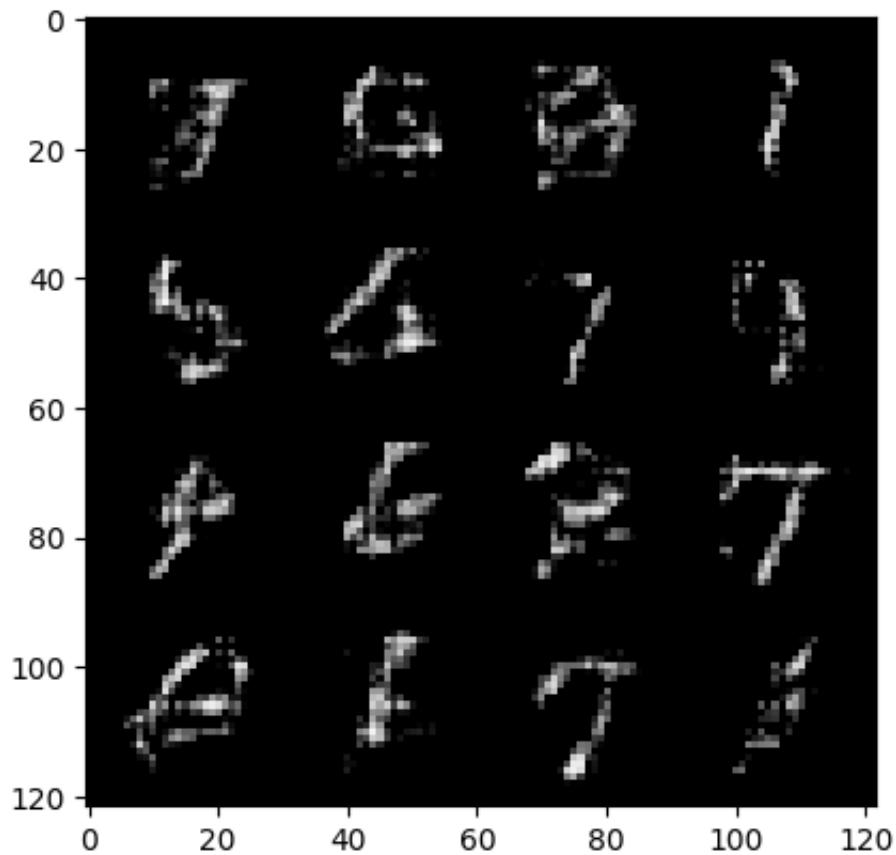


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.7069



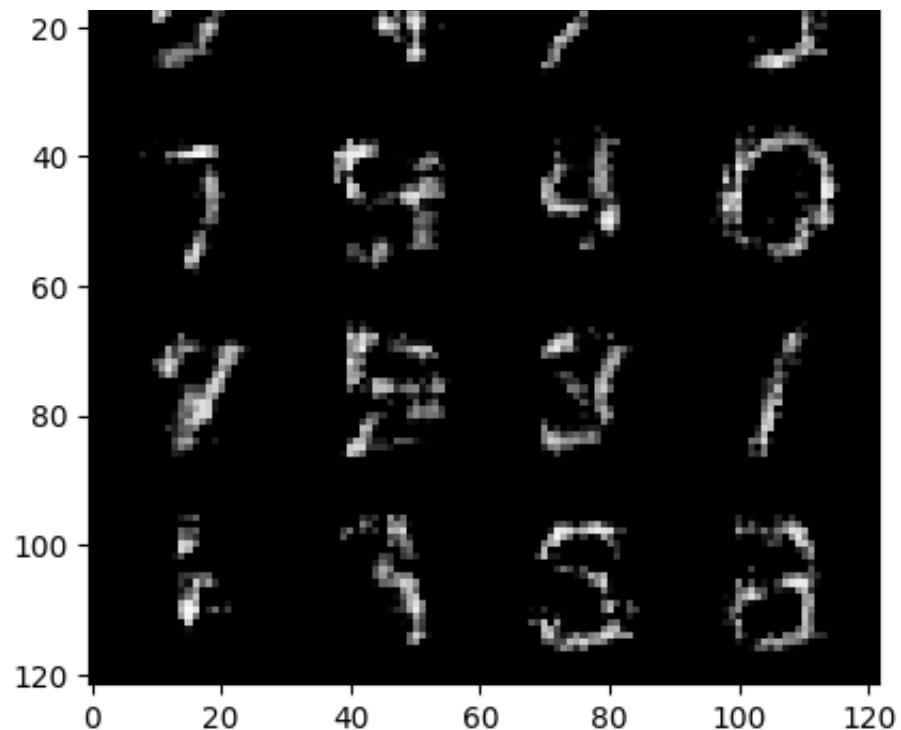


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.7070

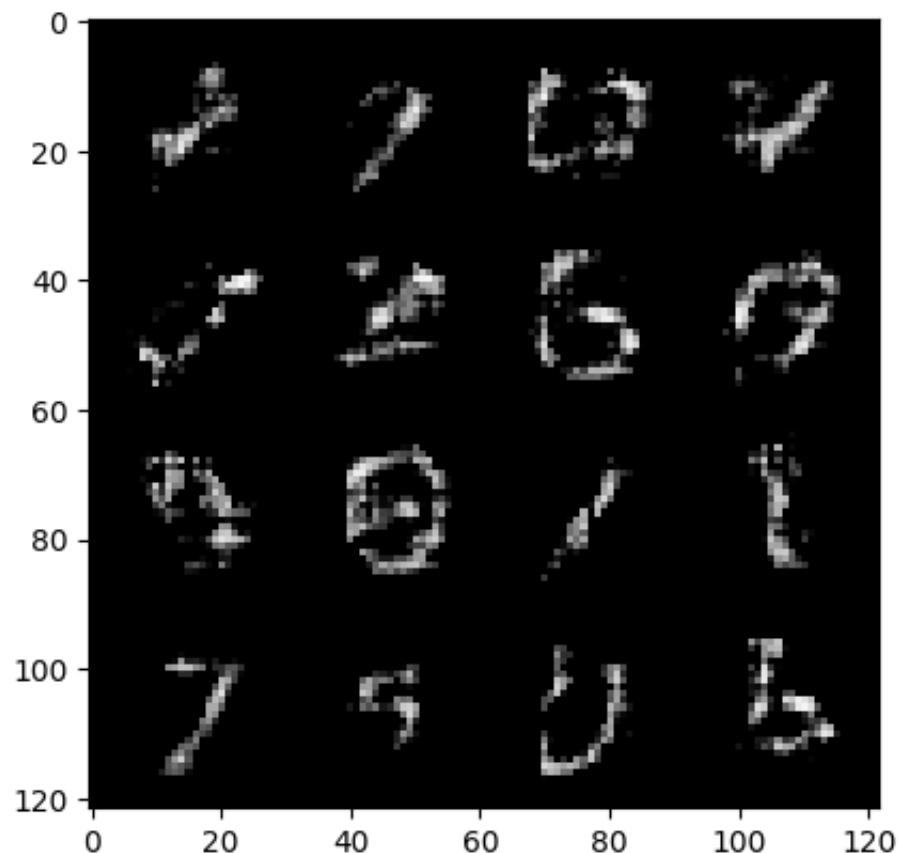


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6836, G_loss: 0.7070



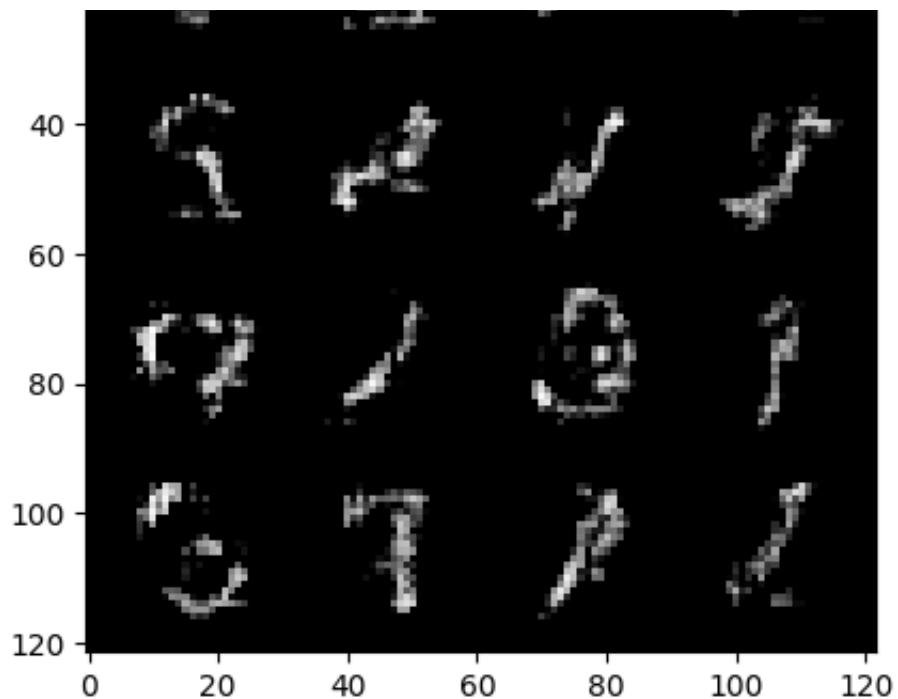


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6835, G_loss: 0.7070

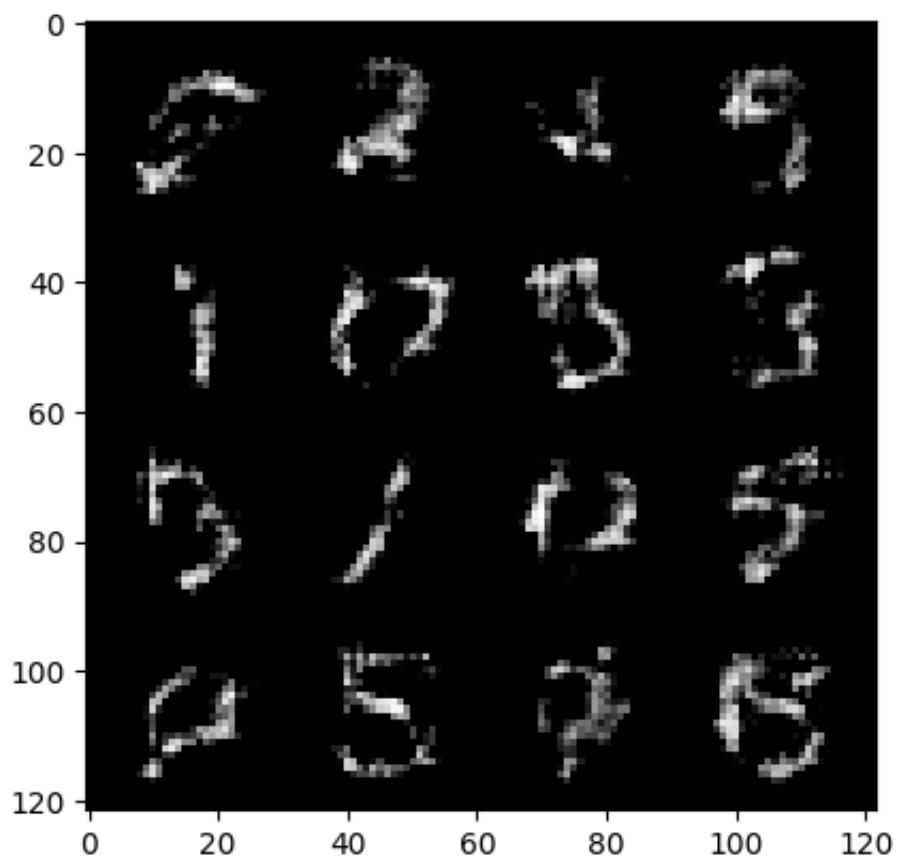


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6835, G_loss: 0.7070



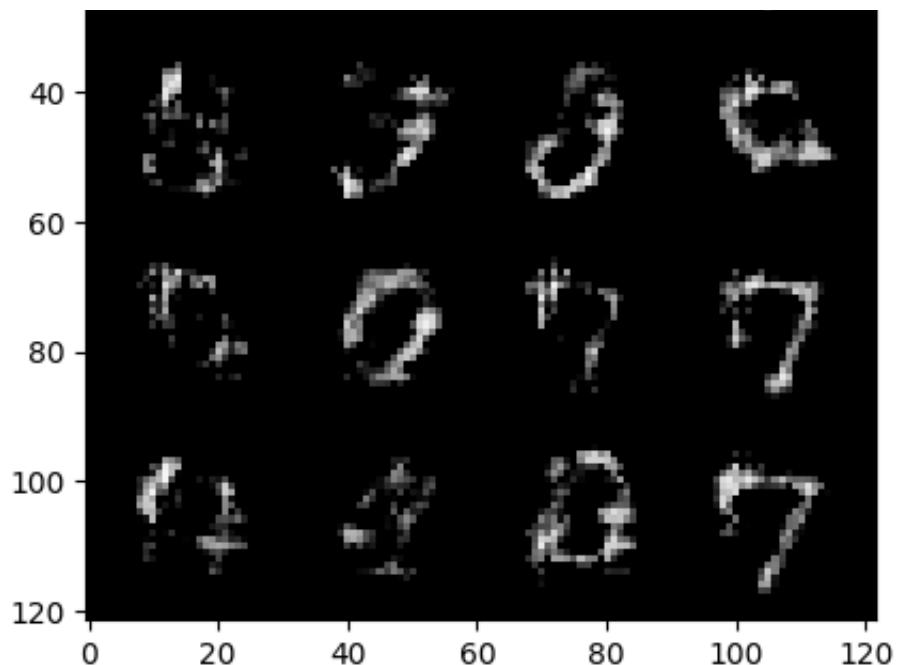


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.7070

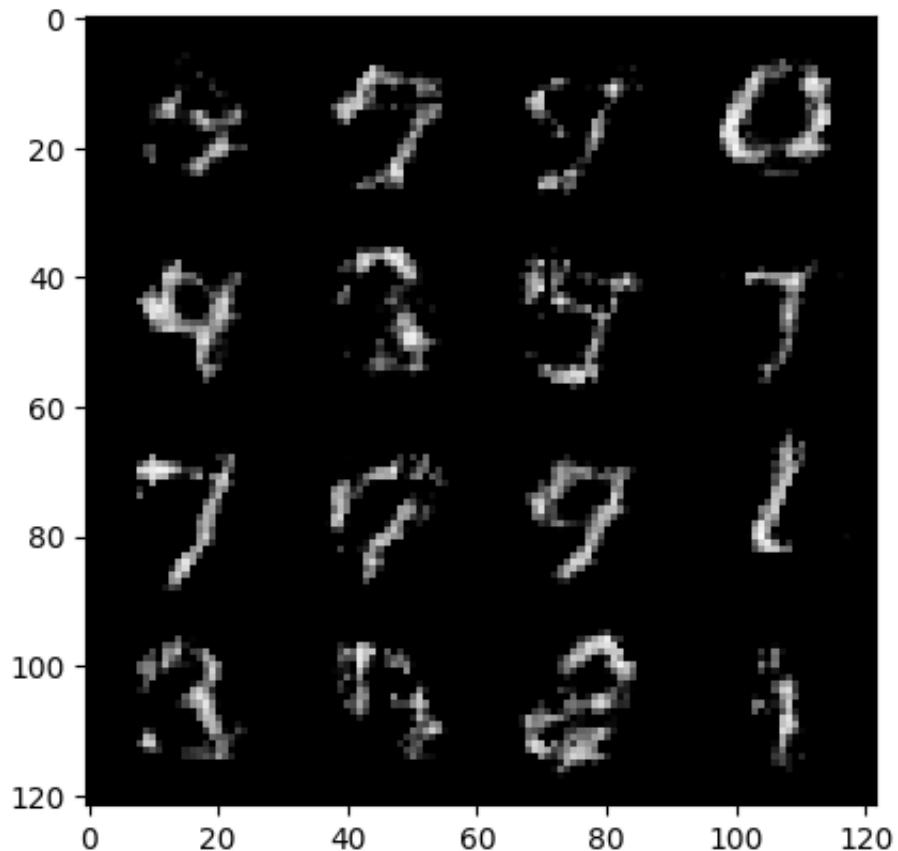


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.7070



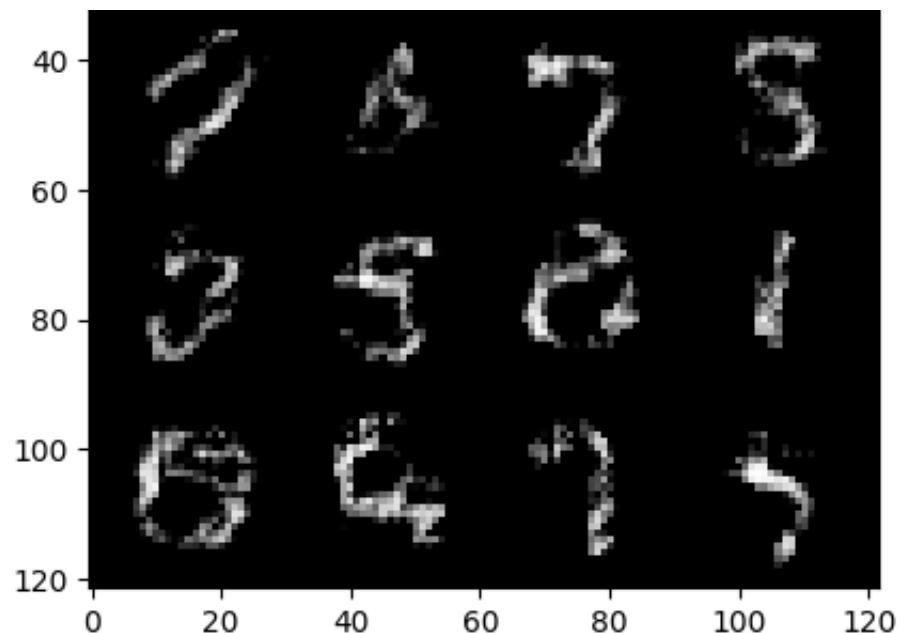


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6835, G_loss: 0.7071

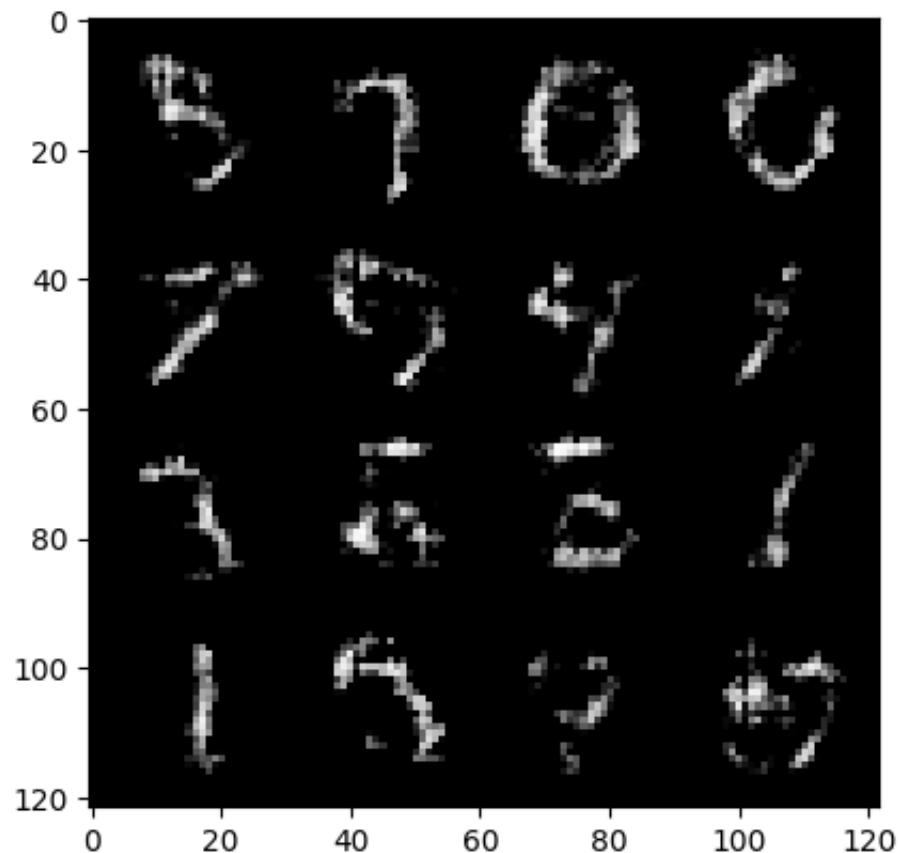


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.7071



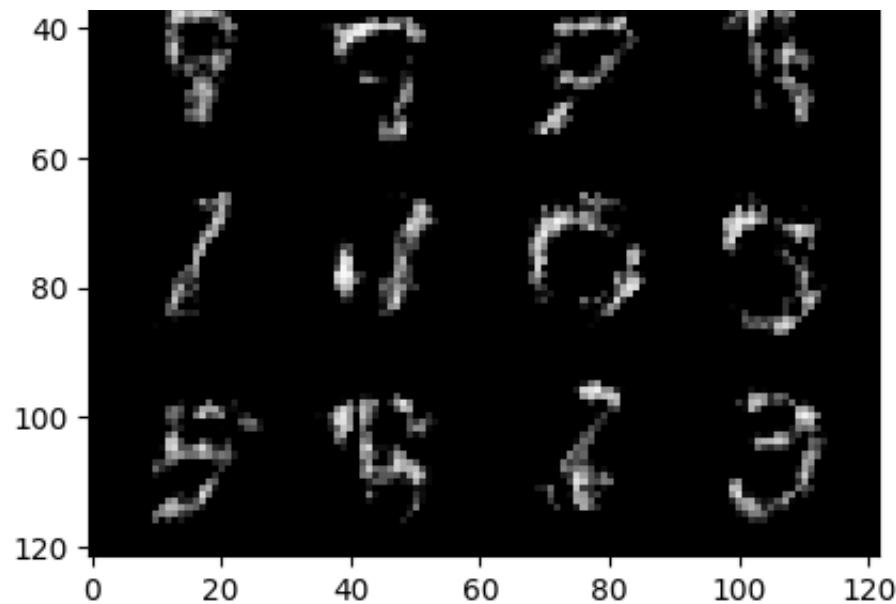


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.7071

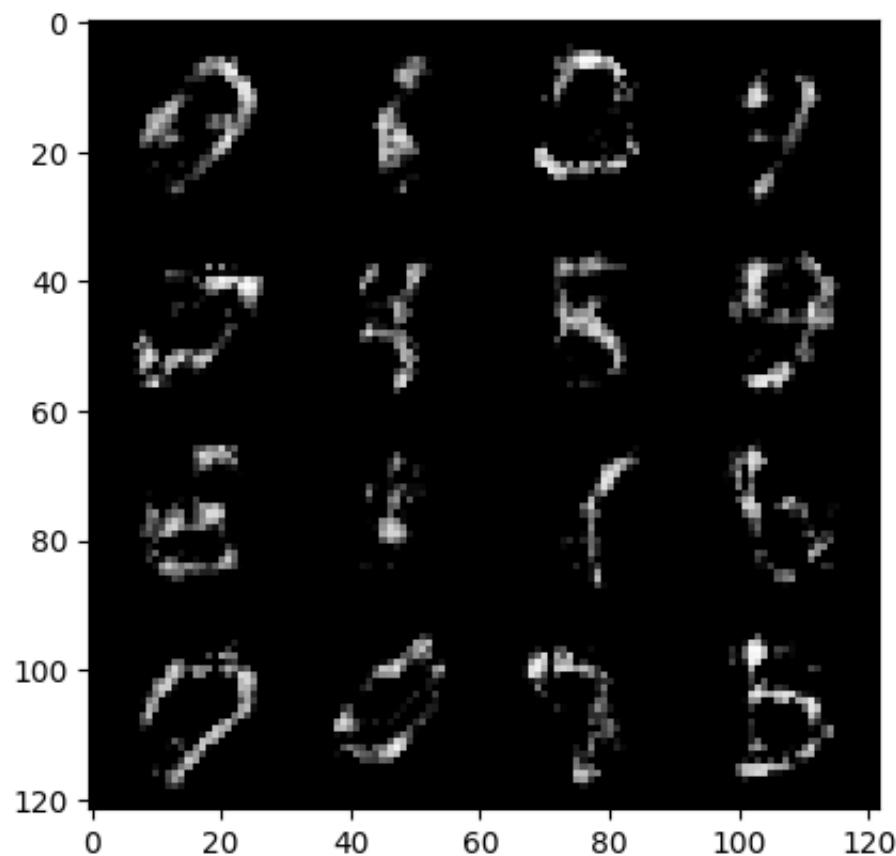


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6834, G_loss: 0.7072



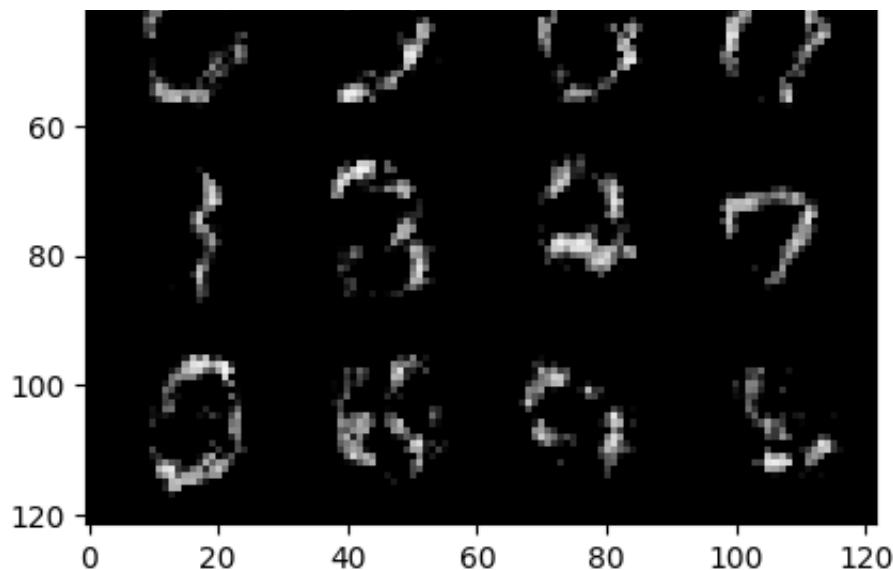


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6833, G_loss: 0.7072

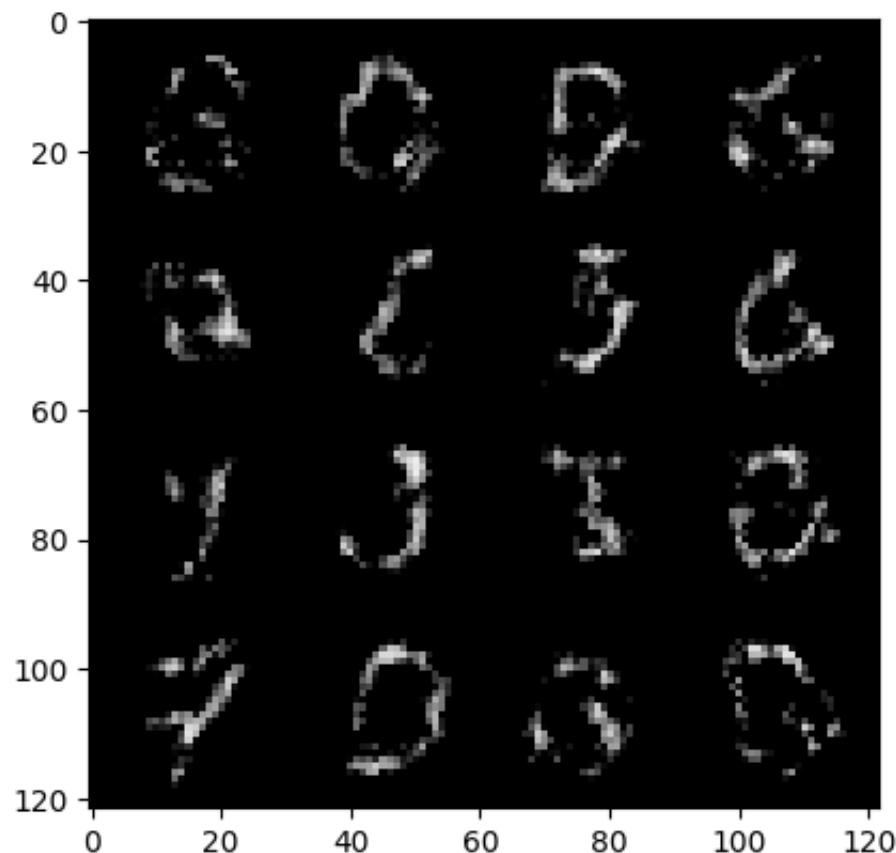


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6833, G_loss: 0.7073



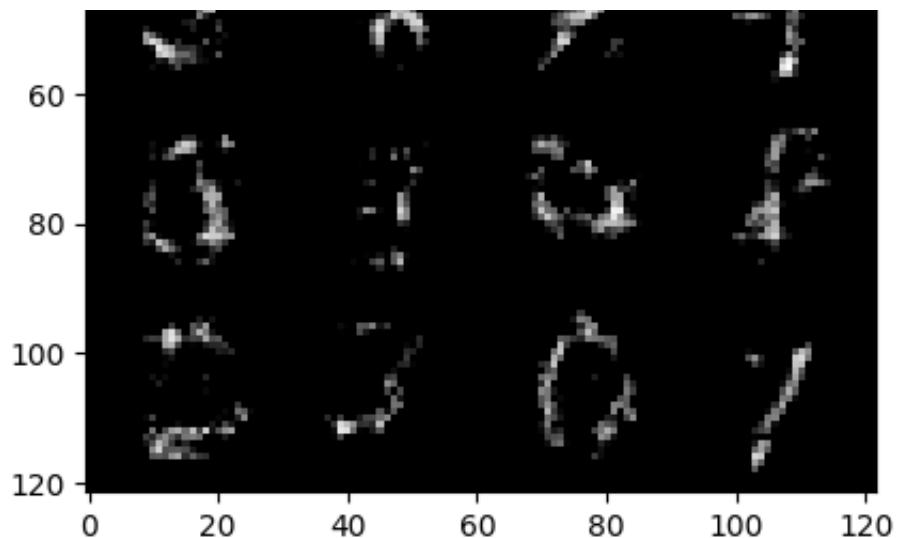


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6833, G_loss: 0.7073

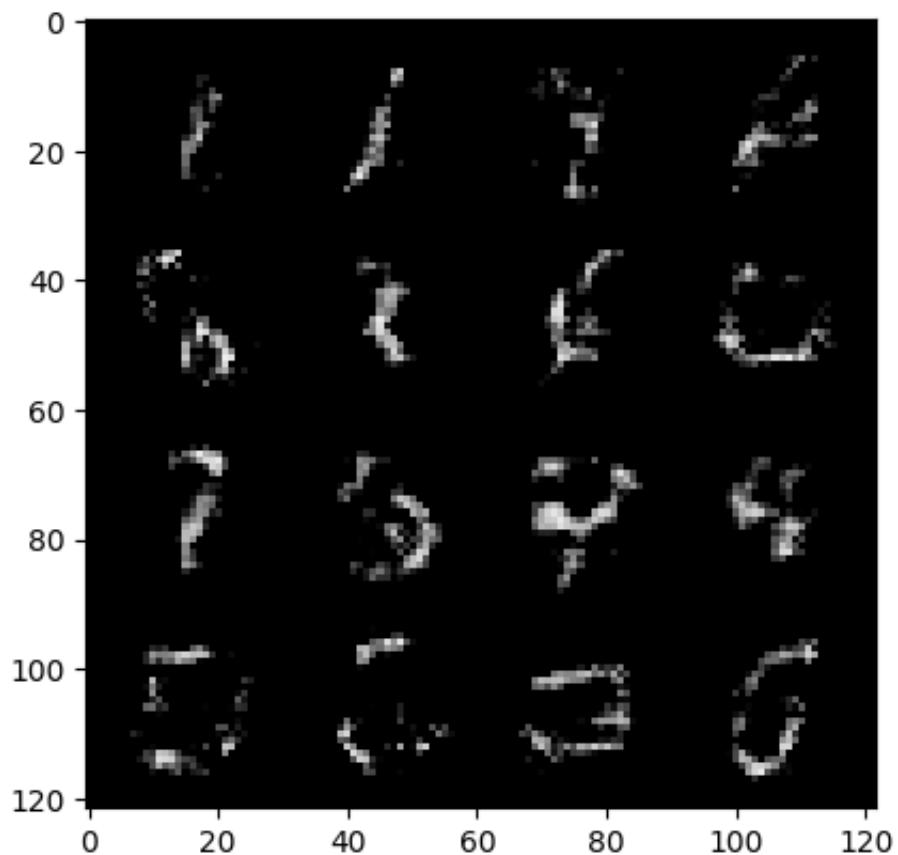


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6832, G_loss: 0.7074

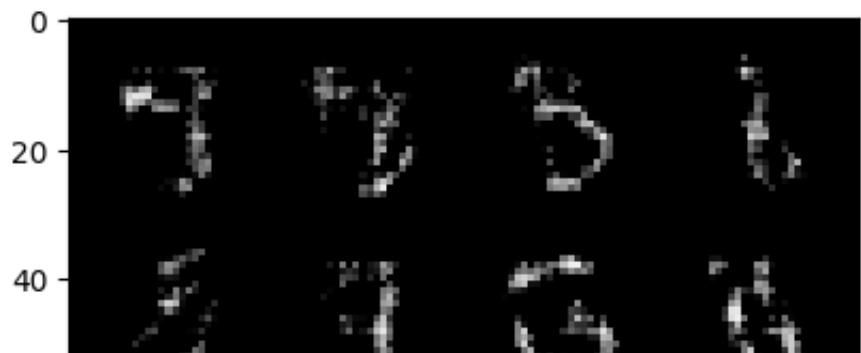


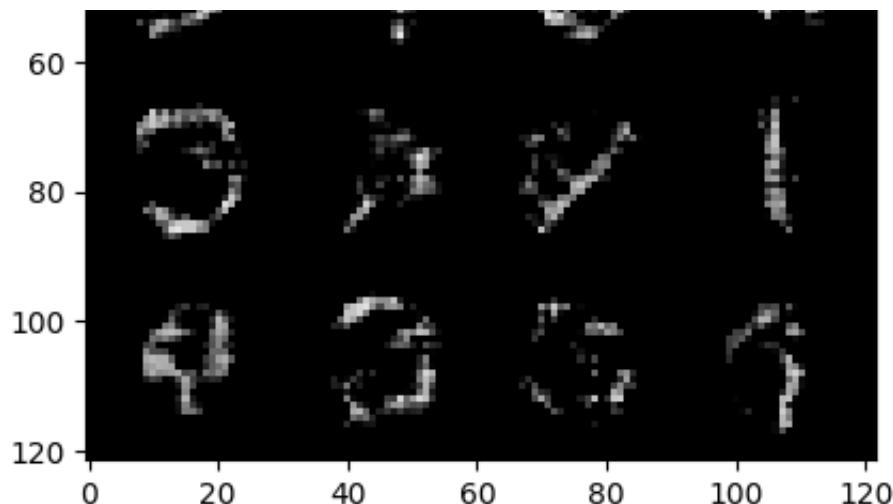


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6832, G_loss: 0.7074

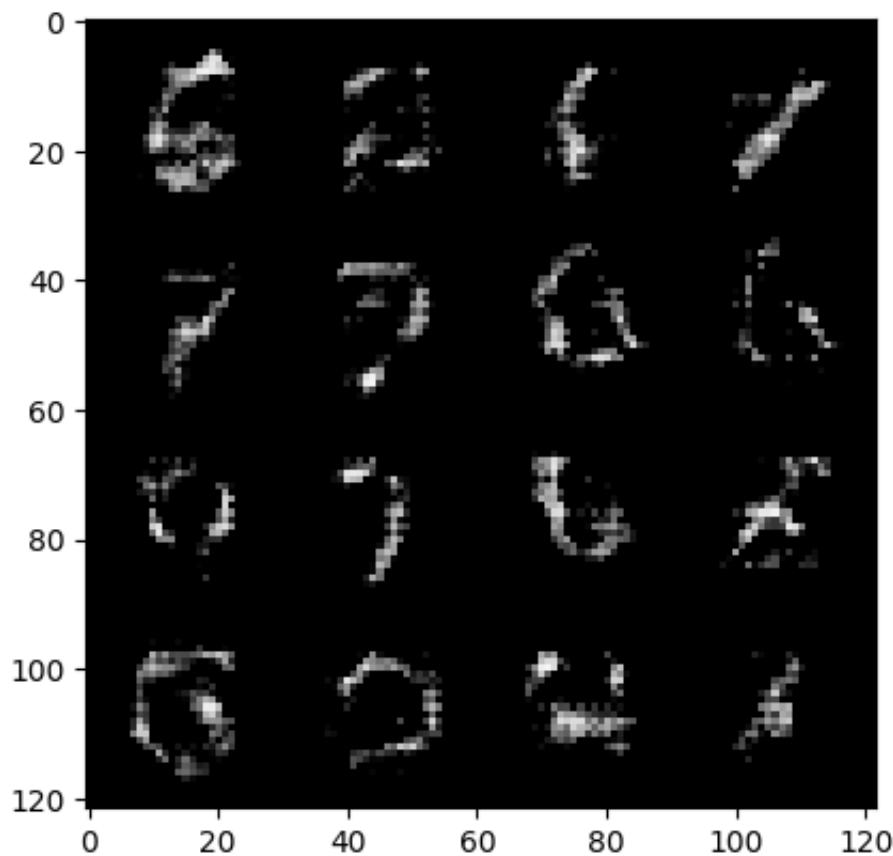


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6832, G_loss: 0.7074



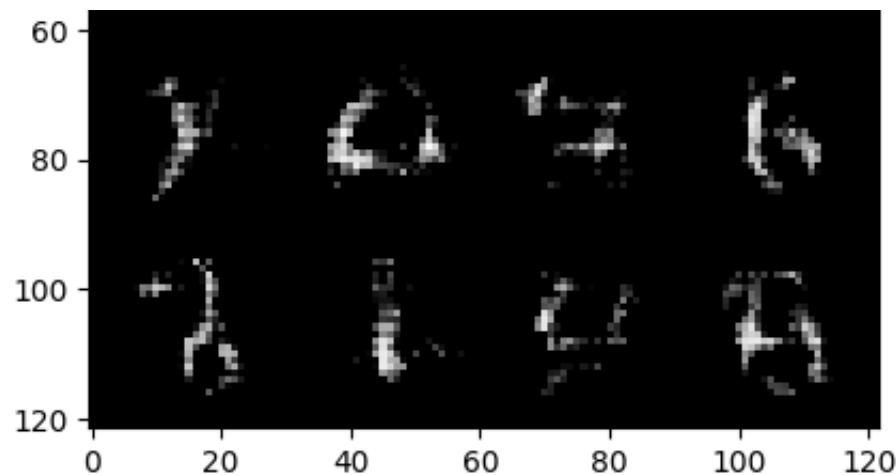


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6831, G_loss: 0.7075

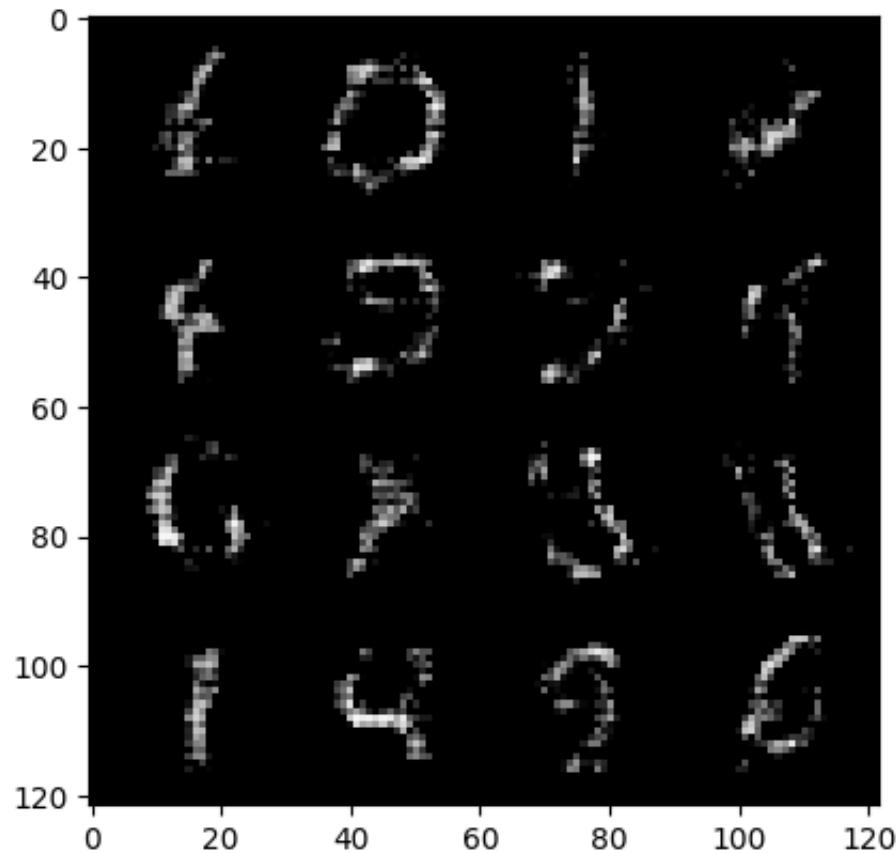


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6831, G_loss: 0.7075



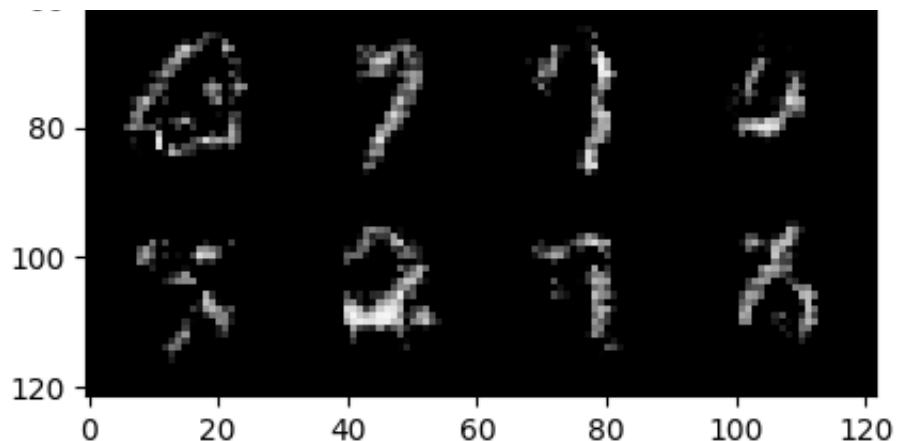


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6831, G_loss: 0.7076

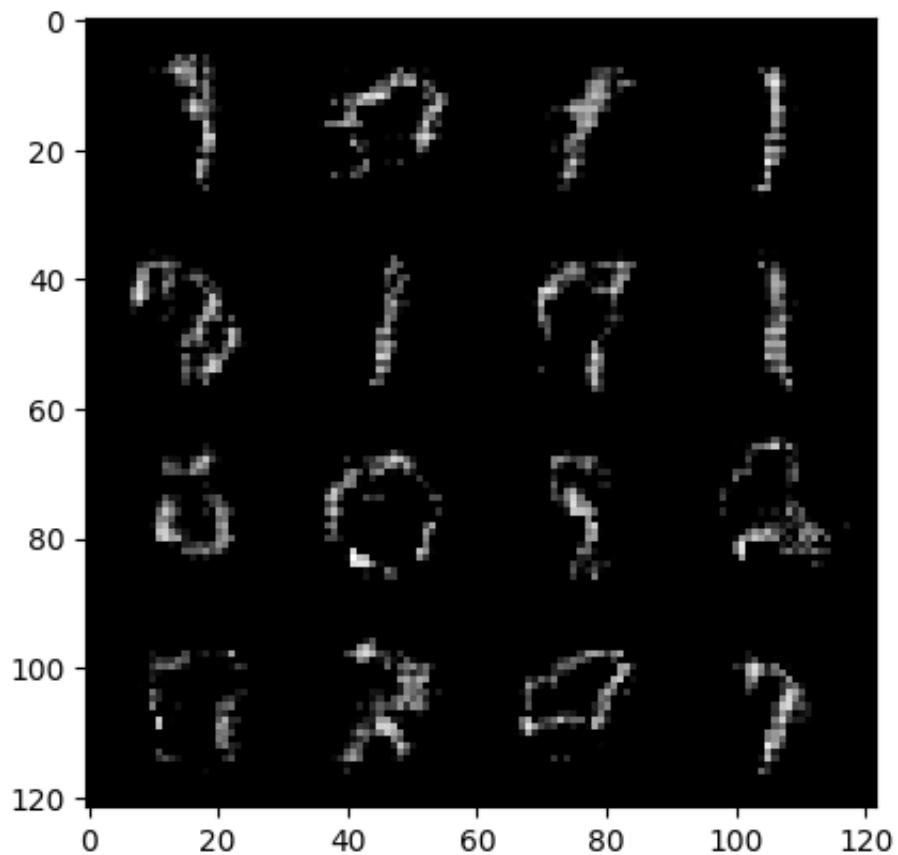


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6830, G_loss: 0.7076





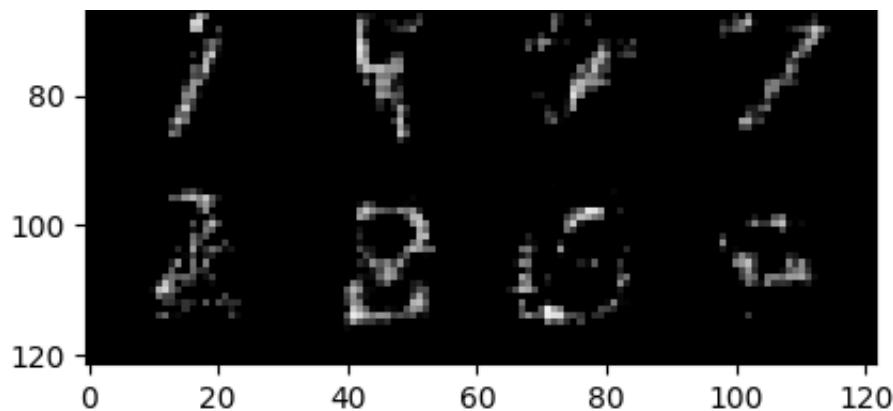
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6830, G_loss: 0.7076



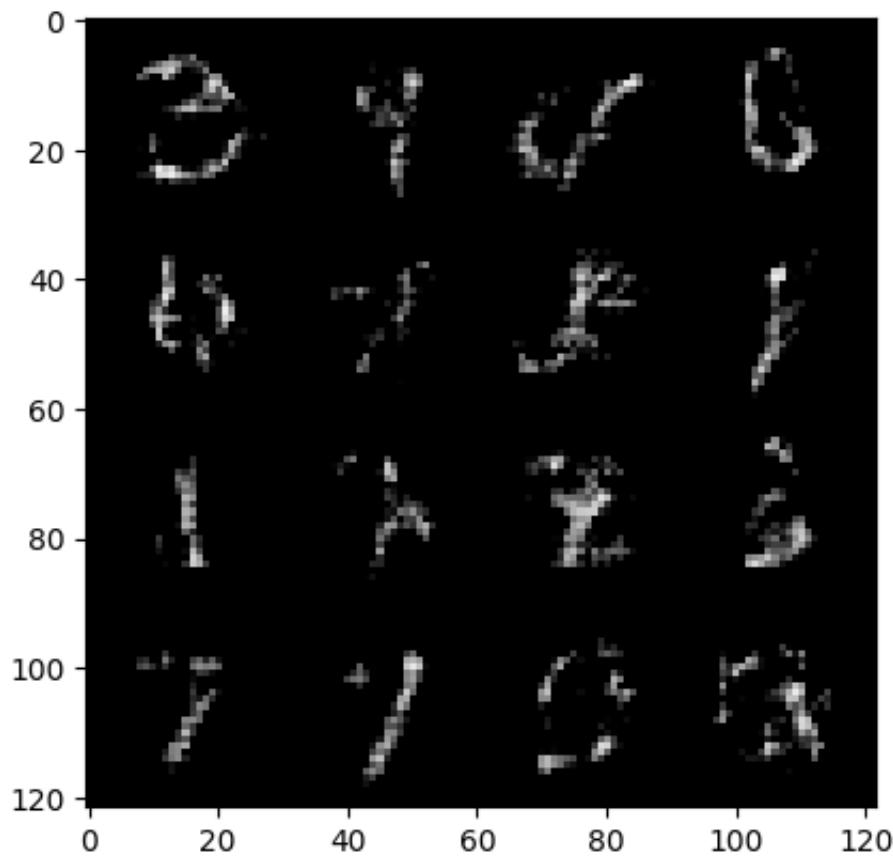
D_loss: 0.6830, G_loss: 0.7077

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

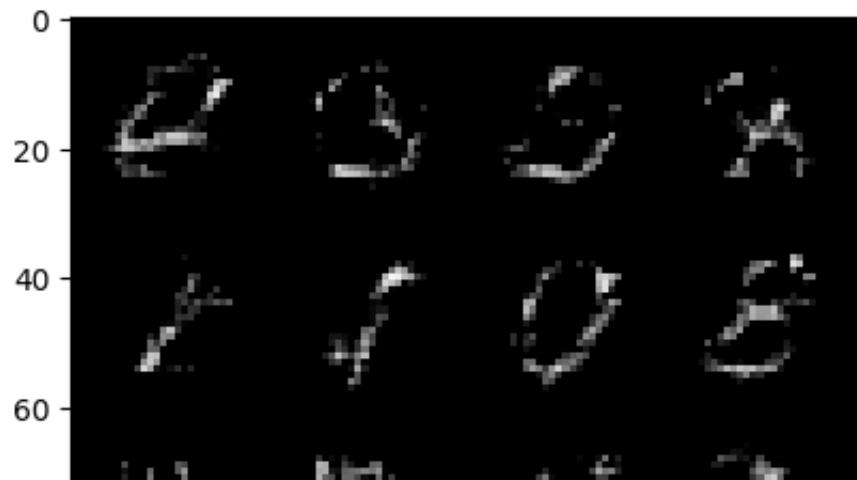


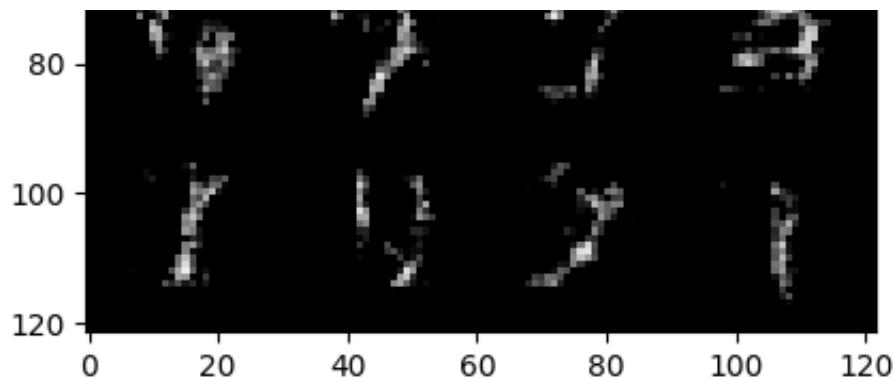


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6829, G_loss: 0.7077

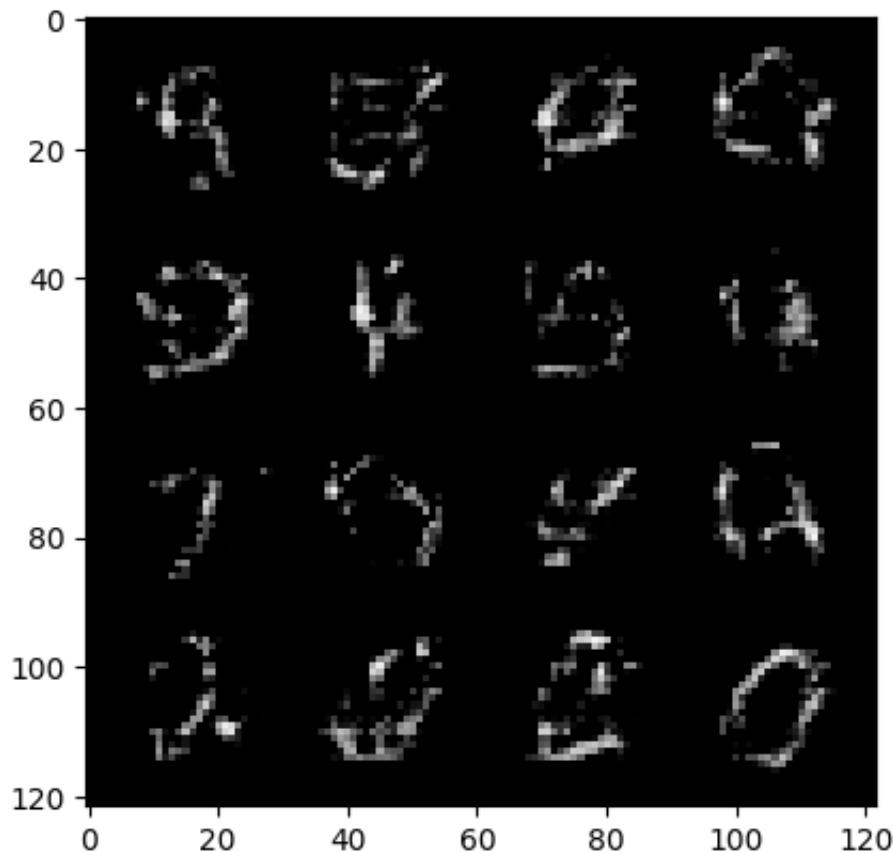


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6829, G_loss: 0.7077



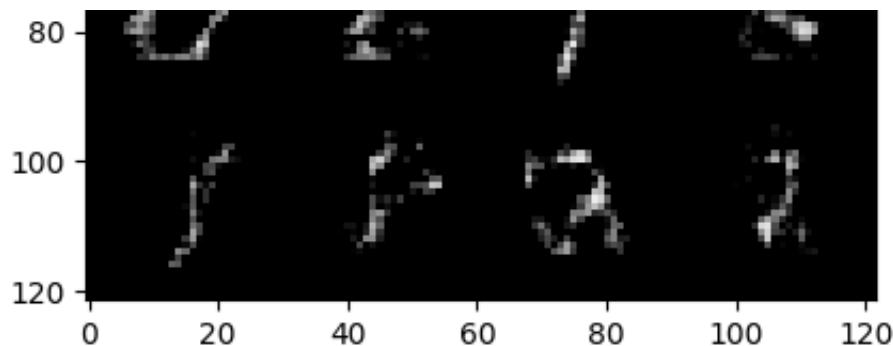


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6829, G_loss: 0.7077

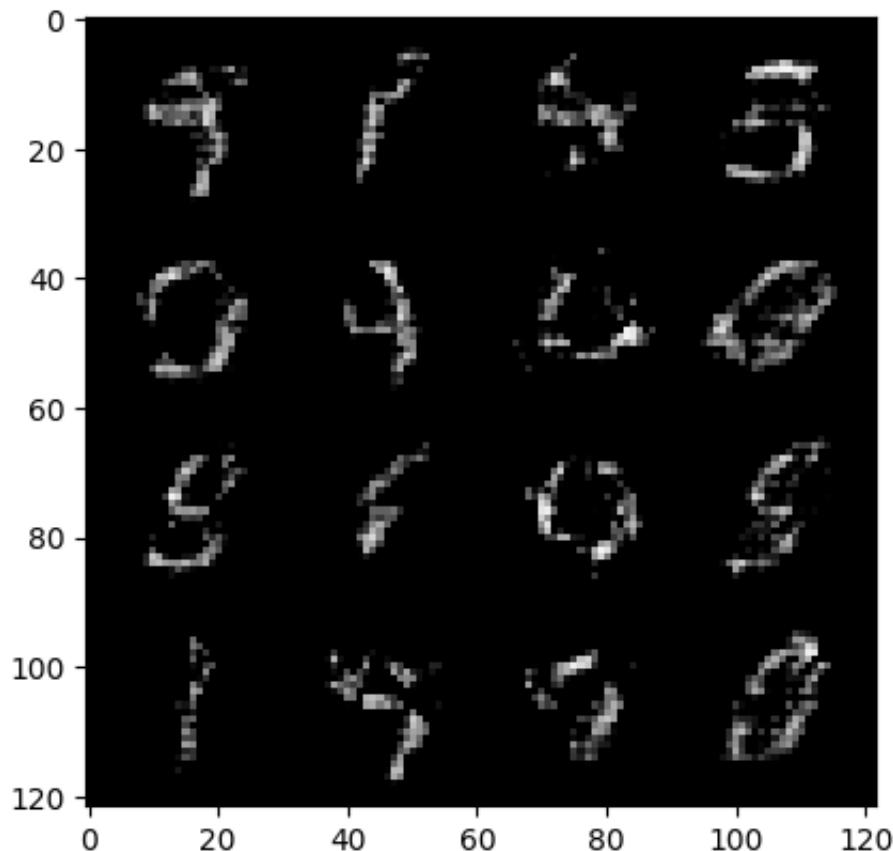


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6829, G_loss: 0.7078

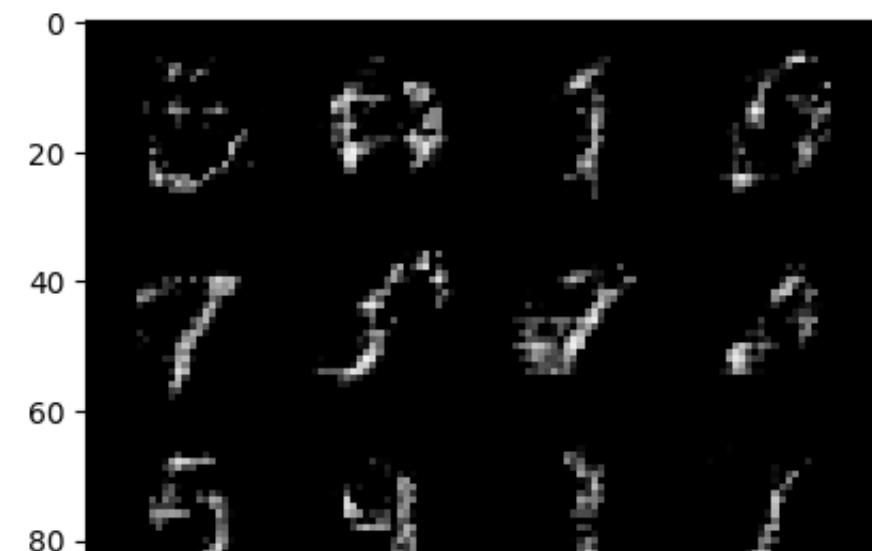


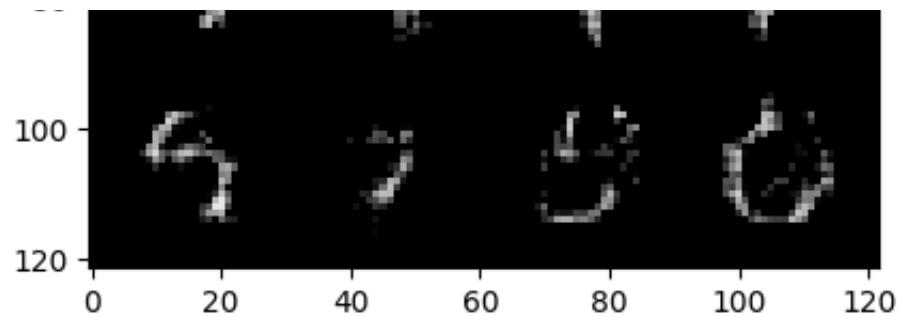


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6828, G_loss: 0.7077

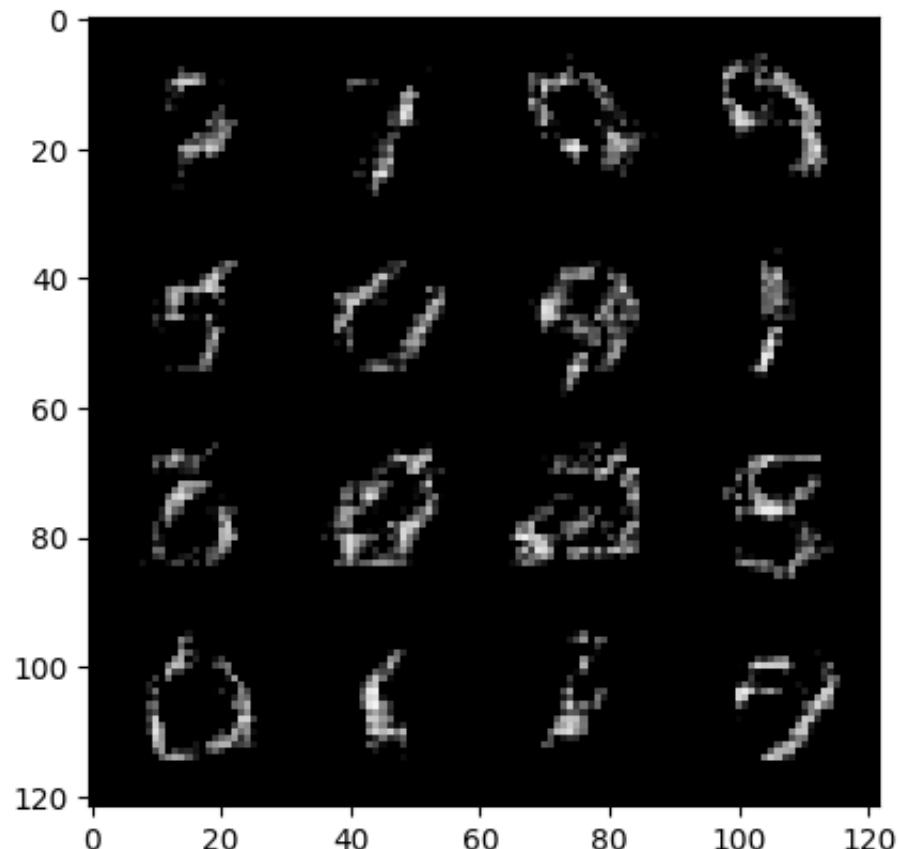


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6828, G_loss: 0.7077



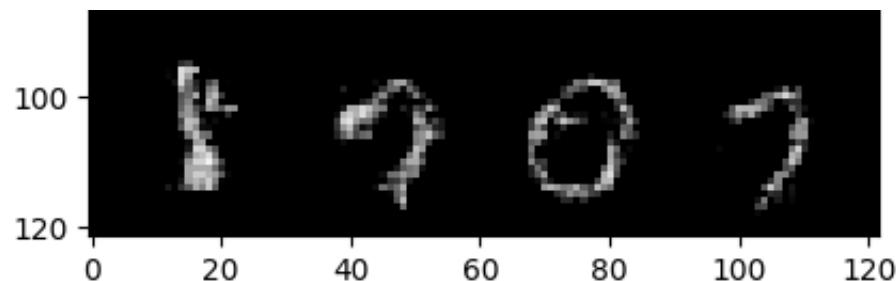


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data ranging from -0.0001 to 1.0
D_loss: 0.6828, G_loss: 0.7078

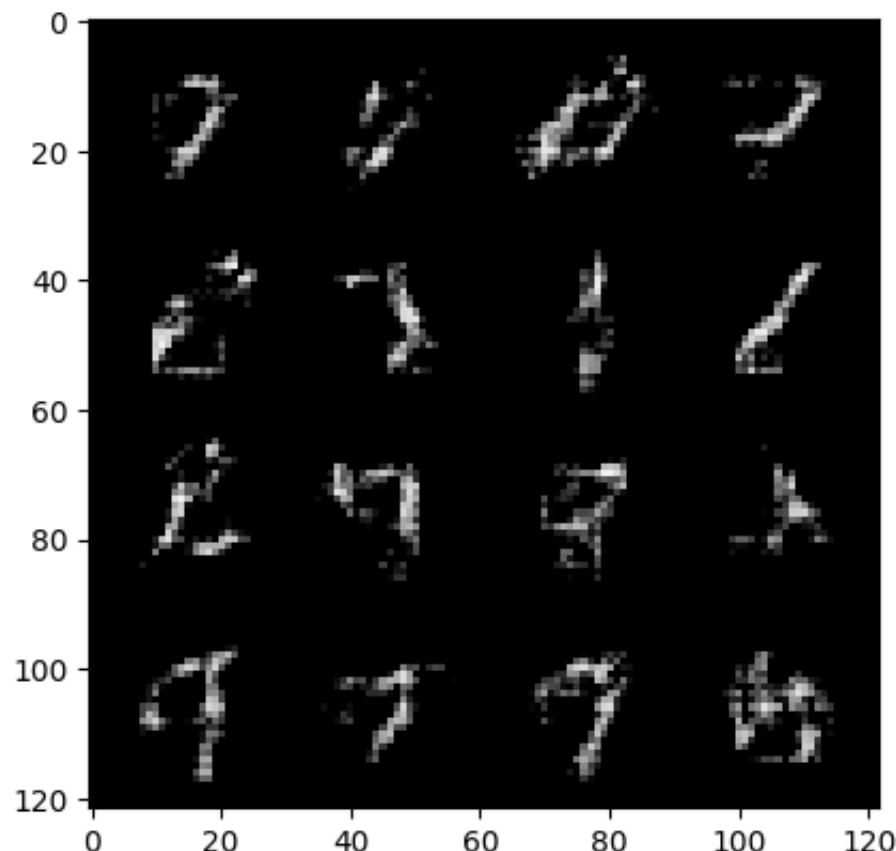


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data ranging from -0.0001 to 1.0
D_loss: 0.6828, G_loss: 0.7078



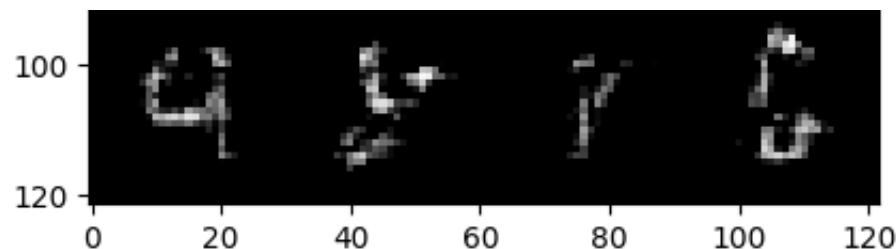


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6828, G_loss: 0.7078

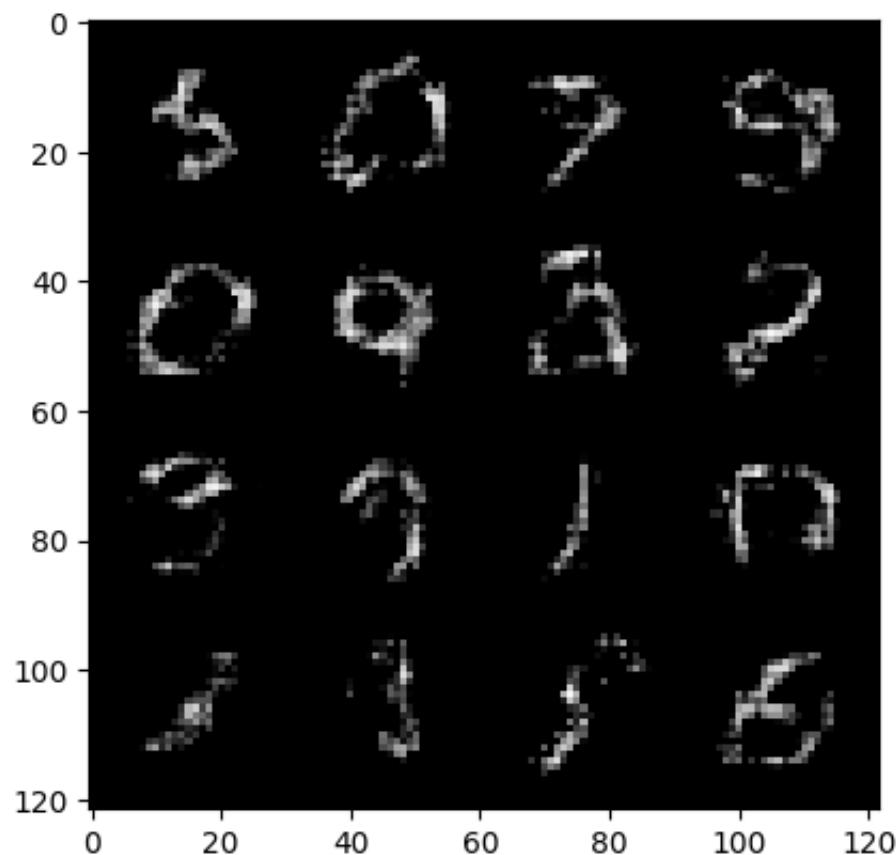


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6827, G_loss: 0.7079

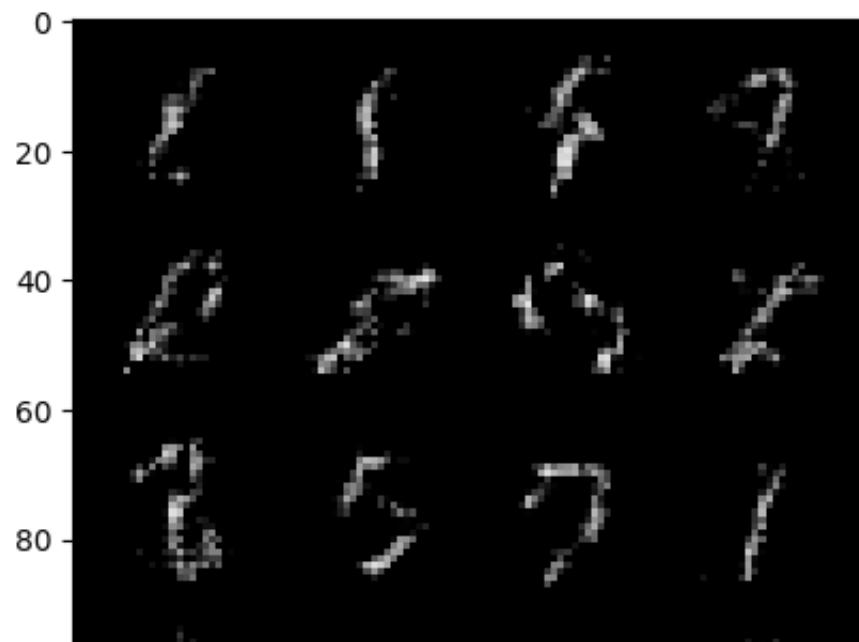


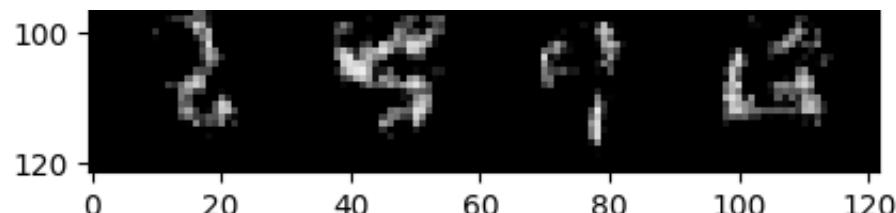


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6827, G_loss: 0.7079

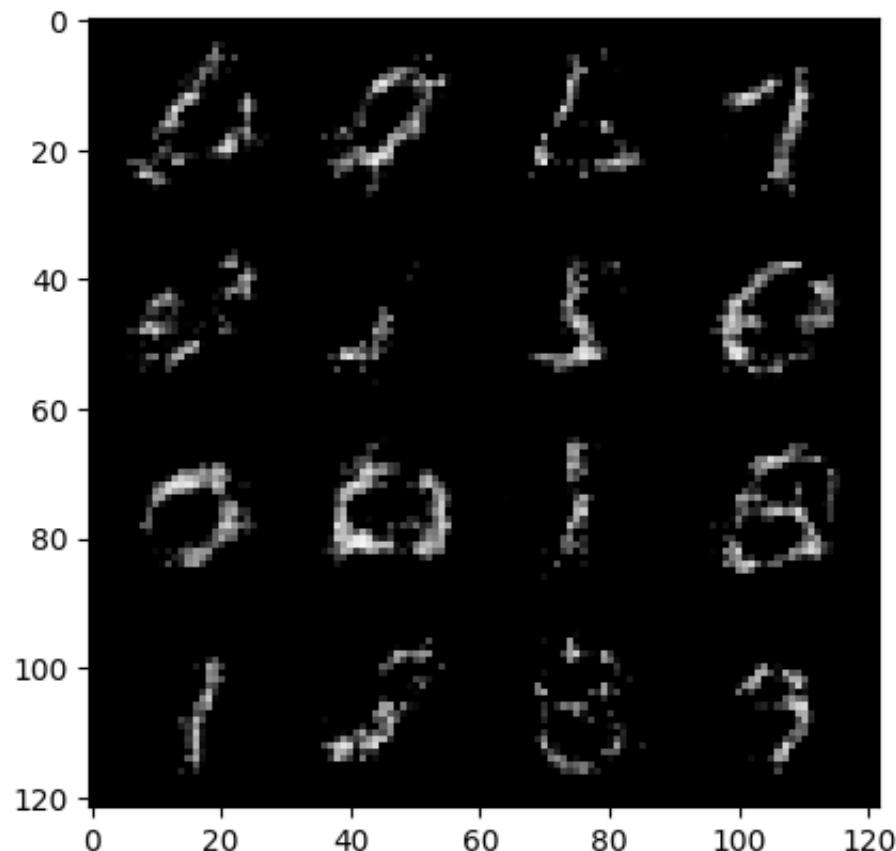


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6827, G_loss: 0.7080



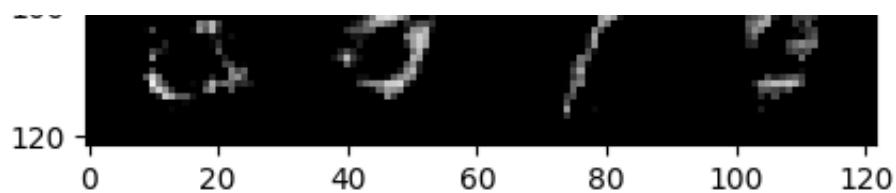


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6826, G_loss: 0.7080

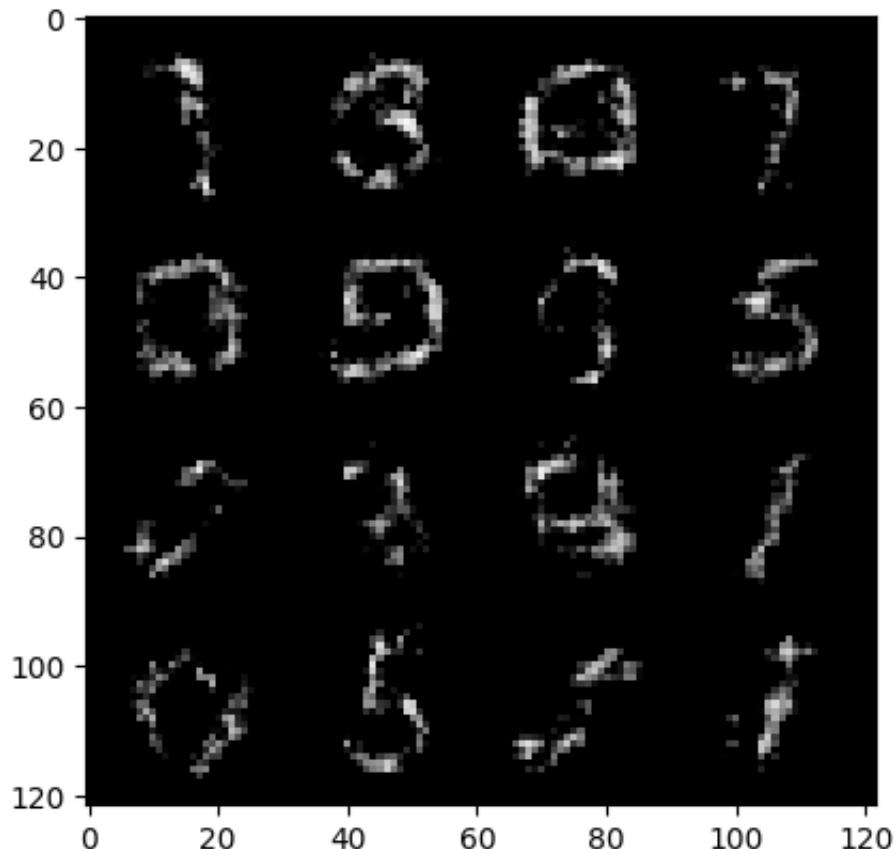


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.0001, max=1.0
D_loss: 0.6826, G_loss: 0.7081



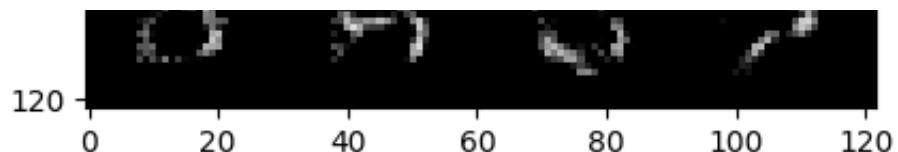


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6826, G_loss: 0.7082

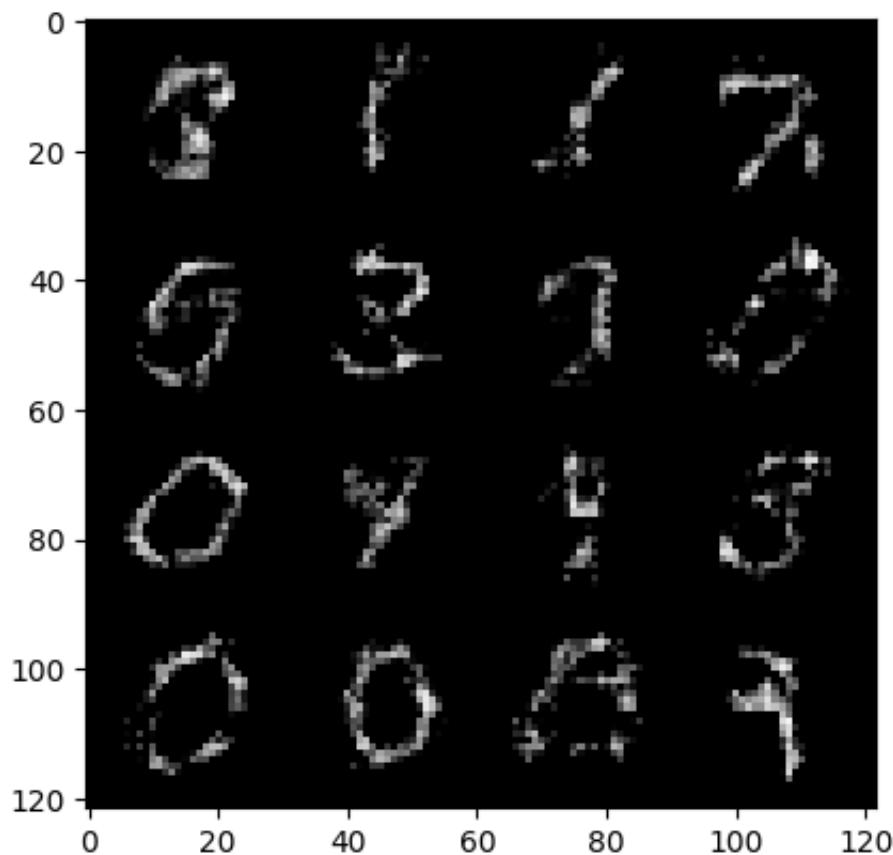


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6825, G_loss: 0.7082

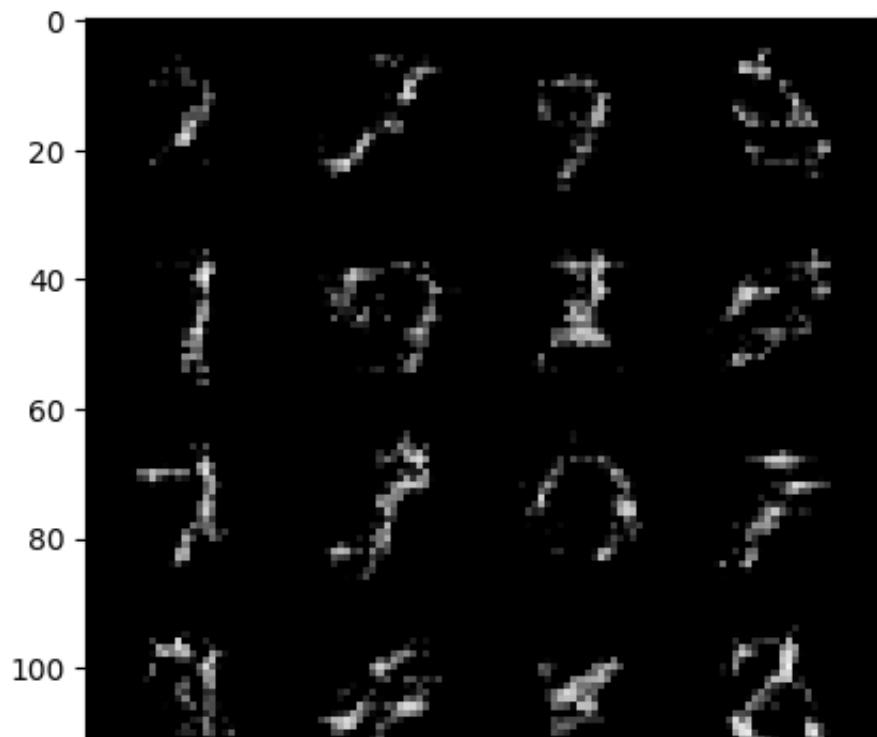


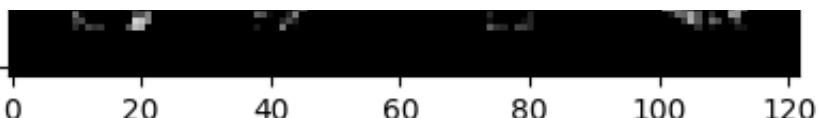


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6825, G_loss: 0.7083

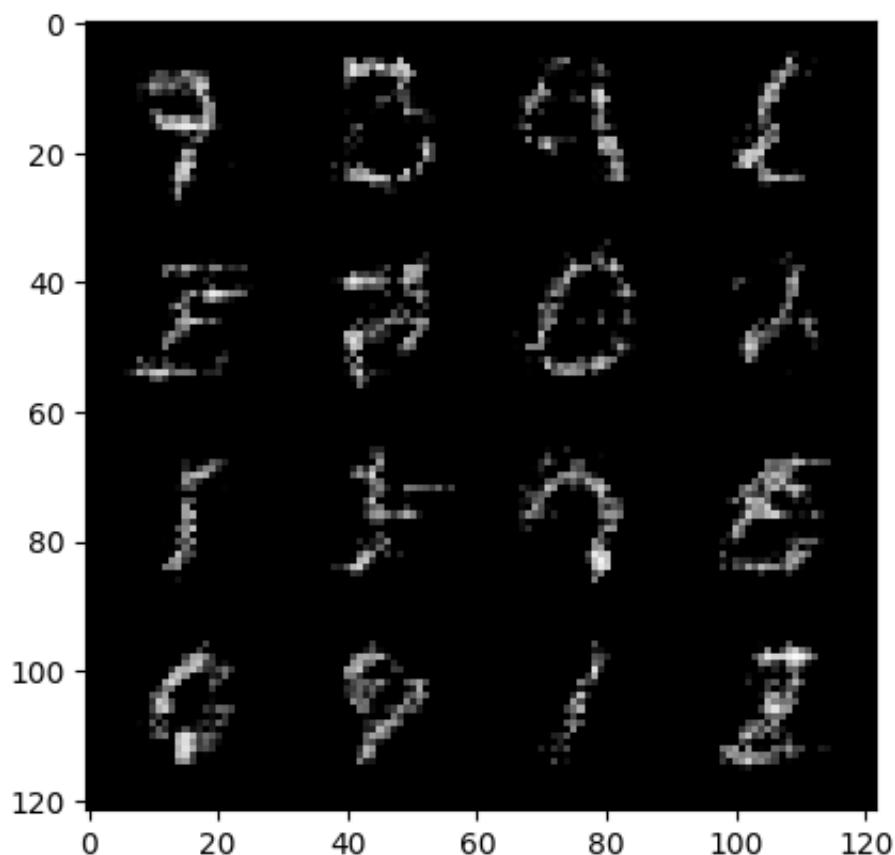


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6824, G_loss: 0.7083

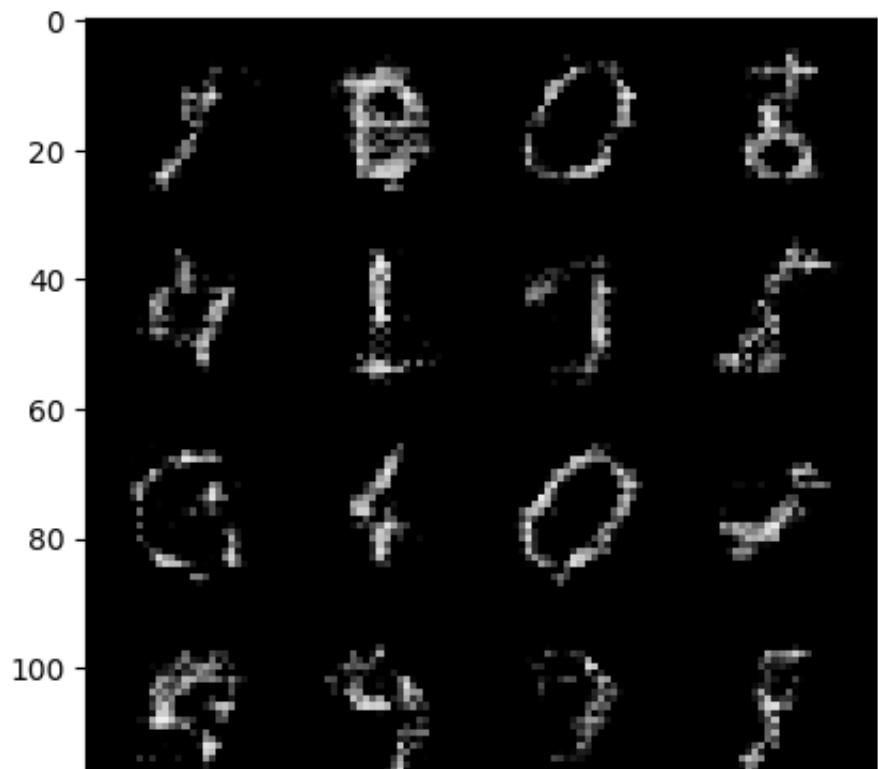


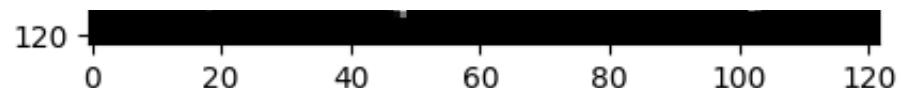


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6824, G_loss: 0.7084

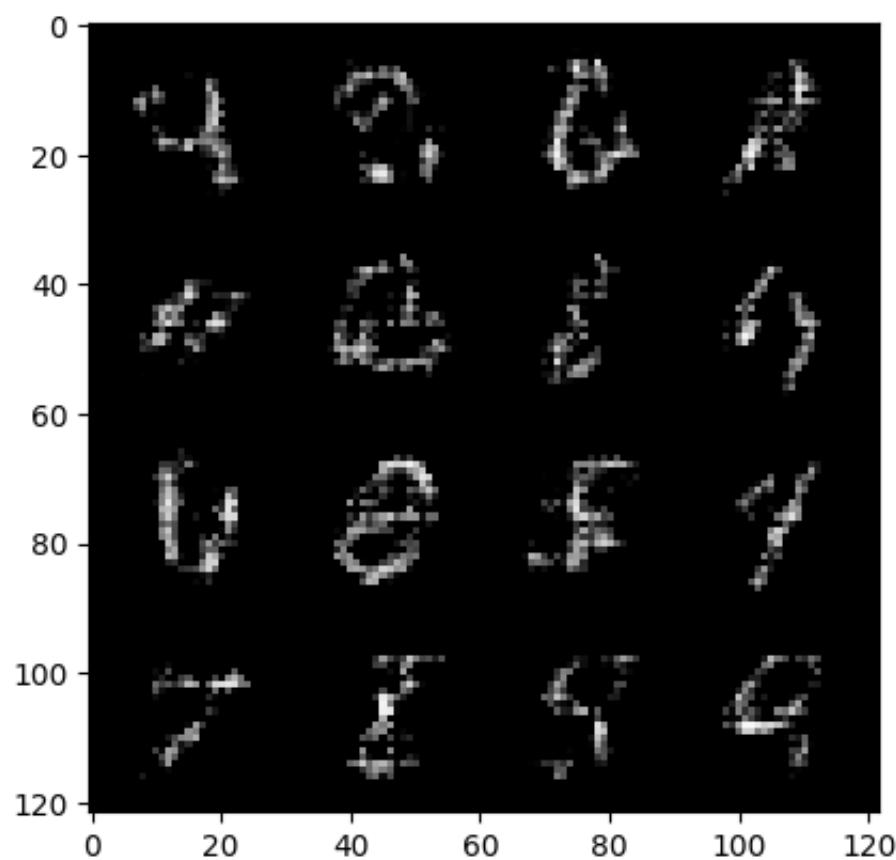


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6823, G_loss: 0.7084

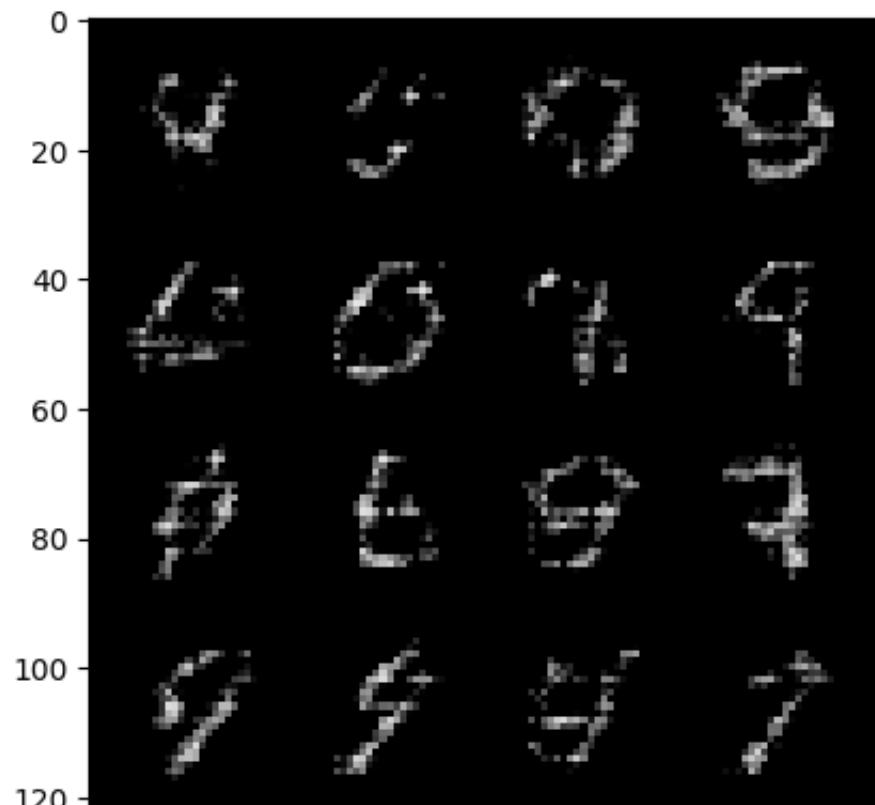


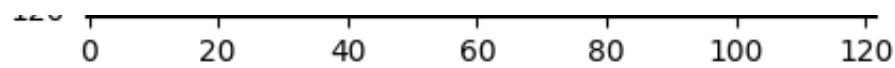


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6823, G_loss: 0.7084

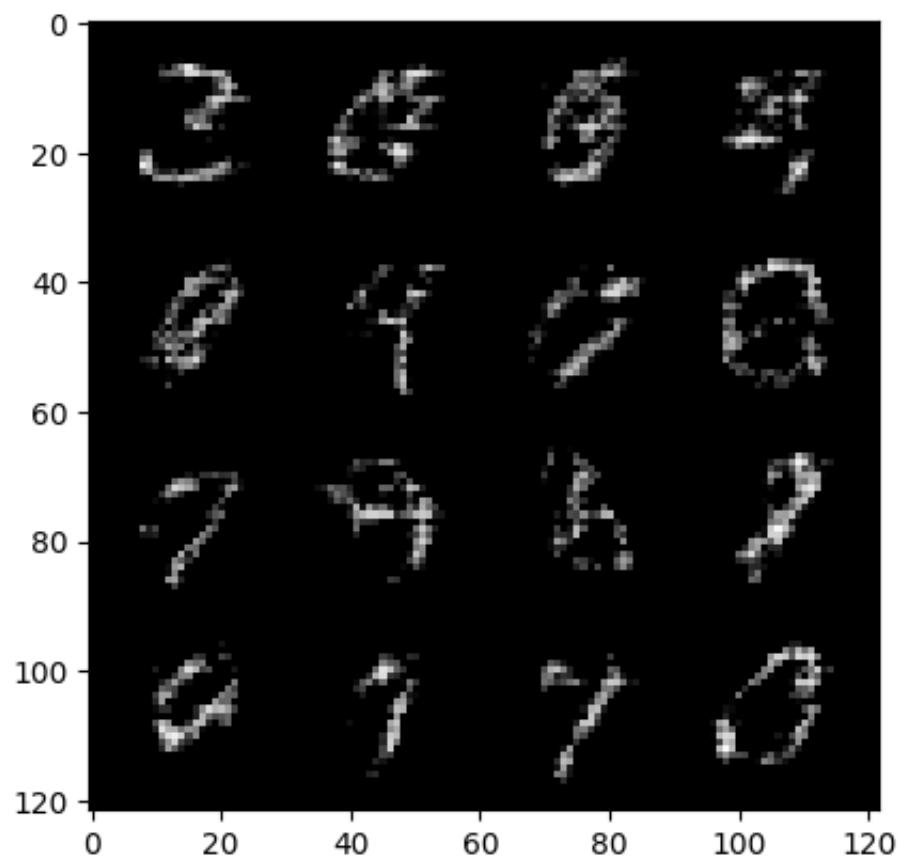


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6823, G_loss: 0.7085

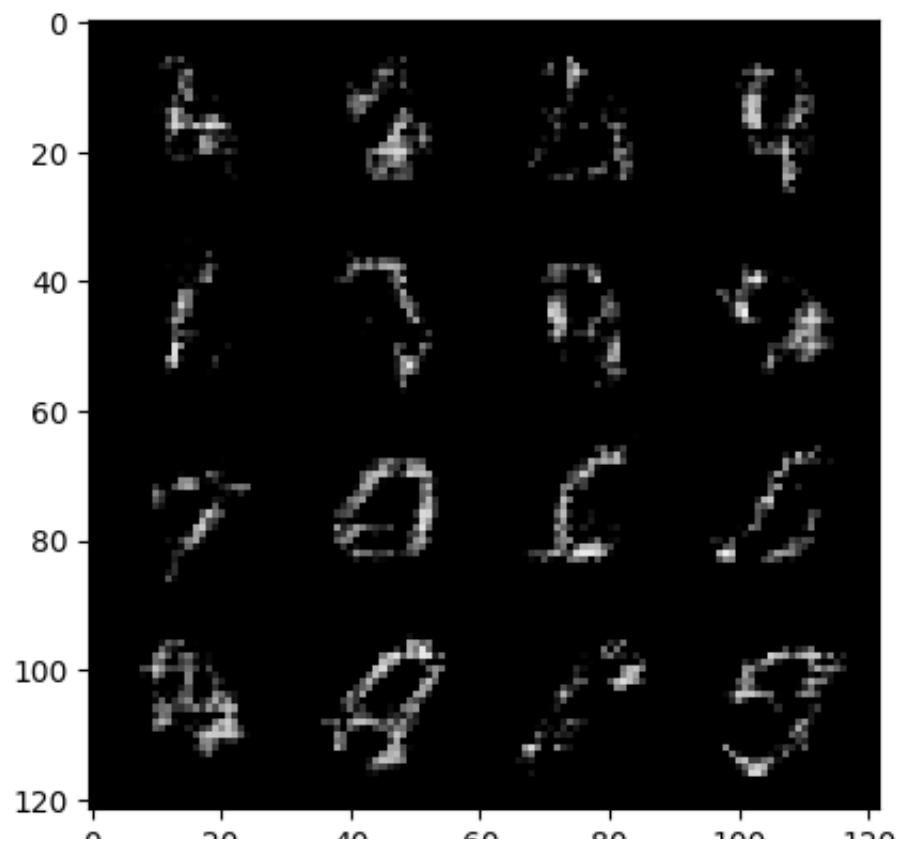




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6822, G_loss: 0.7085

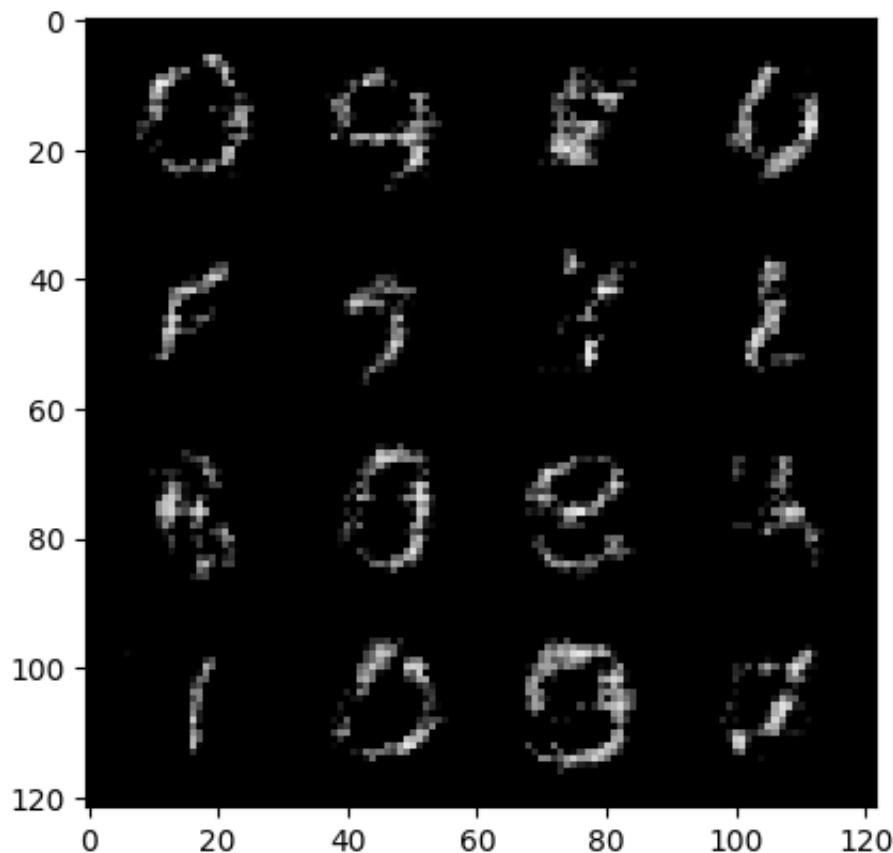


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6822, G_loss: 0.7086

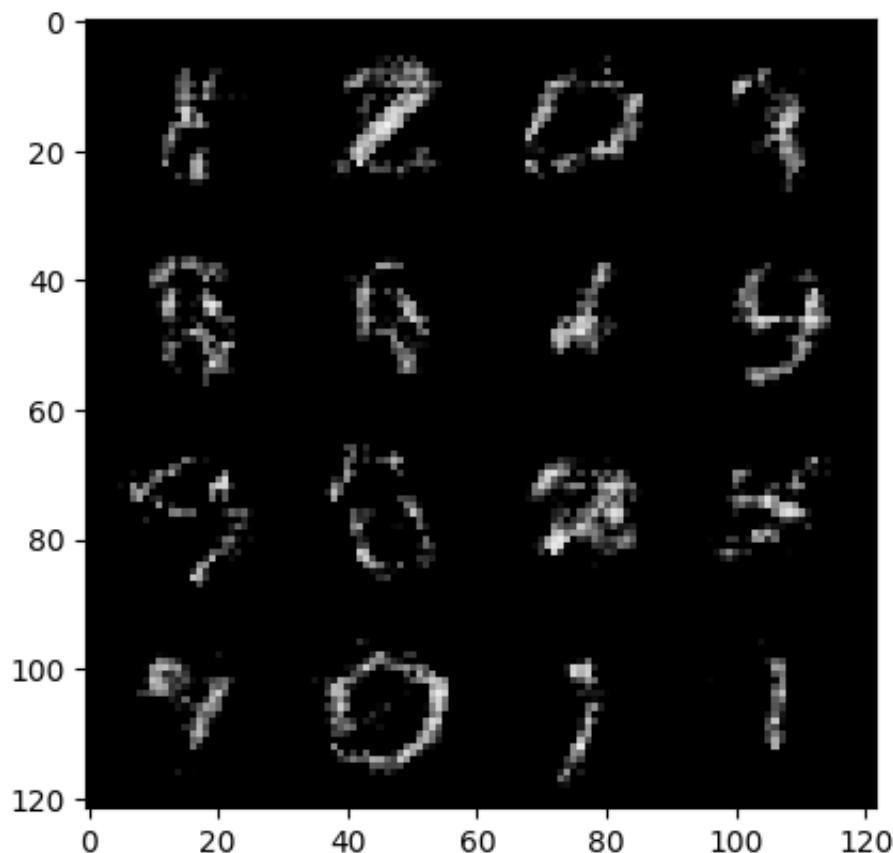


0 20 40 60 80 100 120

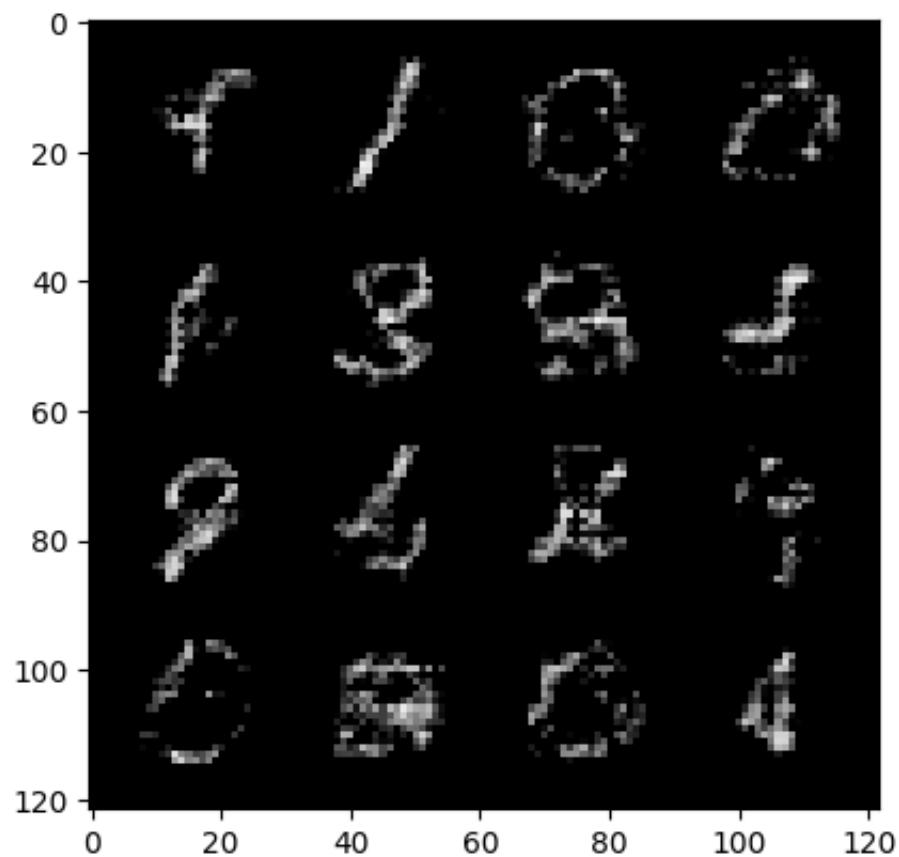
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6822, G_loss: 0.7086



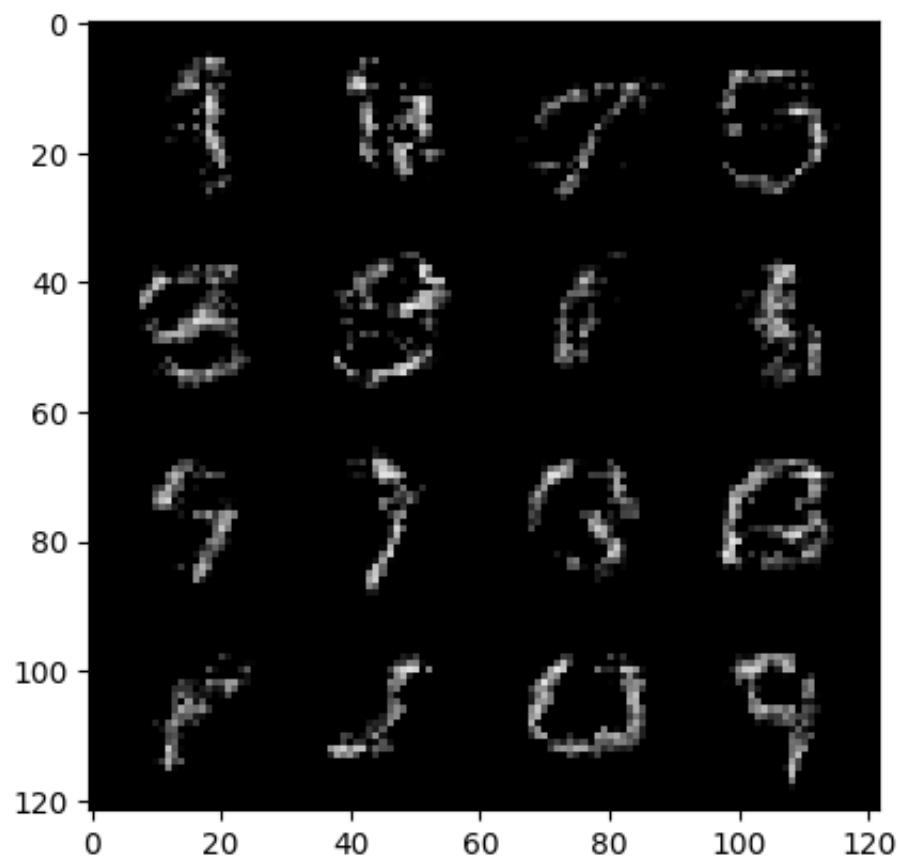
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6821, G_loss: 0.7086



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6821, G_loss: 0.7087

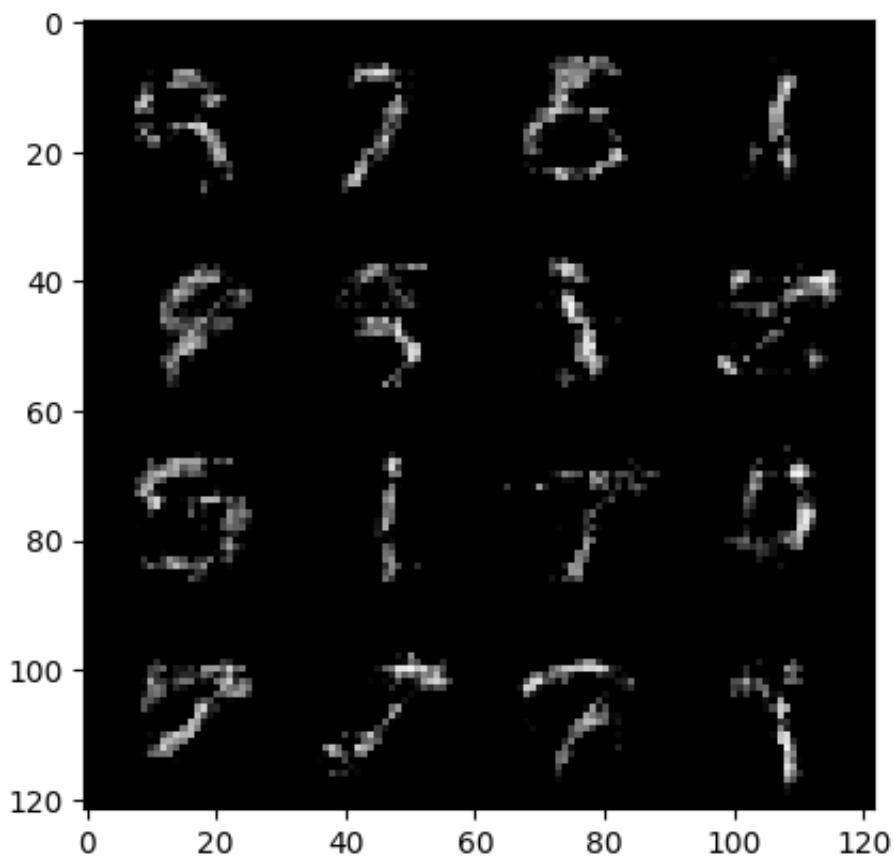


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6821, G_loss: 0.7087

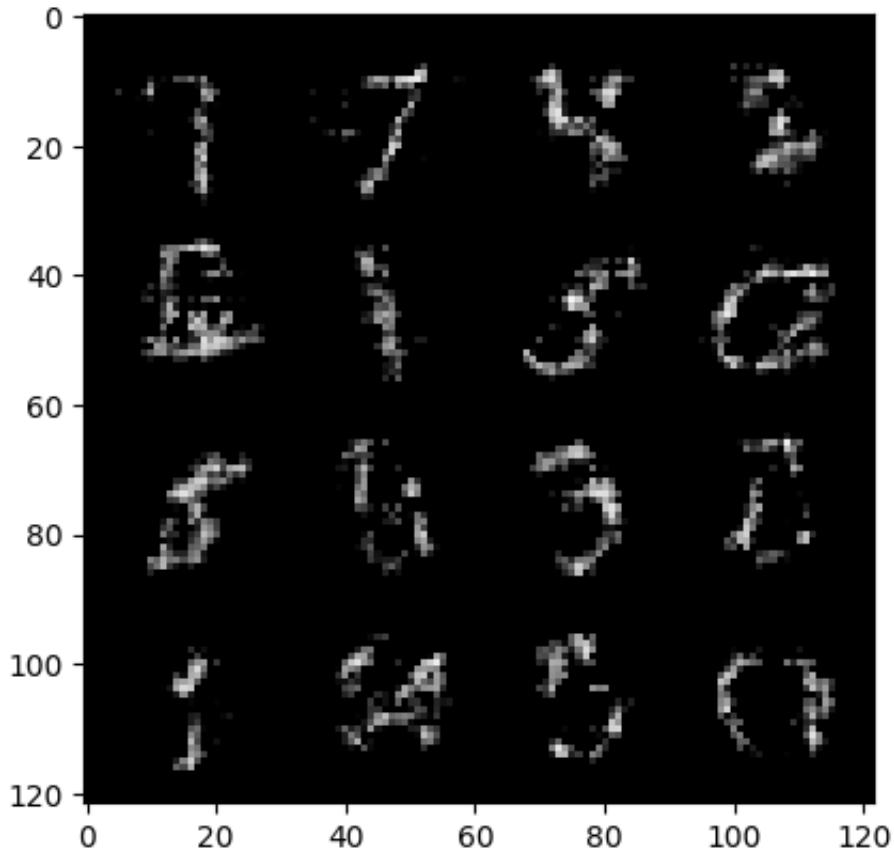


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6820, G_loss: 0.7088

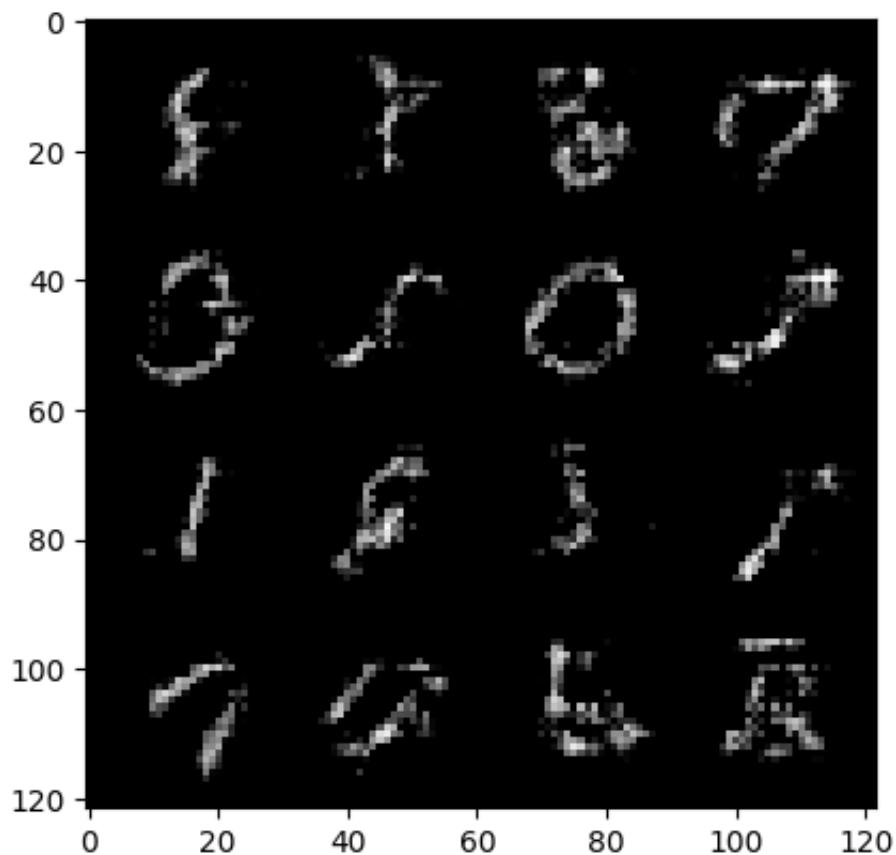


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6820, G_loss: 0.7088

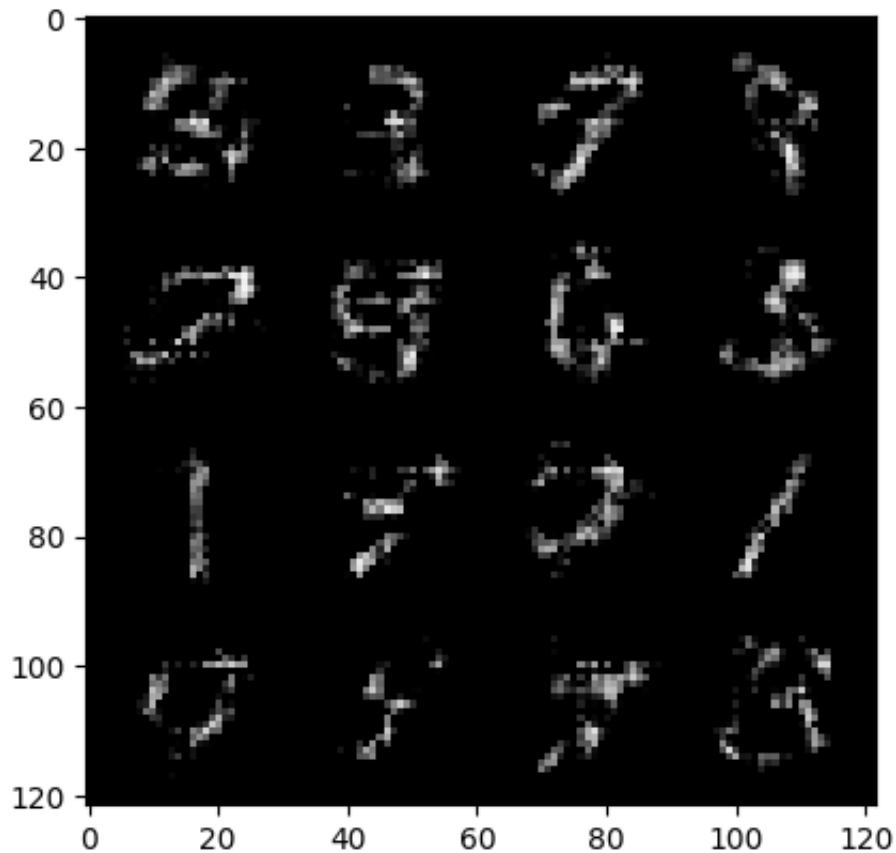


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6810, G_loss: 0.7088

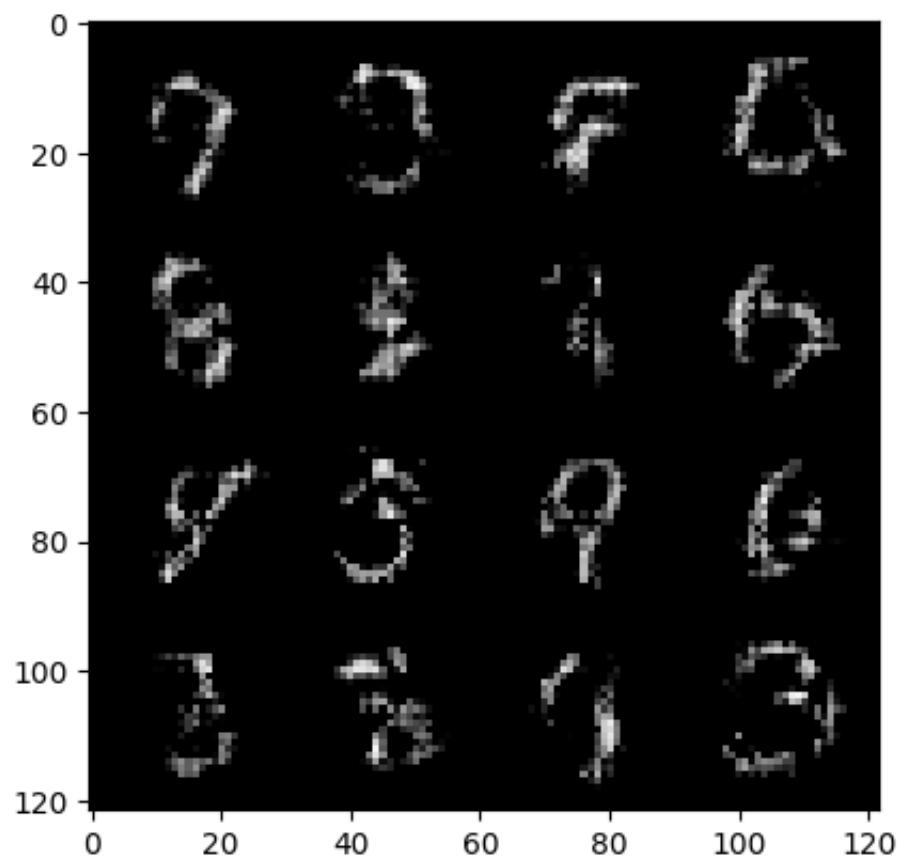
D_loss: 0.6817, G_loss: 0.7089



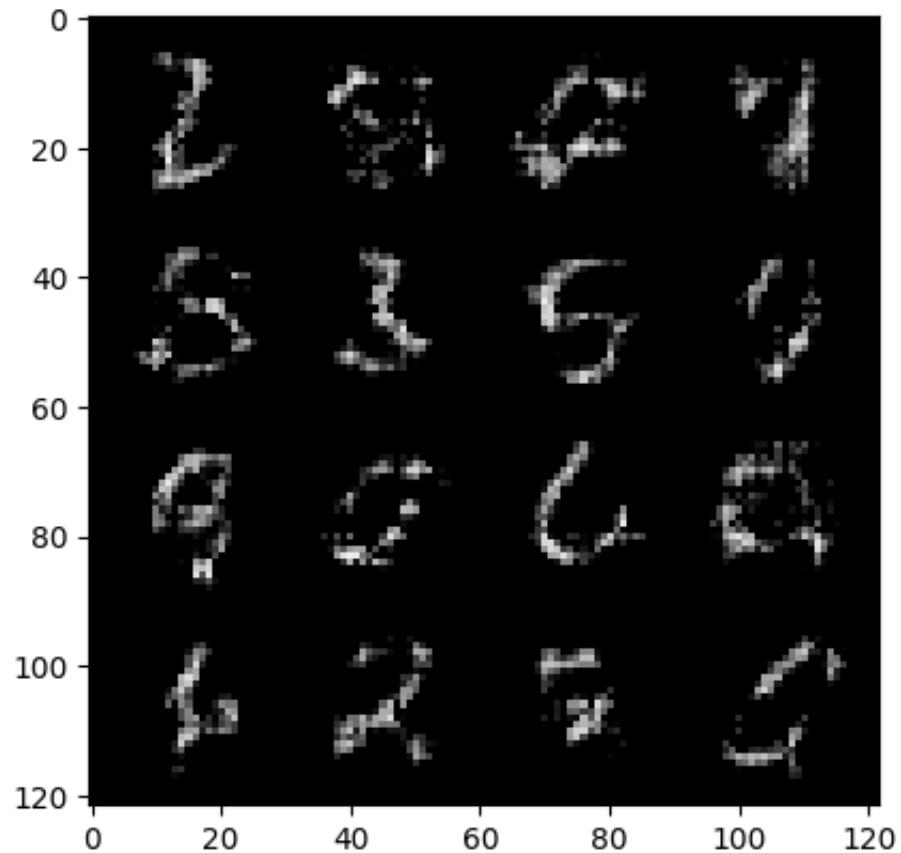
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6819, G_loss: 0.7088



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6819, G_loss: 0.7089

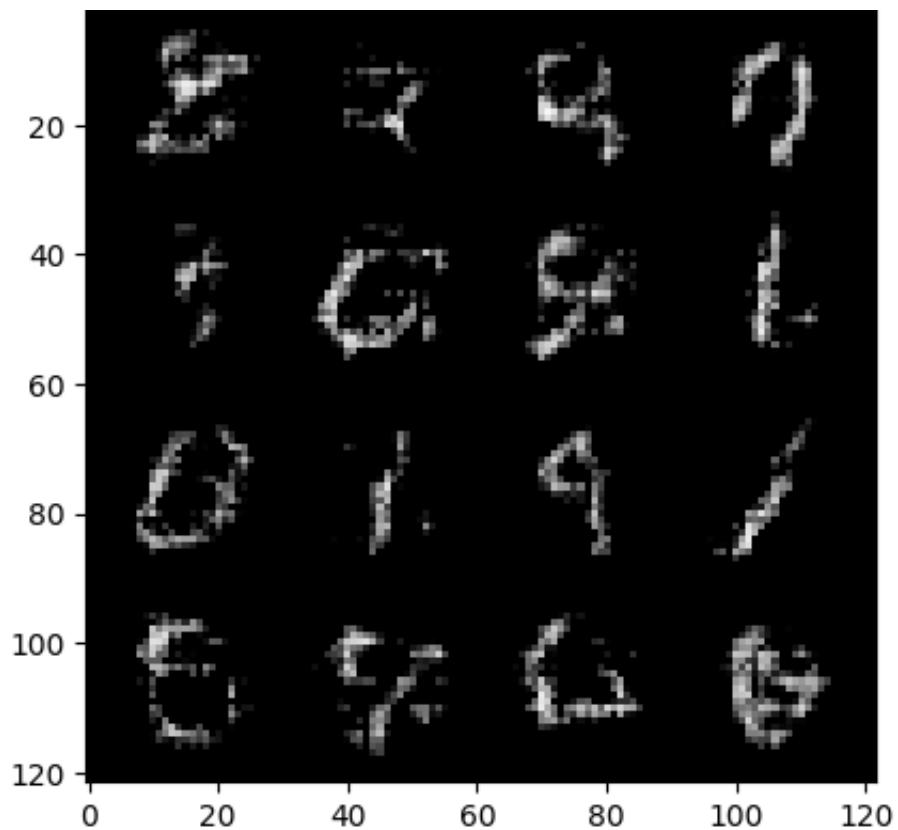


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6818, G_loss: 0.7089

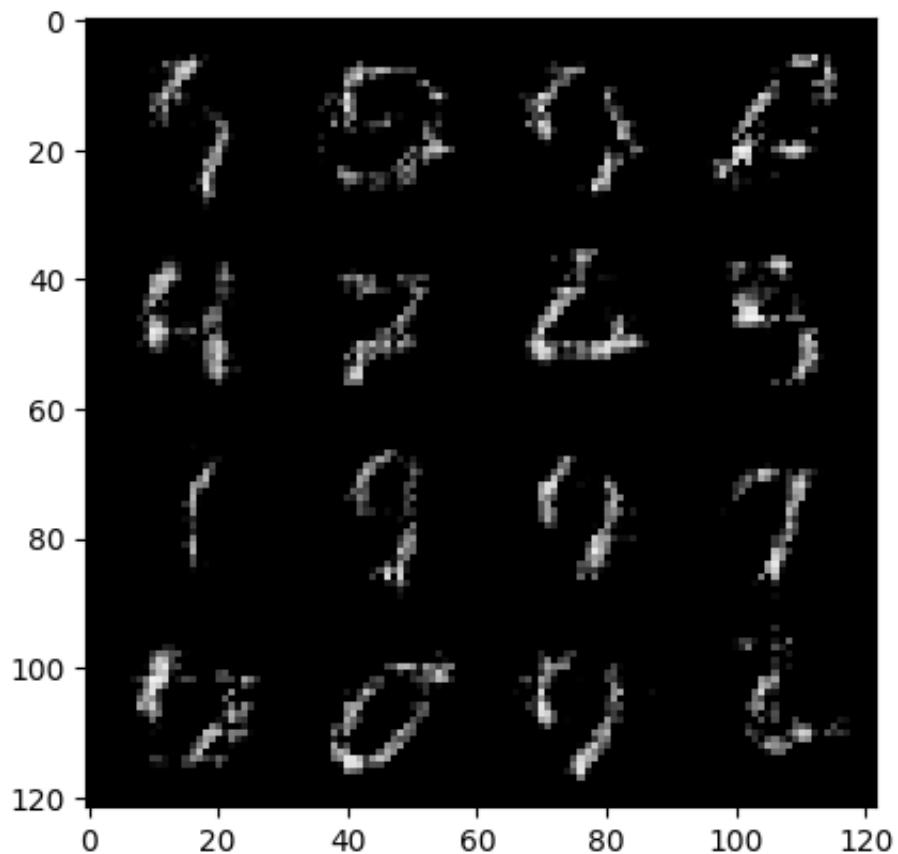


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6818, G_loss: 0.7089



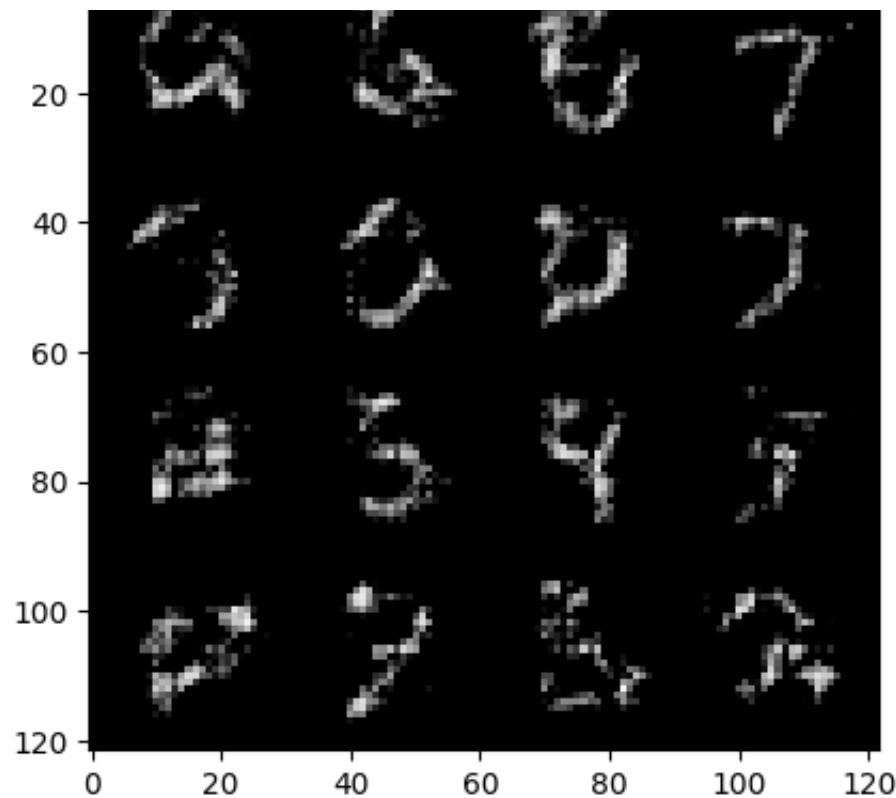


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6818, G_loss: 0.7089

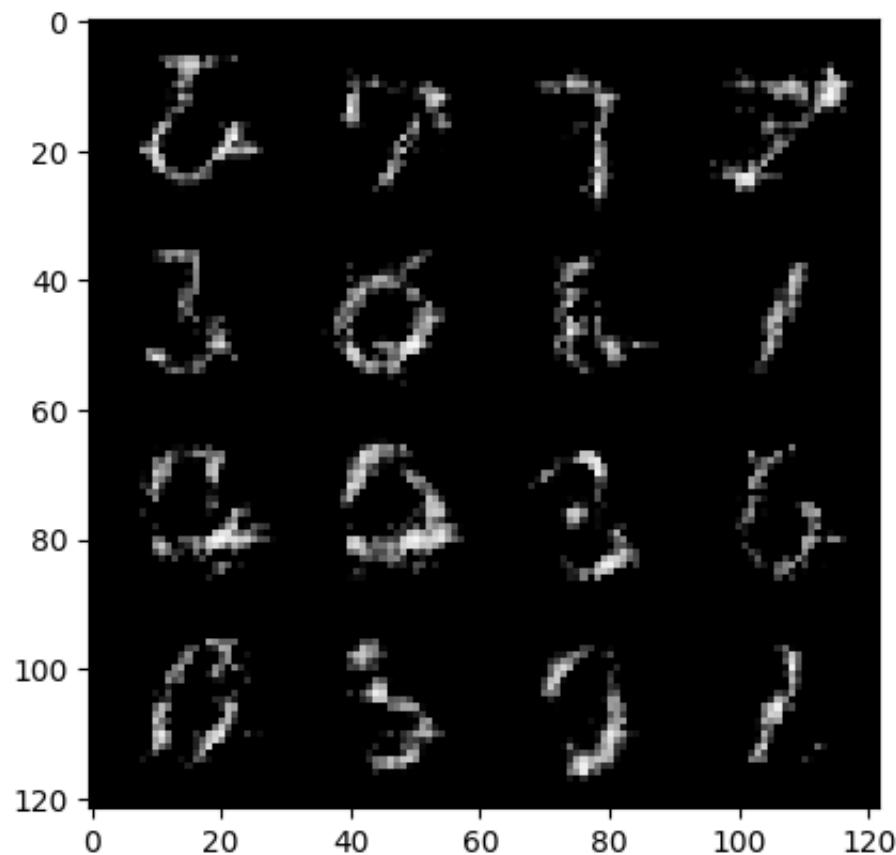


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6817, G_loss: 0.7090



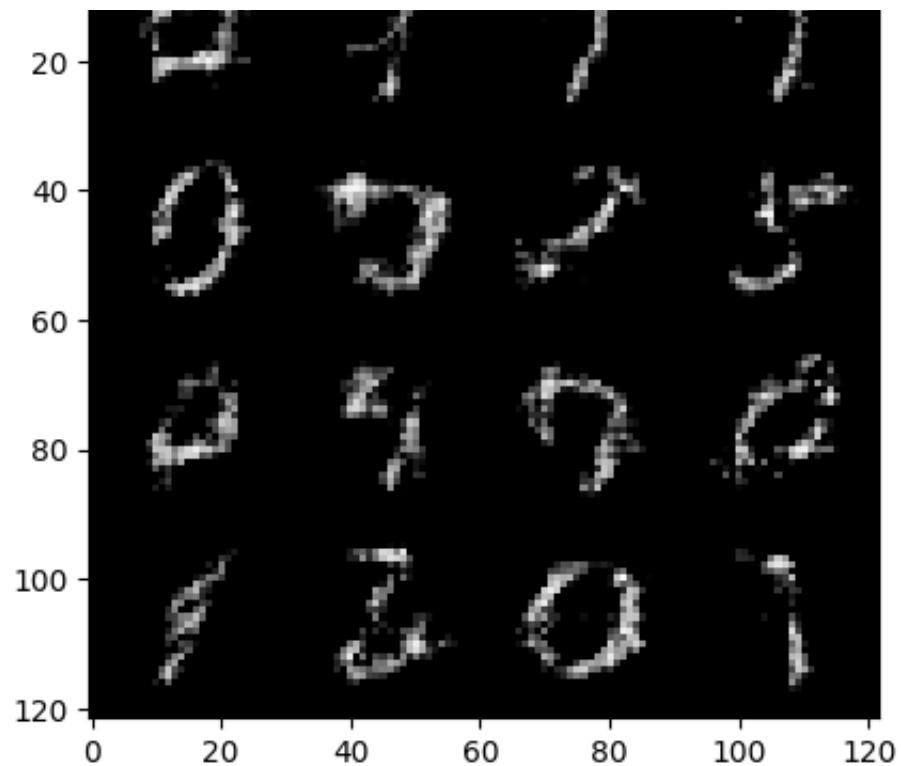


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6817, G_loss: 0.7090

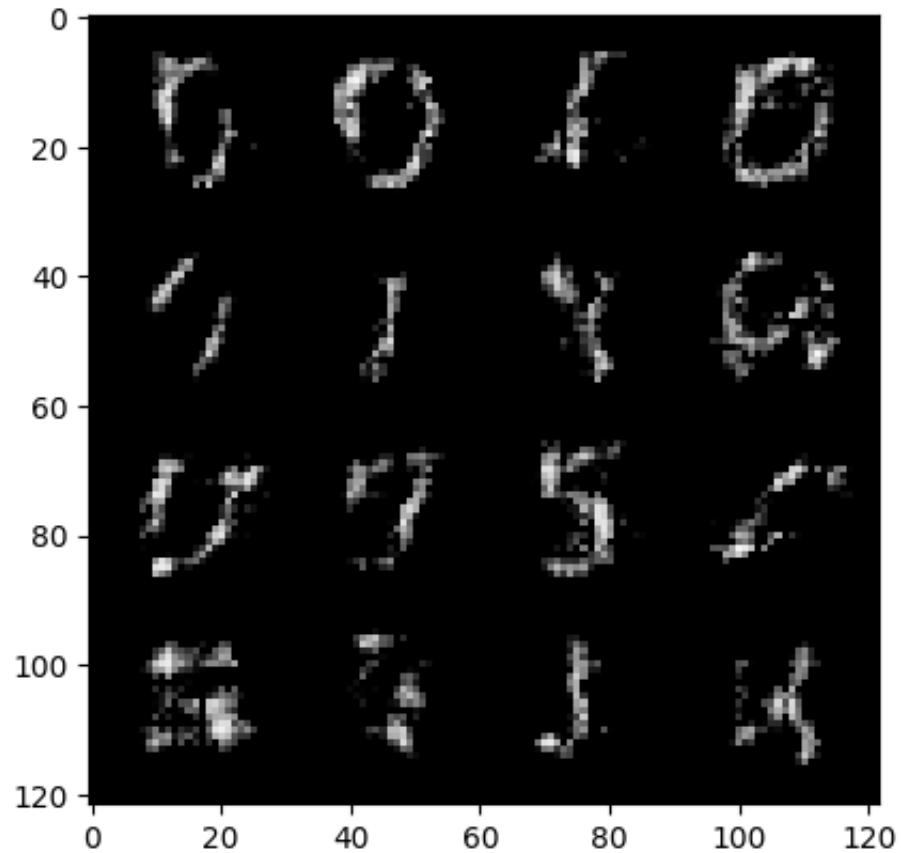


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6817, G_loss: 0.7089



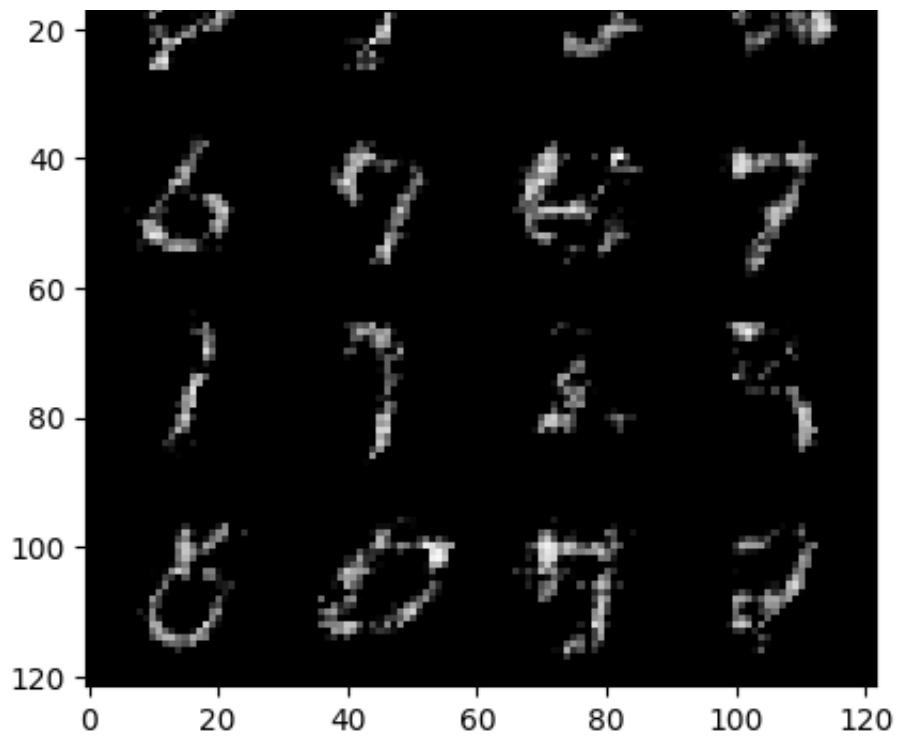


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6817, G_loss: 0.7090

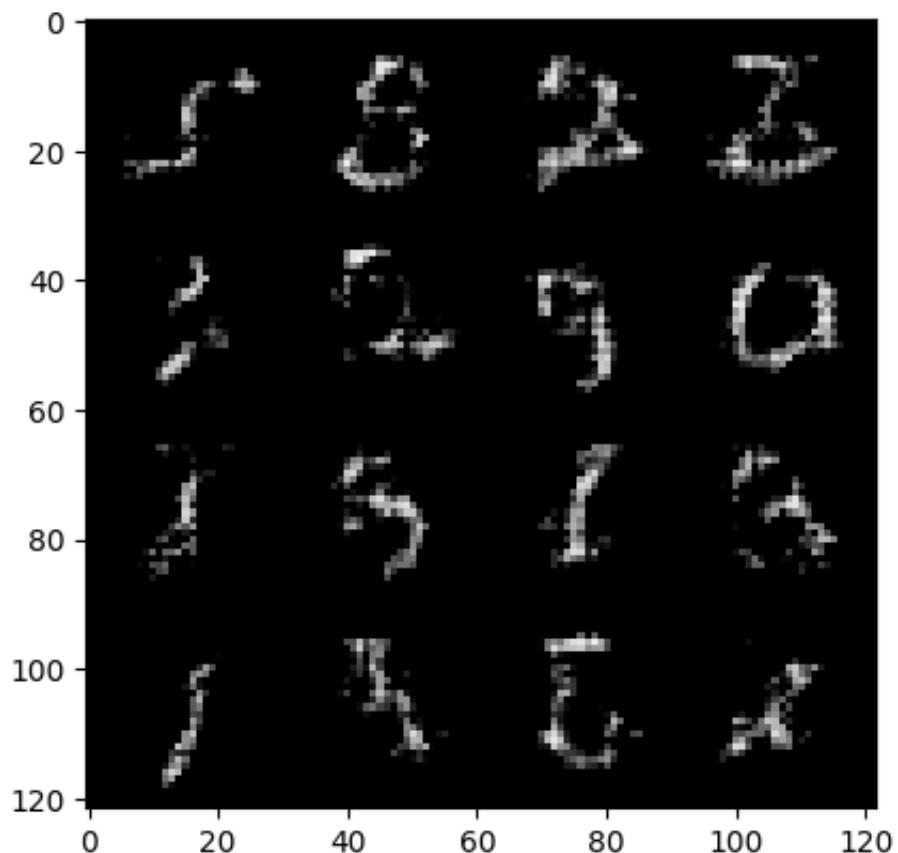


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6816, G_loss: 0.7091



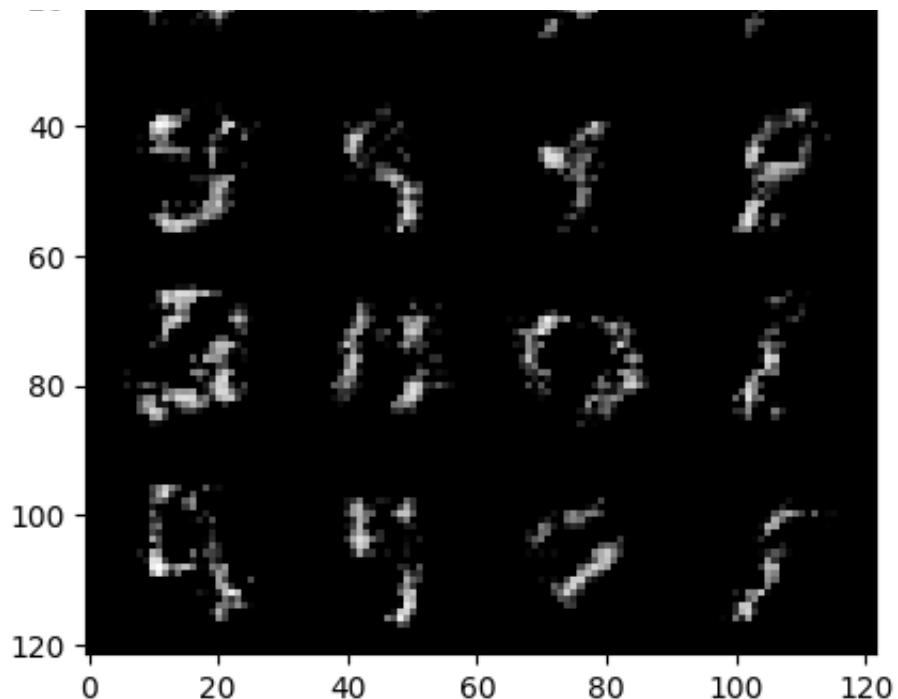


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6816, G_loss: 0.7091

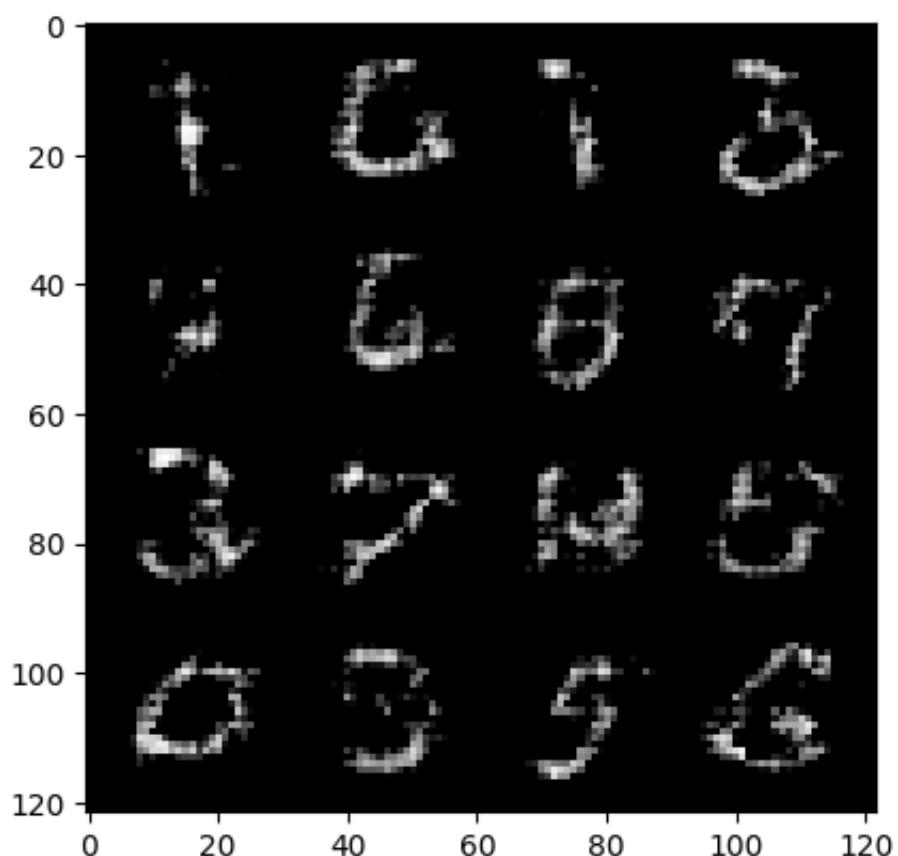


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6816, G_loss: 0.7091





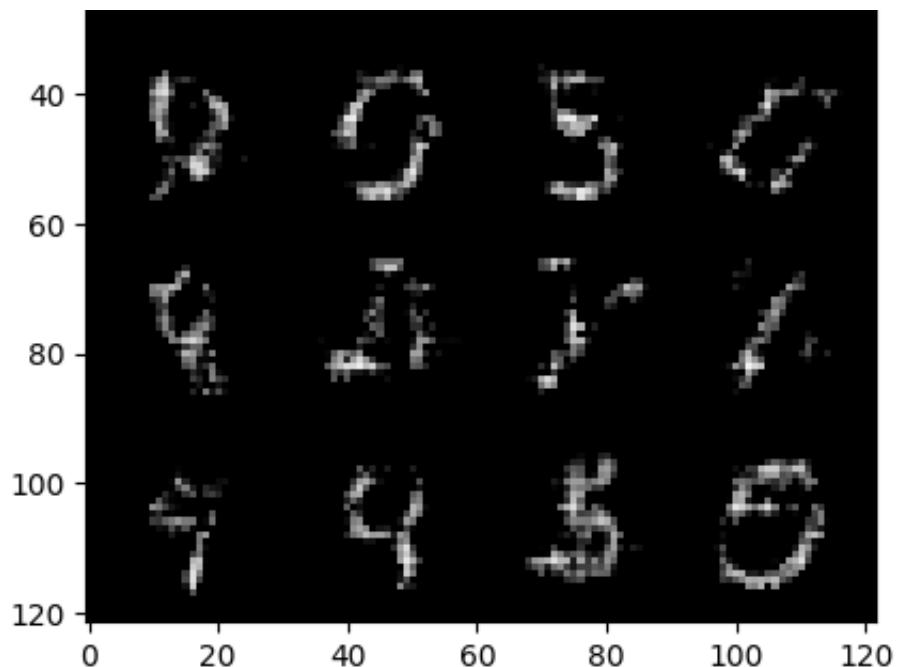
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6816, G_loss: 0.7092



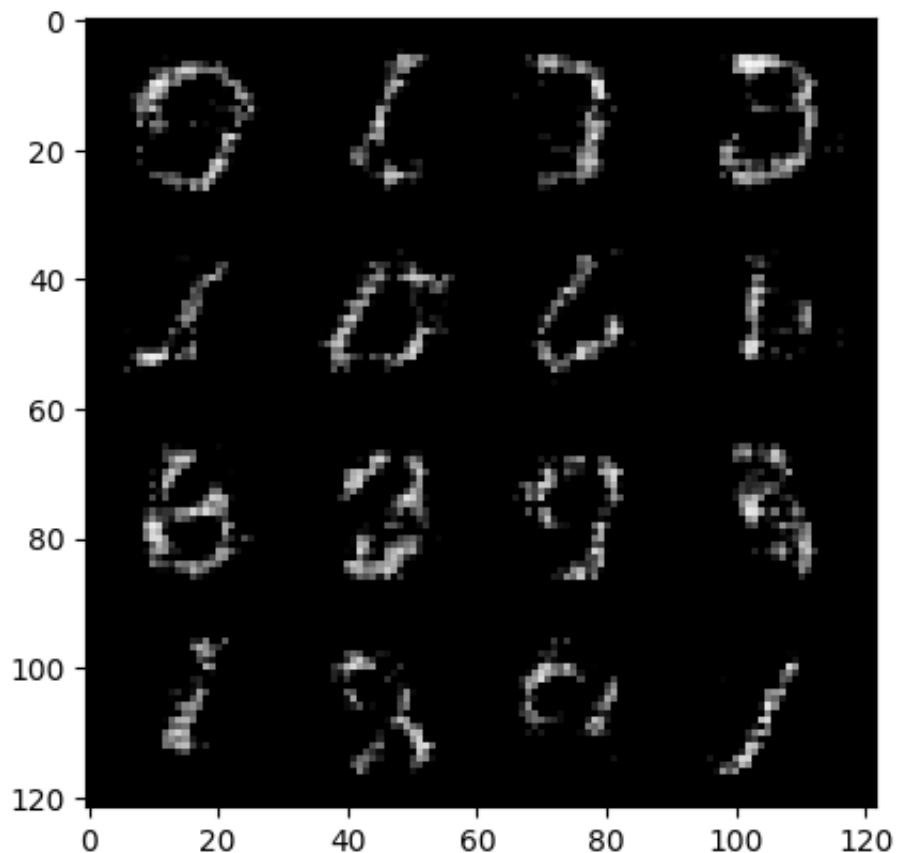
D_loss: 0.6815, G_loss: 0.7092

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with



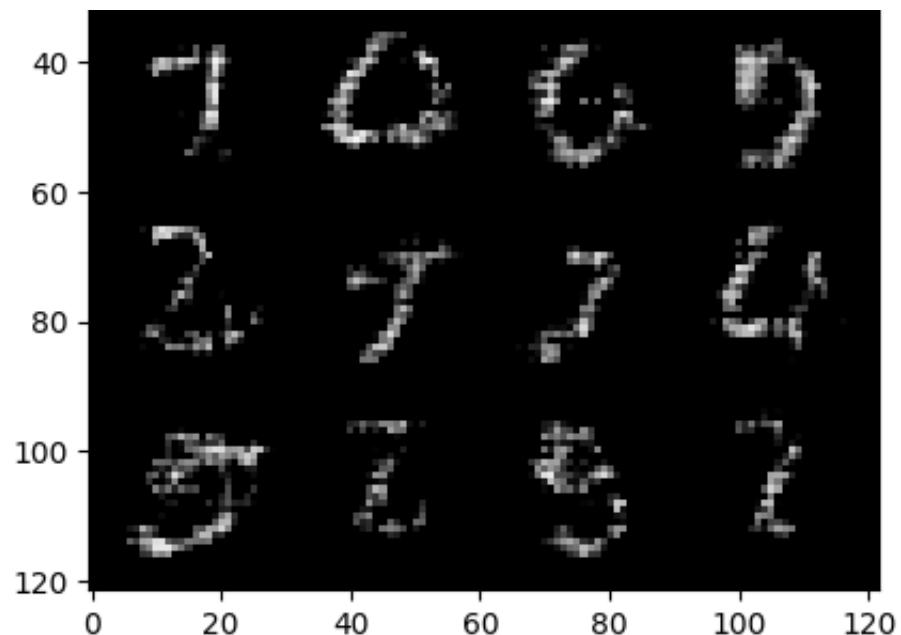


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6815, G_loss: 0.7093

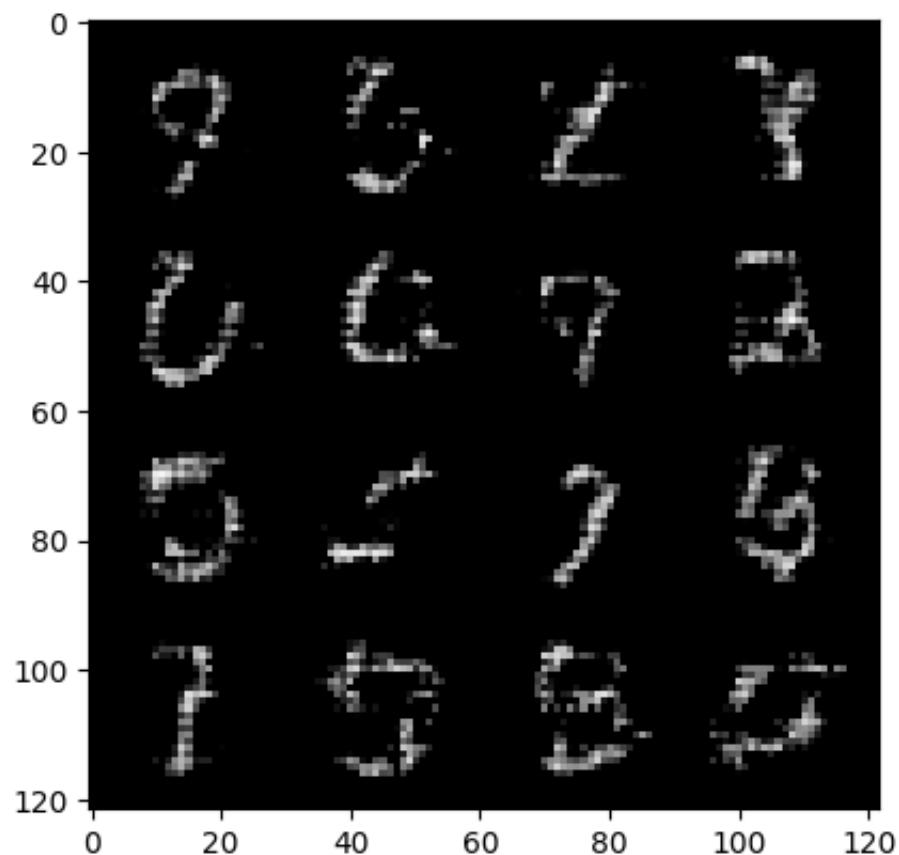


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6814, G_loss: 0.7093



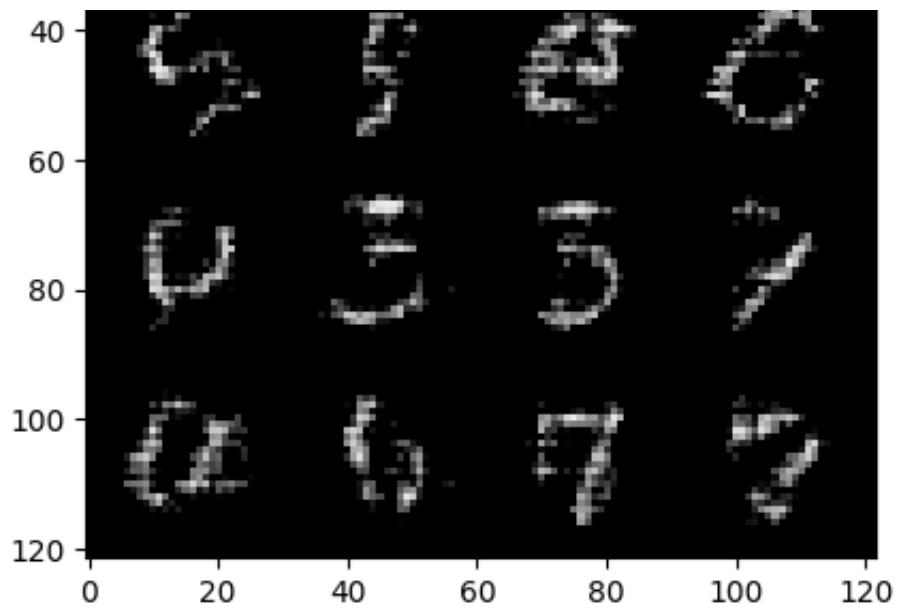


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6814, G_loss: 0.7094

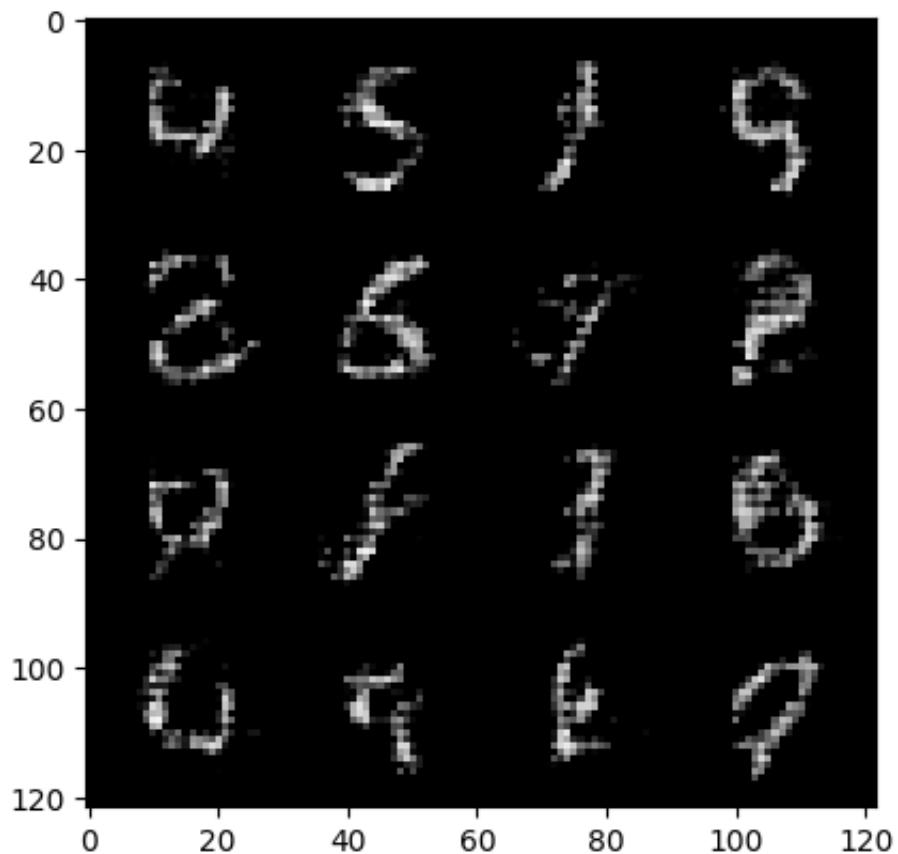


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6814, G_loss: 0.7094



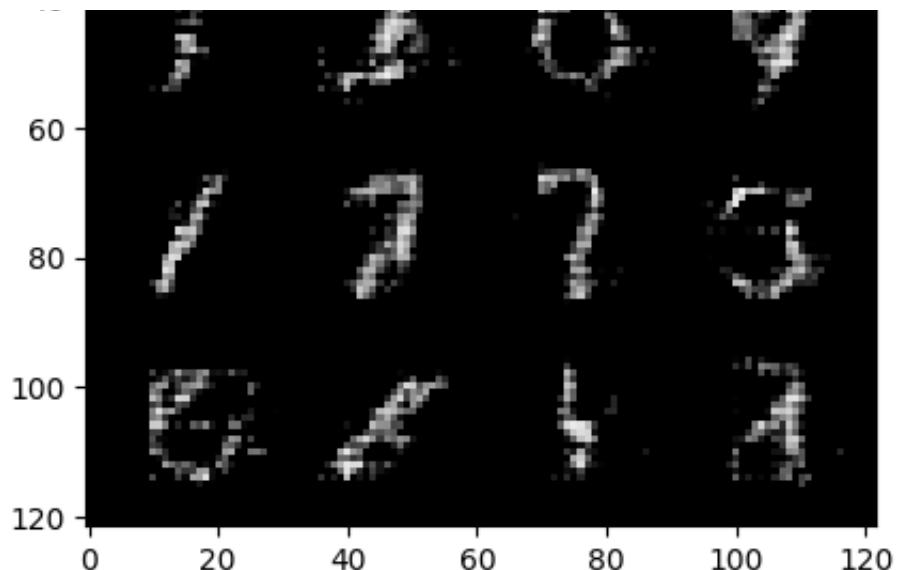


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6813, G_loss: 0.7095

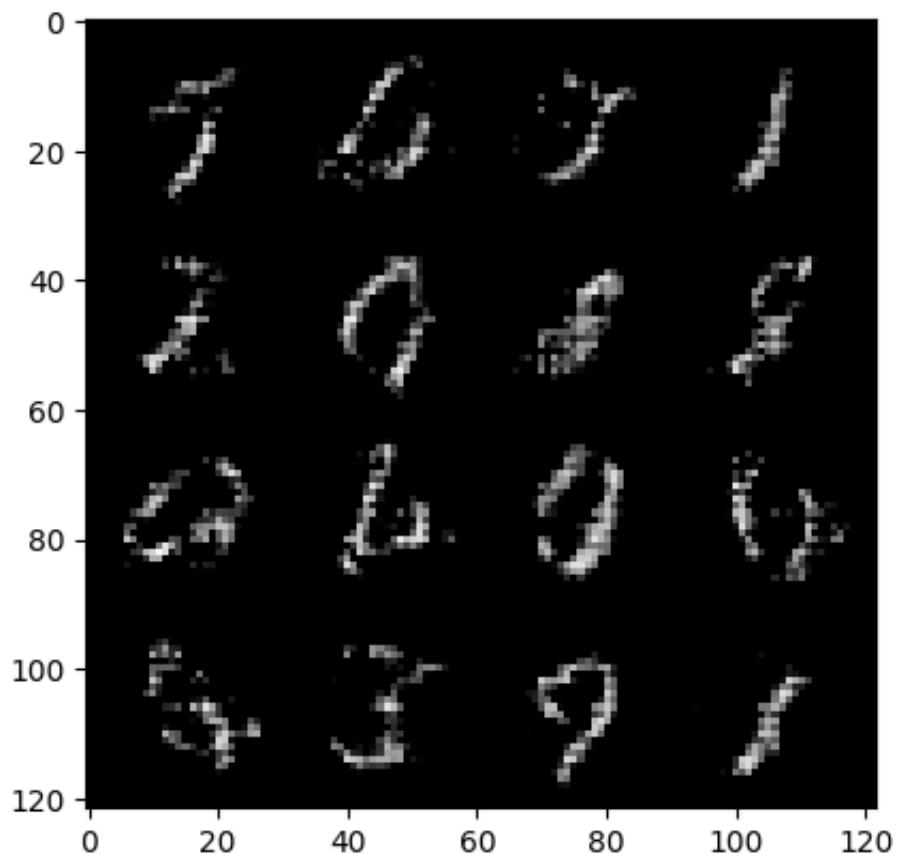


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6813, G_loss: 0.7096



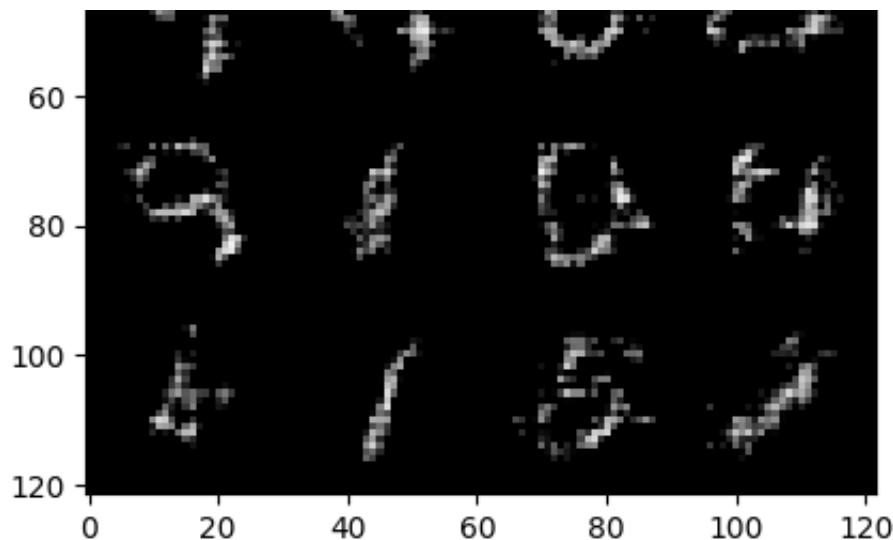


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6812, G_loss: 0.7096

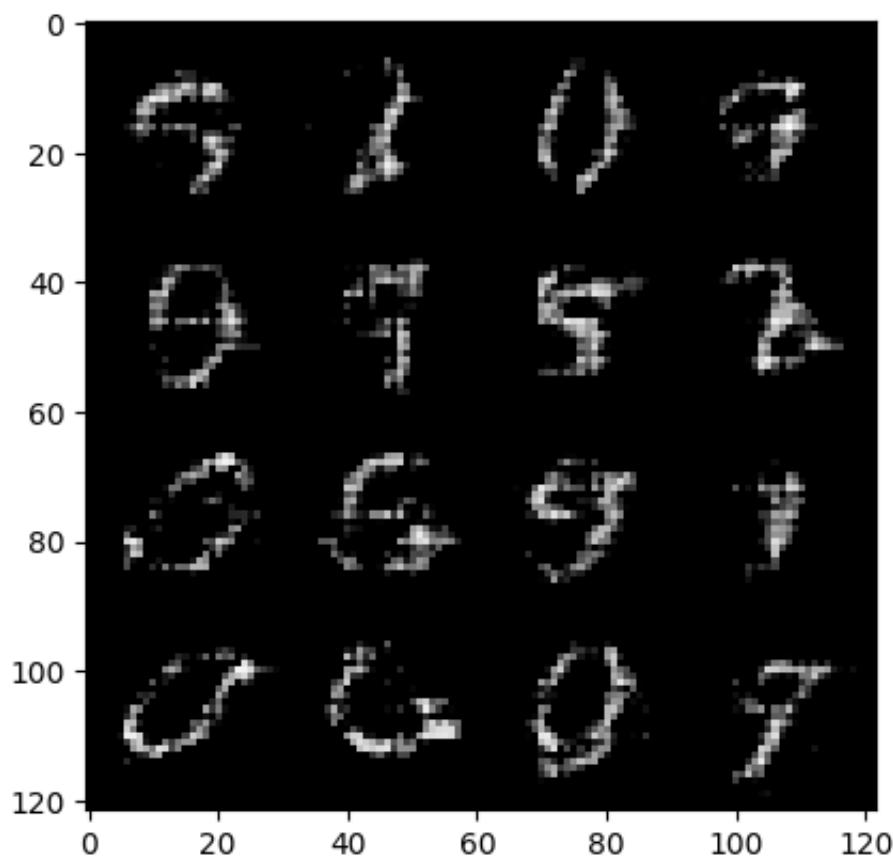


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6812, G_loss: 0.7096



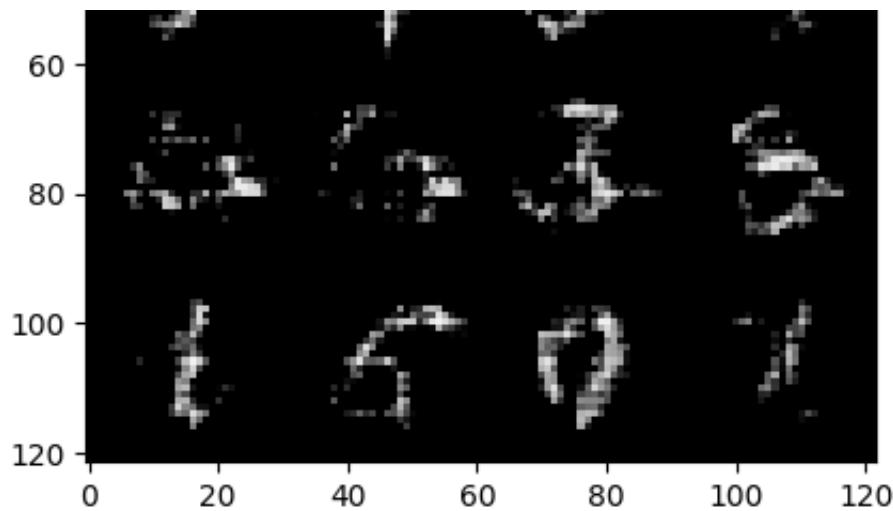


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6812, G_loss: 0.7097

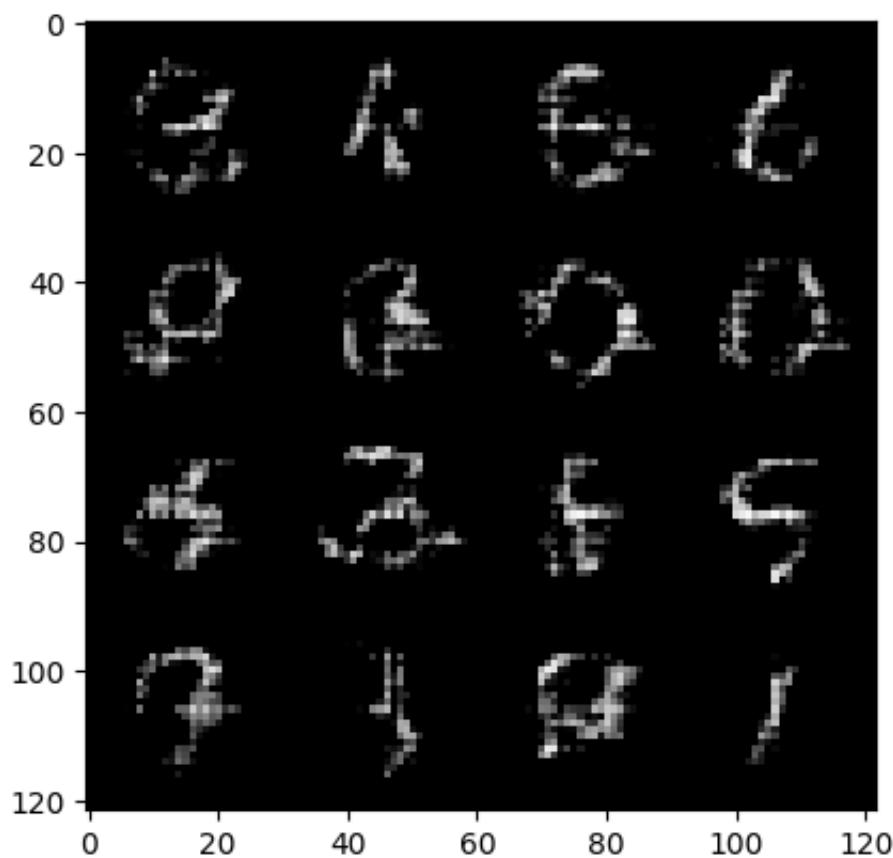


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6811, G_loss: 0.7097



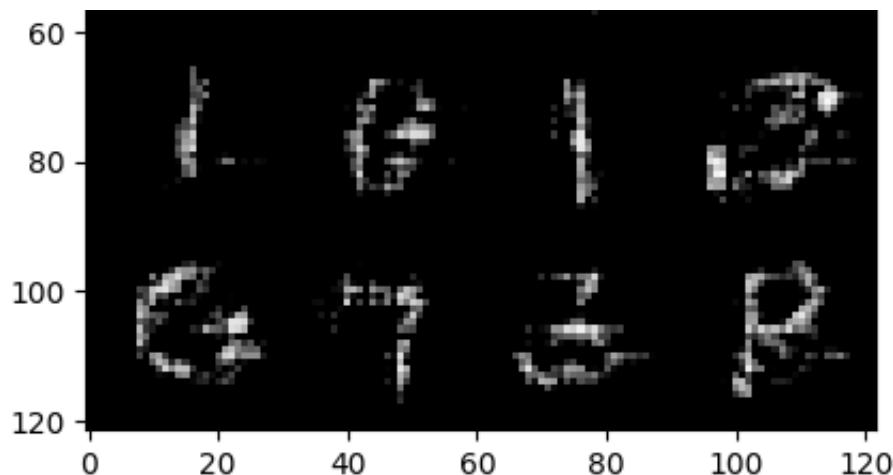


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6811, G_loss: 0.7097

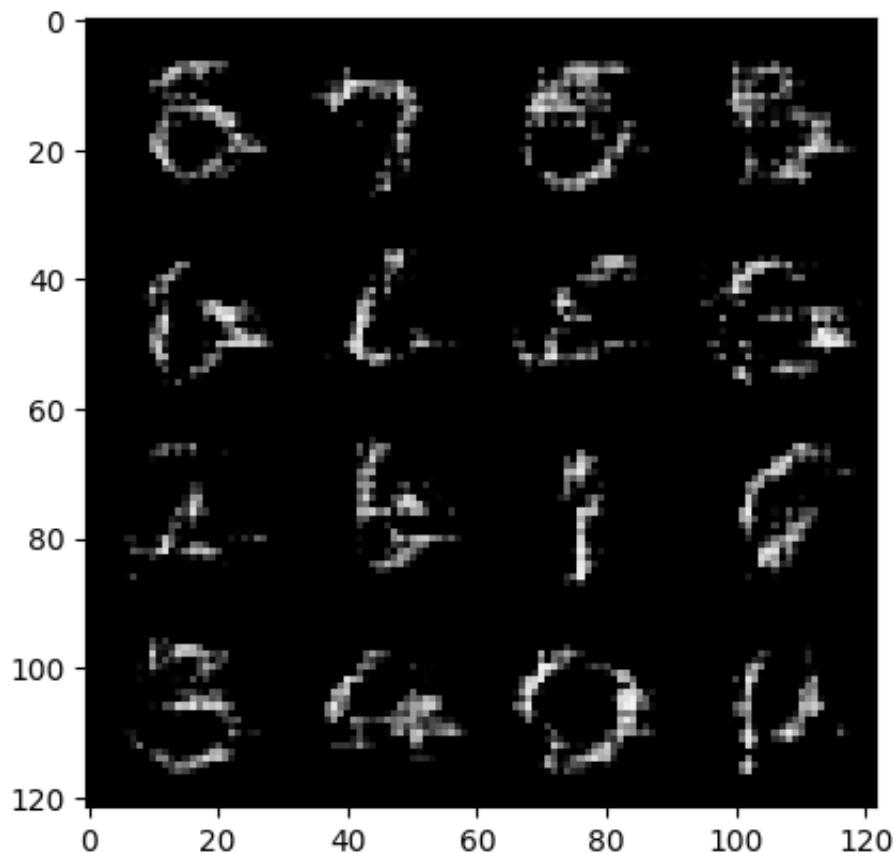


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6811, G_loss: 0.7098

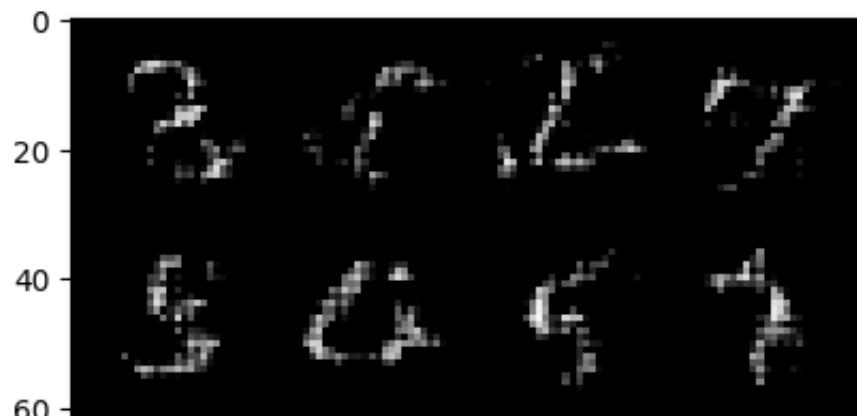


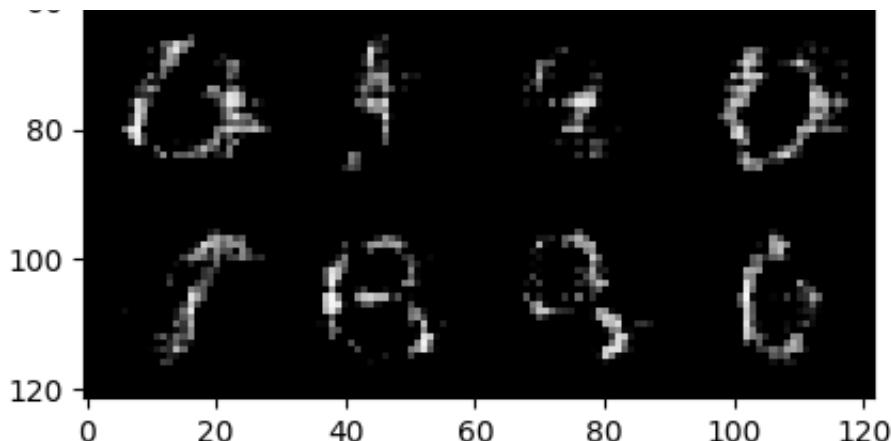


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6810, G_loss: 0.7097

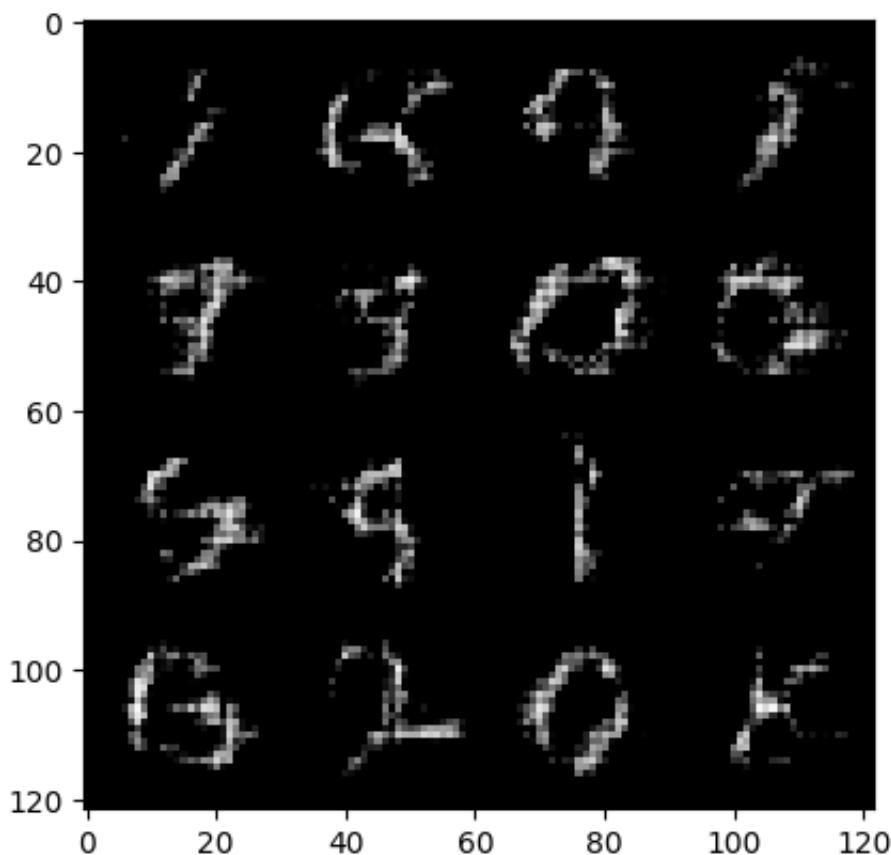


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6810, G_loss: 0.7097



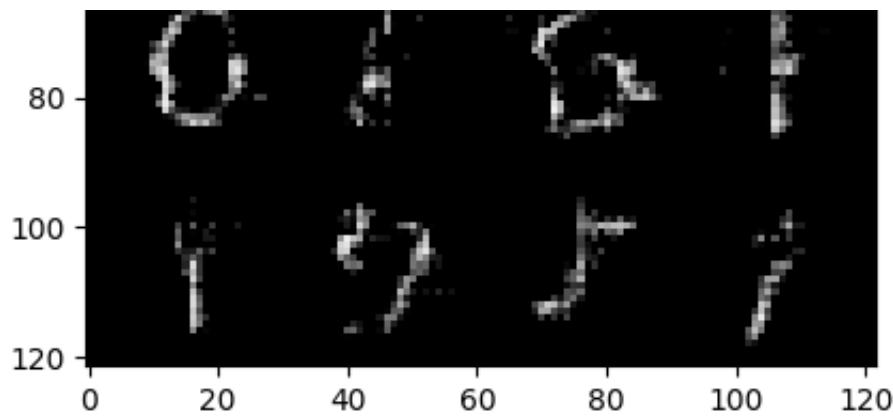


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6810, G_loss: 0.7098

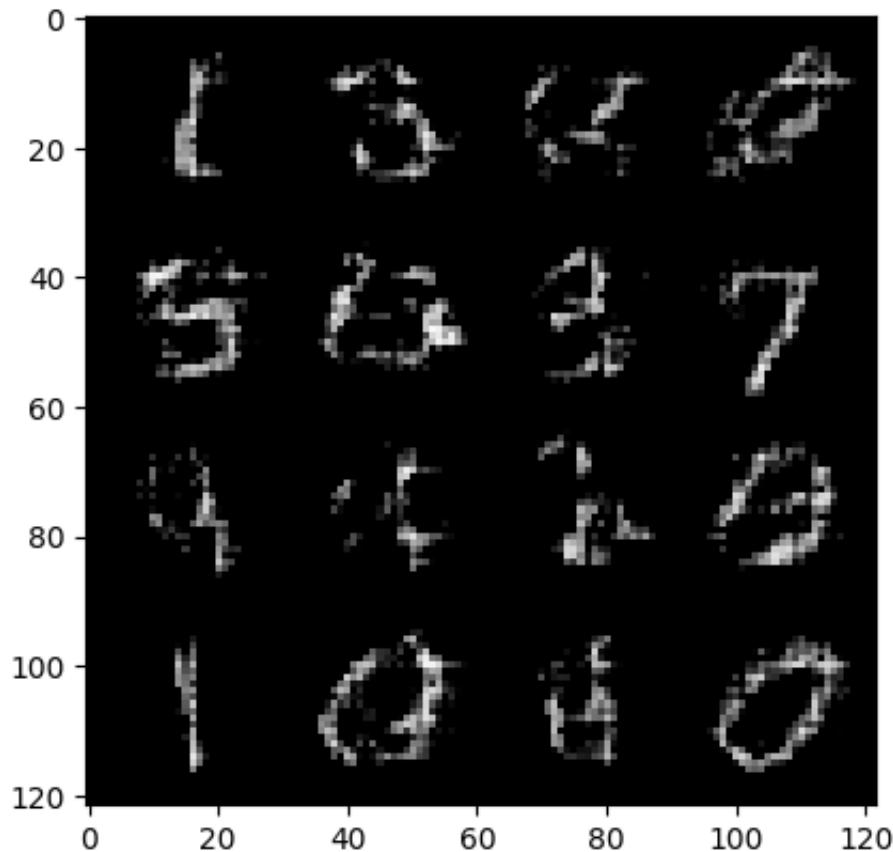


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6809, G_loss: 0.7099



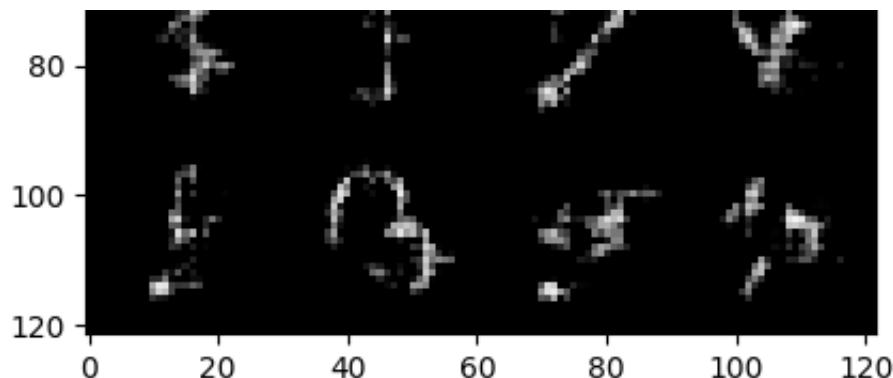


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6809, G_loss: 0.7099

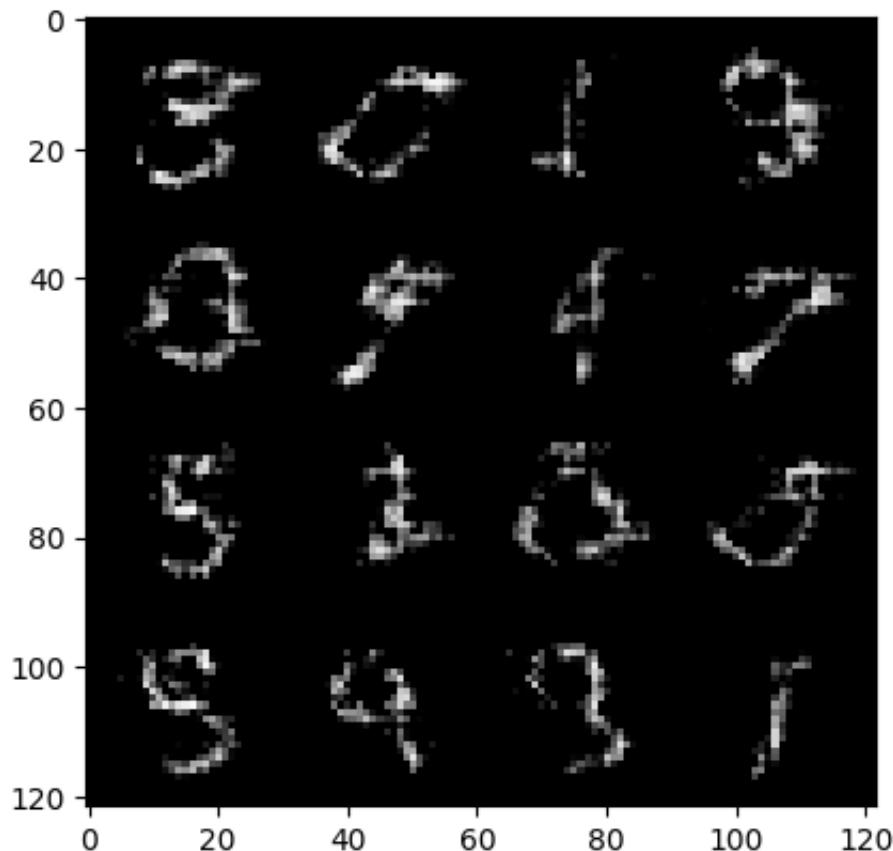


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6808, G_loss: 0.7100



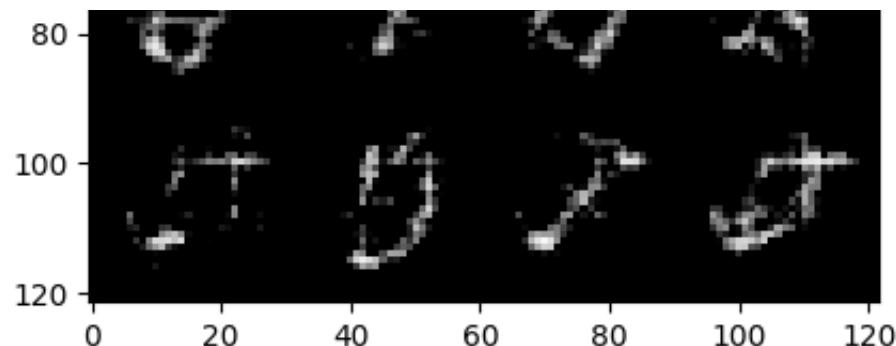


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6808, G_loss: 0.7100

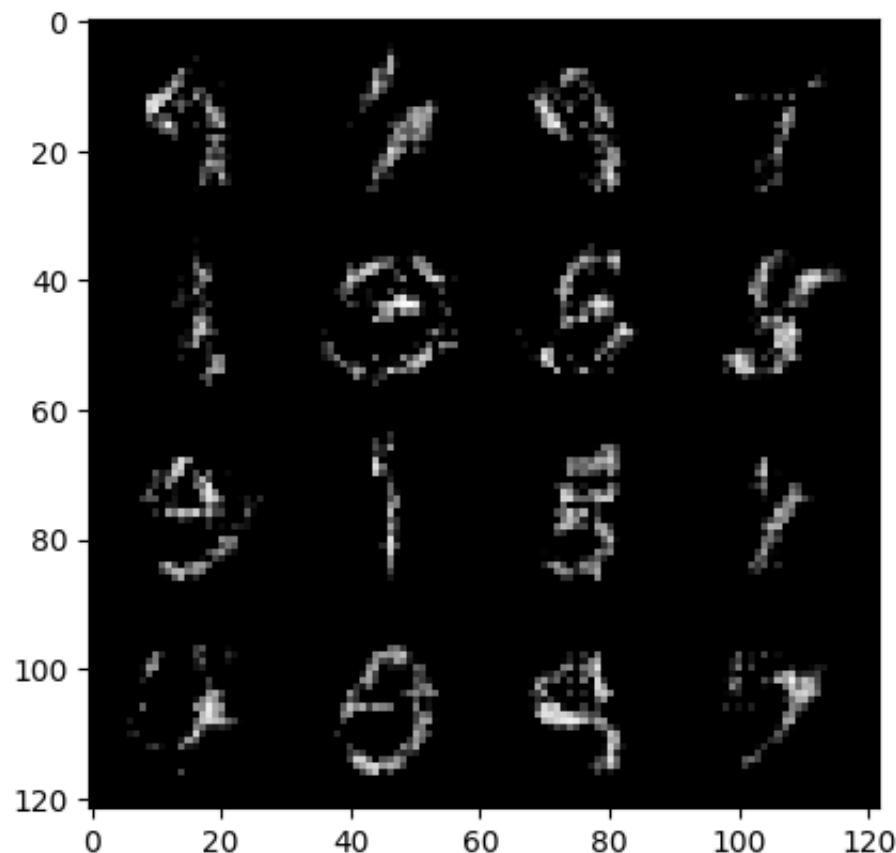


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6808, G_loss: 0.7101



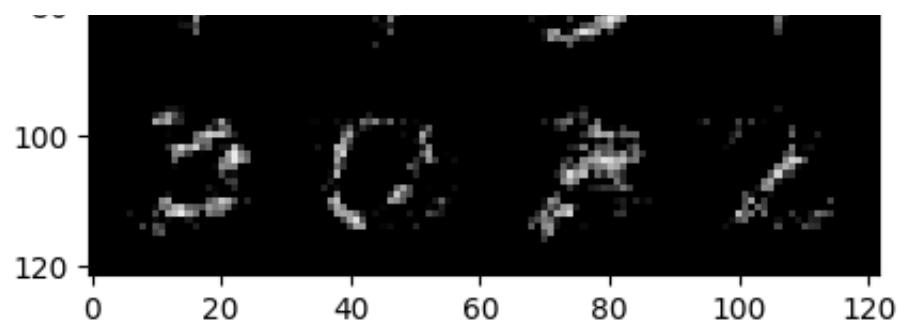


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6807, G_loss: 0.7101

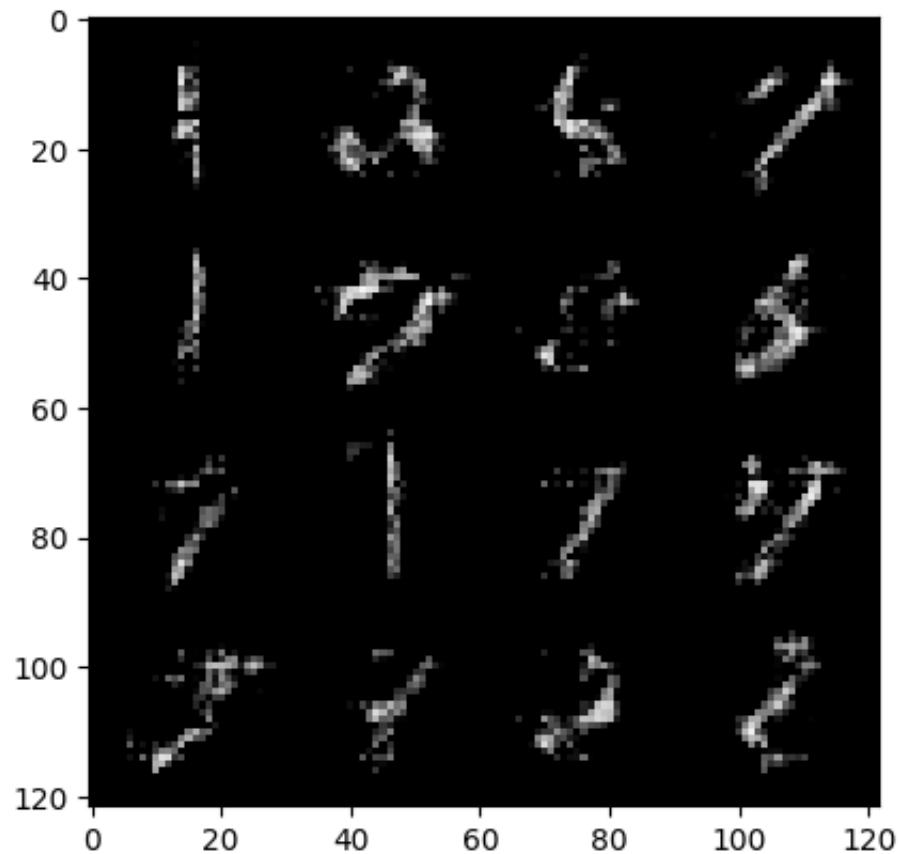


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6807, G_loss: 0.7102



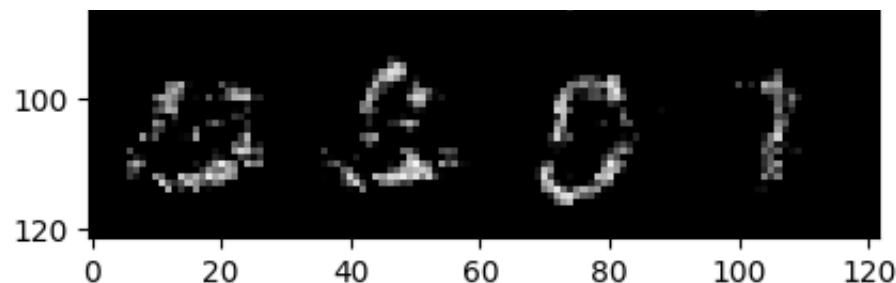


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6806, G_loss: 0.7103

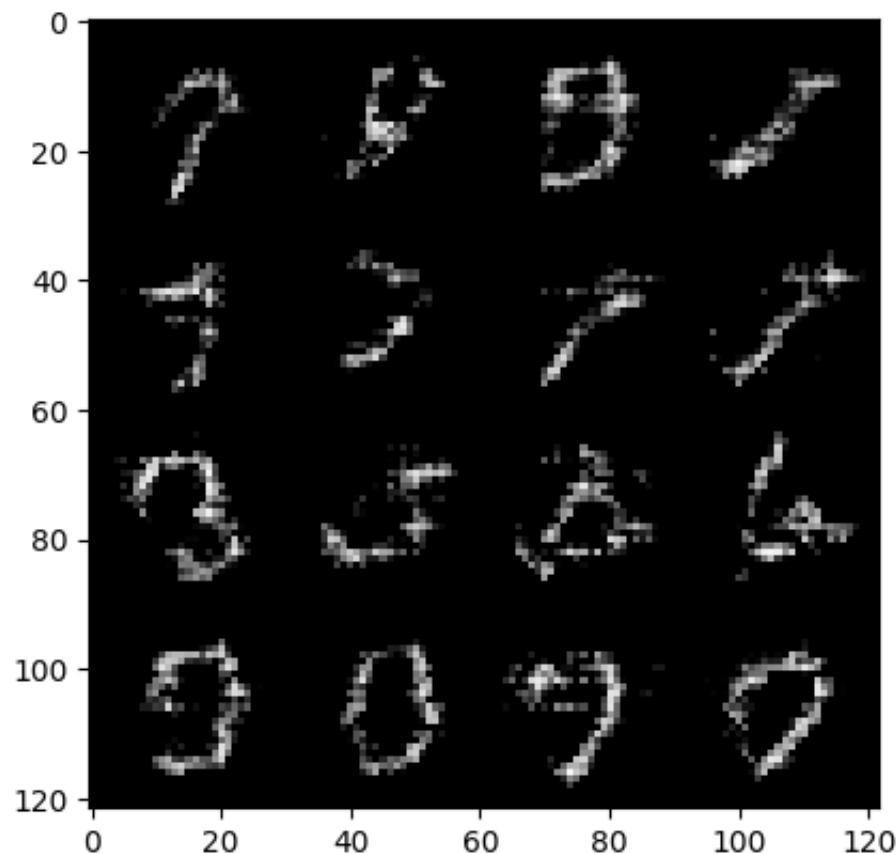


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6806, G_loss: 0.7103



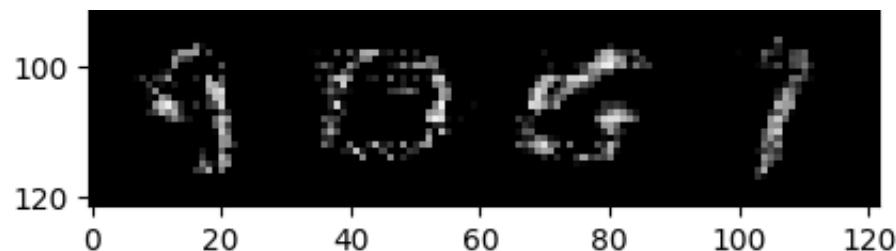


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6805, G_loss: 0.7103

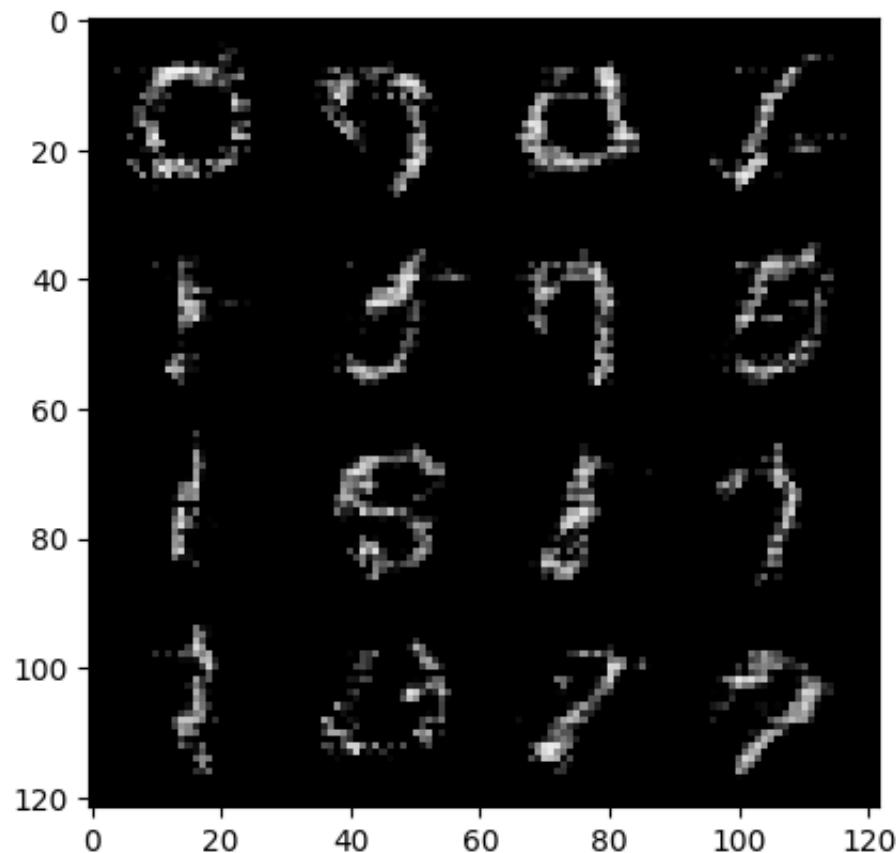


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6805, G_loss: 0.7104



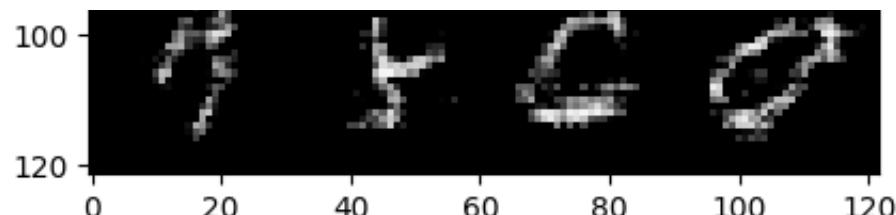


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6804, G_loss: 0.7104

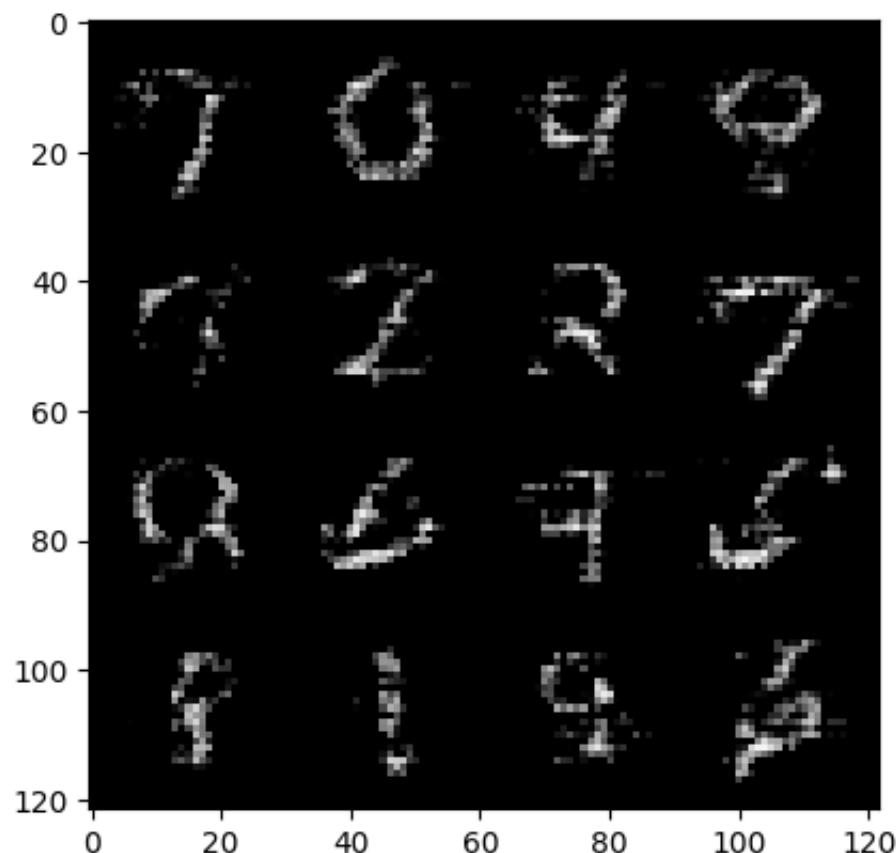


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6804, G_loss: 0.7105



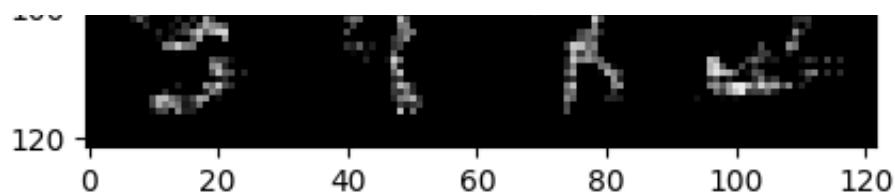


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6804, G_loss: 0.7106

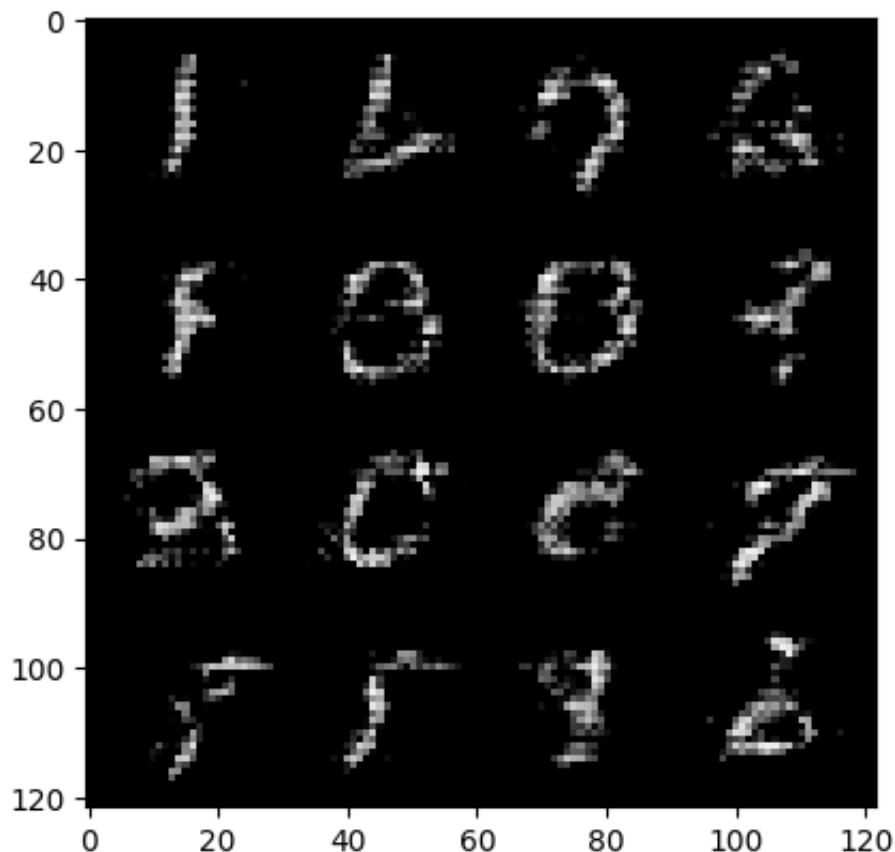


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6803, G_loss: 0.7106



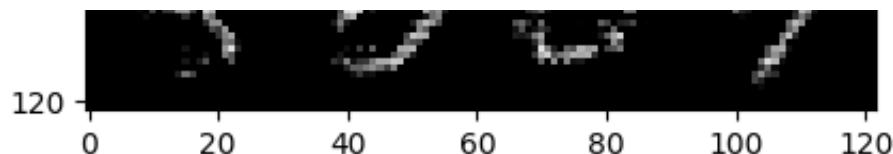


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6803, G_loss: 0.7106

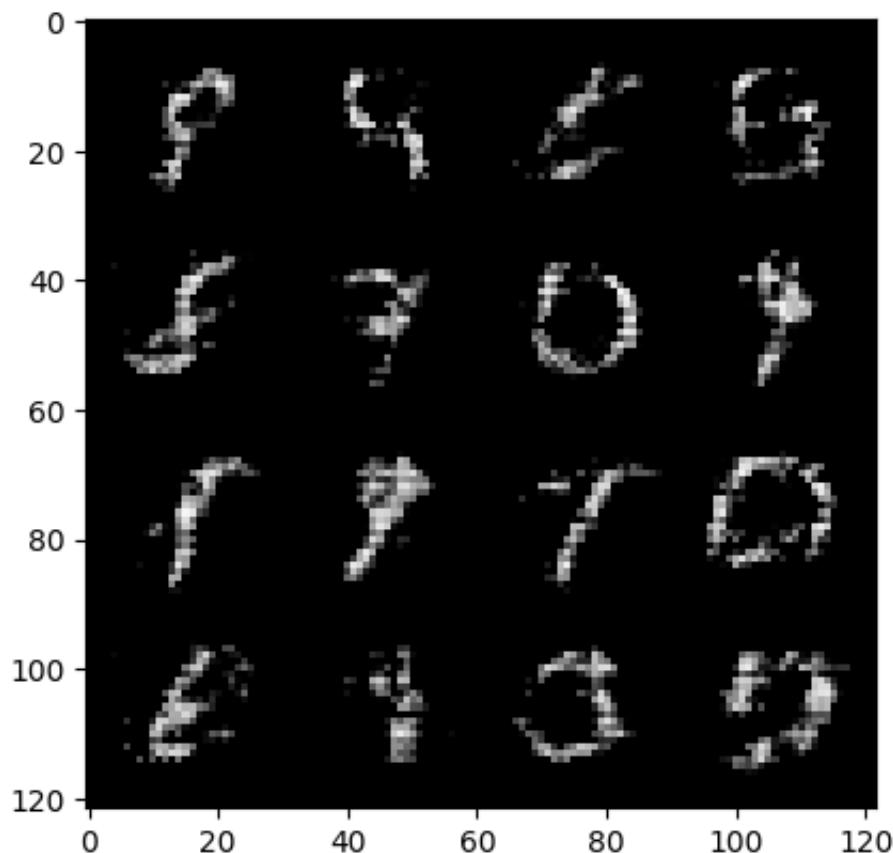


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6802, G_loss: 0.7107



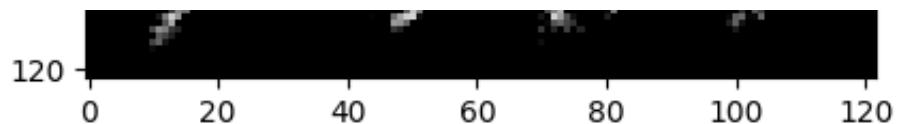


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6802, G_loss: 0.7108

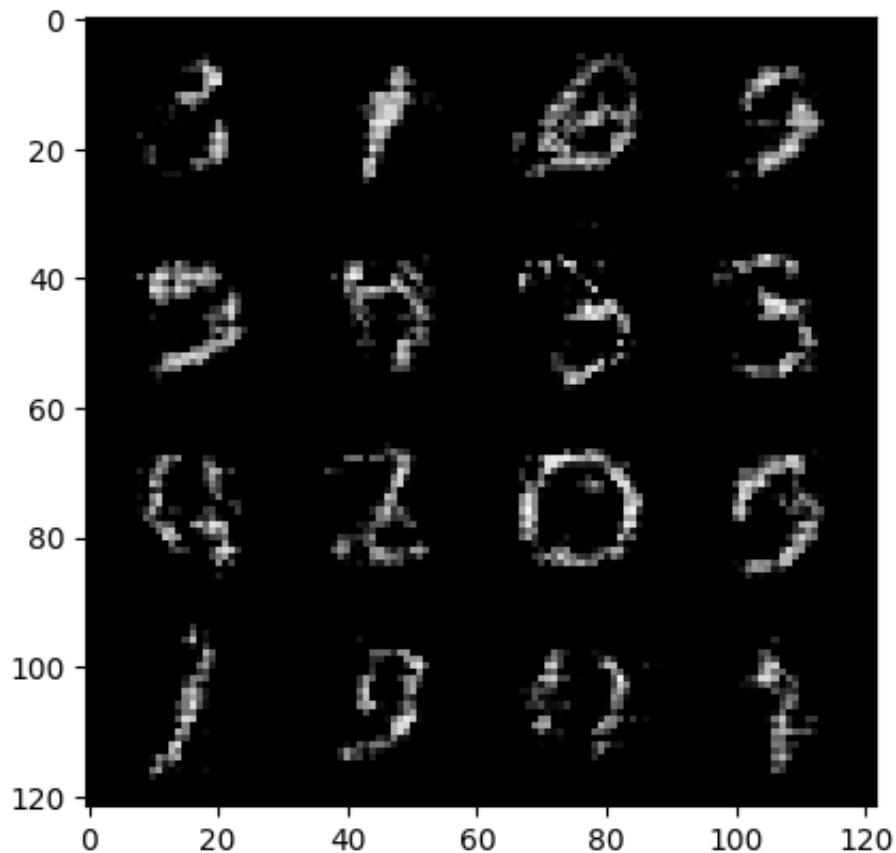


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6801, G_loss: 0.7108

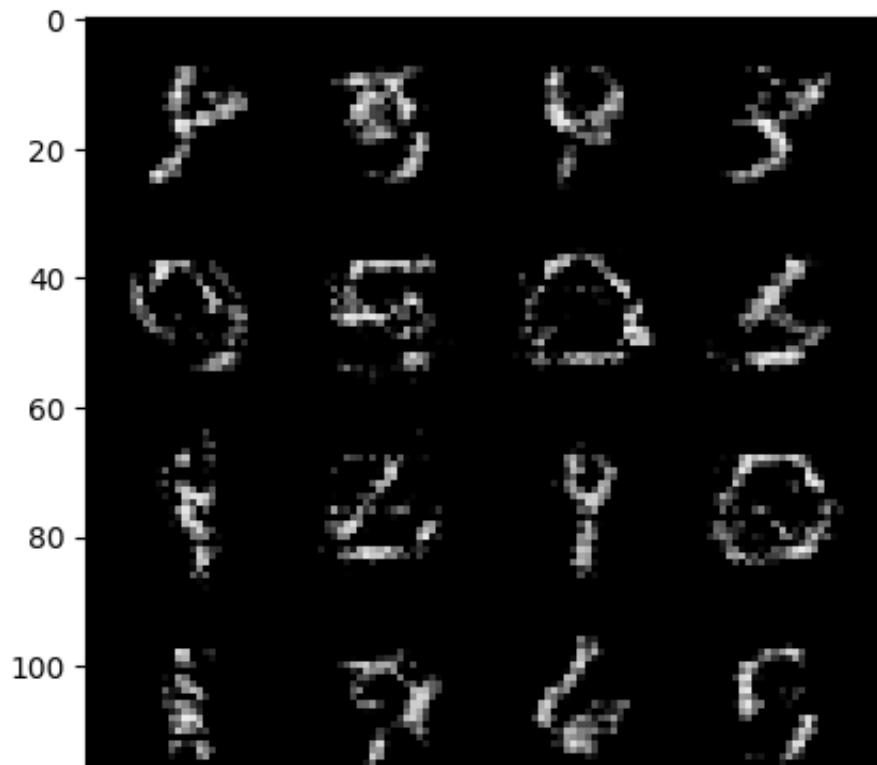


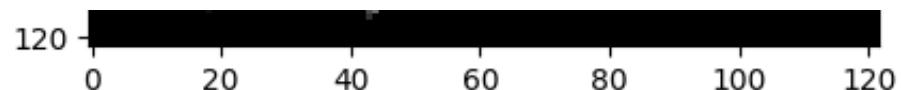


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6801, G_loss: 0.7109

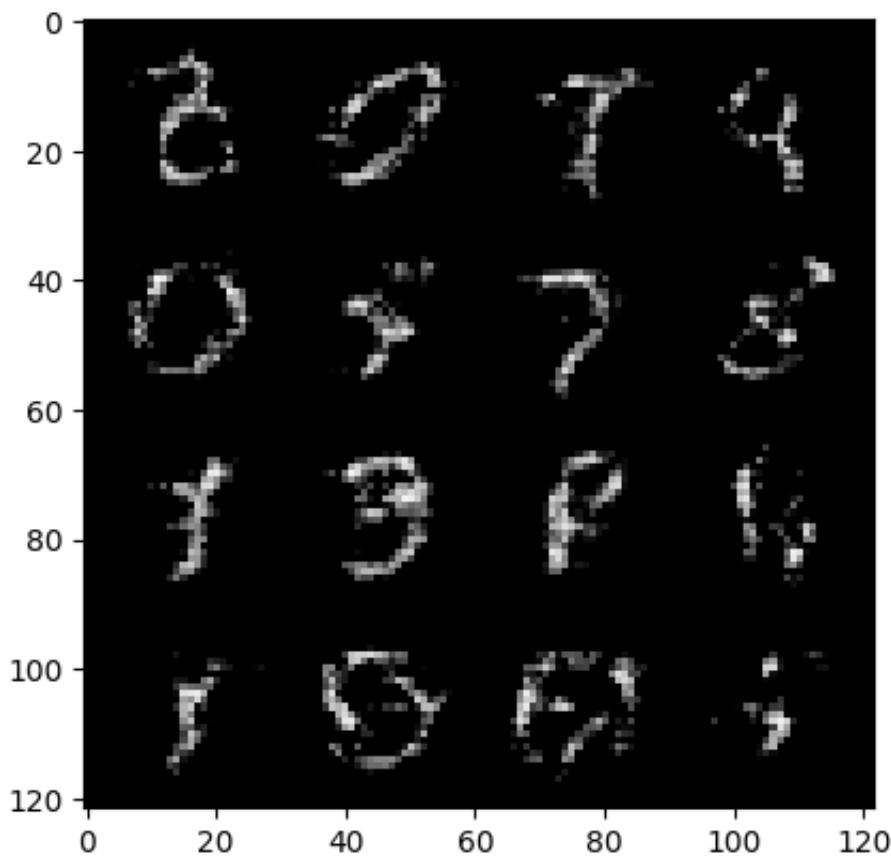


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6800, G_loss: 0.7109

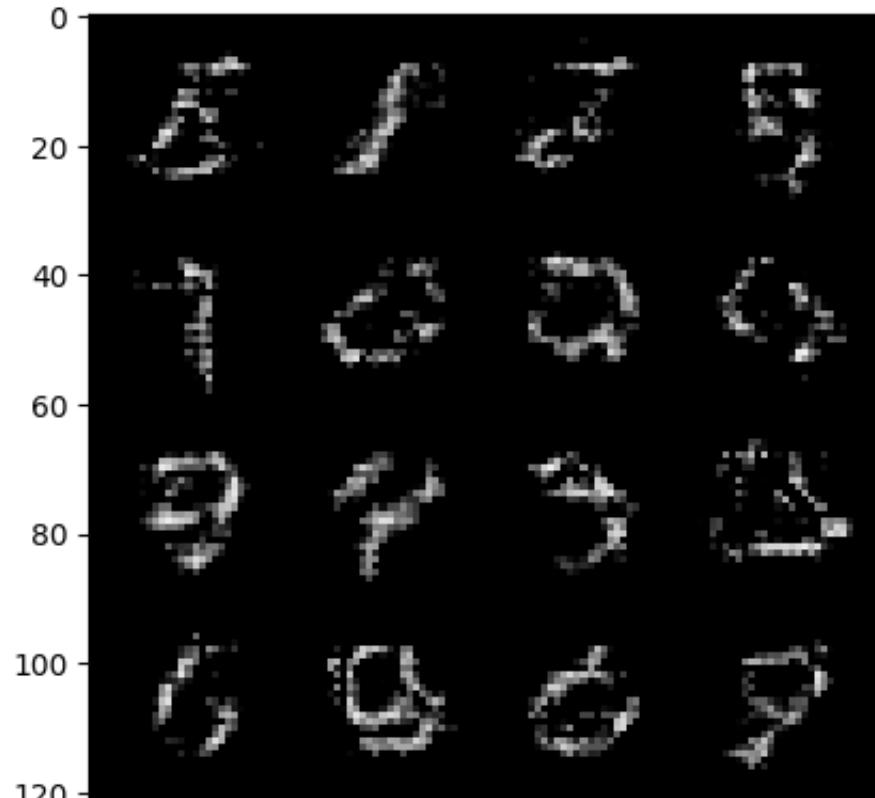


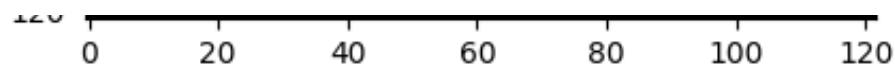


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6800, G_loss: 0.7110

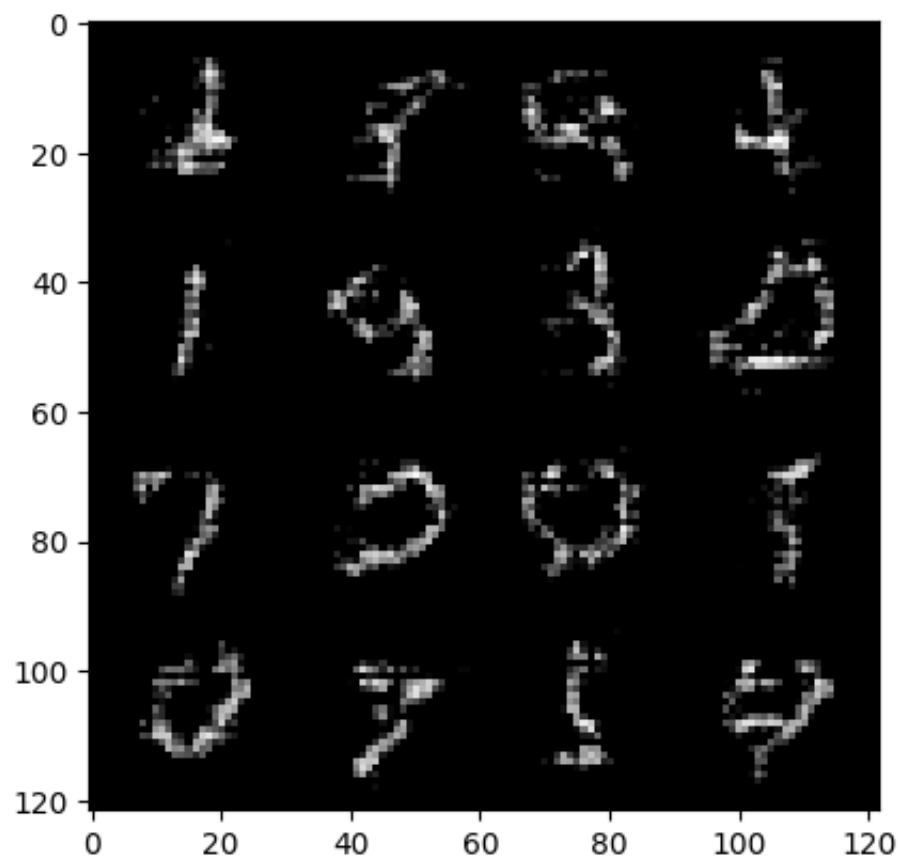


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6800, G_loss: 0.7110

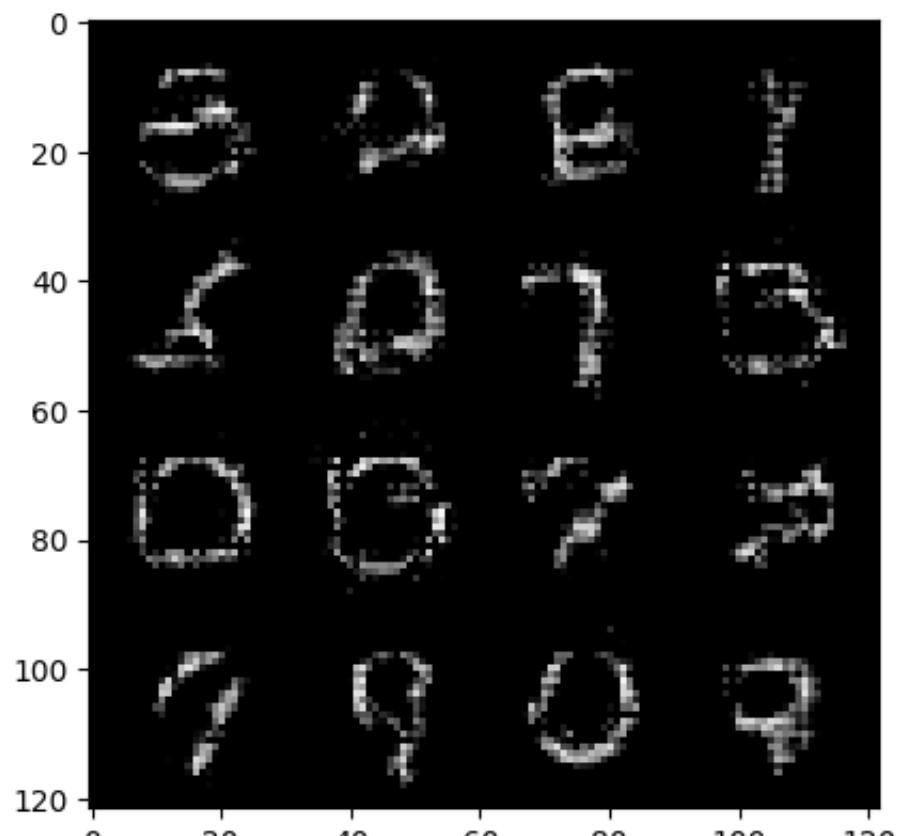




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6799, G_loss: 0.7111

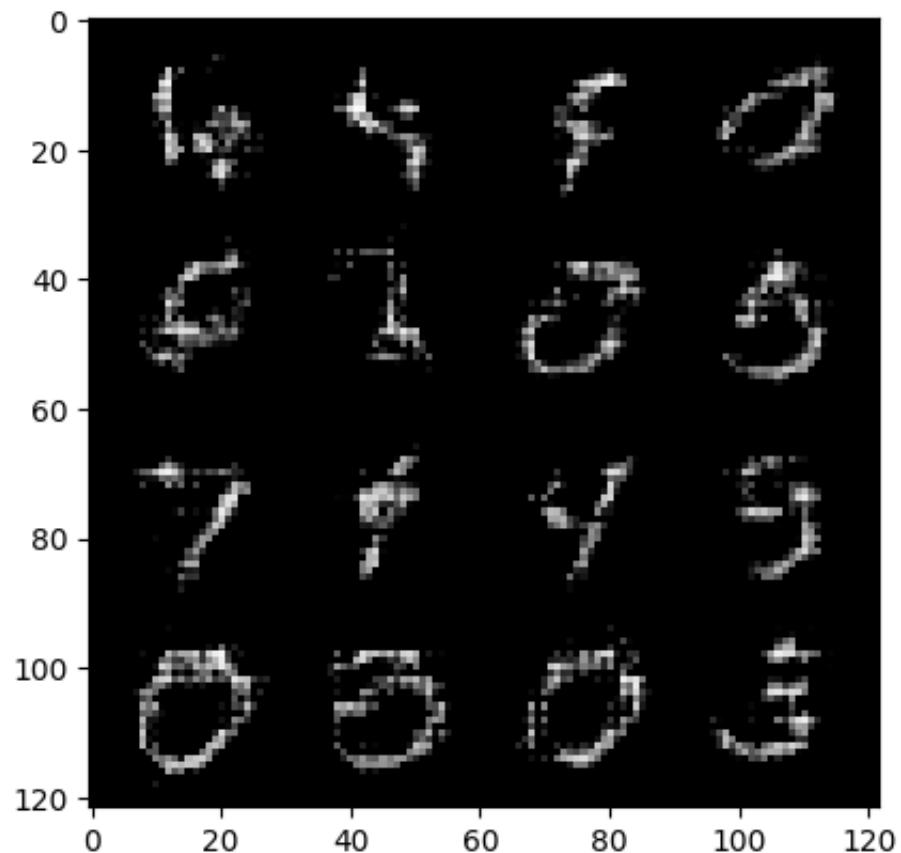


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6799, G_loss: 0.7111

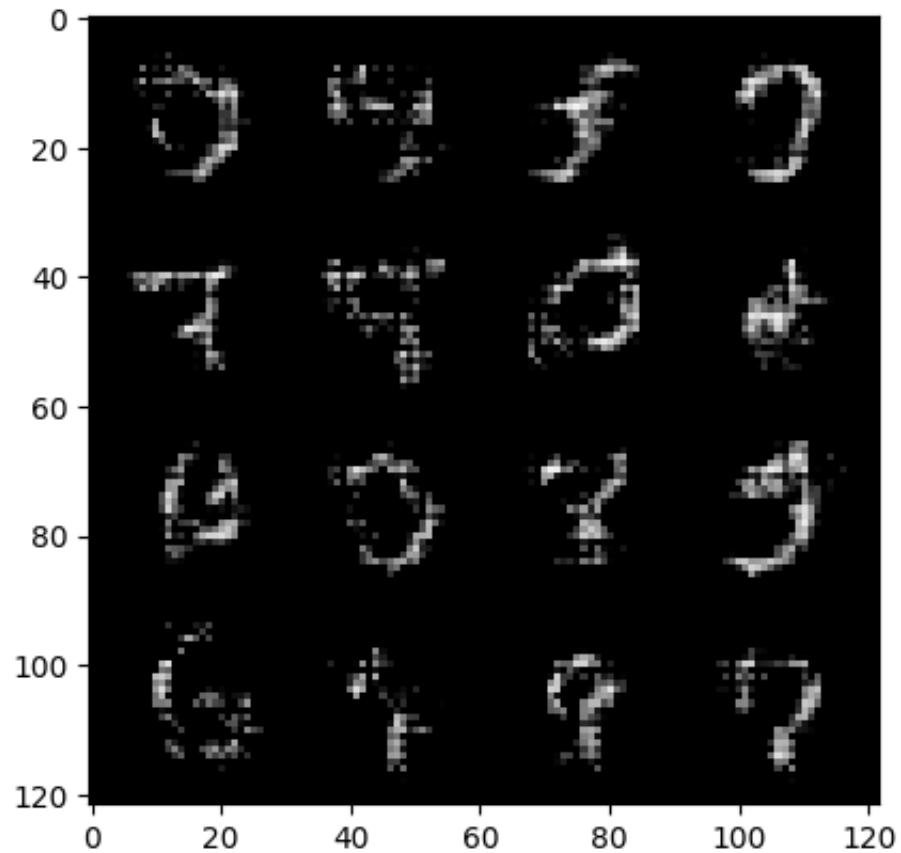


0 20 40 60 80 100 120

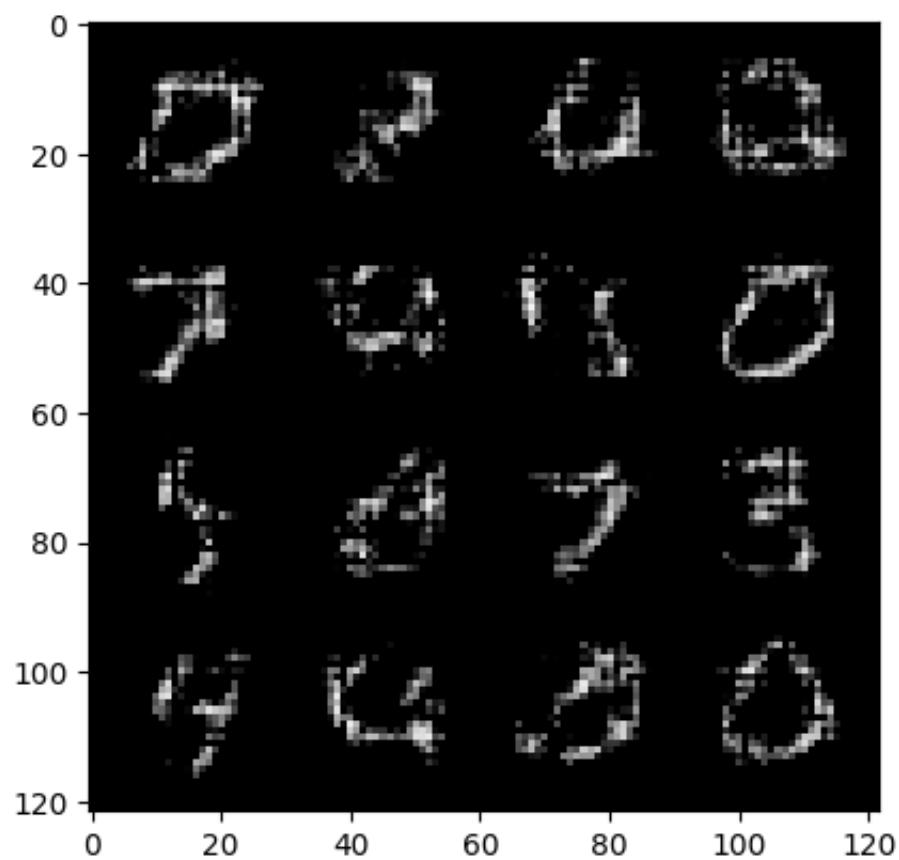
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6798, G_loss: 0.7112



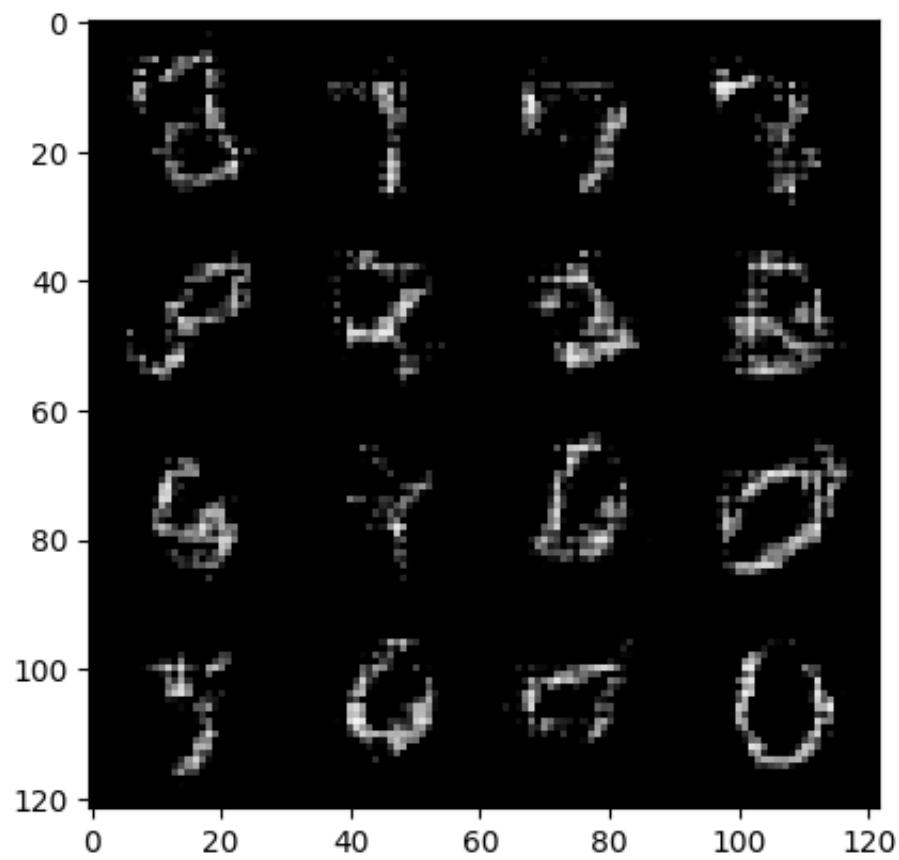
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6798, G_loss: 0.7112



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6797, G_loss: 0.7113

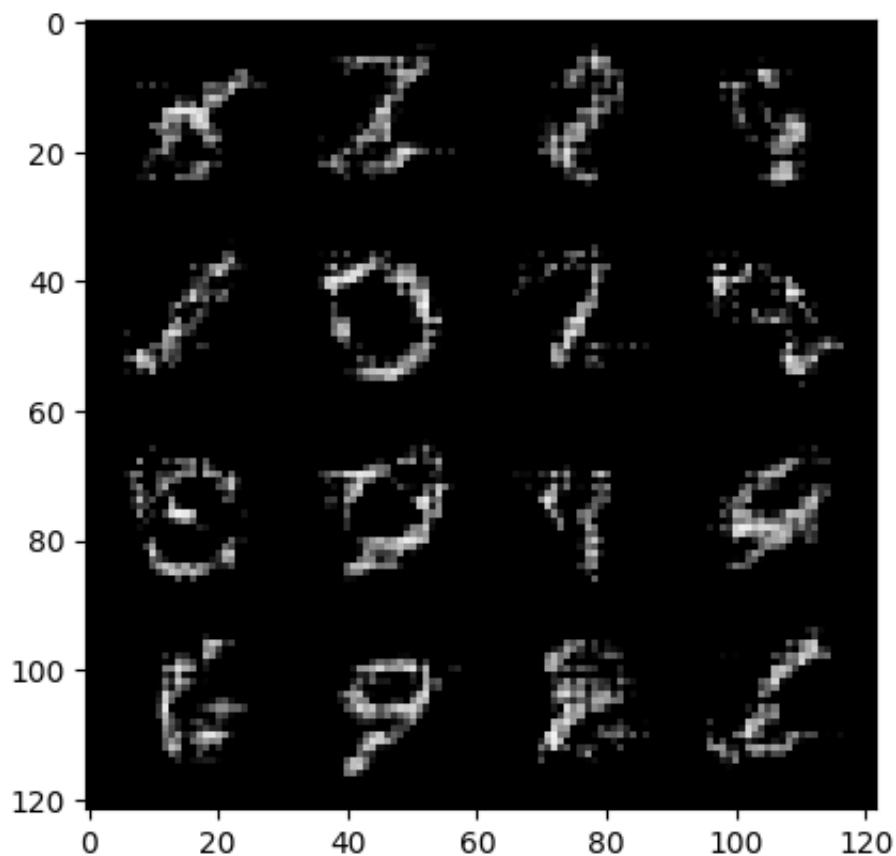


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6797, G_loss: 0.7114

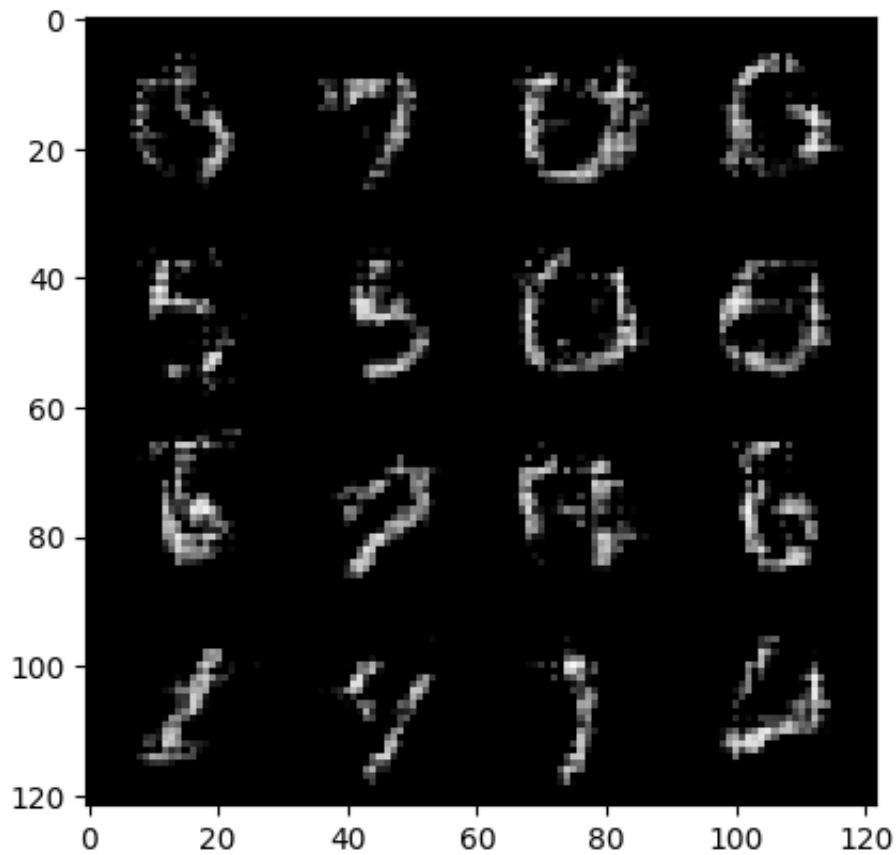


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6796, G_loss: 0.7114

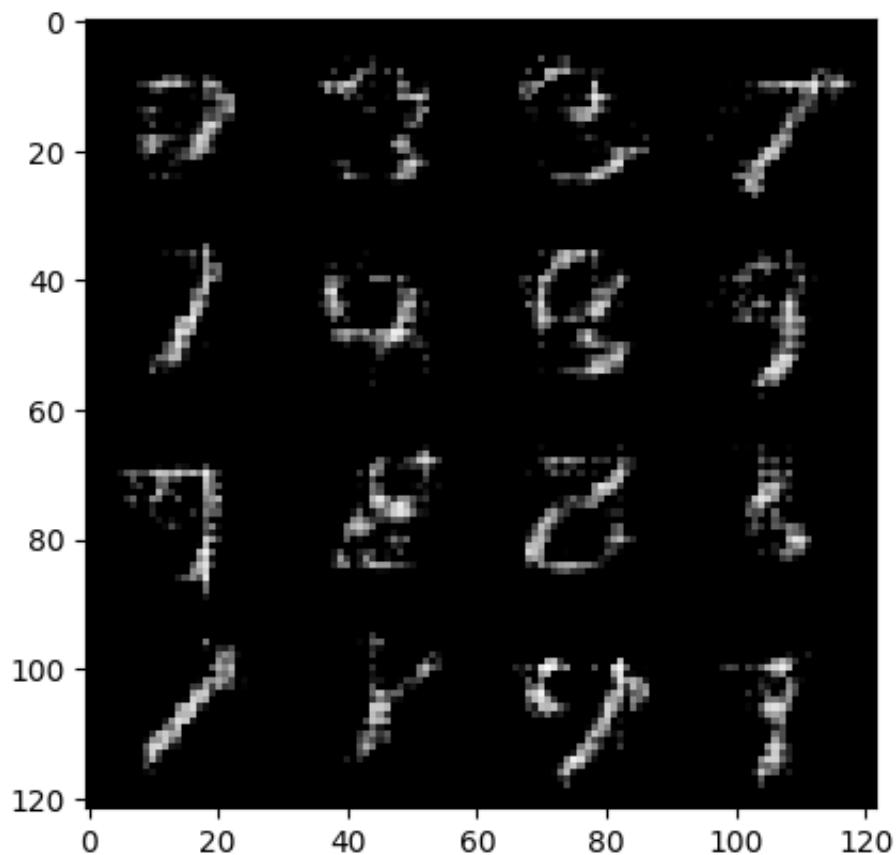


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6796, G_loss: 0.7114

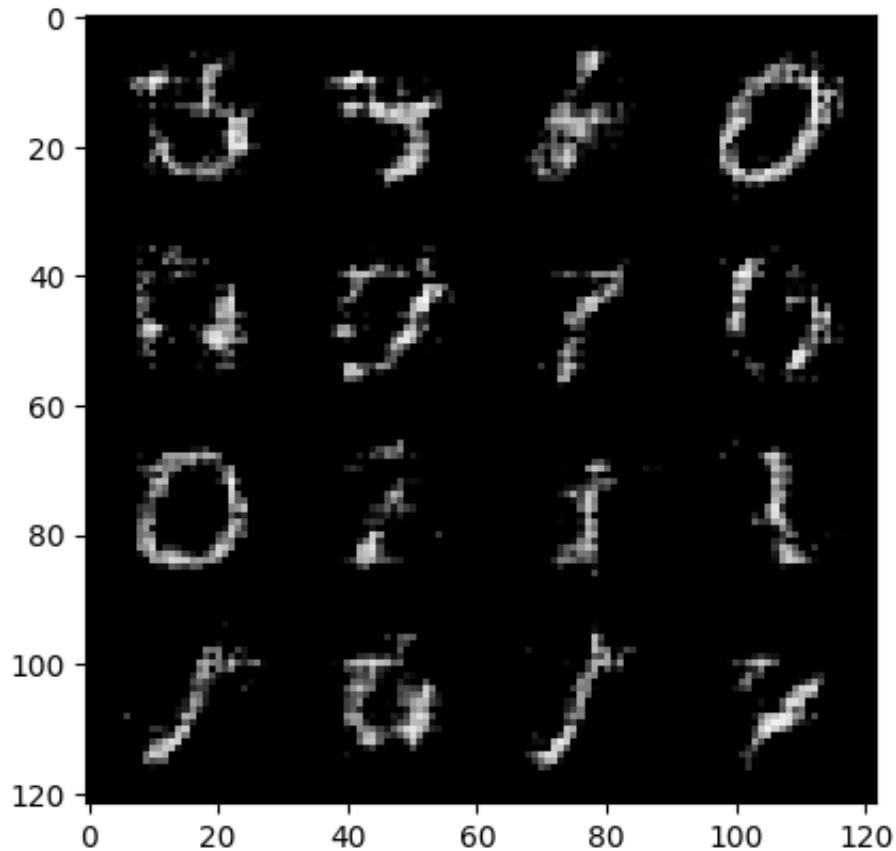


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6796, G_loss: 0.7114

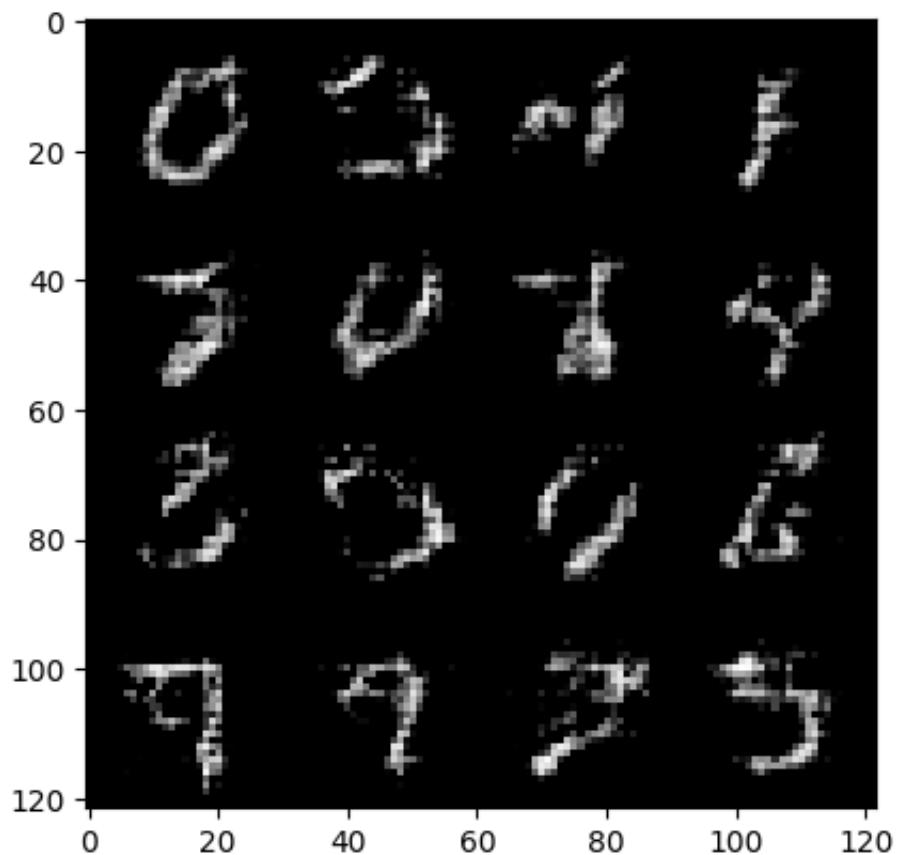
D_loss: 0.0190, G_loss: 0.7112



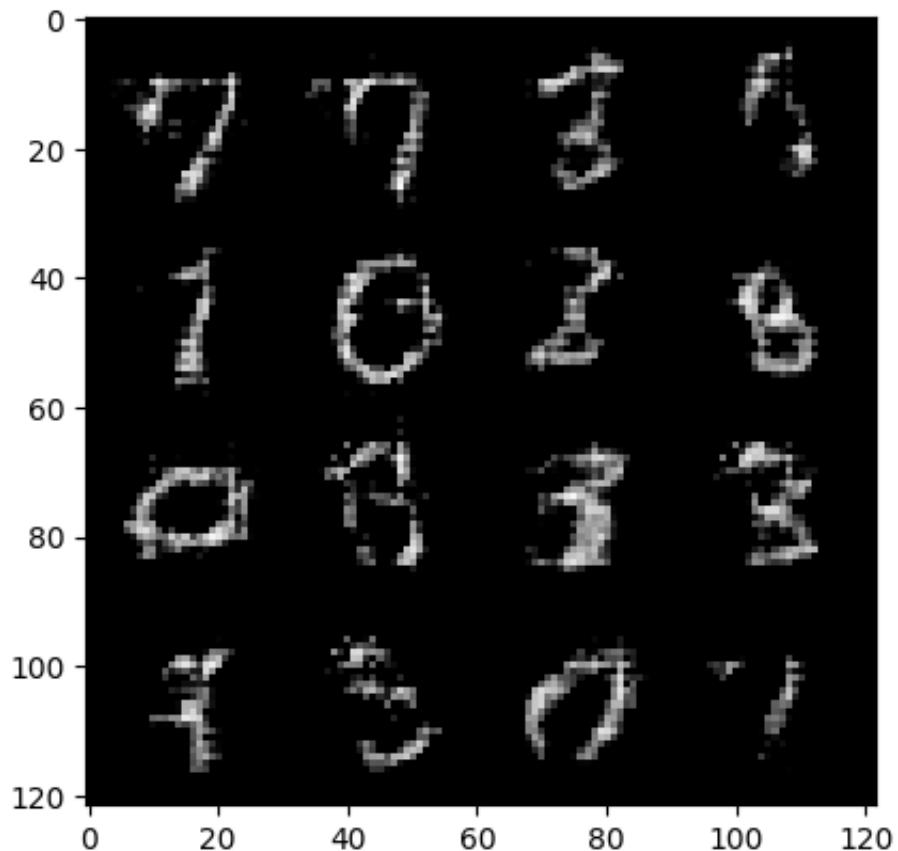
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6796, G_loss: 0.7114



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6795, G_loss: 0.7115

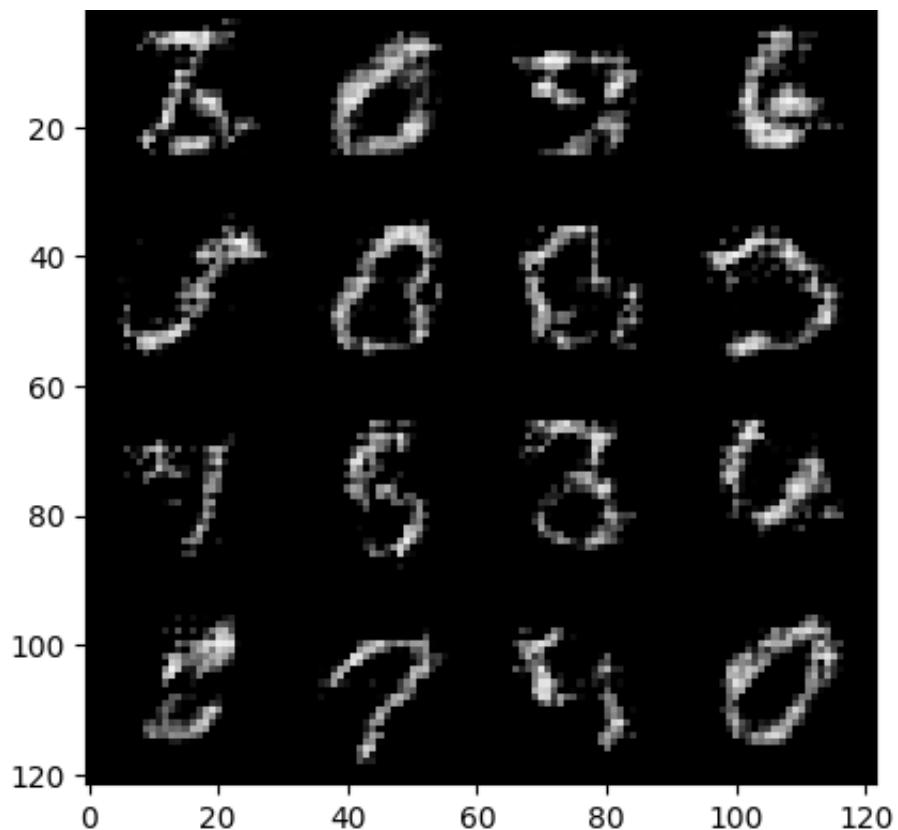


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6795, G_loss: 0.7116

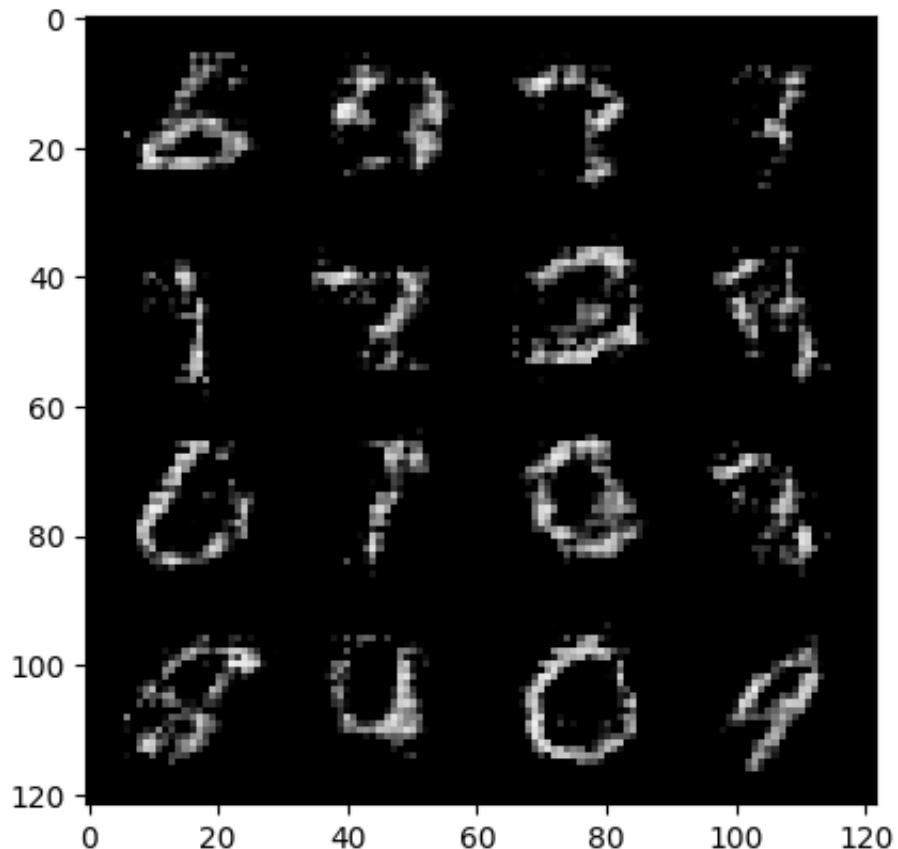


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6795, G_loss: 0.7116

0 —————— 1

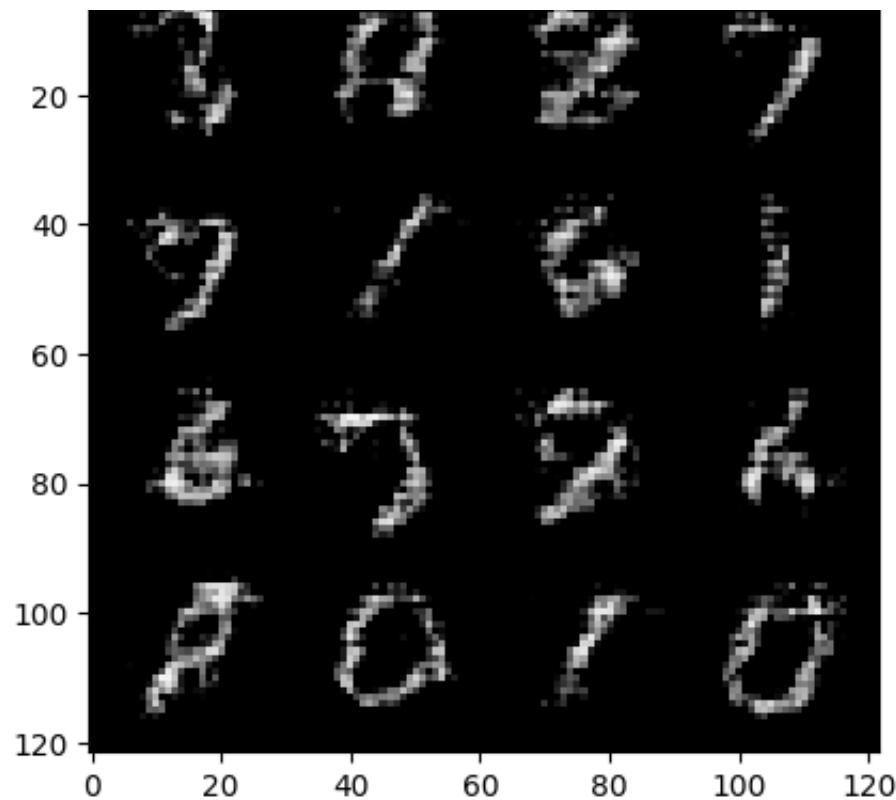


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6794, G_loss: 0.7117

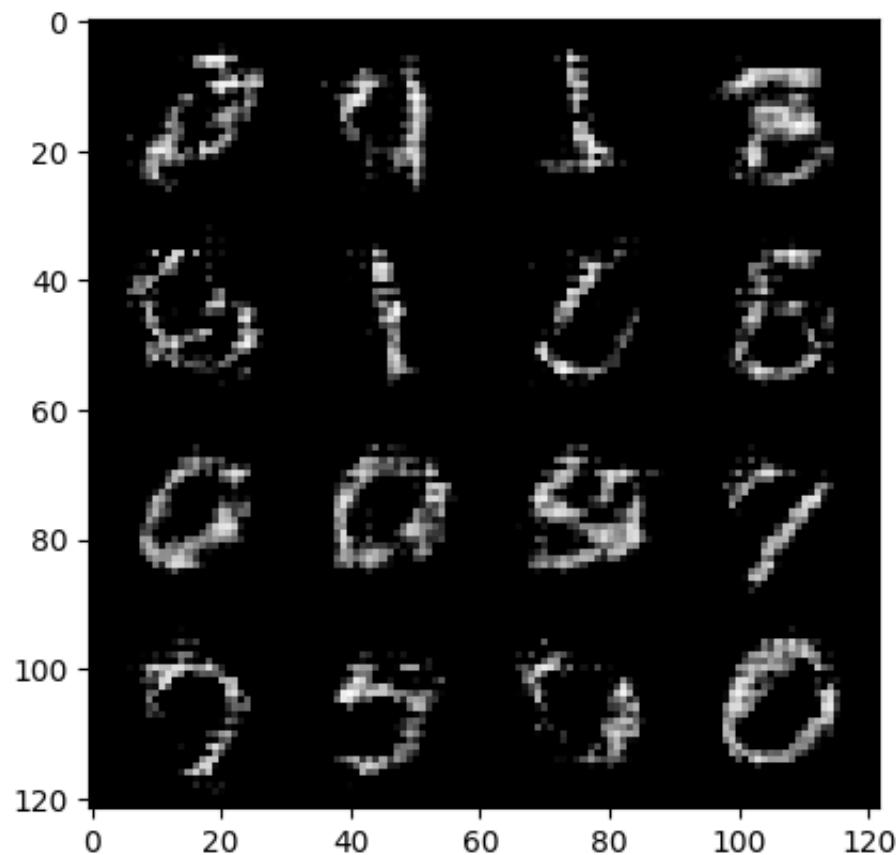


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6794, G_loss: 0.7118



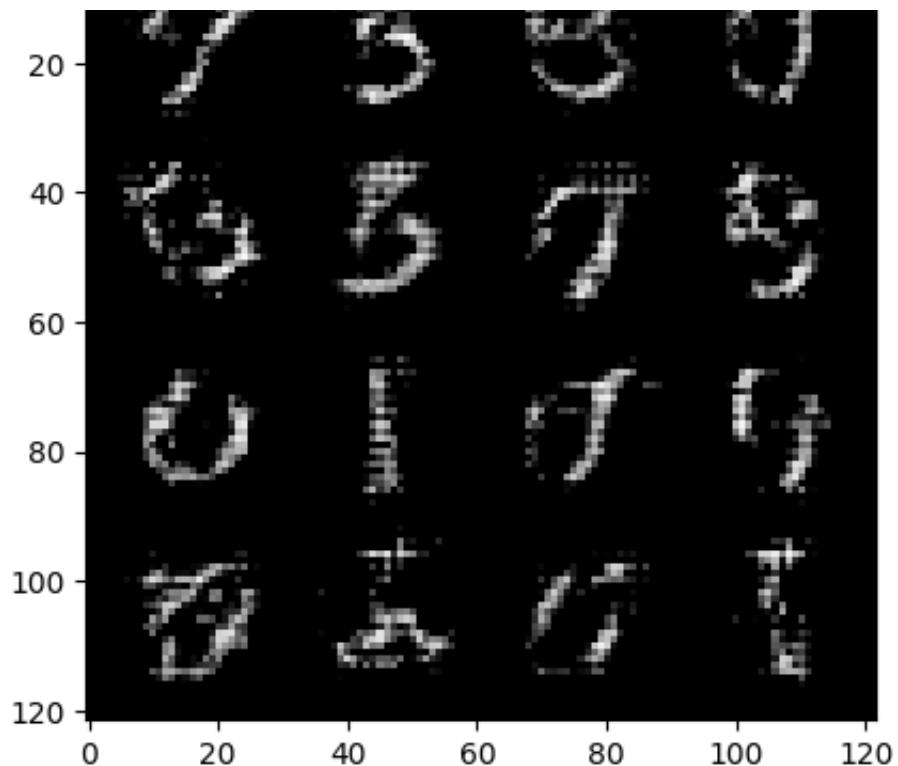


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6793, G_loss: 0.7118

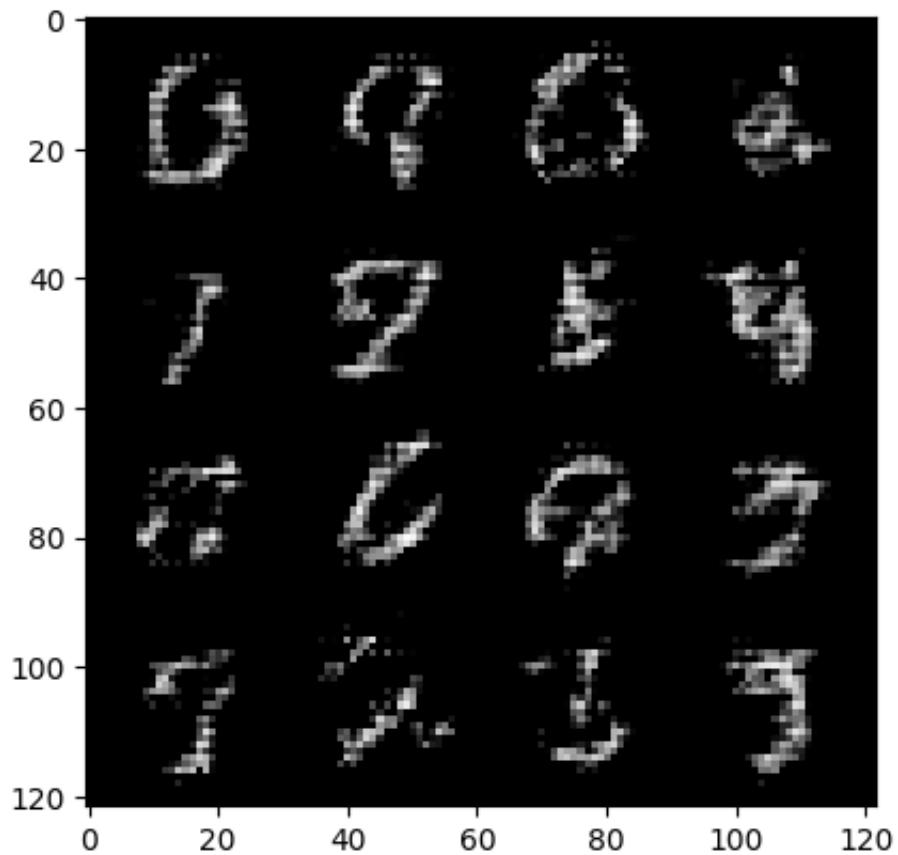


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6793, G_loss: 0.7119



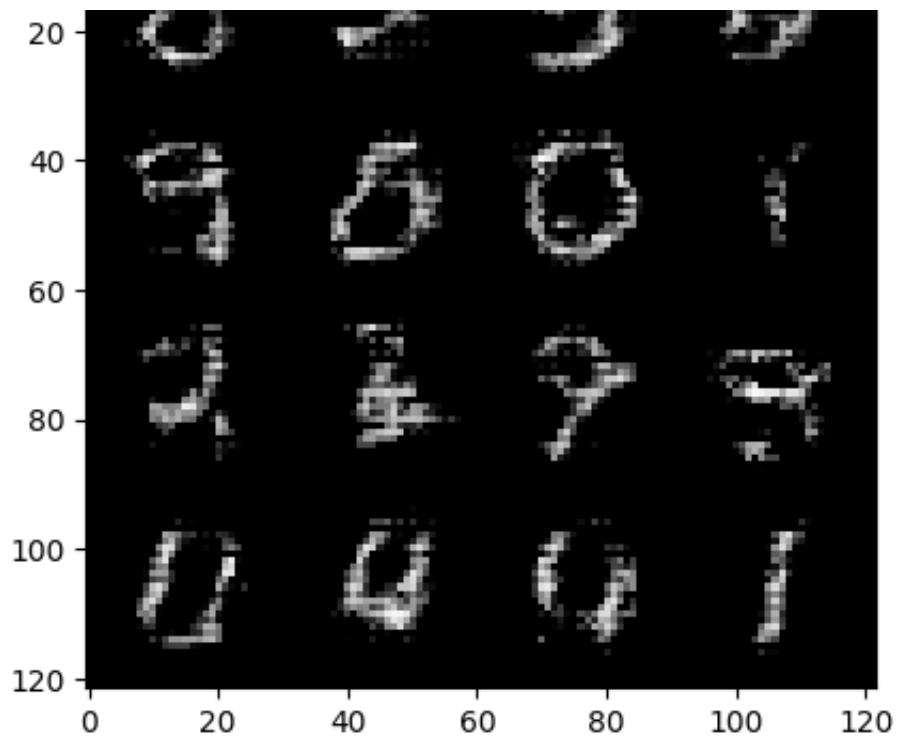


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6792, G_loss: 0.7120

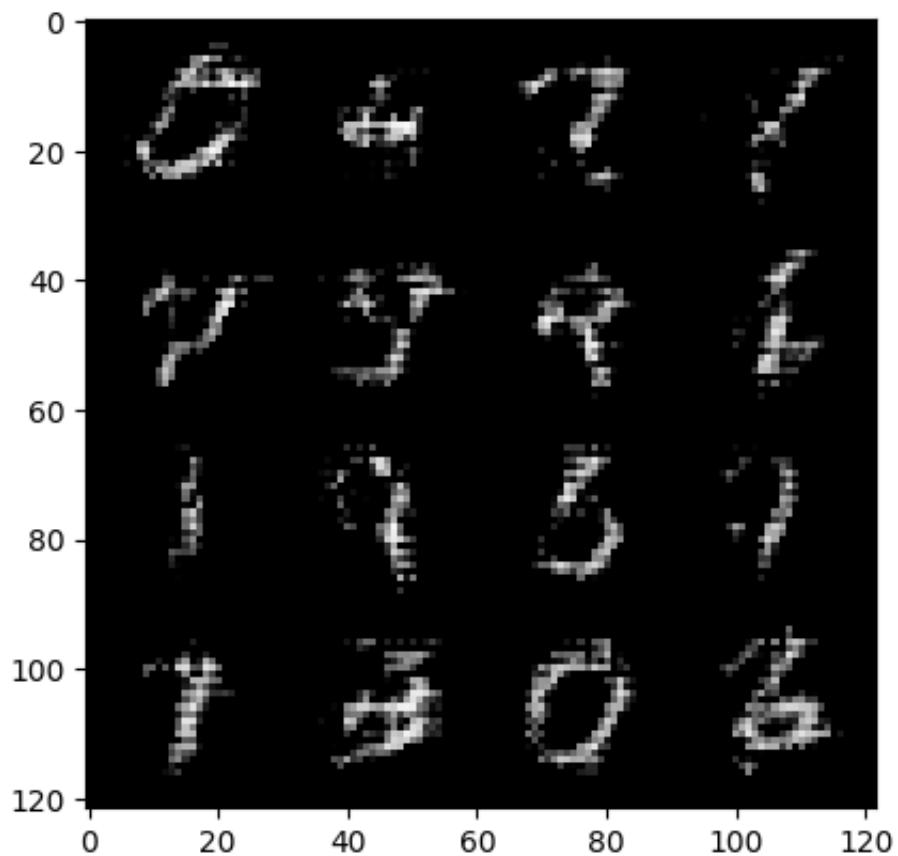


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6792, G_loss: 0.7120



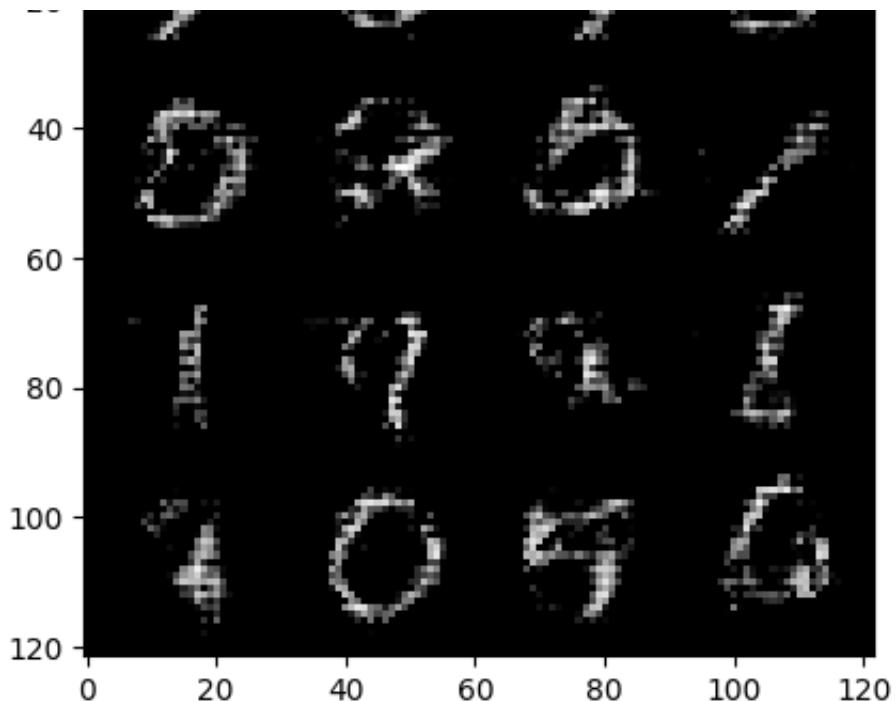


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6792, G_loss: 0.7120

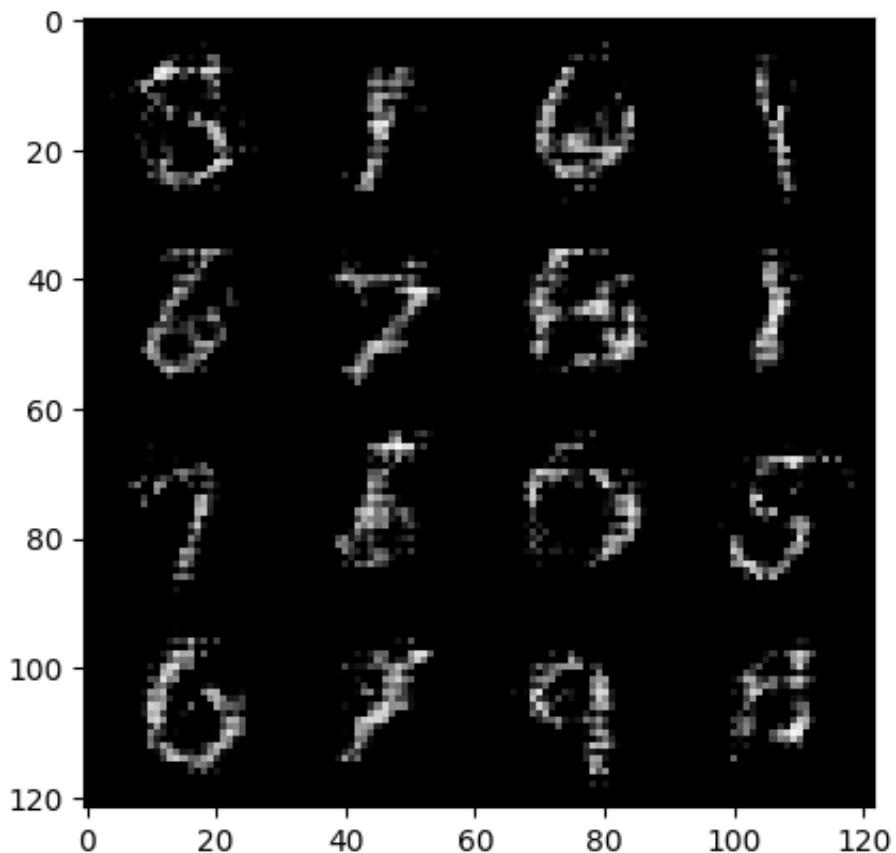


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6791, G_loss: 0.7121



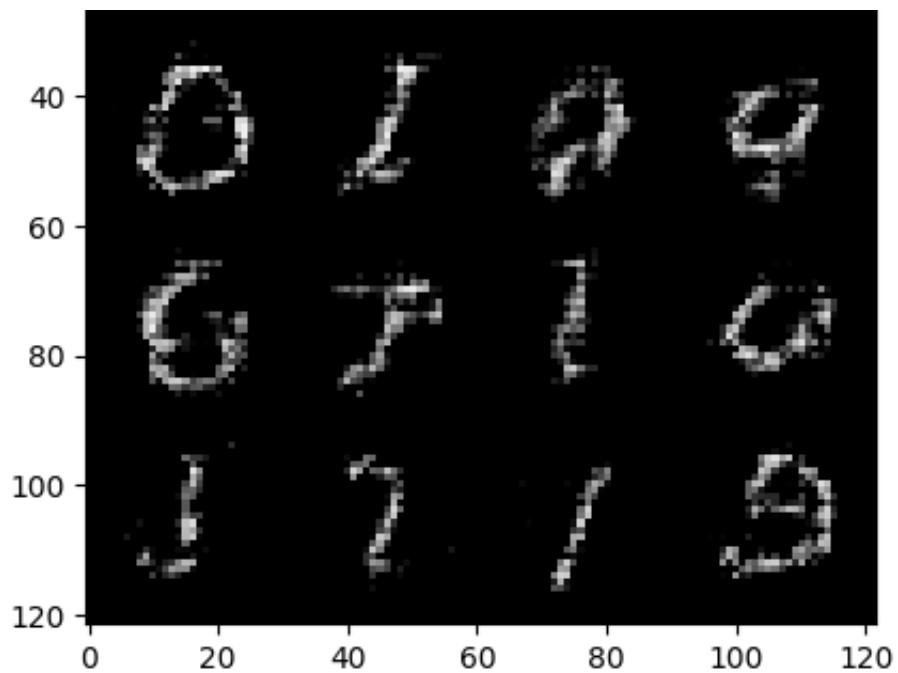


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6791, G_loss: 0.7122

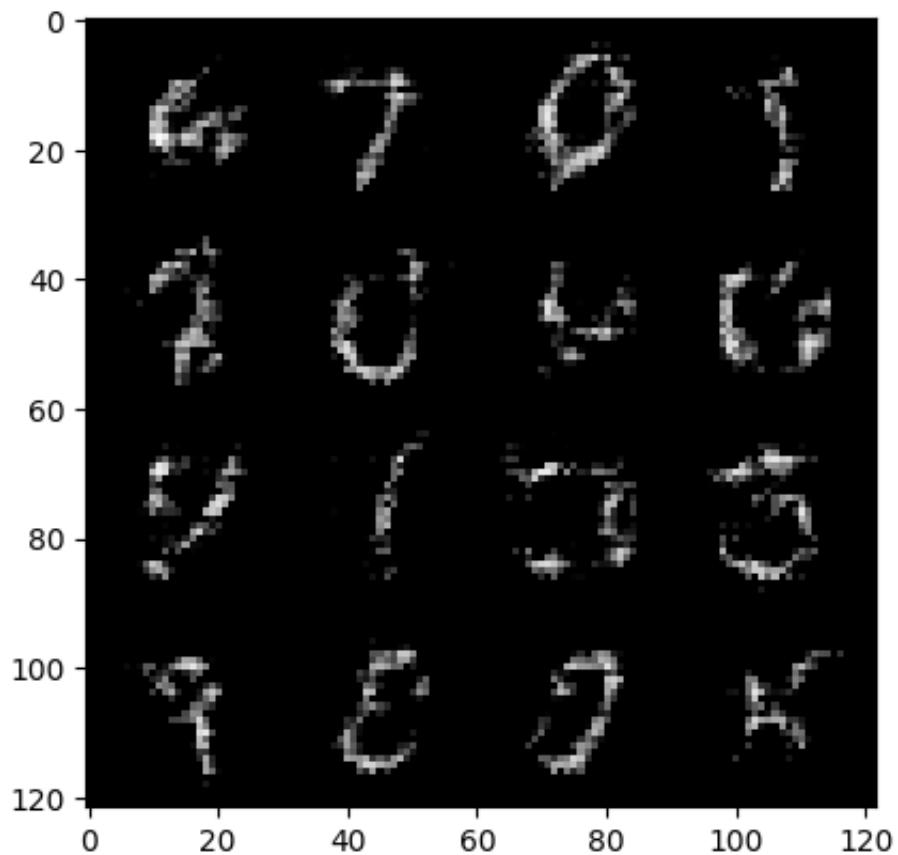


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6790, G_loss: 0.7122

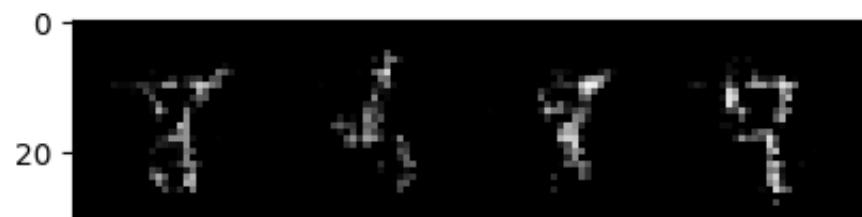


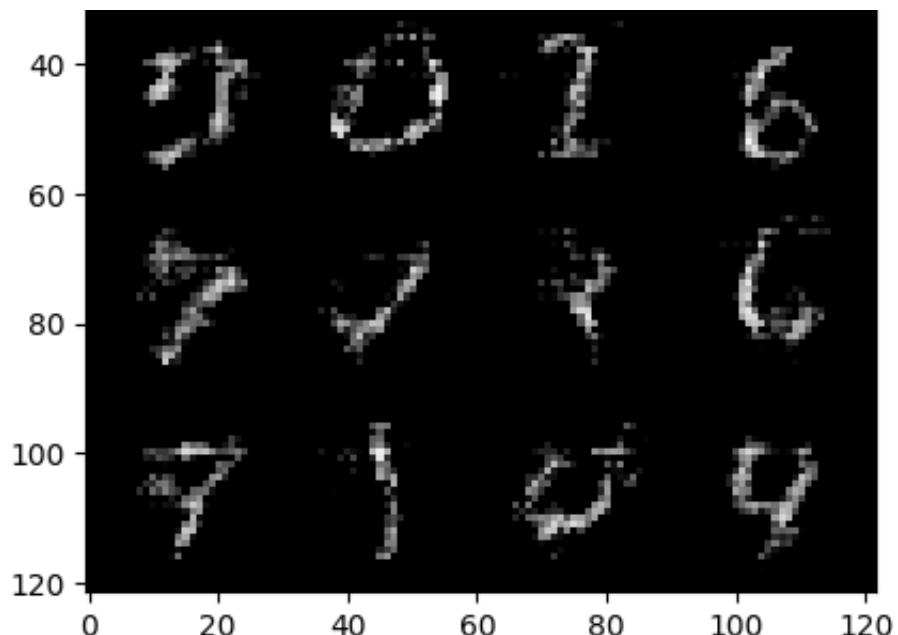


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6790, G_loss: 0.7122

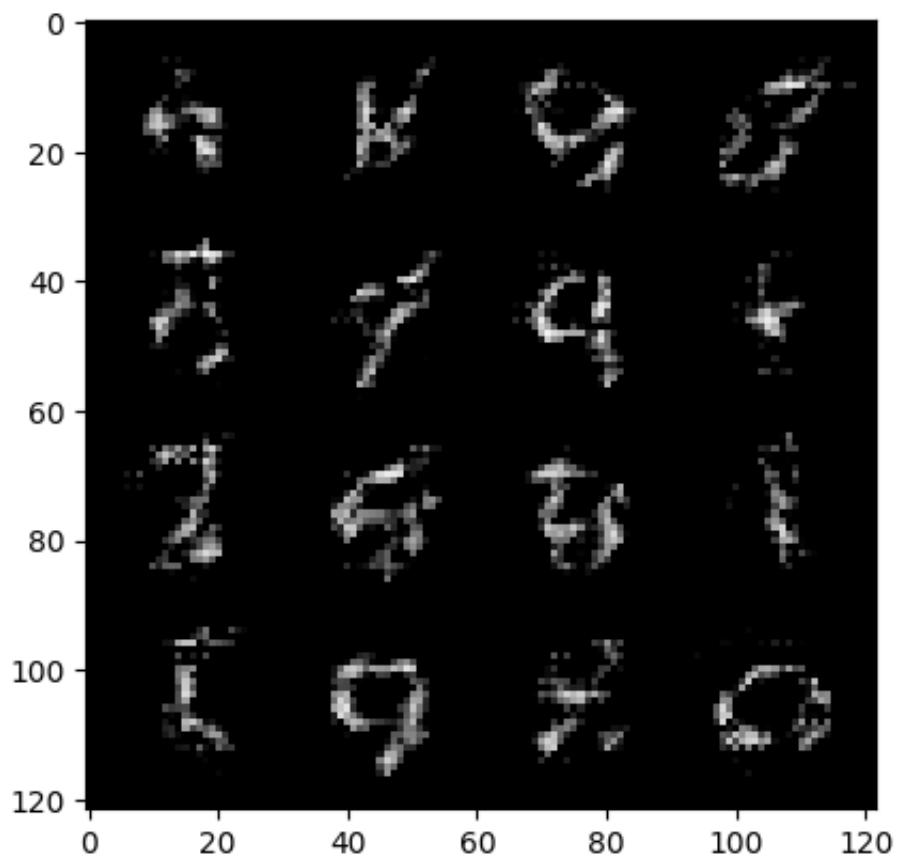


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6789, G_loss: 0.7123

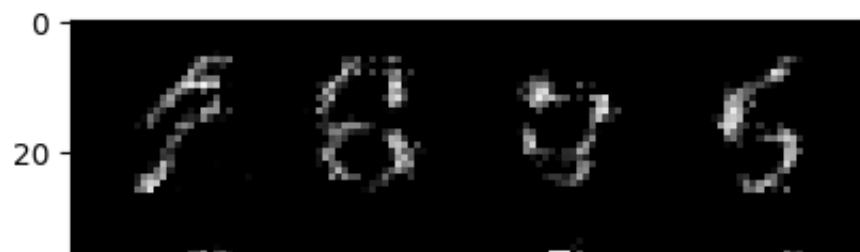


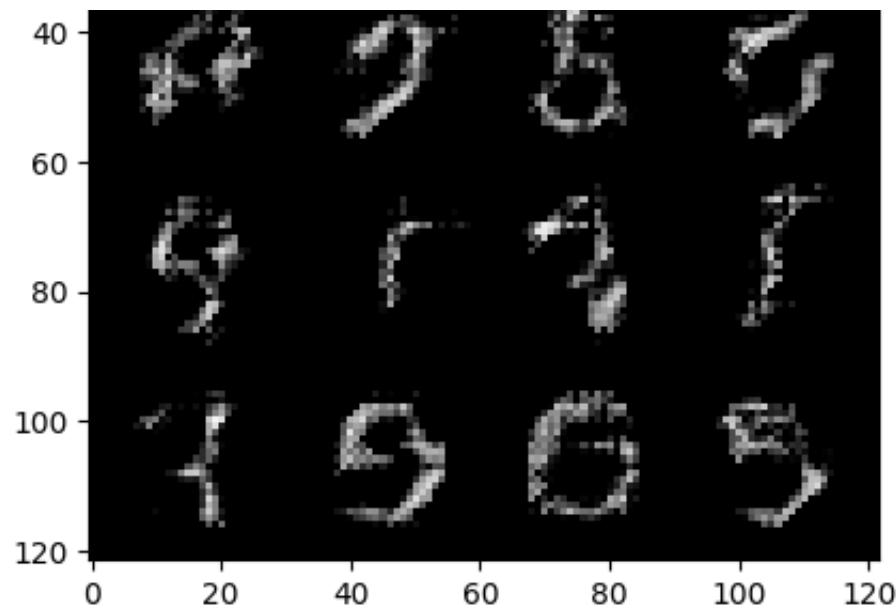


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6789, G_loss: 0.7124

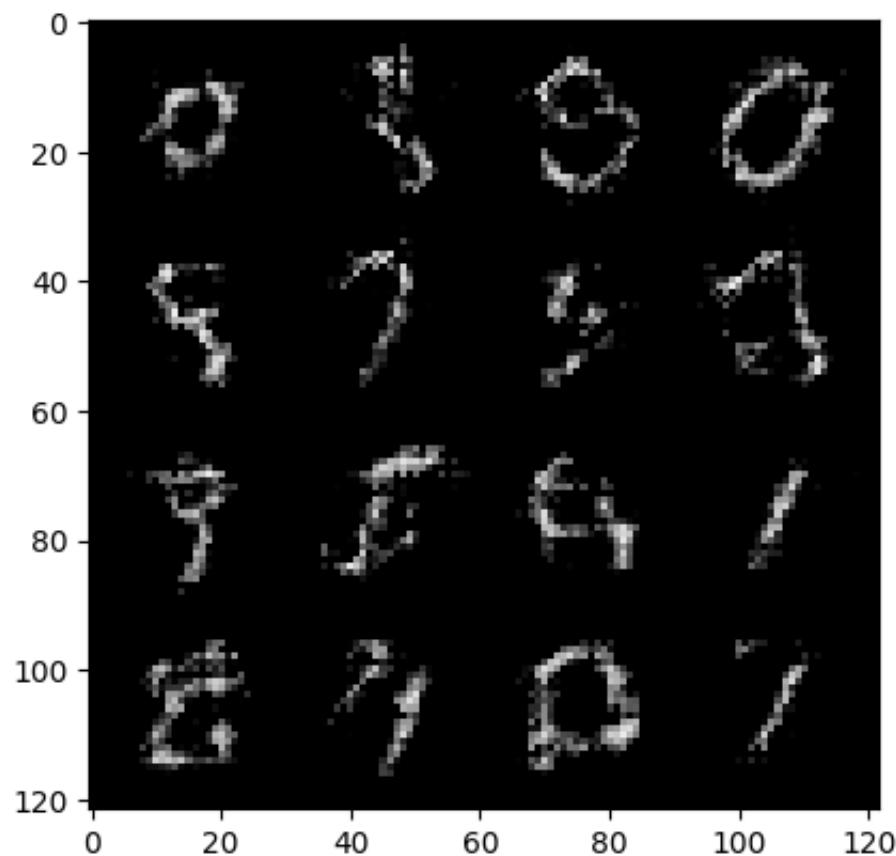


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6789, G_loss: 0.7124



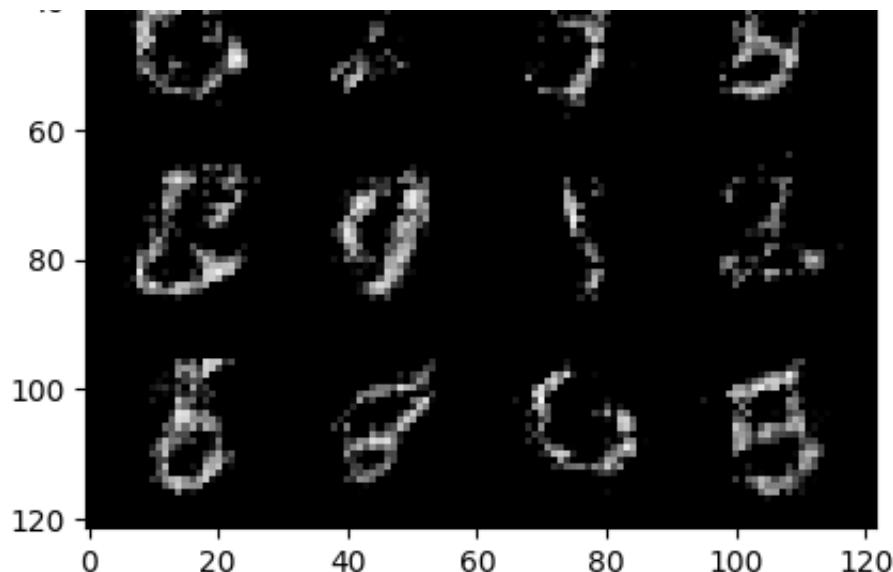


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6788, G_loss: 0.7124

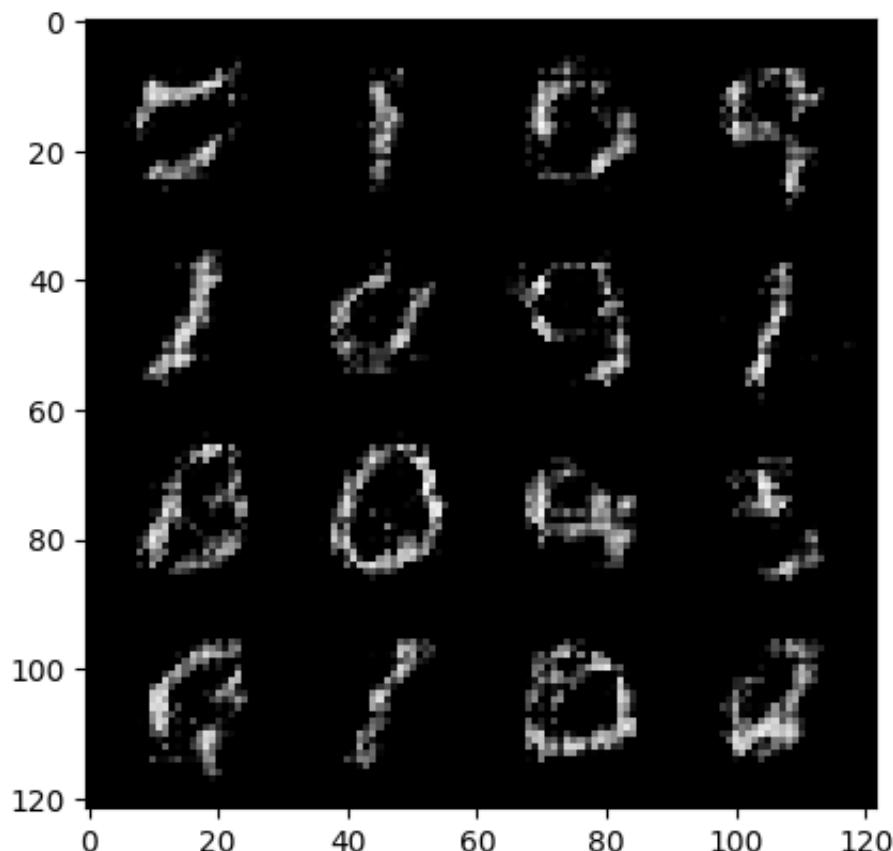


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6788, G_loss: 0.7125



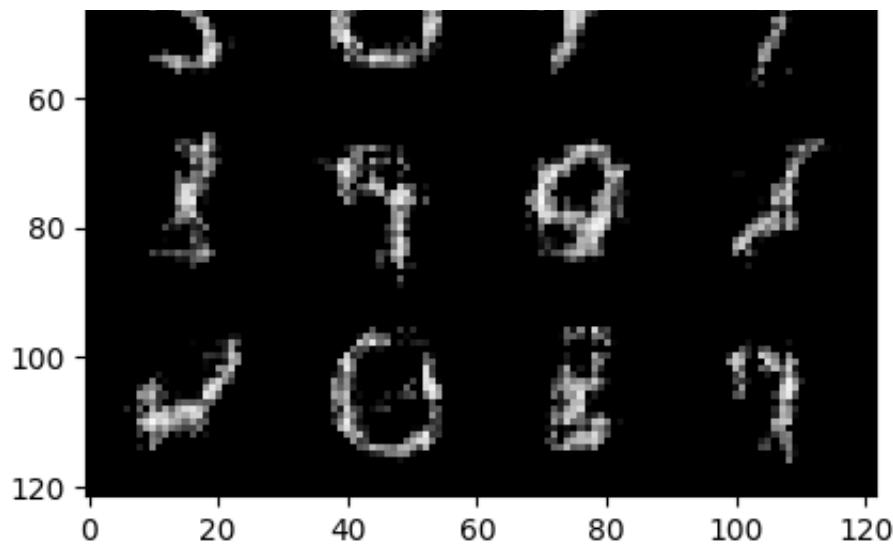


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6787, G_loss: 0.7126

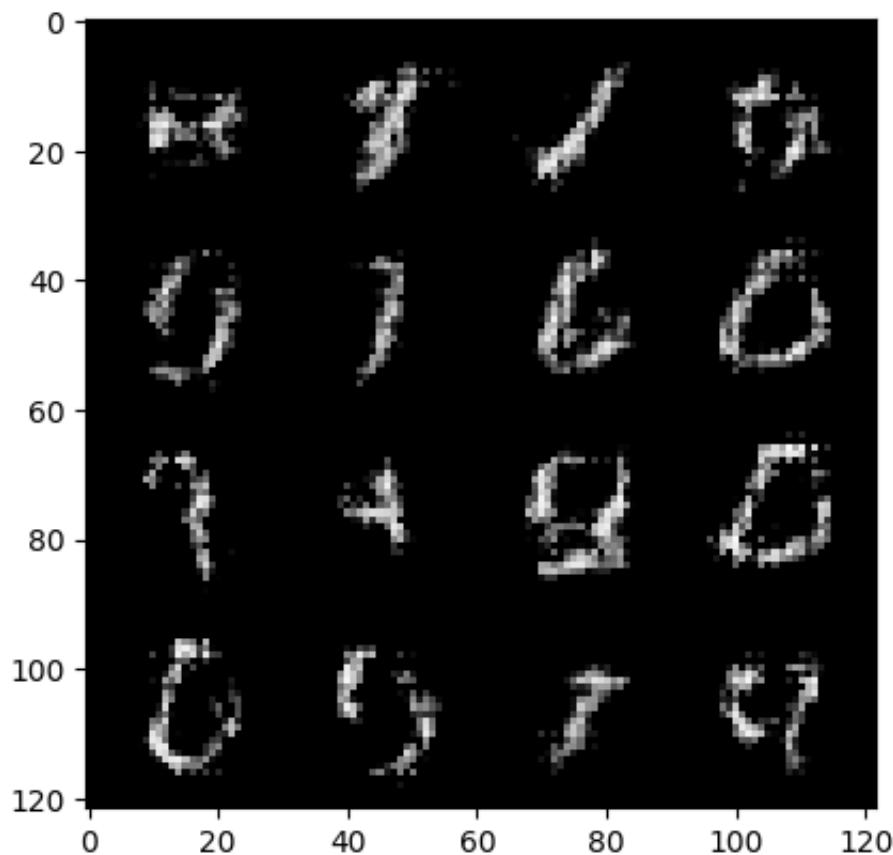


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6787, G_loss: 0.7125



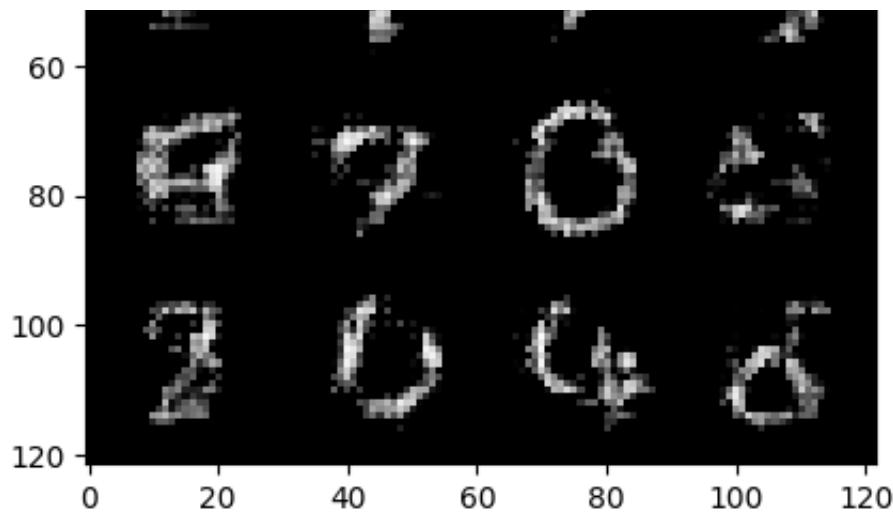


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6787, G_loss: 0.7125

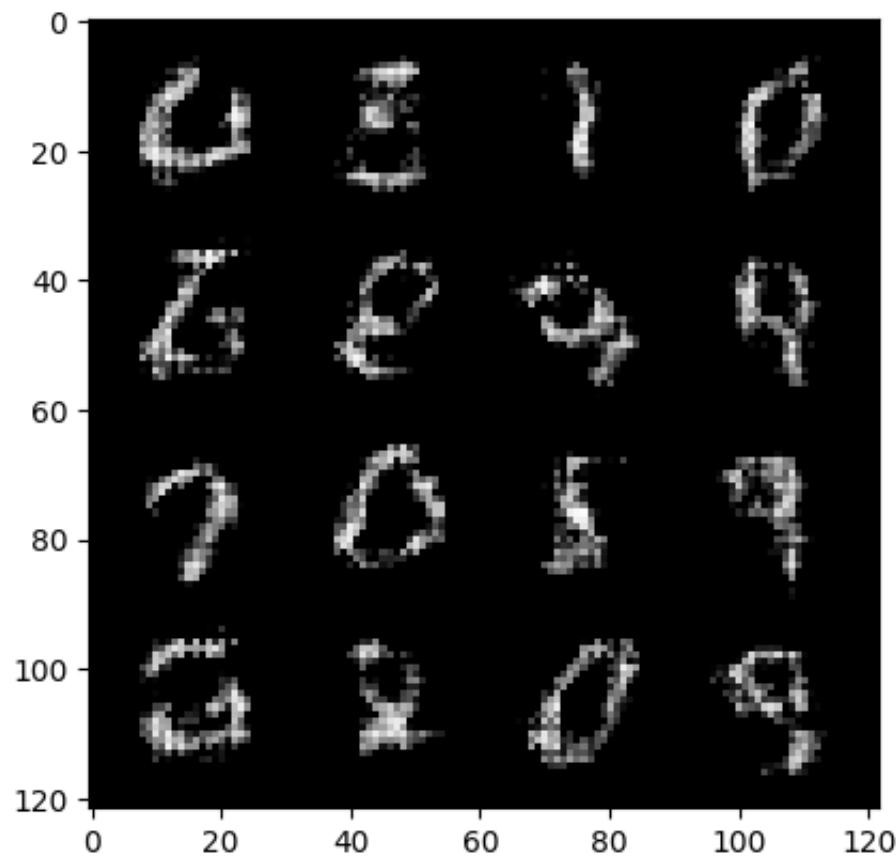


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6786, G_loss: 0.7126



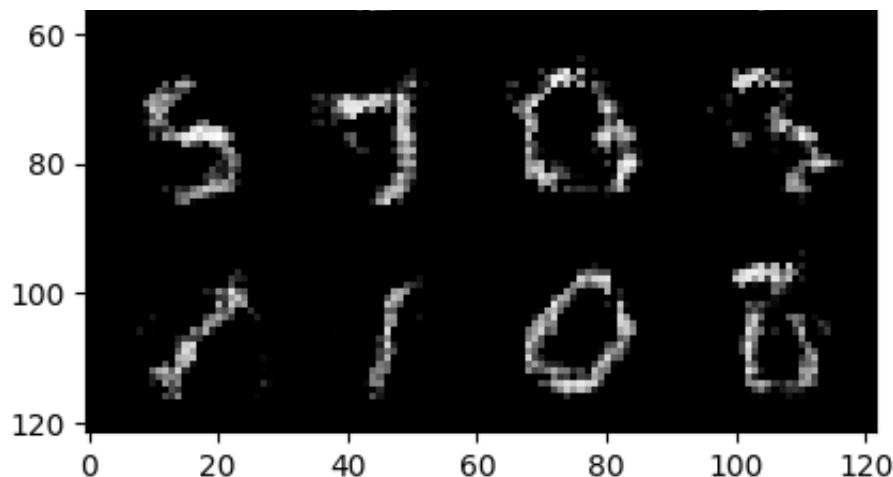


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6786, G_loss: 0.7127

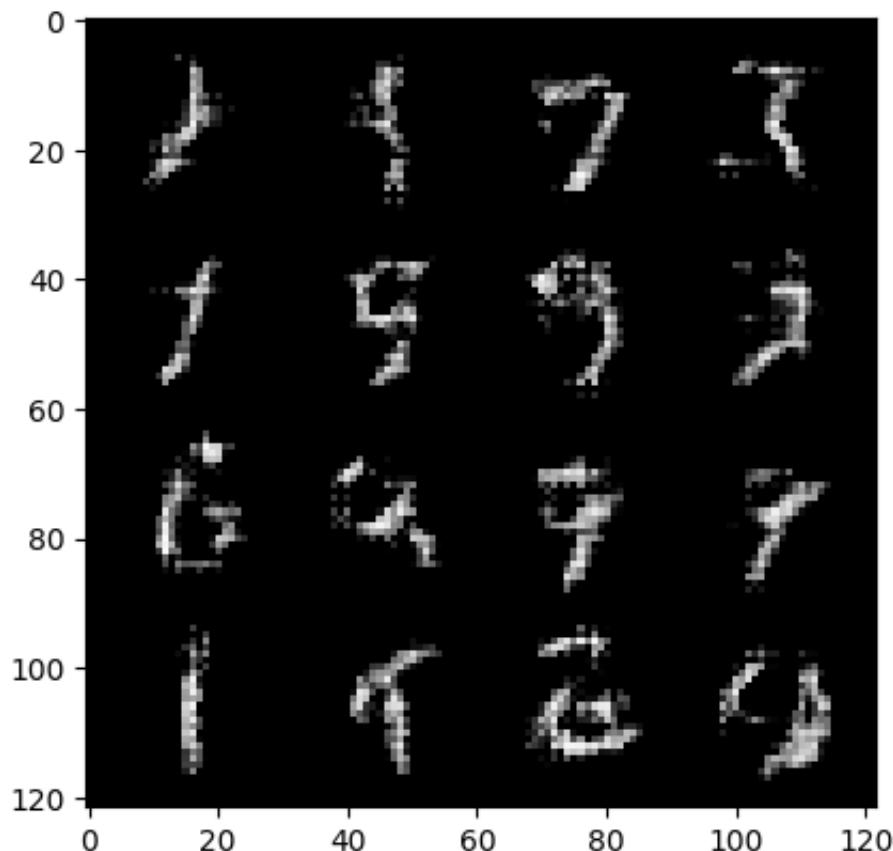


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6786, G_loss: 0.7128

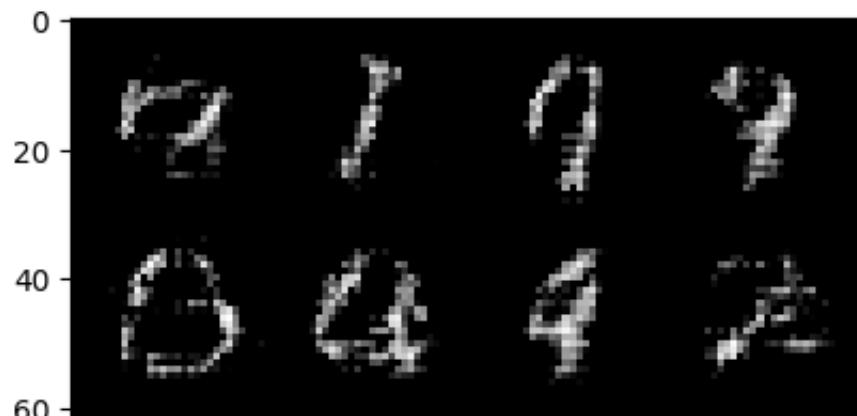


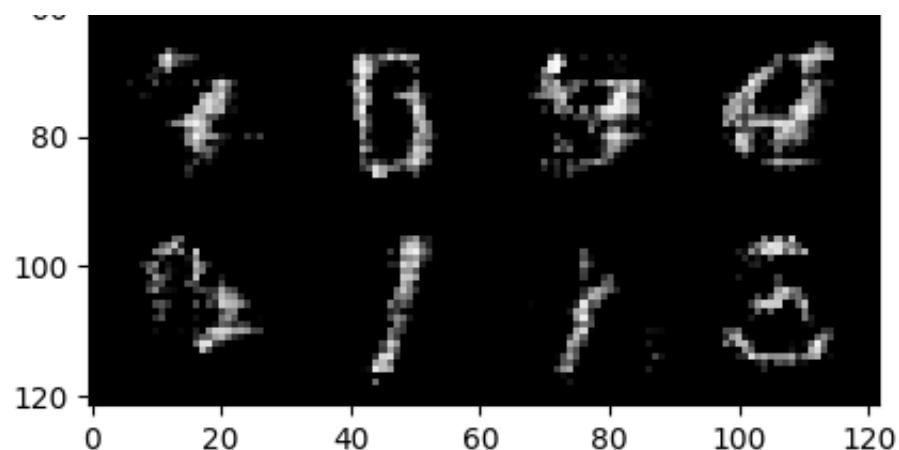


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6785, G_loss: 0.7128

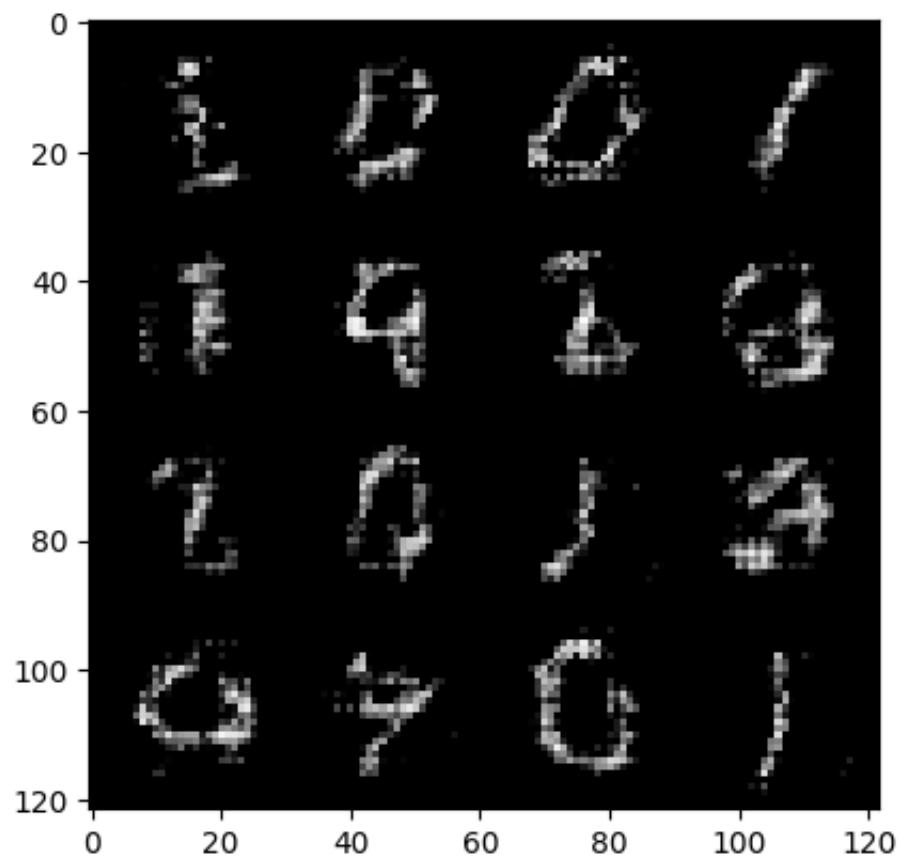


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6784, G_loss: 0.7129



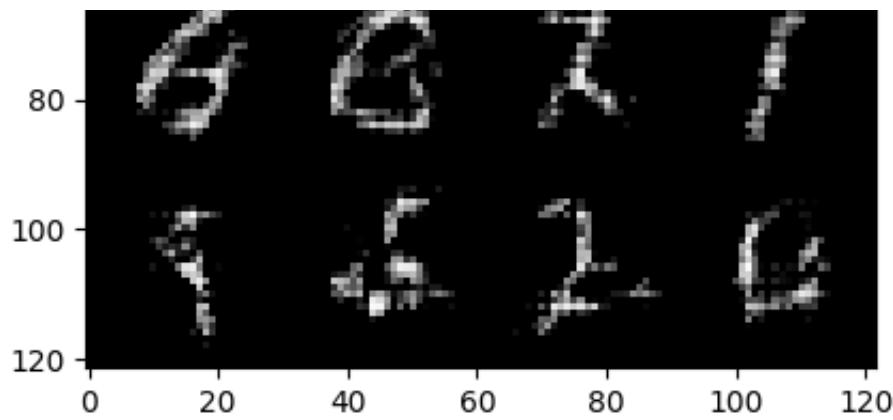


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6784, G_loss: 0.7130

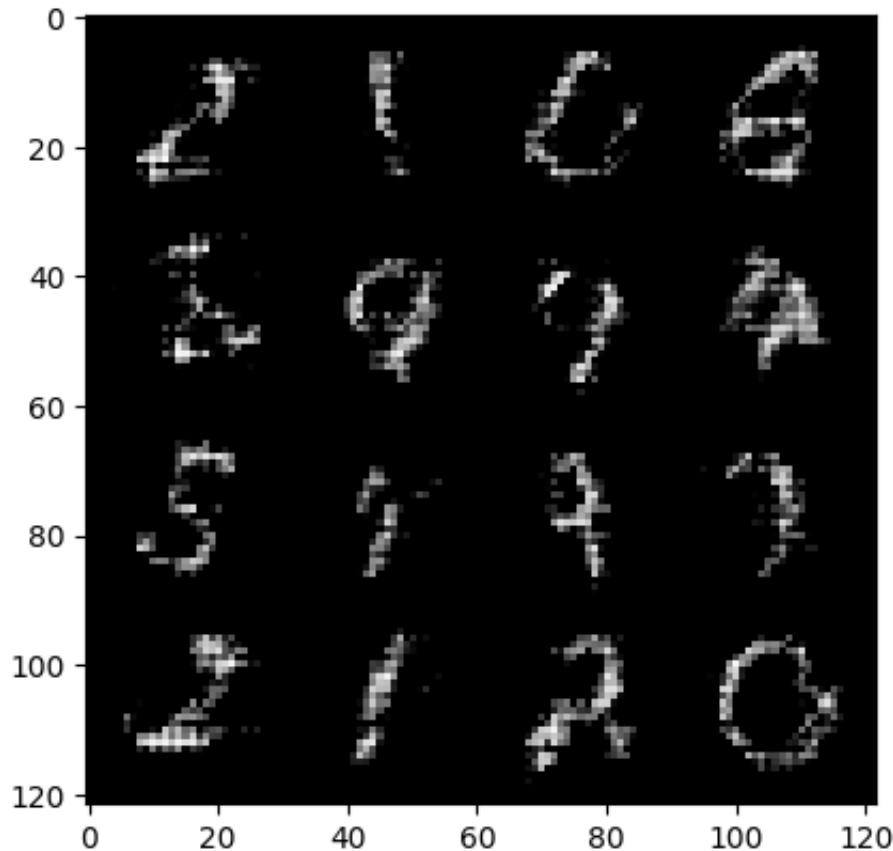


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6784, G_loss: 0.7130



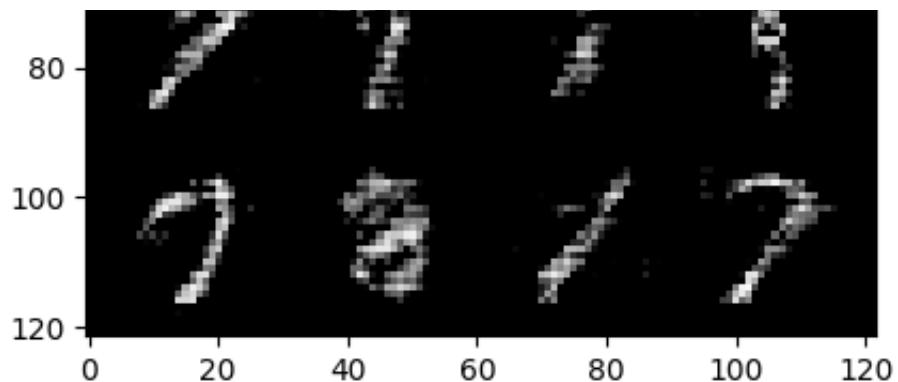


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.138, max=1.0
D_loss: 0.6783, G_loss: 0.7131

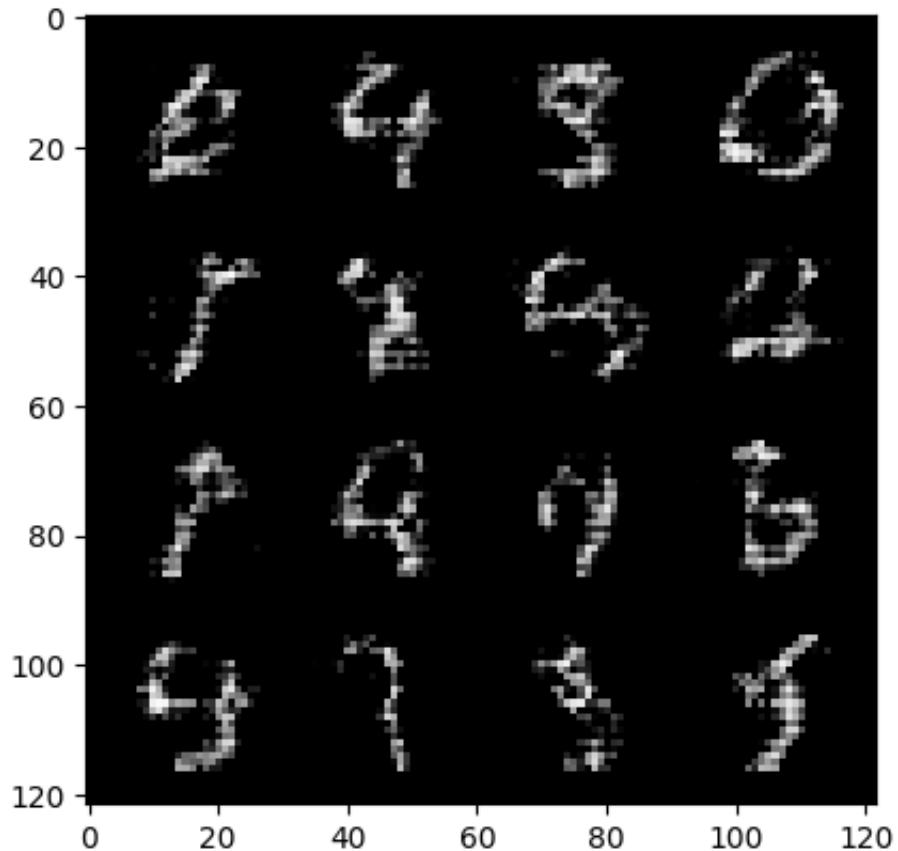


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.138, max=1.0
D_loss: 0.6782, G_loss: 0.7132



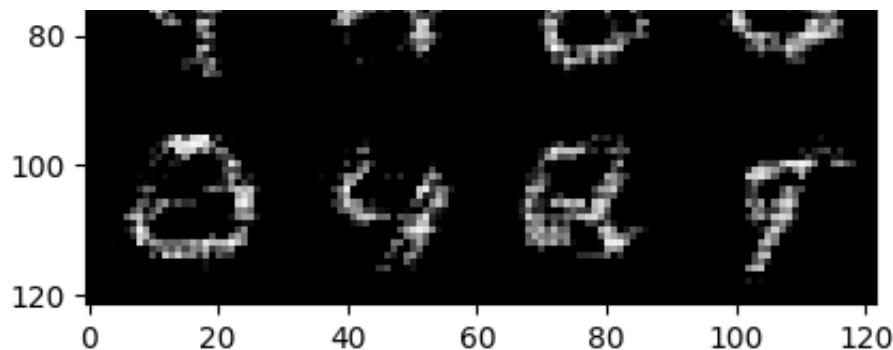


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6782, G_loss: 0.7132

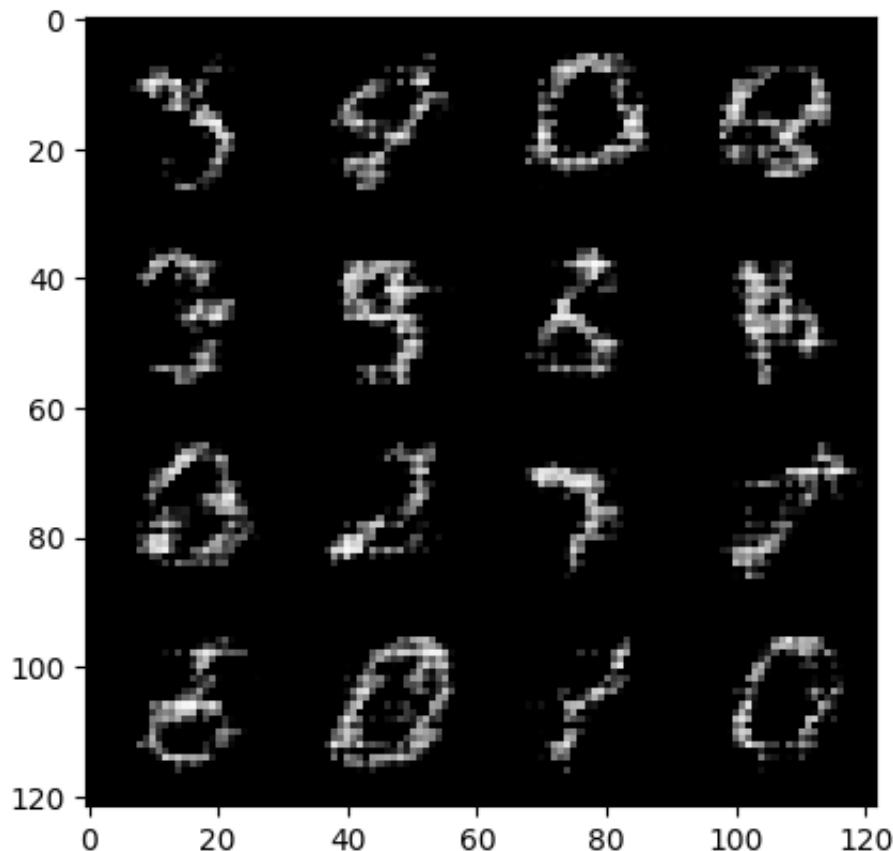


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6781, G_loss: 0.7132



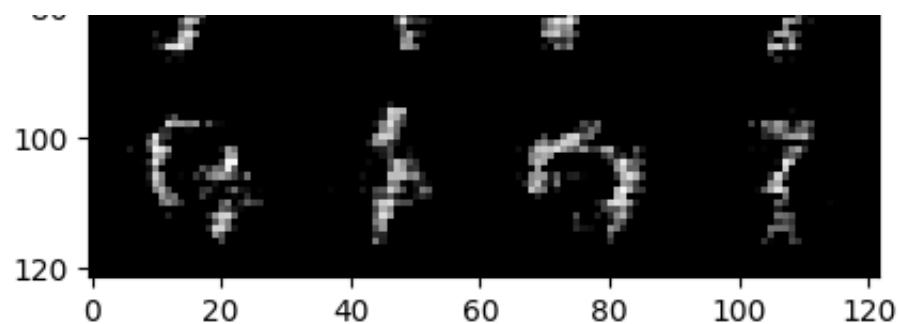


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6781, G_loss: 0.7133

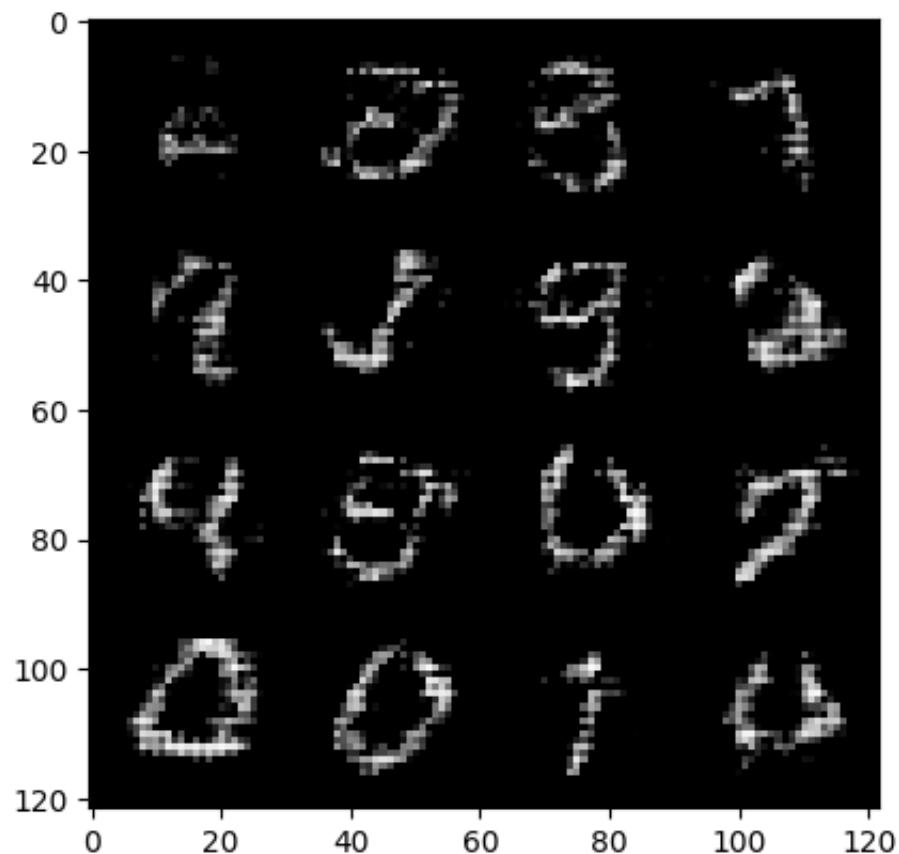


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6780, G_loss: 0.7134

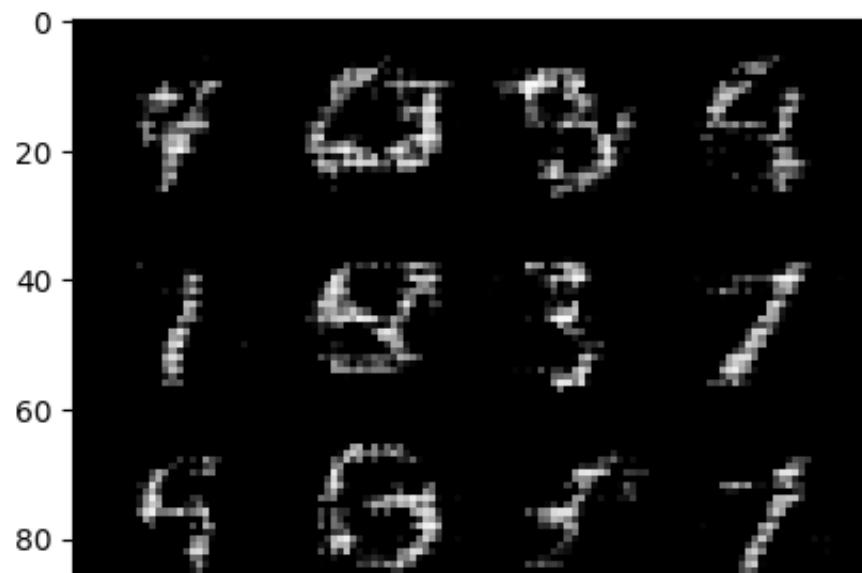


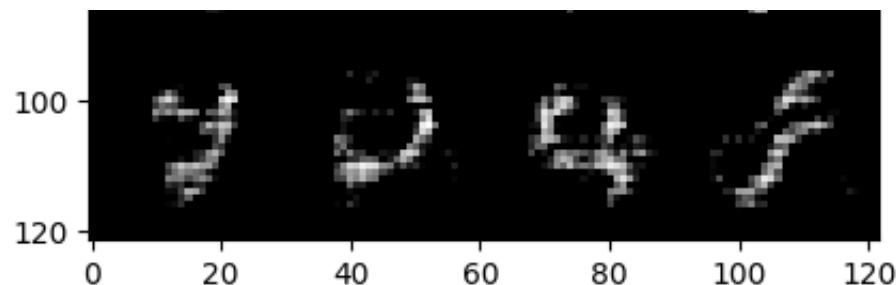


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6780, G_loss: 0.7134

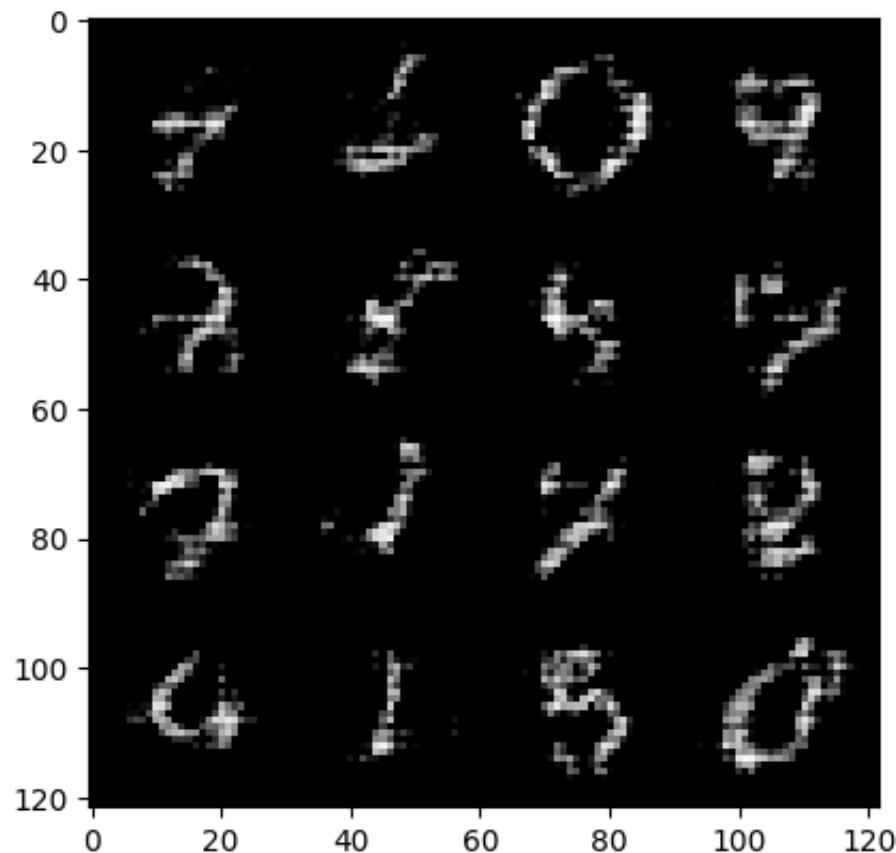


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6779, G_loss: 0.7135

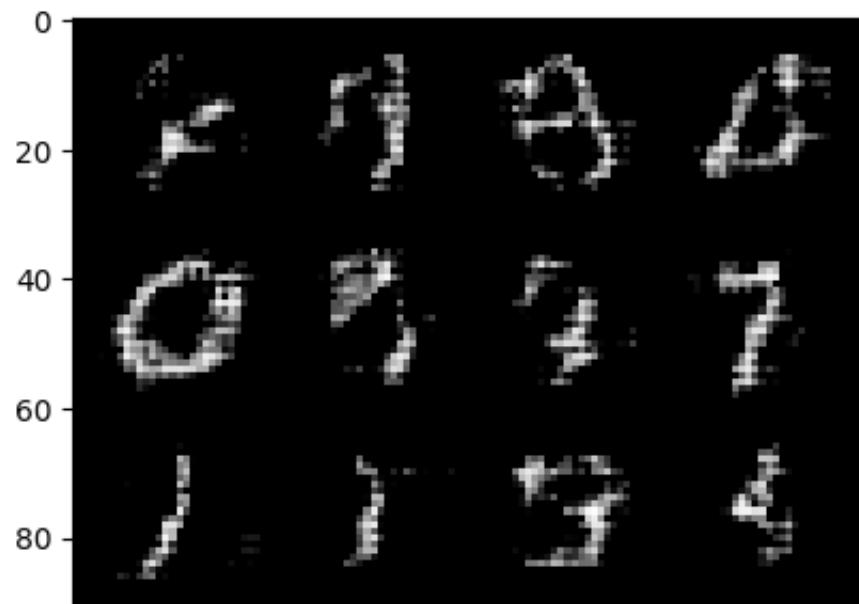


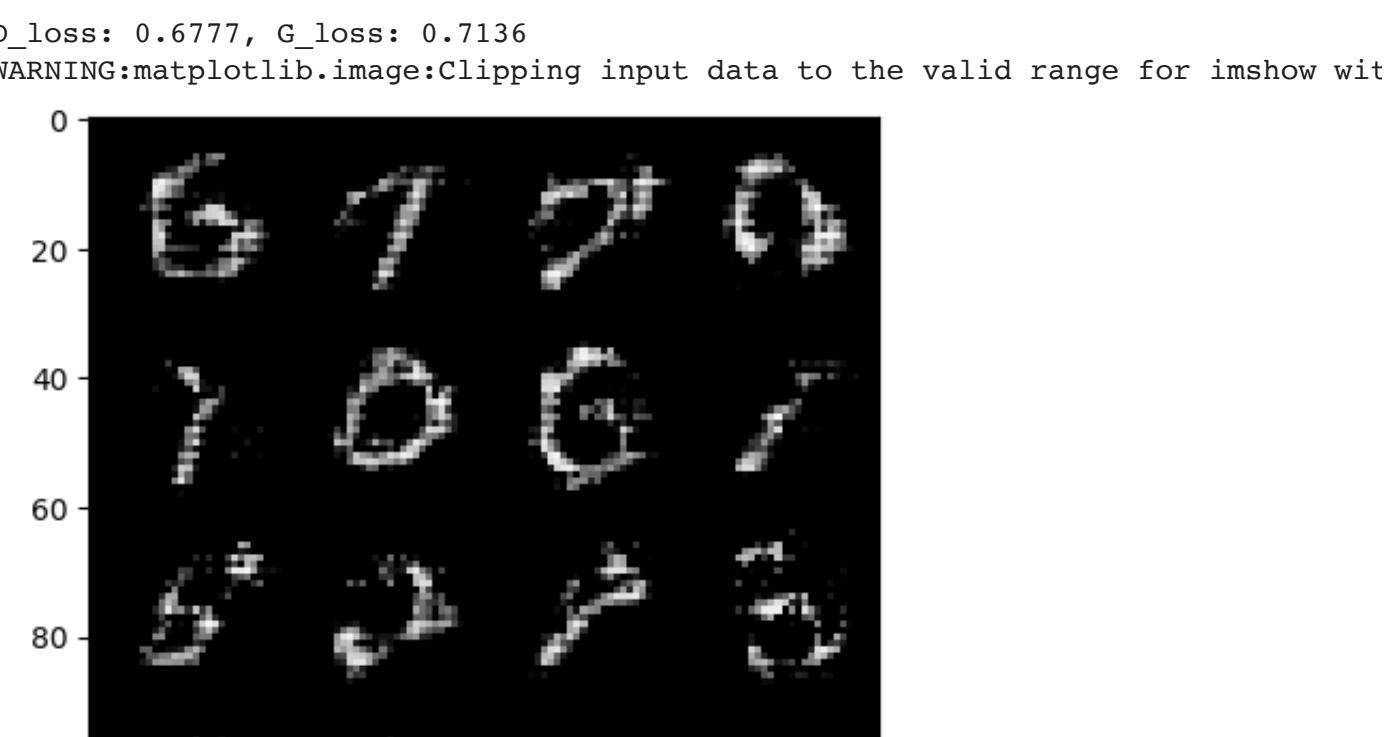
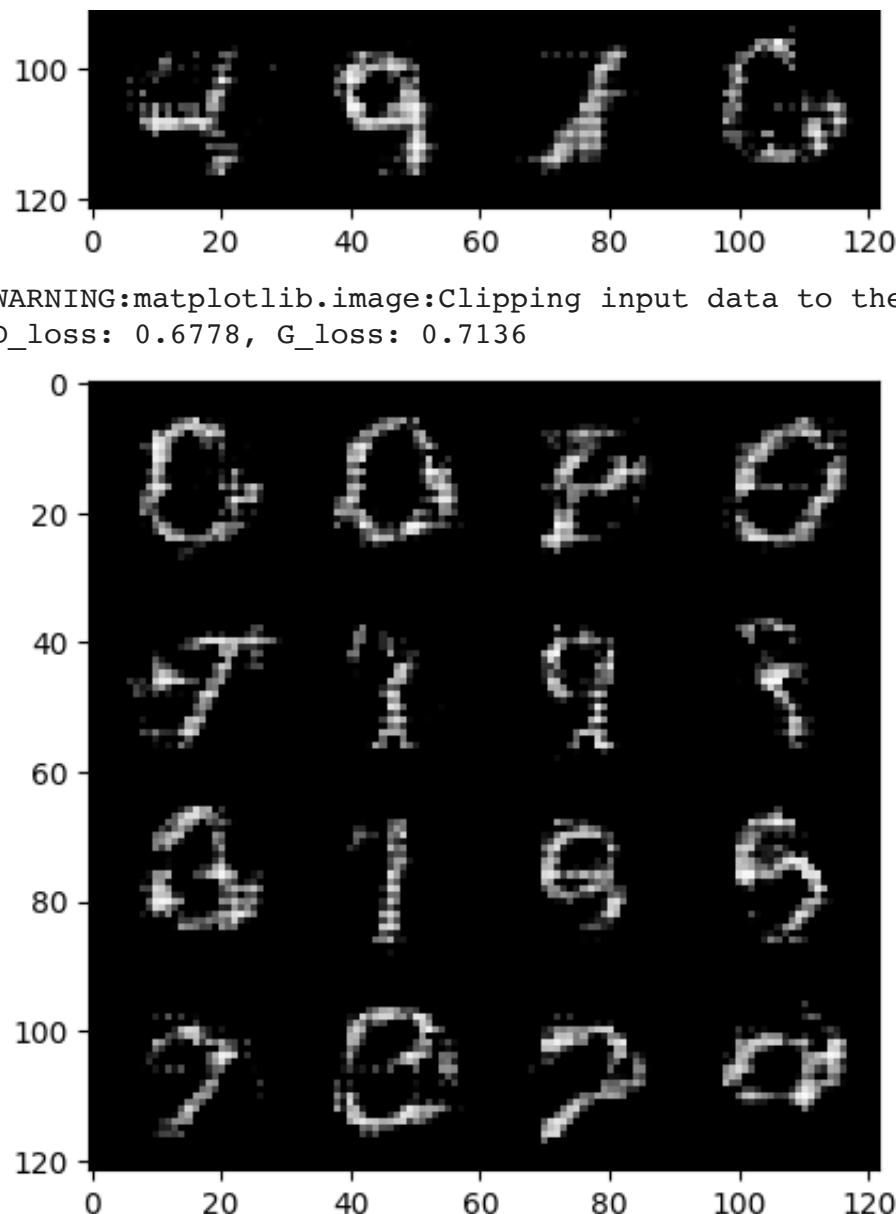
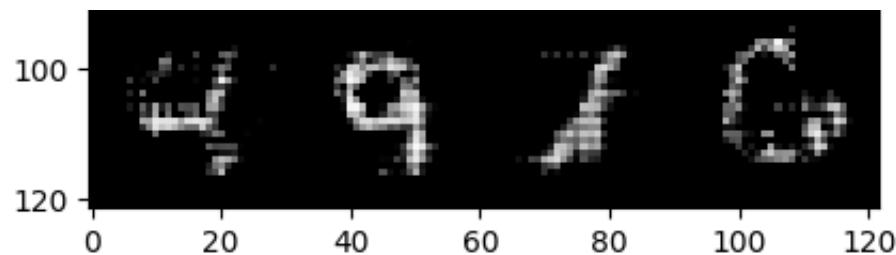


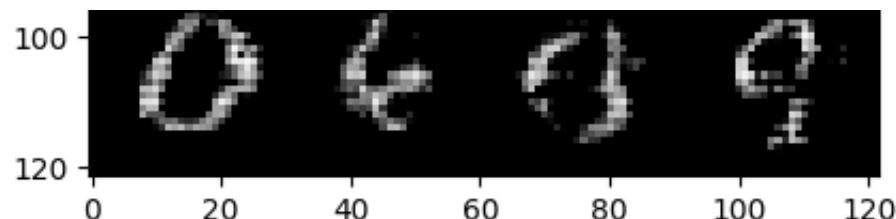
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6779, G_loss: 0.7135



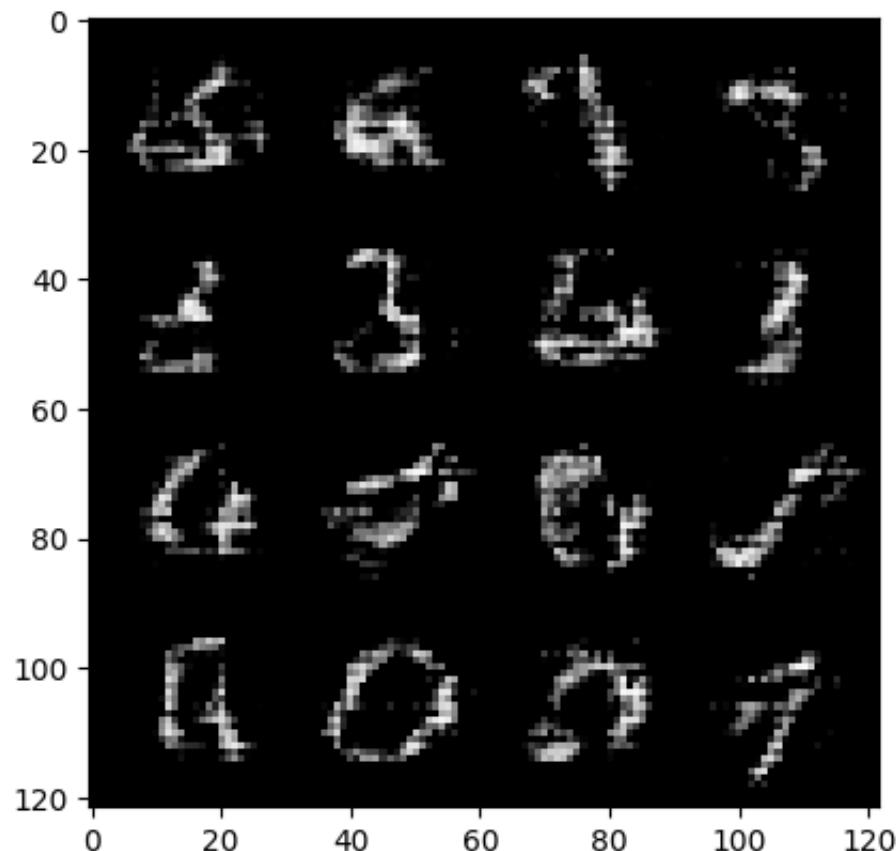
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6779, G_loss: 0.7135





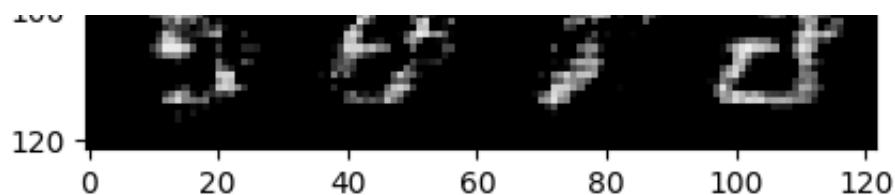


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6777, G_loss: 0.7137

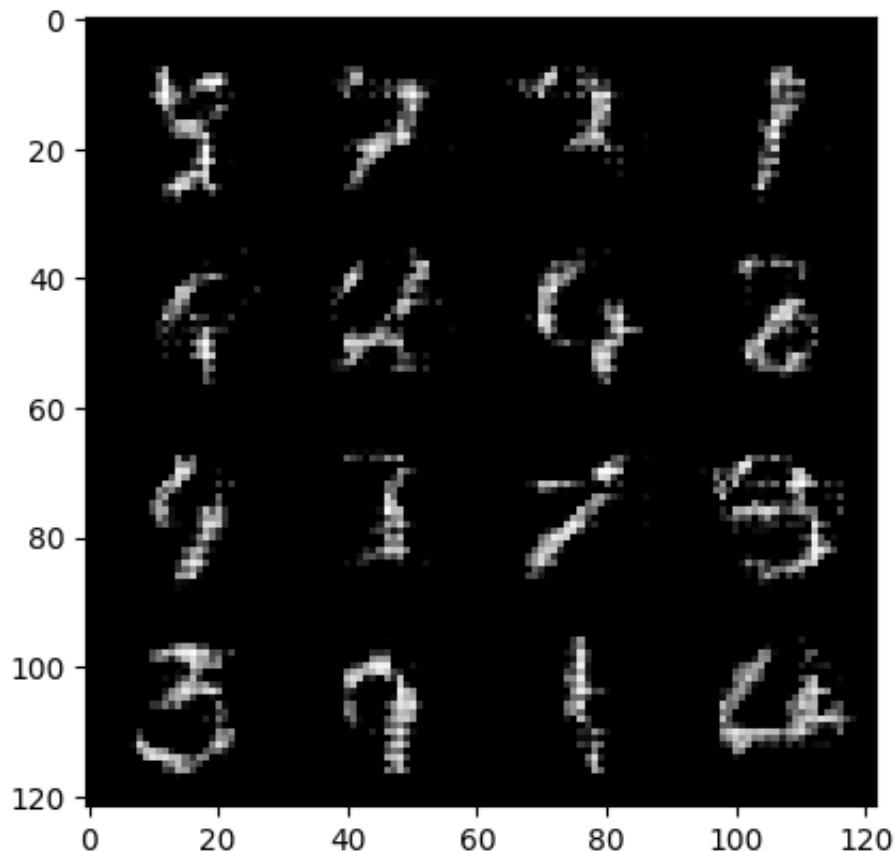


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6776, G_loss: 0.7137

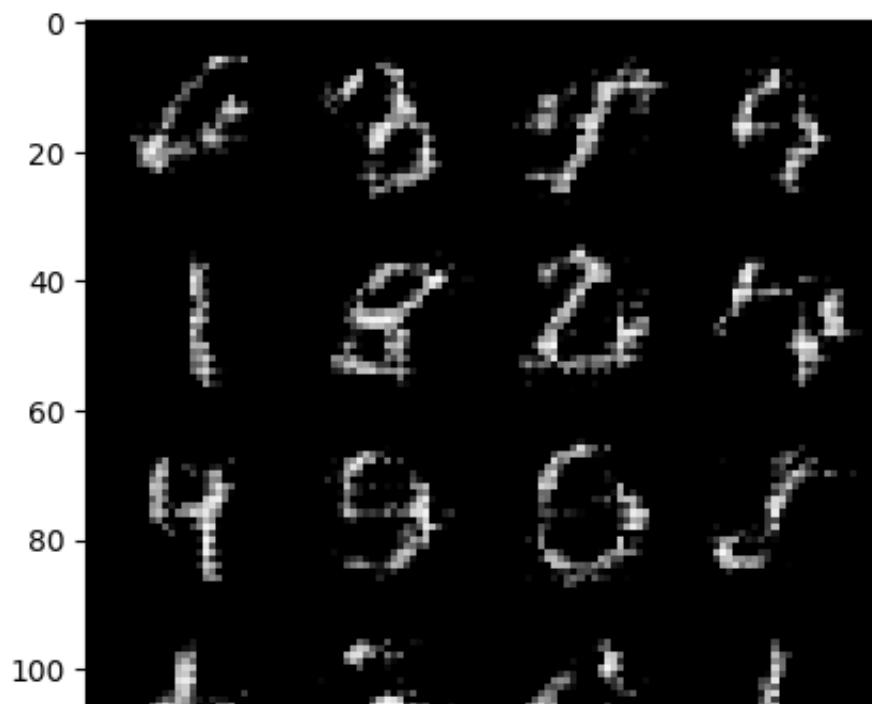


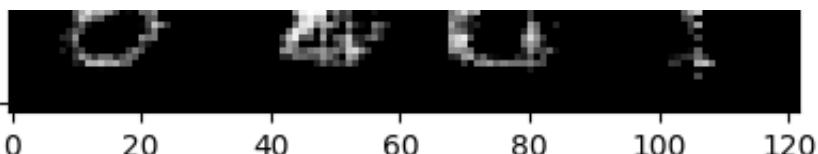


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6776, G_loss: 0.7138

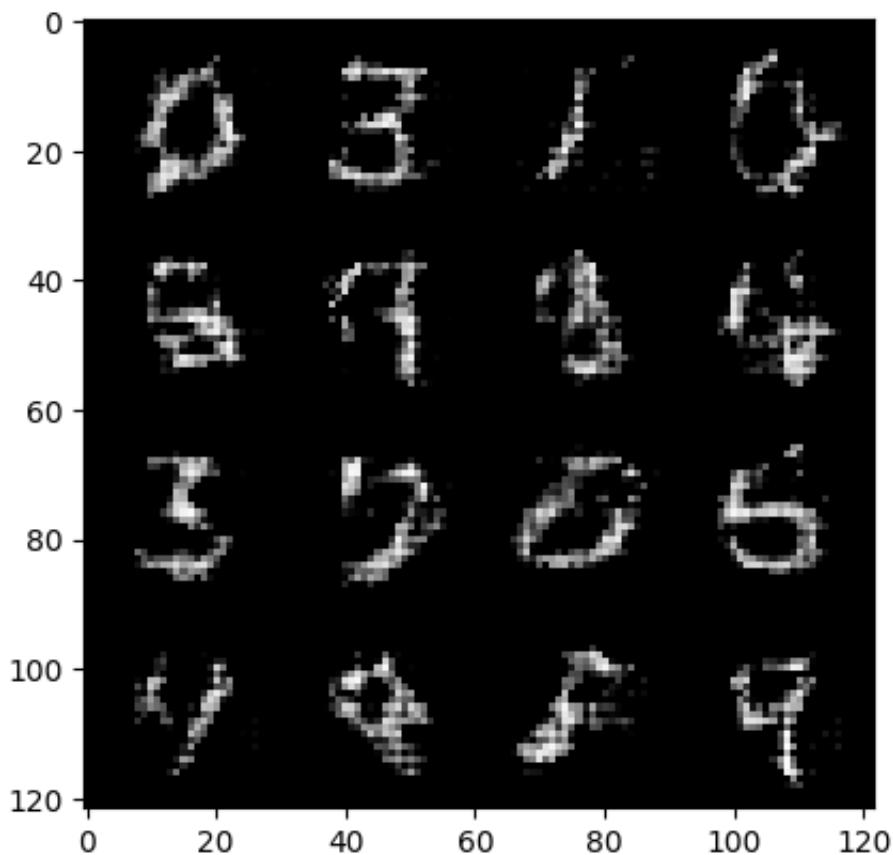


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6775, G_loss: 0.7139





WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6775, G_loss: 0.7140

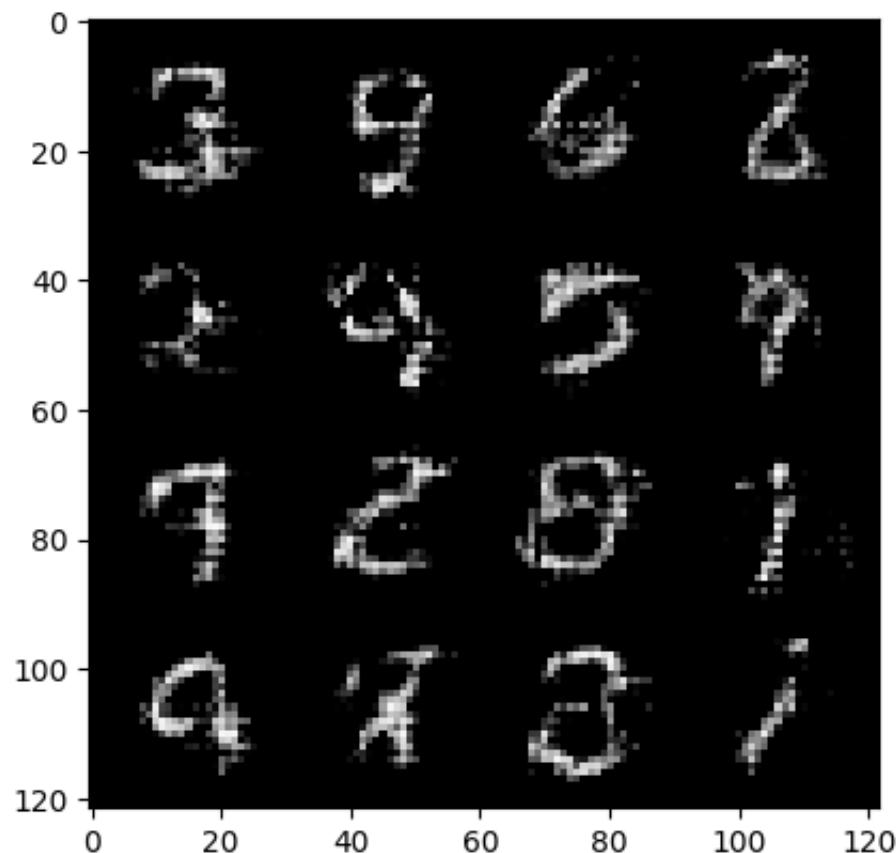


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0 and max=1
D_loss: 0.6774, G_loss: 0.7140

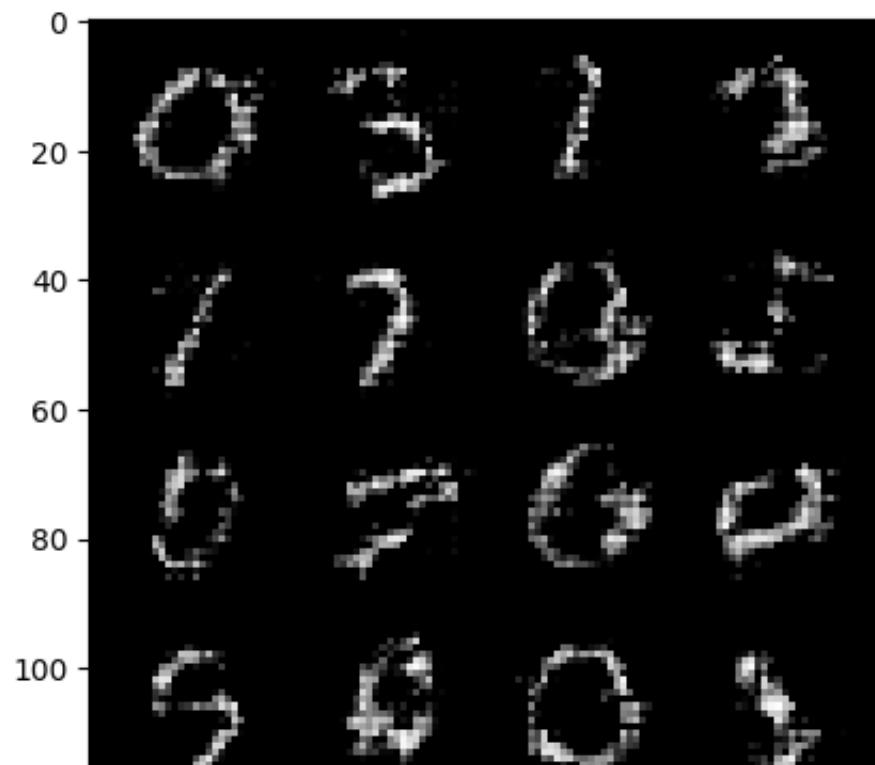


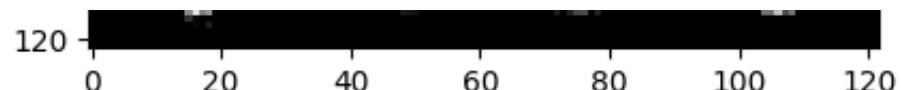


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6774, G_loss: 0.7141

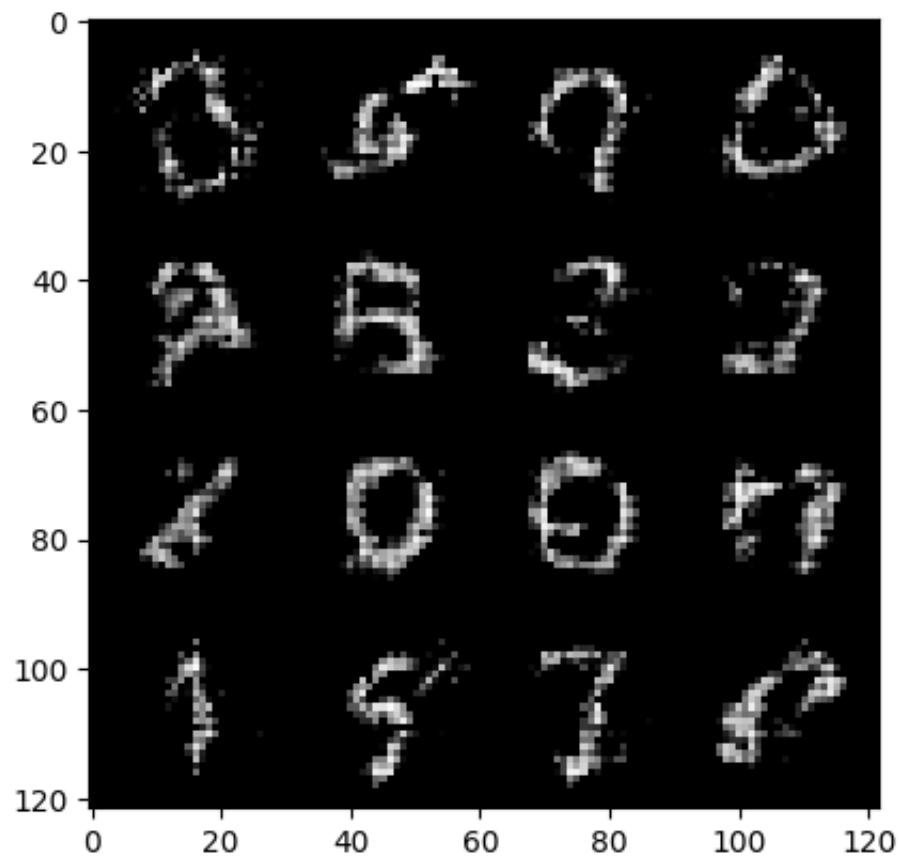


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6773, G_loss: 0.7142

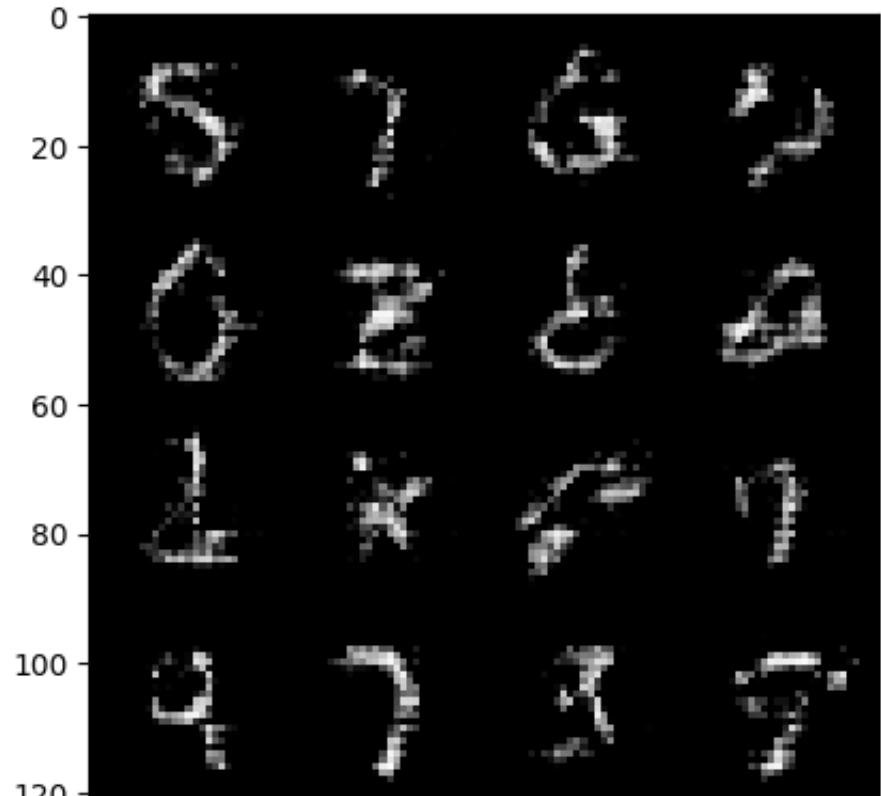


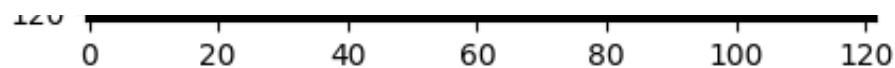


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clipping' set to True
D_loss: 0.6772, G_loss: 0.7143

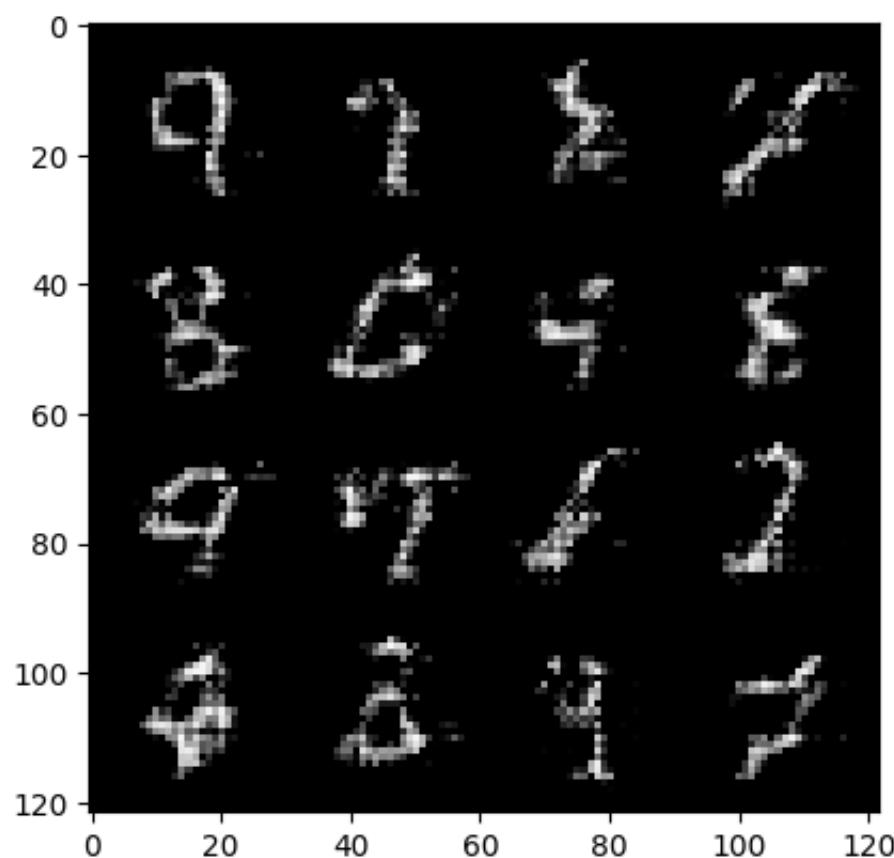


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with parameter 'clipping' set to True
D_loss: 0.6772, G_loss: 0.7143

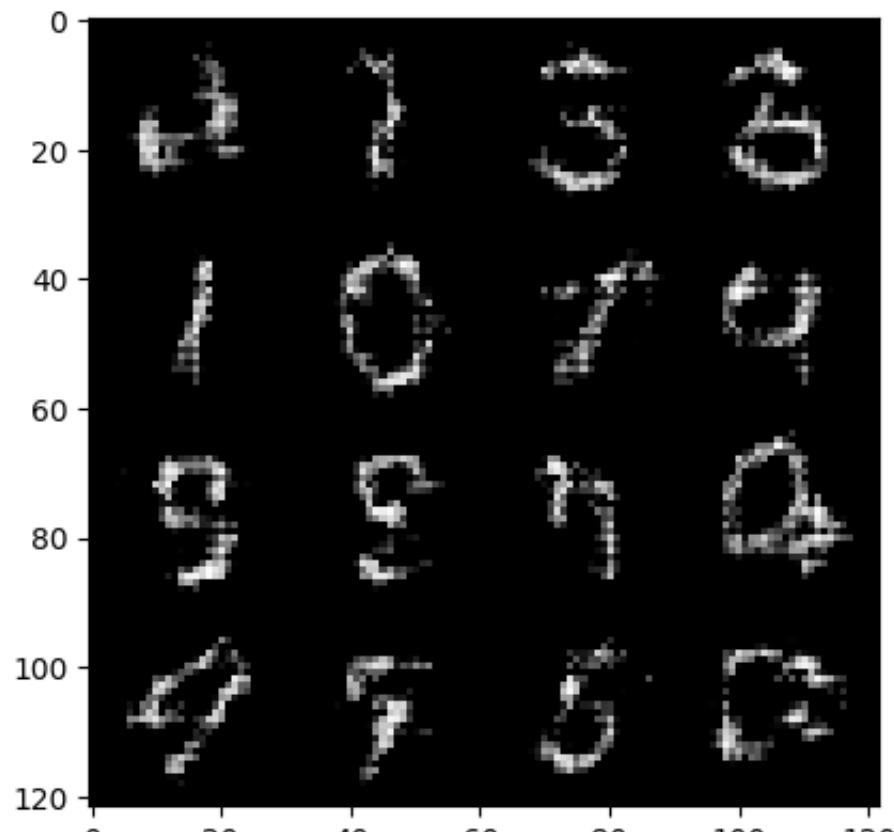




WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6771, G_loss: 0.7143

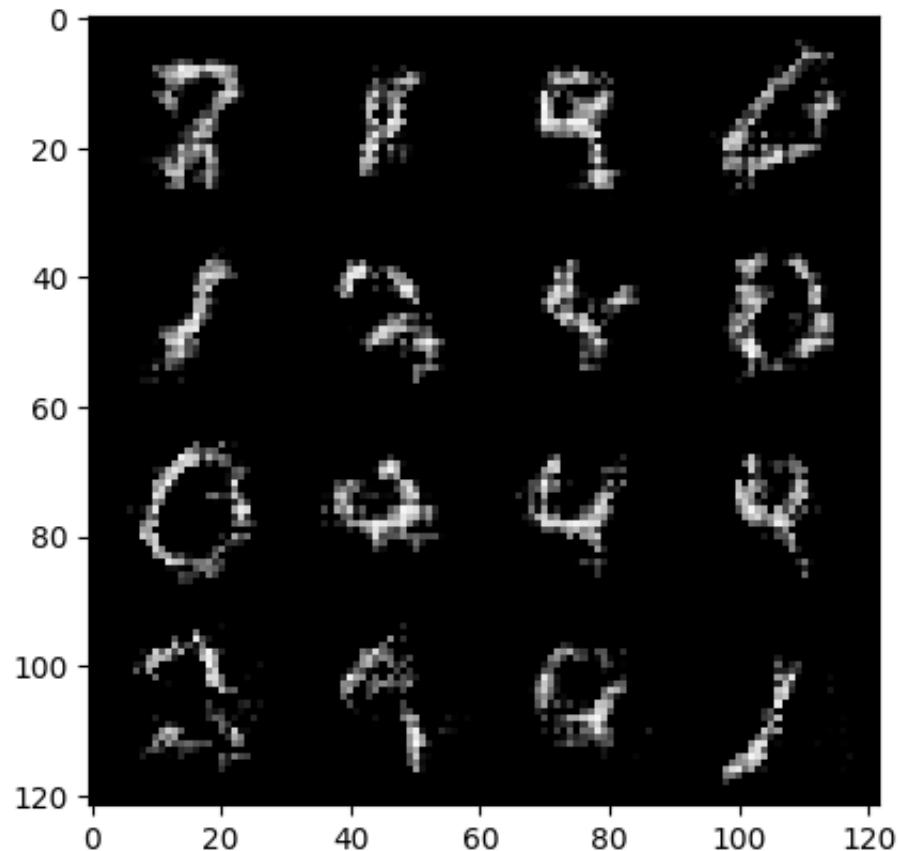


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6771, G_loss: 0.7144

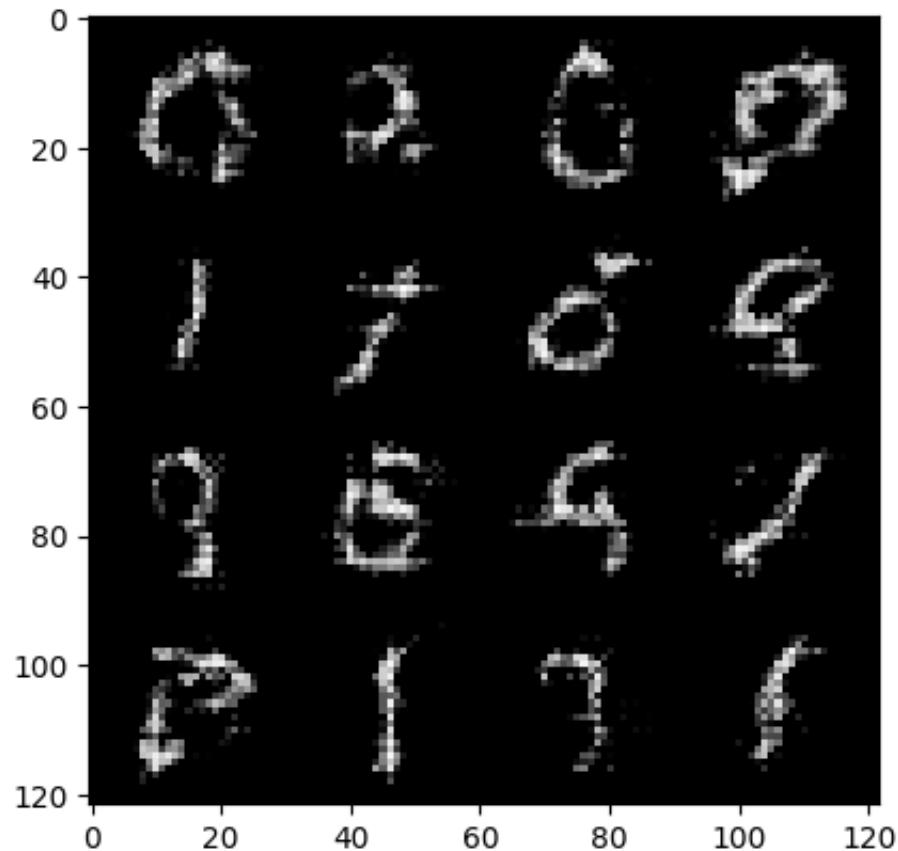


0 20 40 60 80 100 120

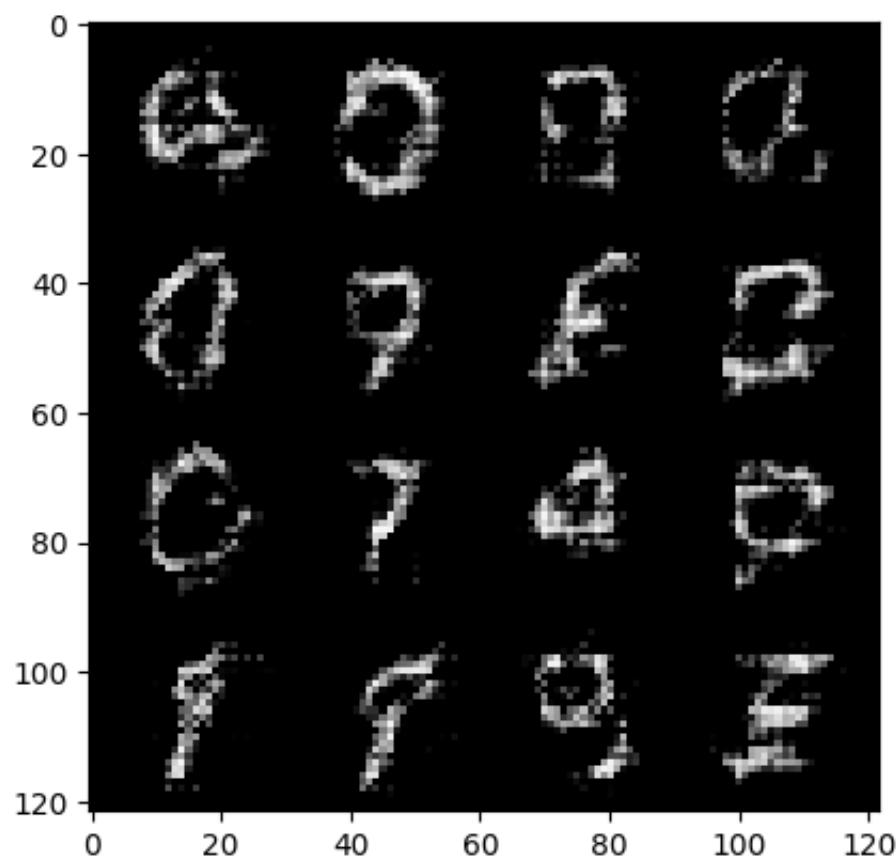
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6771, G_loss: 0.7145



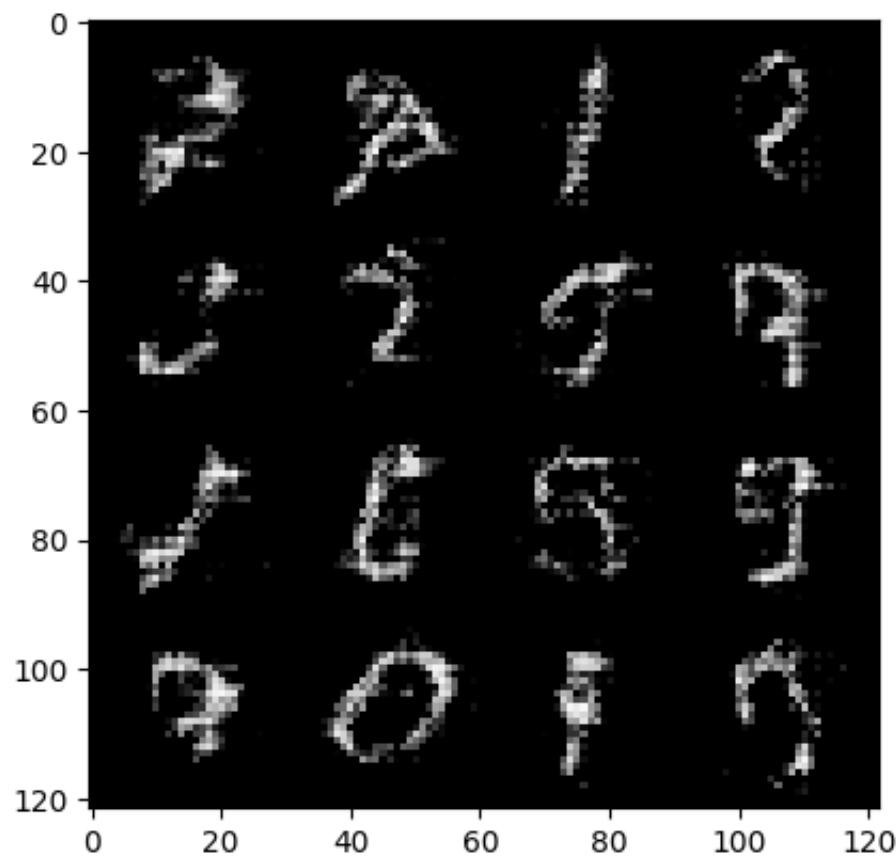
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6770, G_loss: 0.7145



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6770, G_loss: 0.7146

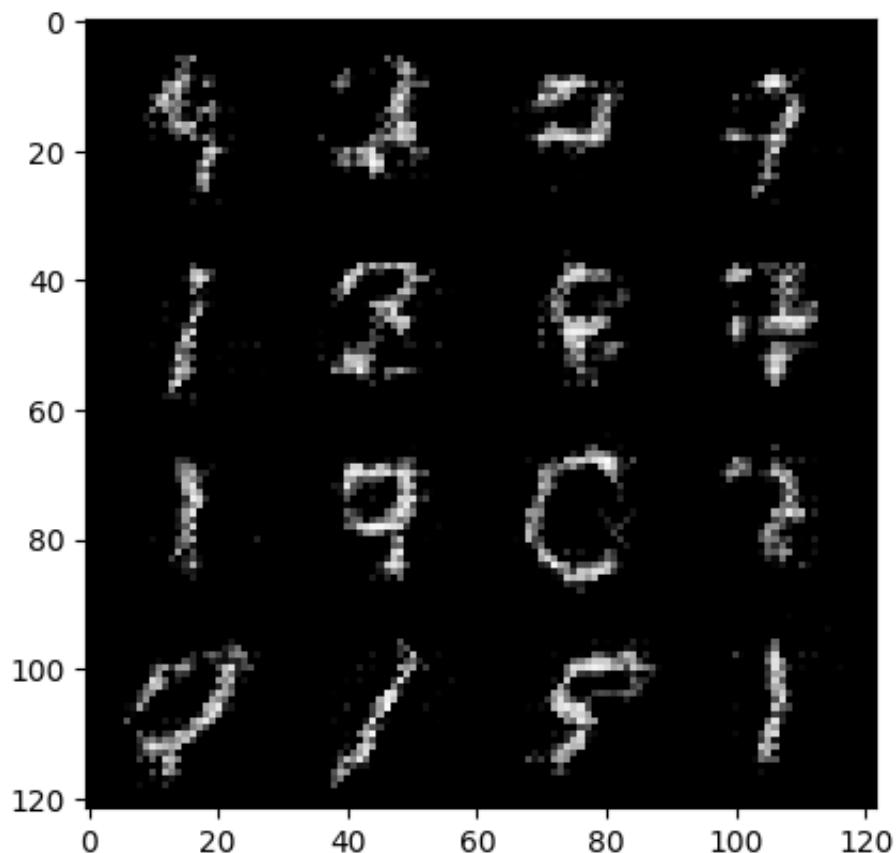


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6769, G_loss: 0.7146

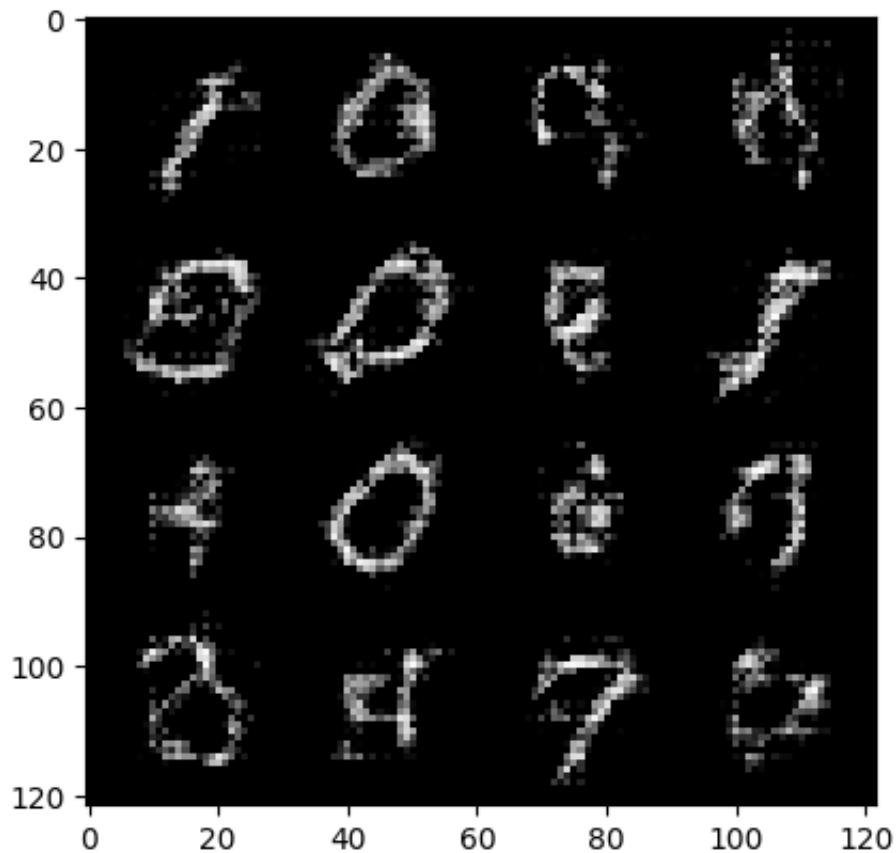


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-1.0, max=1.0
D_loss: 0.6769, G_loss: 0.7147

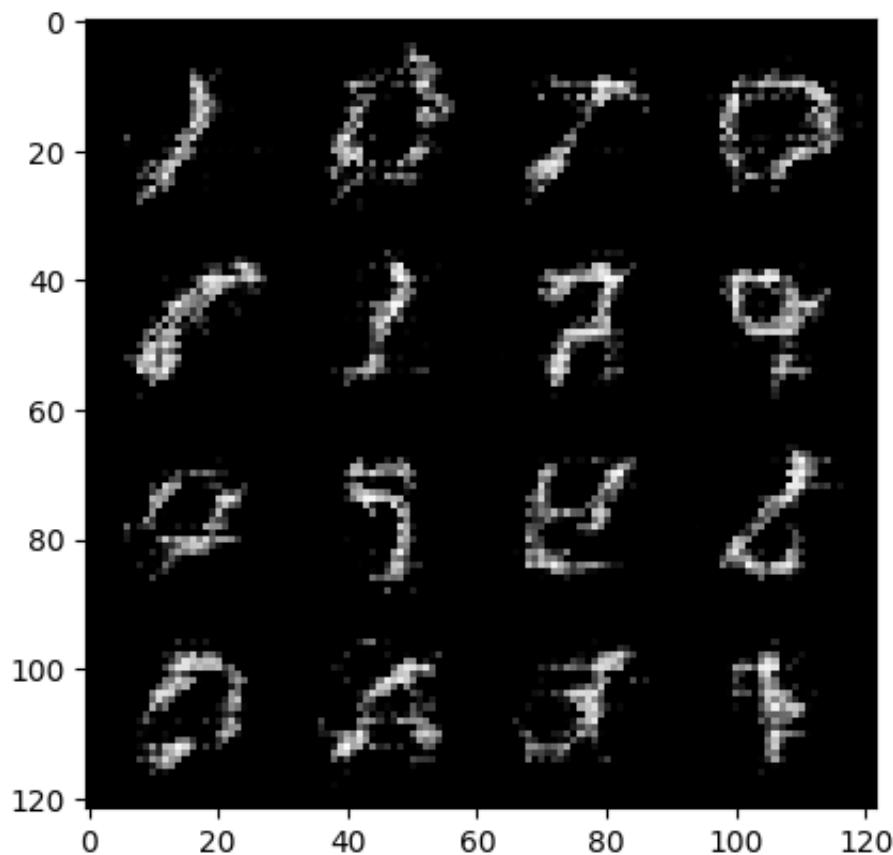


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-1.0, max=1.0
D_loss: 0.6768, G_loss: 0.7148

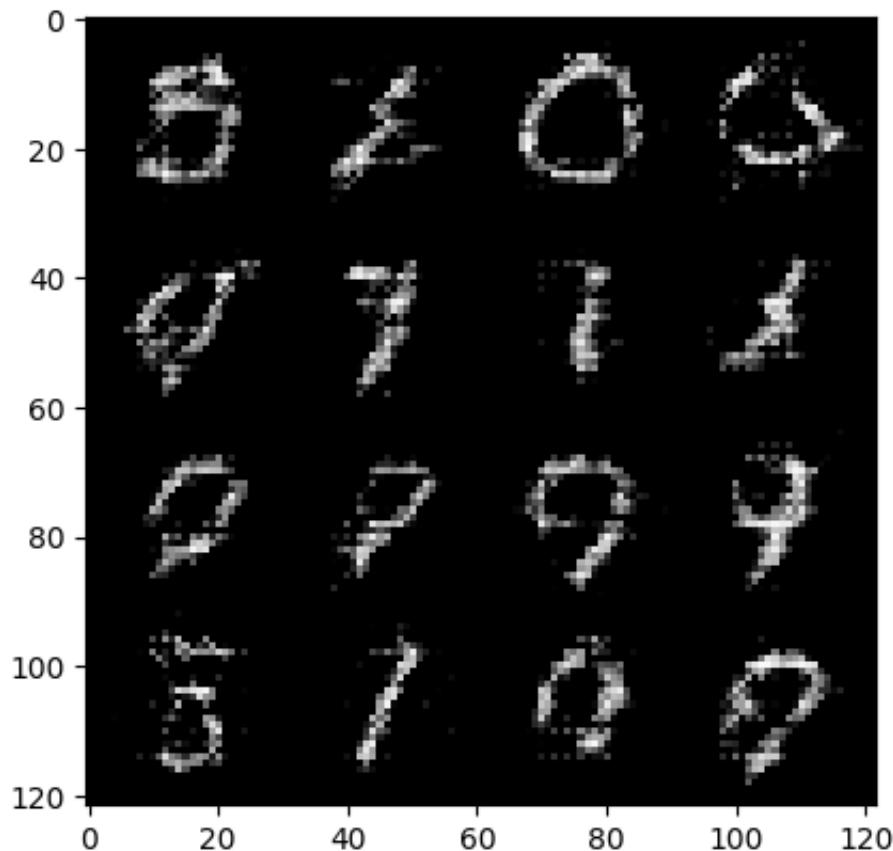


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-1.0, max=1.0
D_loss: 0.6760, G_loss: 0.7149

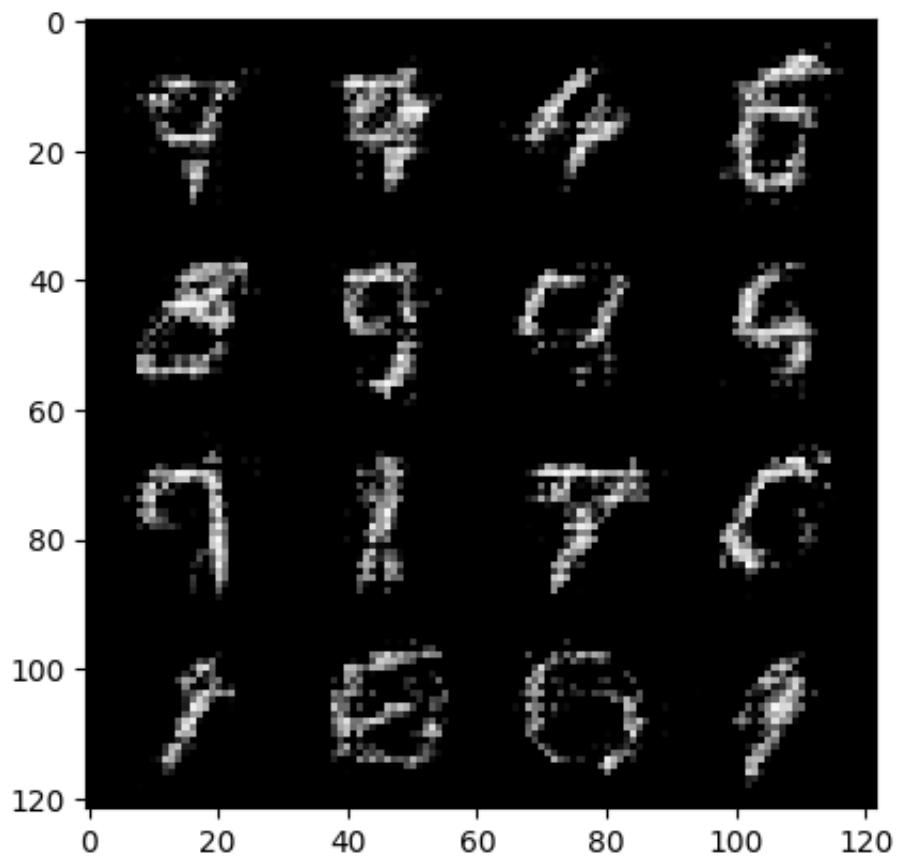
D_LOSS: 0.6768, G_LOSS: 0.7148



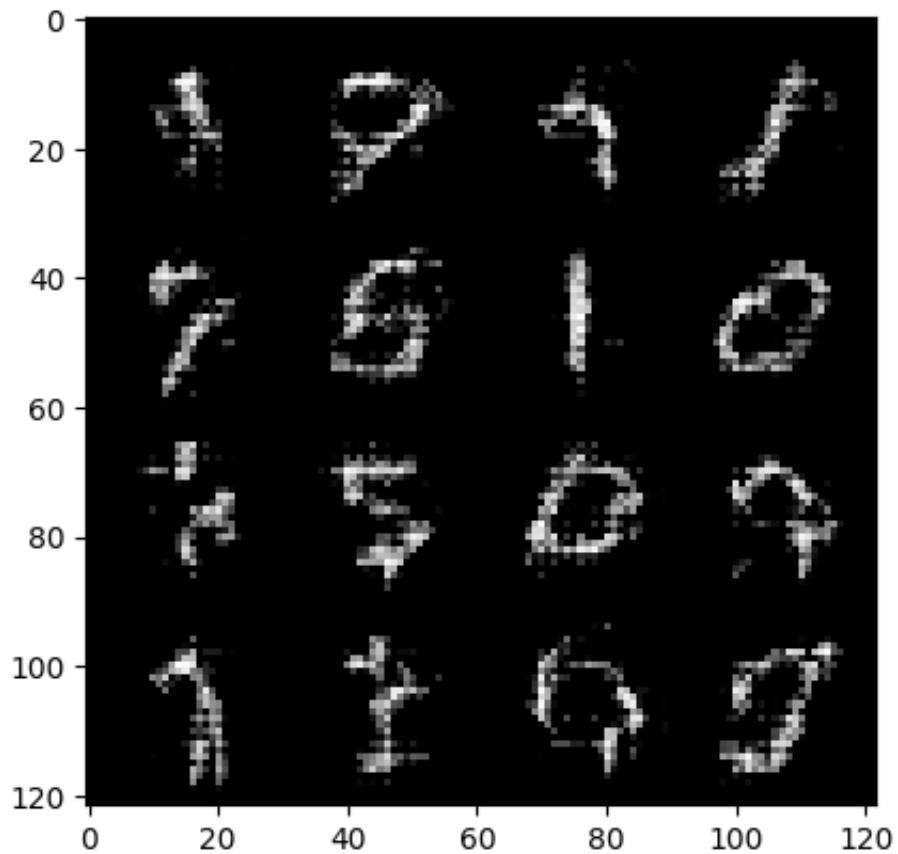
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6768, G_loss: 0.7148



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6767, G_loss: 0.7149

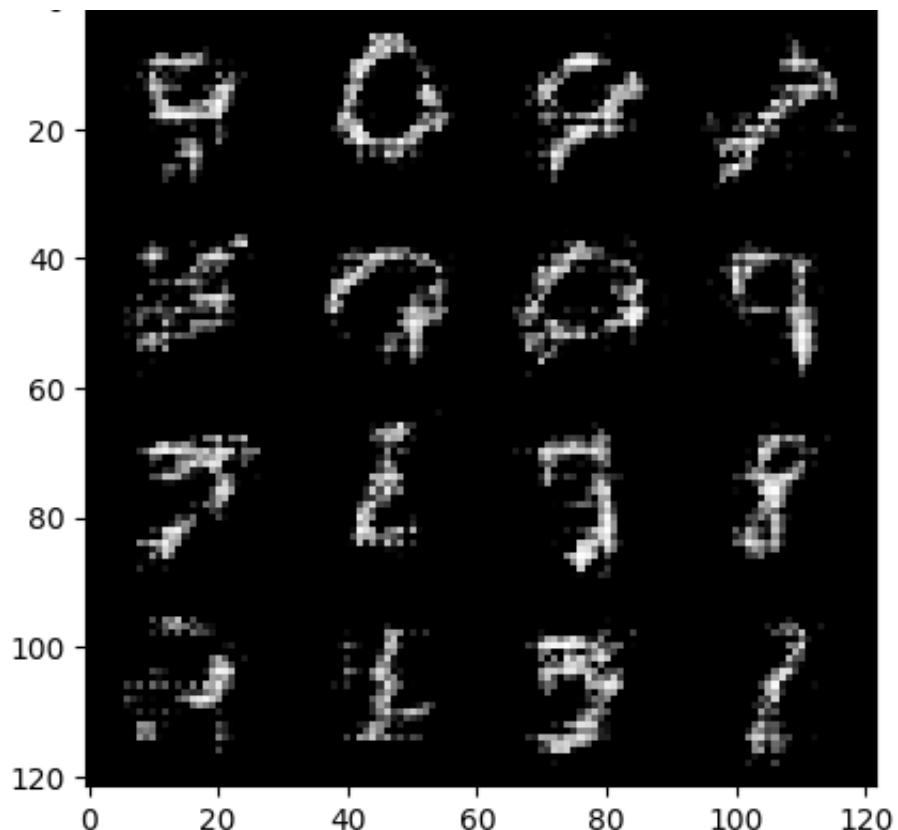


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6767, G_loss: 0.7149

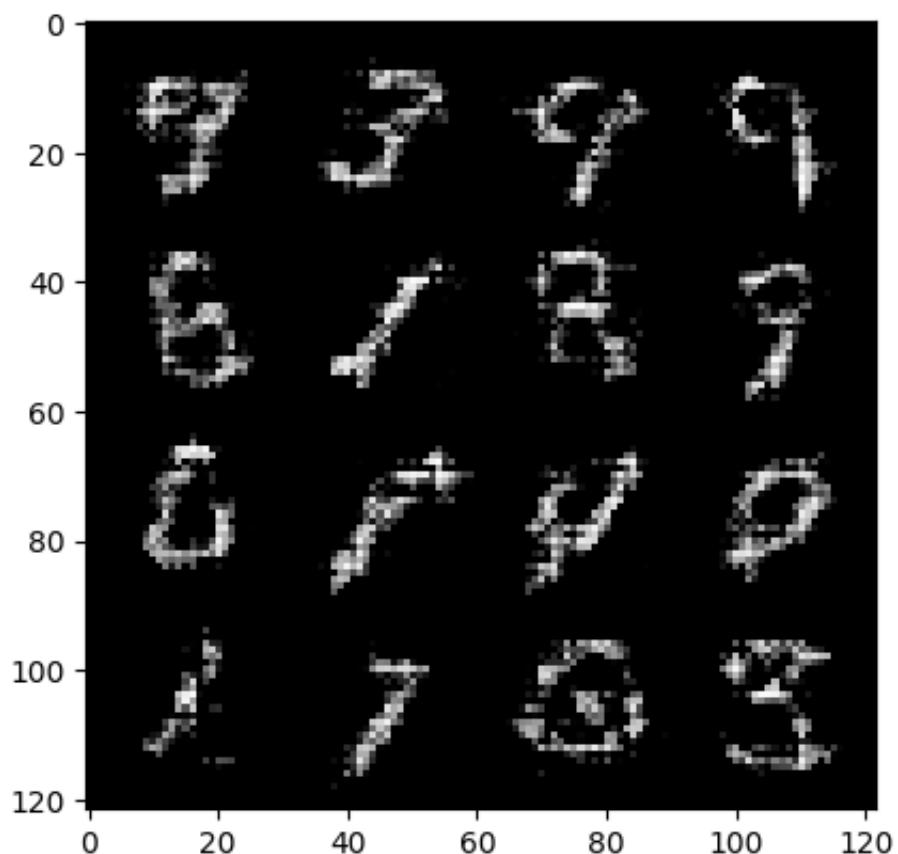


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6766, G_loss: 0.7150

0 ——————

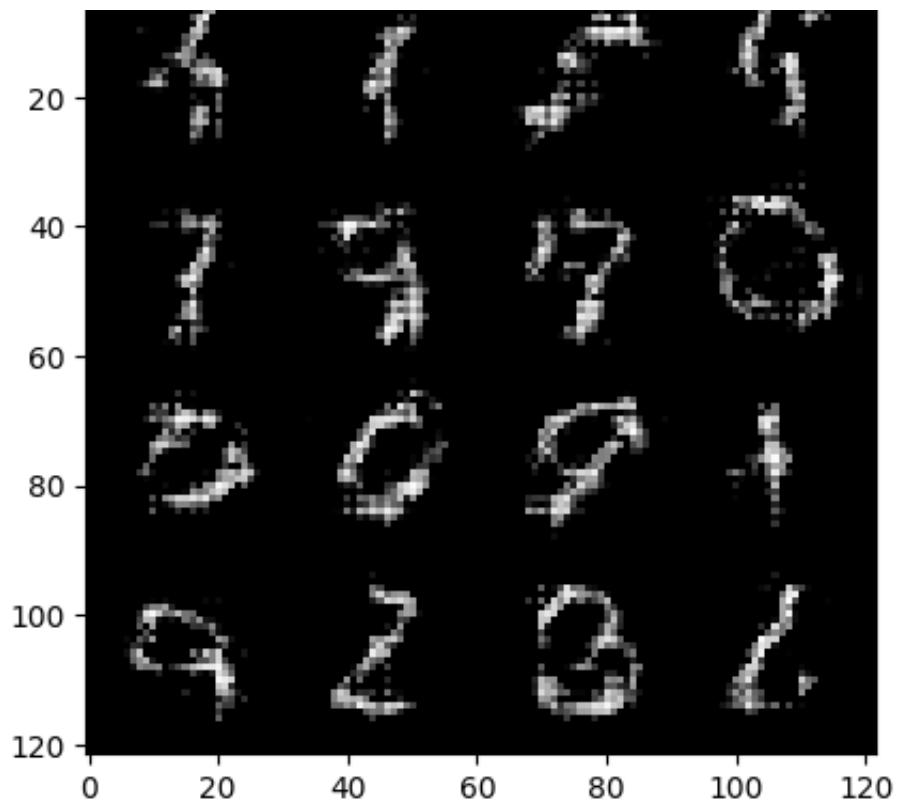


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0.0, max=1.0
D_loss: 0.6766, G_loss: 0.7151

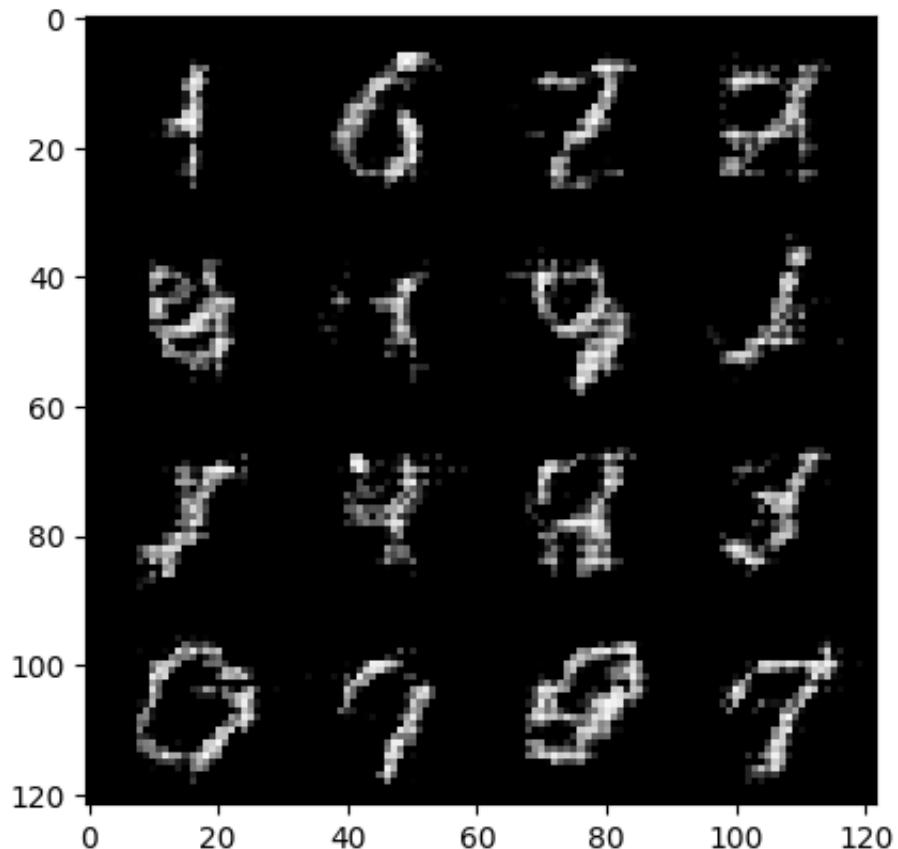


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=0.0, max=1.0
D_loss: 0.6765, G_loss: 0.7150



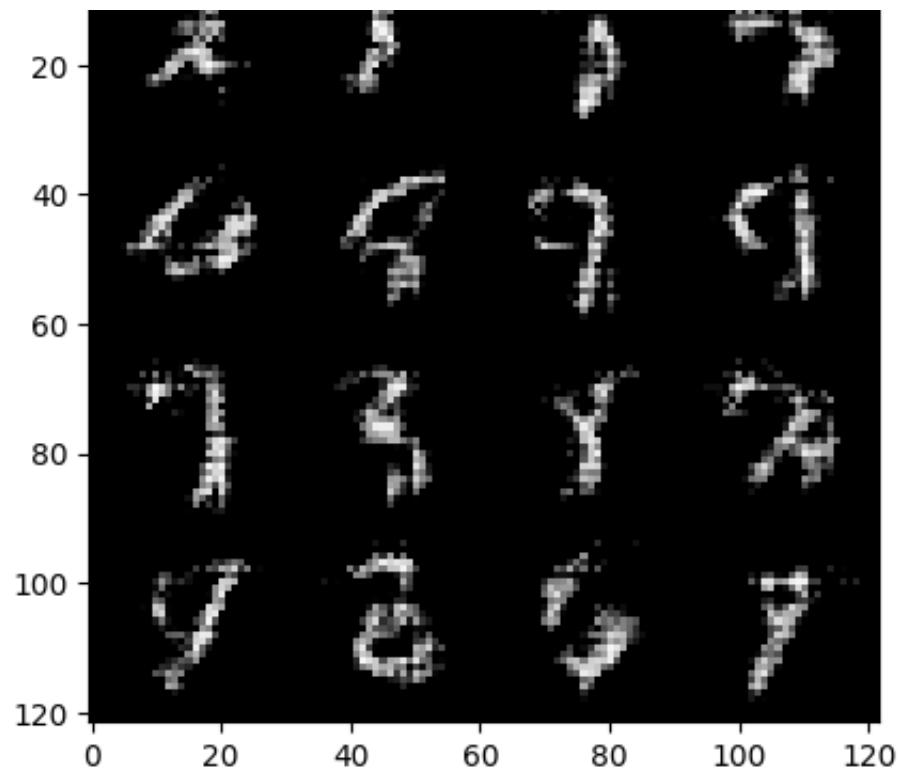


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6765, G_loss: 0.7150

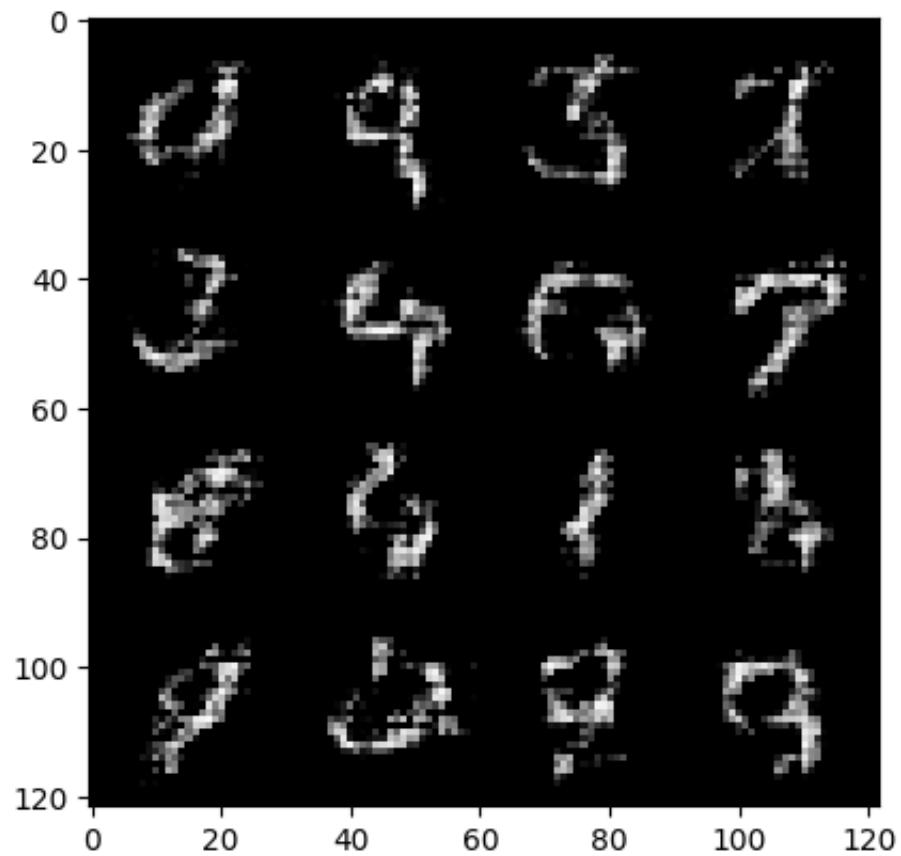


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6765, G_loss: 0.7151



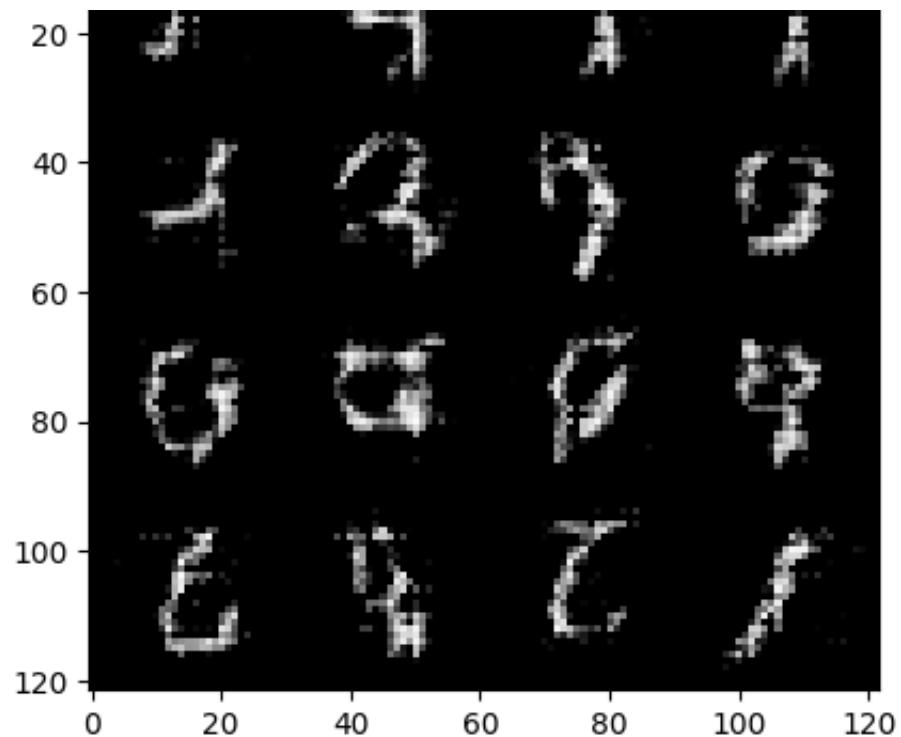


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6764, G_loss: 0.7152

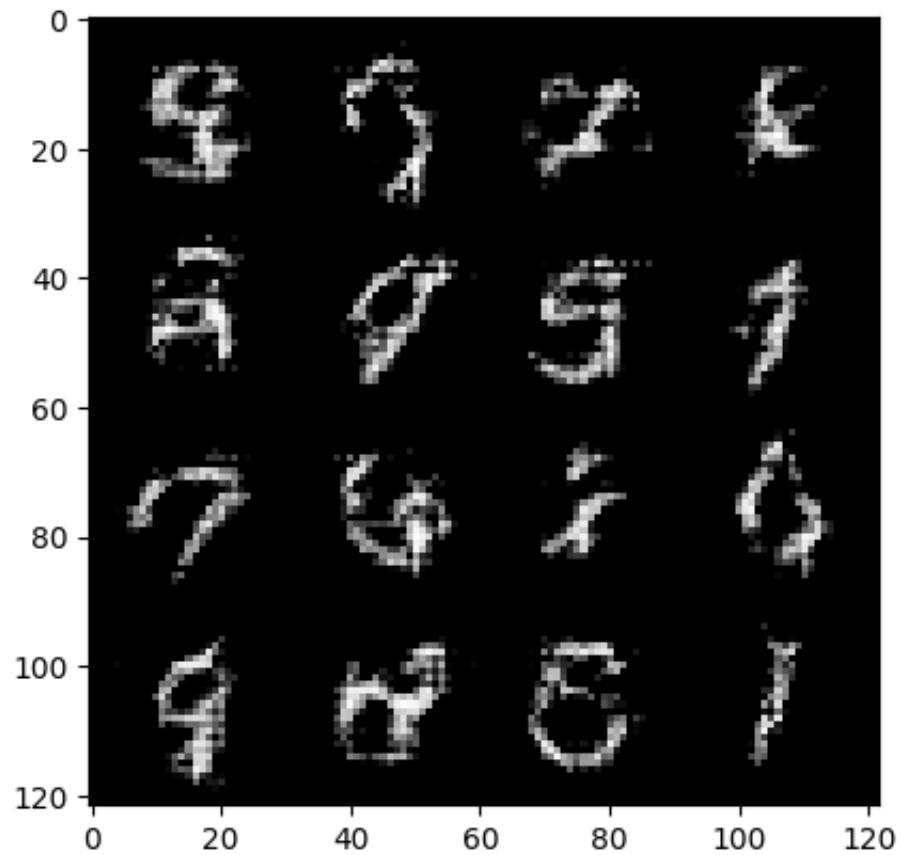


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6764, G_loss: 0.7152



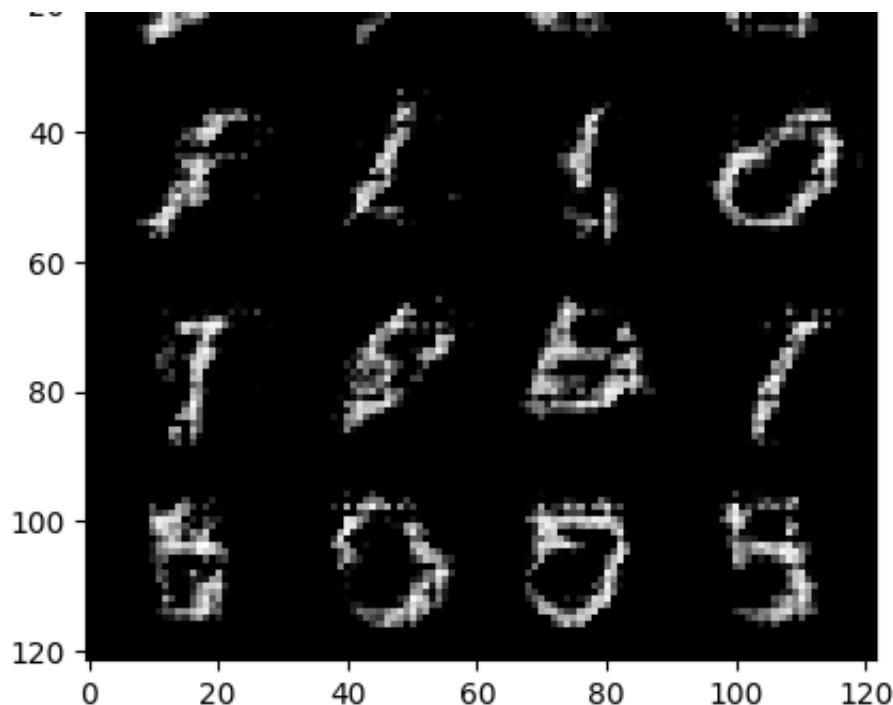


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6763, G_loss: 0.7153

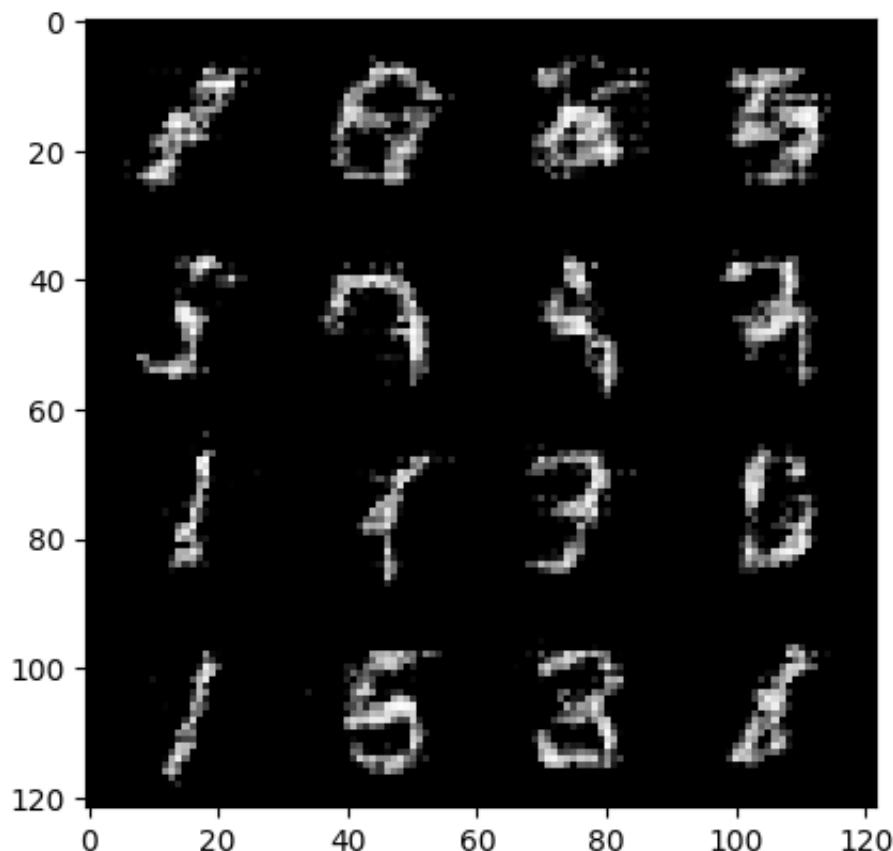


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6763, G_loss: 0.7154



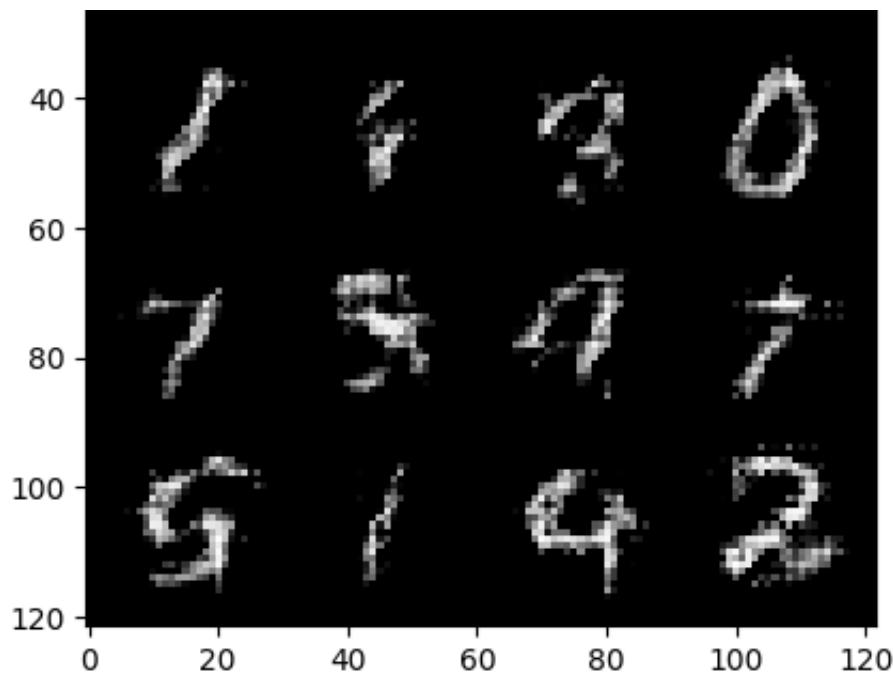


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.125, max=1.0
D_loss: 0.6762, G_loss: 0.7154

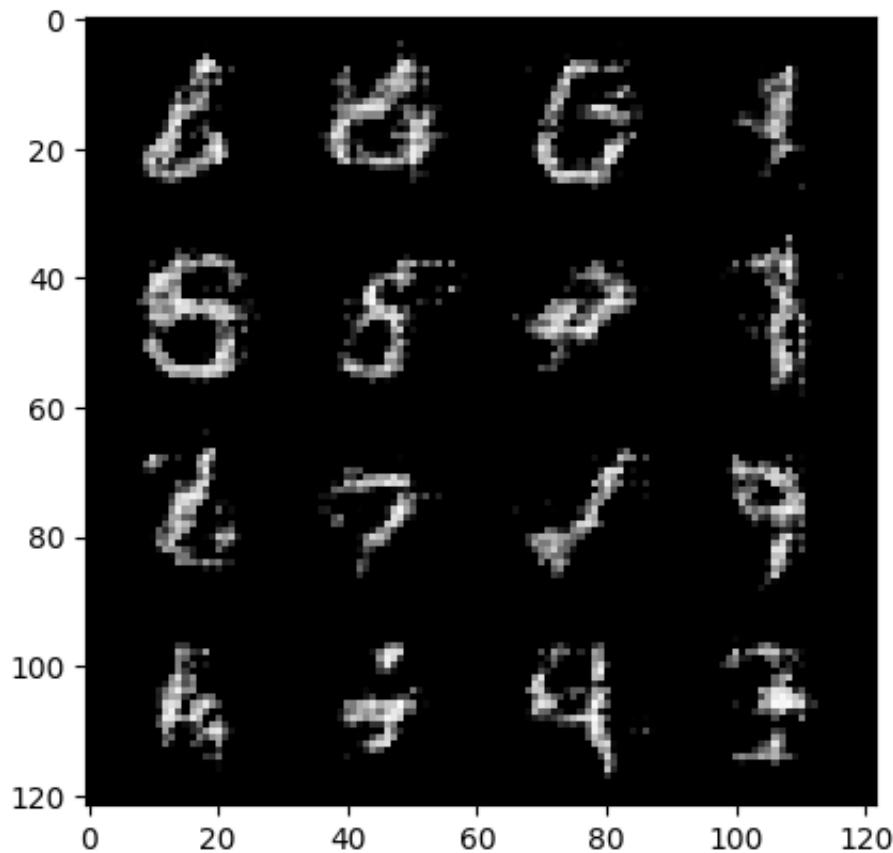


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.125, max=1.0
D_loss: 0.6762, G_loss: 0.7155



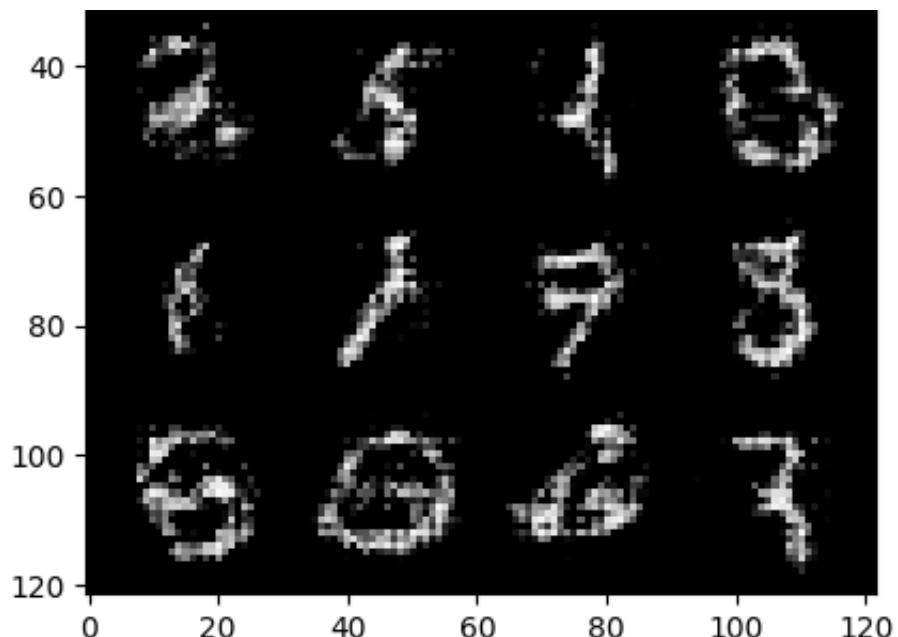


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6761, G_loss: 0.7156

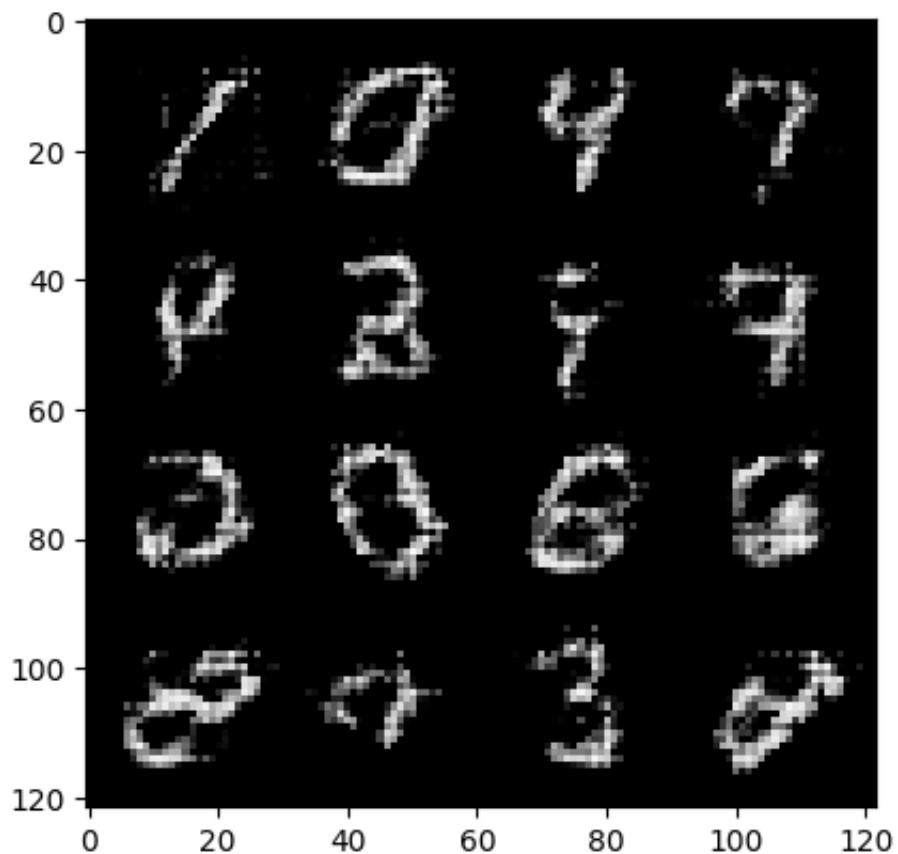


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6760, G_loss: 0.7156



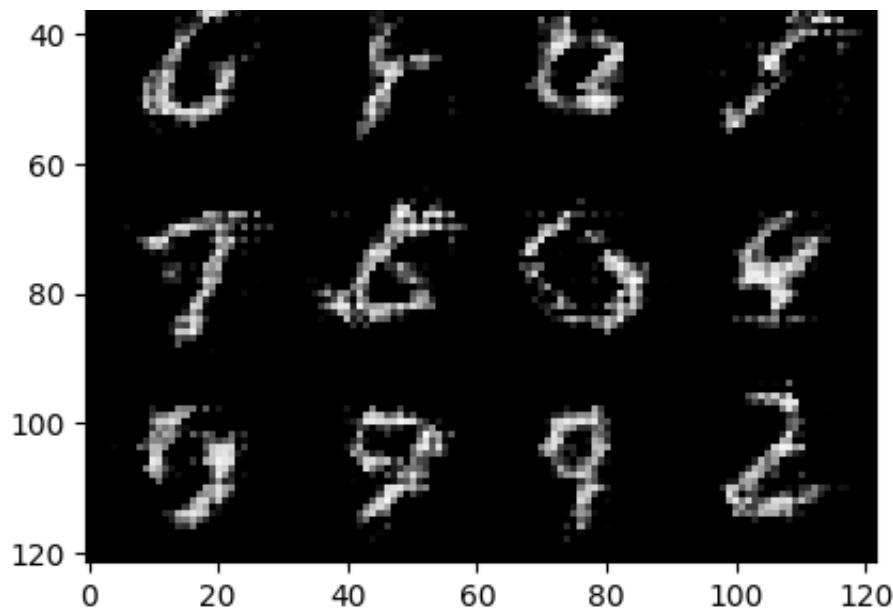


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.125, max=1.0
D_loss: 0.6760, G_loss: 0.7158

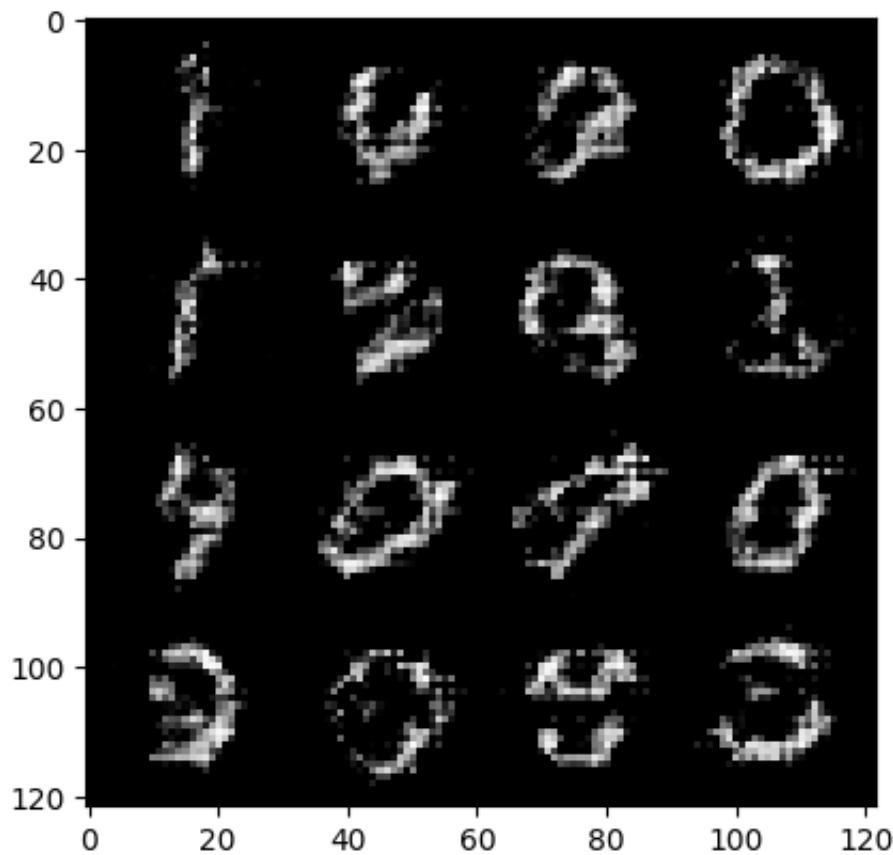


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.125, max=1.0
D_loss: 0.6759, G_loss: 0.7158



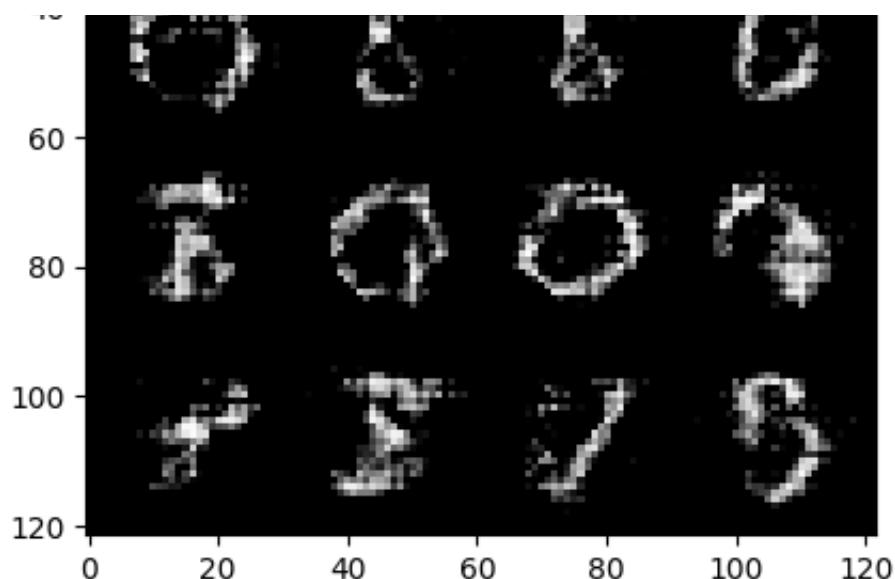


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6759, G_loss: 0.7159

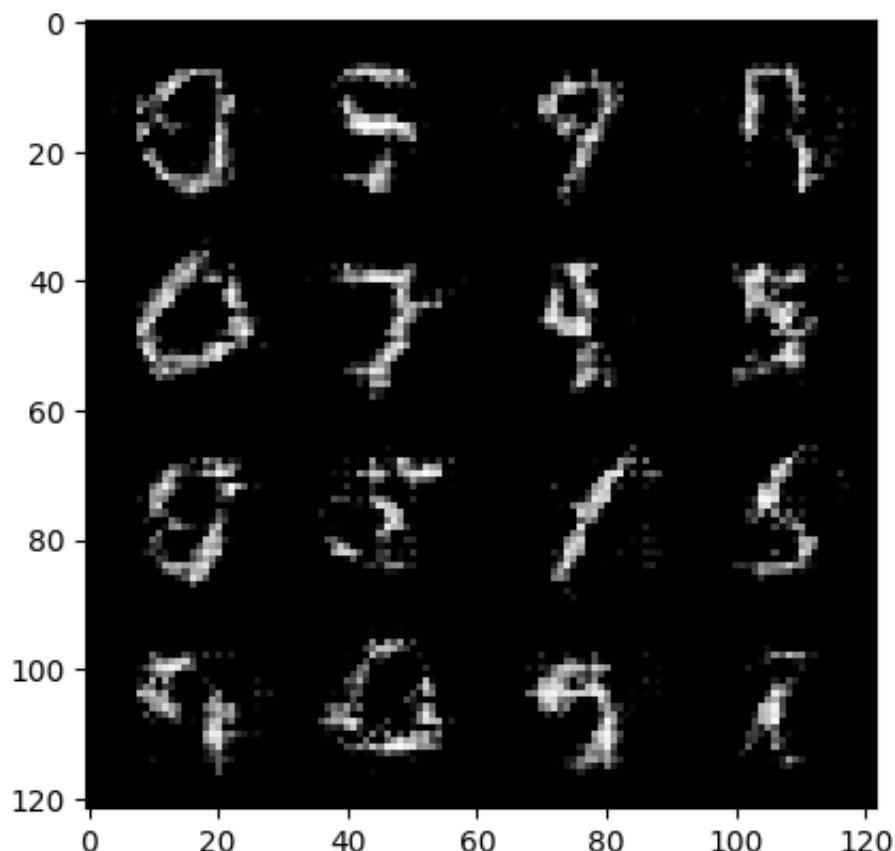


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6758, G_loss: 0.7160



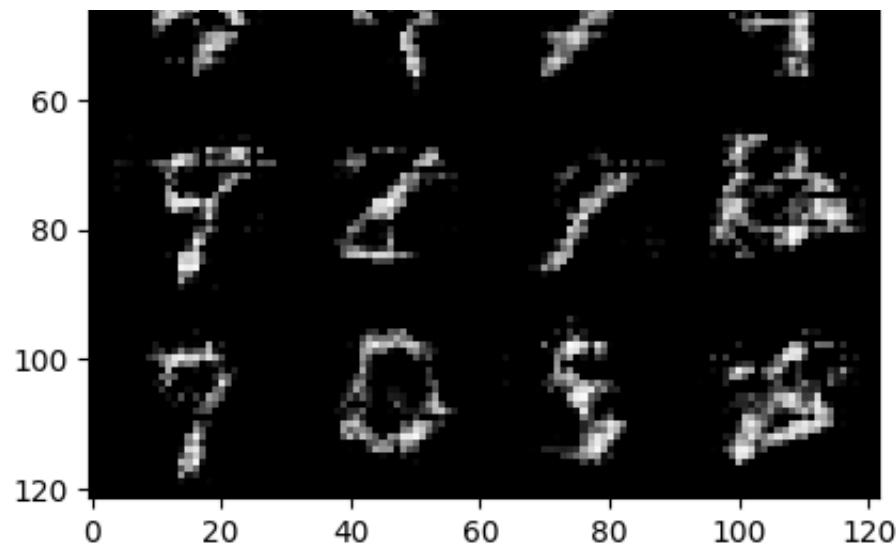


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6758, G_loss: 0.7160

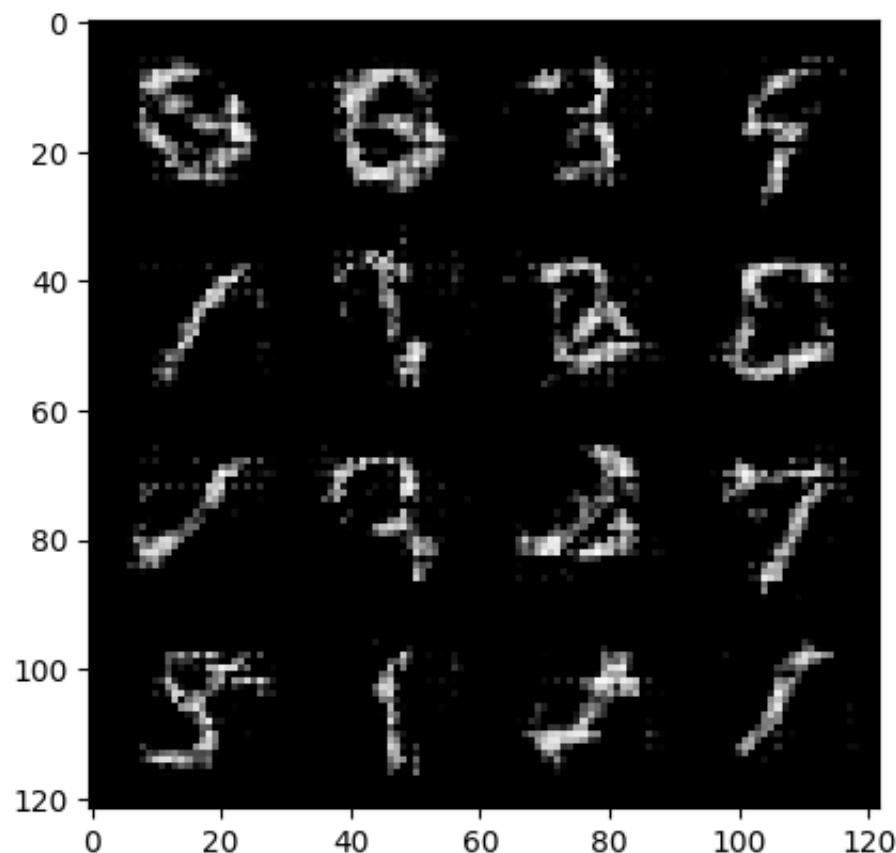


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6757, G_loss: 0.7161



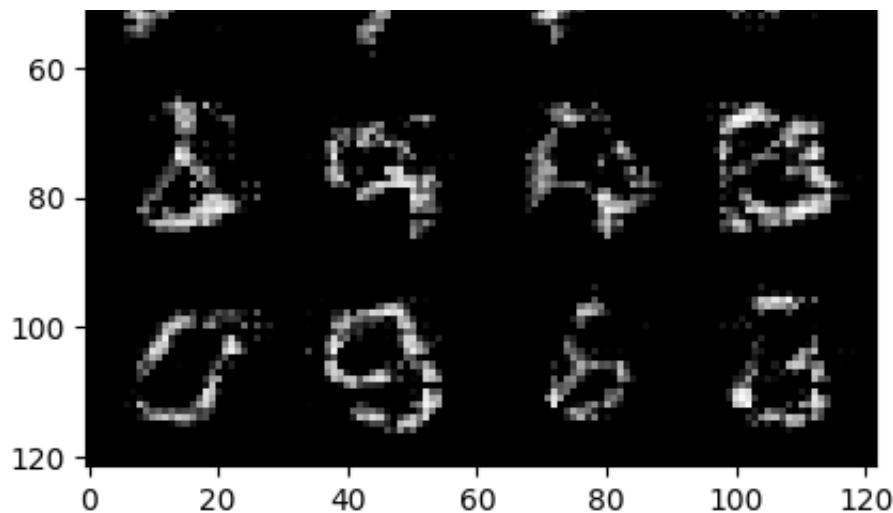


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6757, G_loss: 0.7162

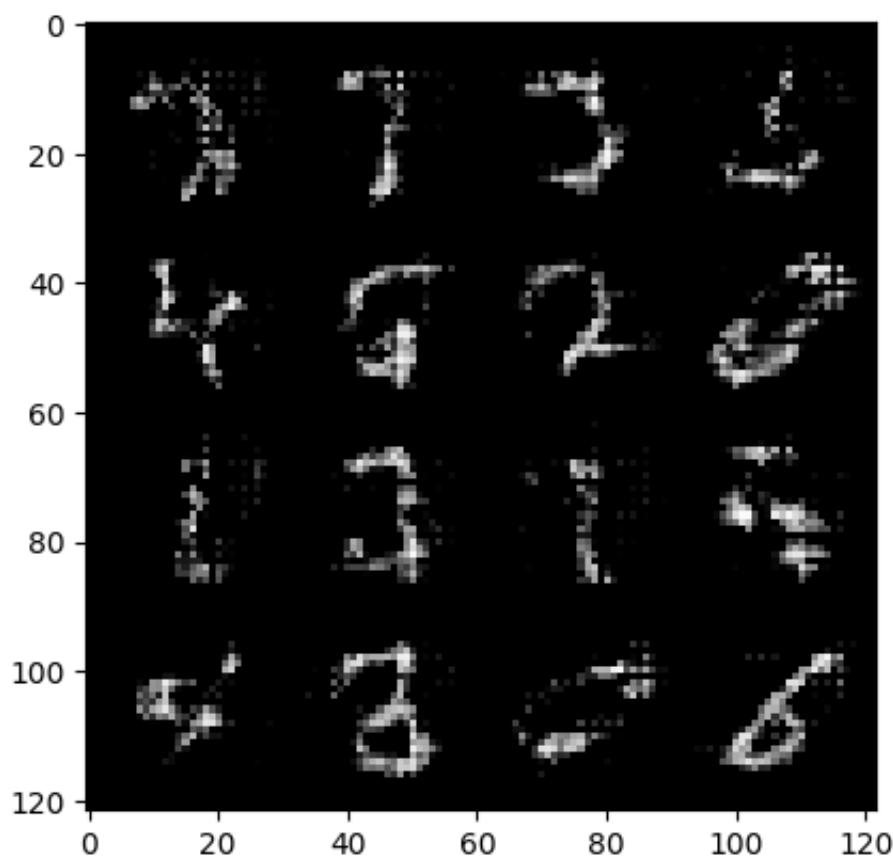


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32.
D_loss: 0.6756, G_loss: 0.7162



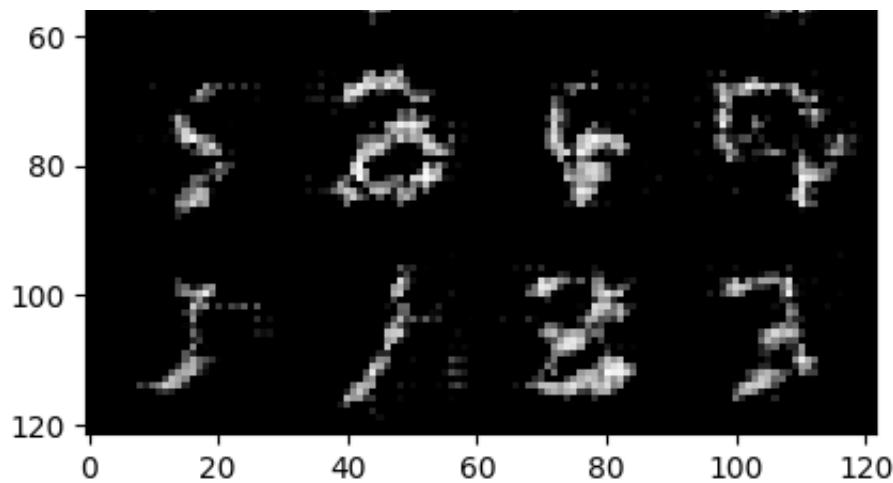


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6756, G_loss: 0.7163

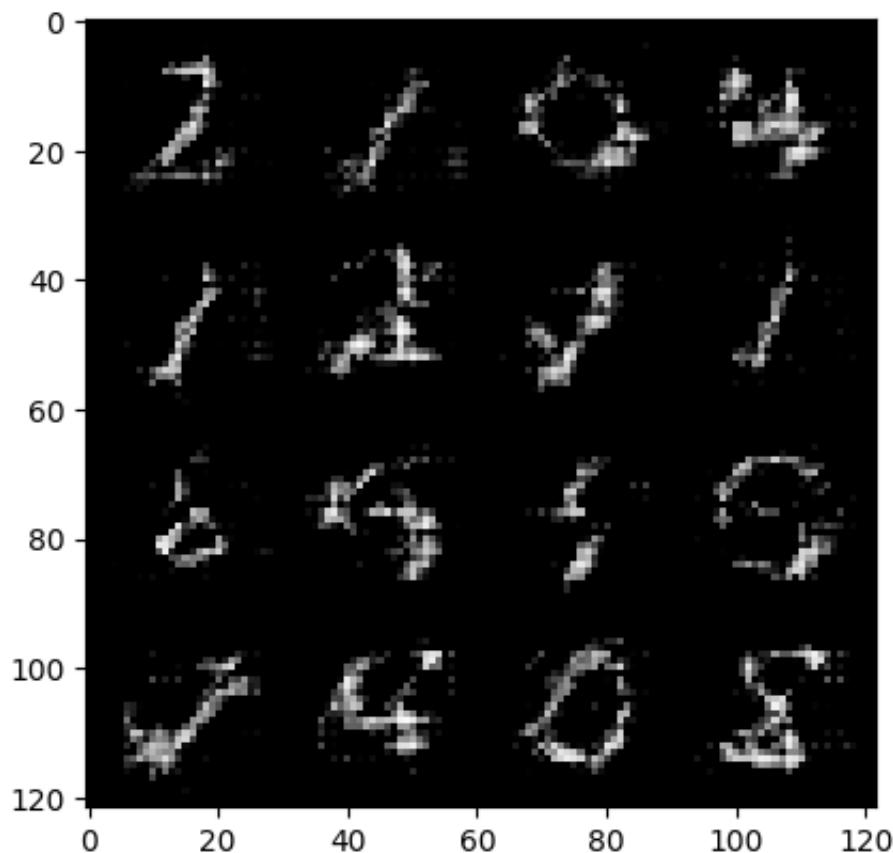


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6755, G_loss: 0.7164





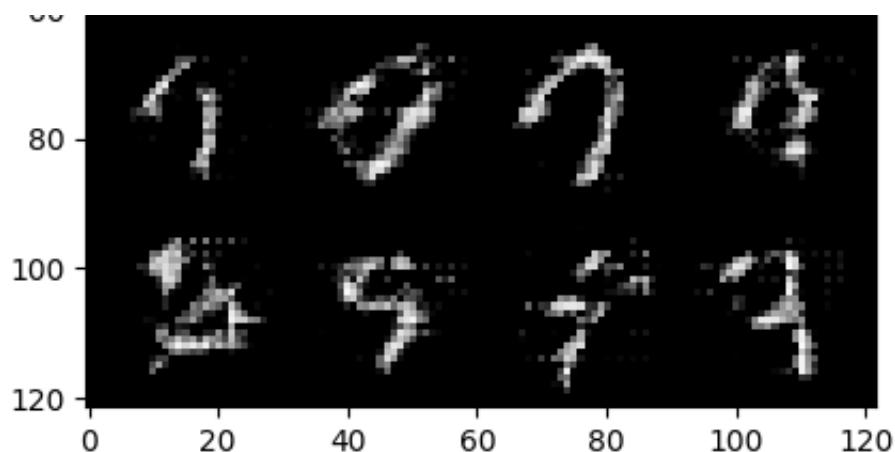
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6755, G_loss: 0.7164



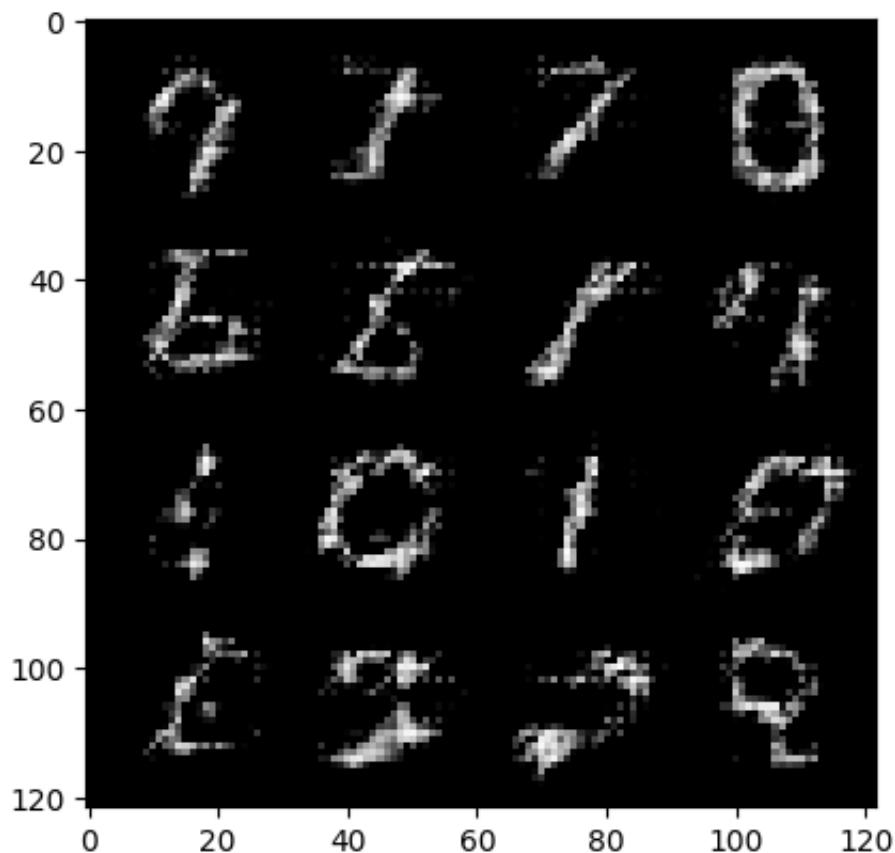
D_loss: 0.6754, G_loss: 0.7164

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32

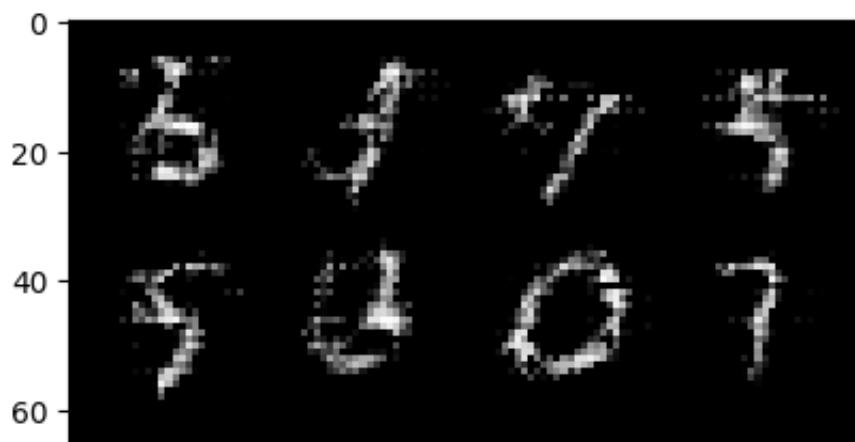


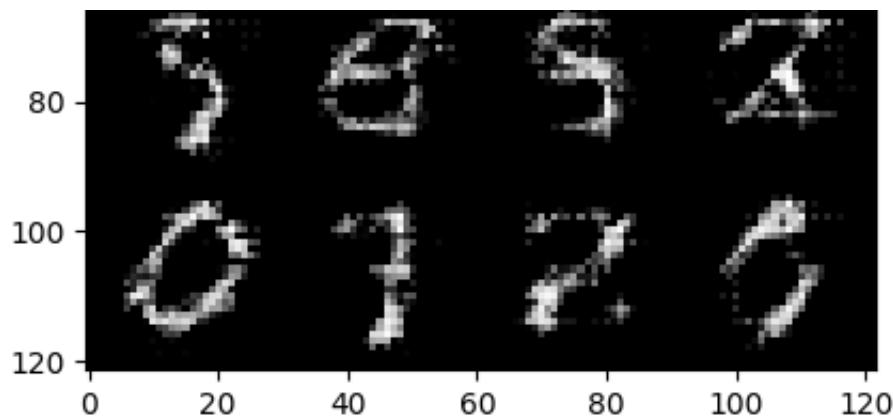


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6754, G_loss: 0.7165

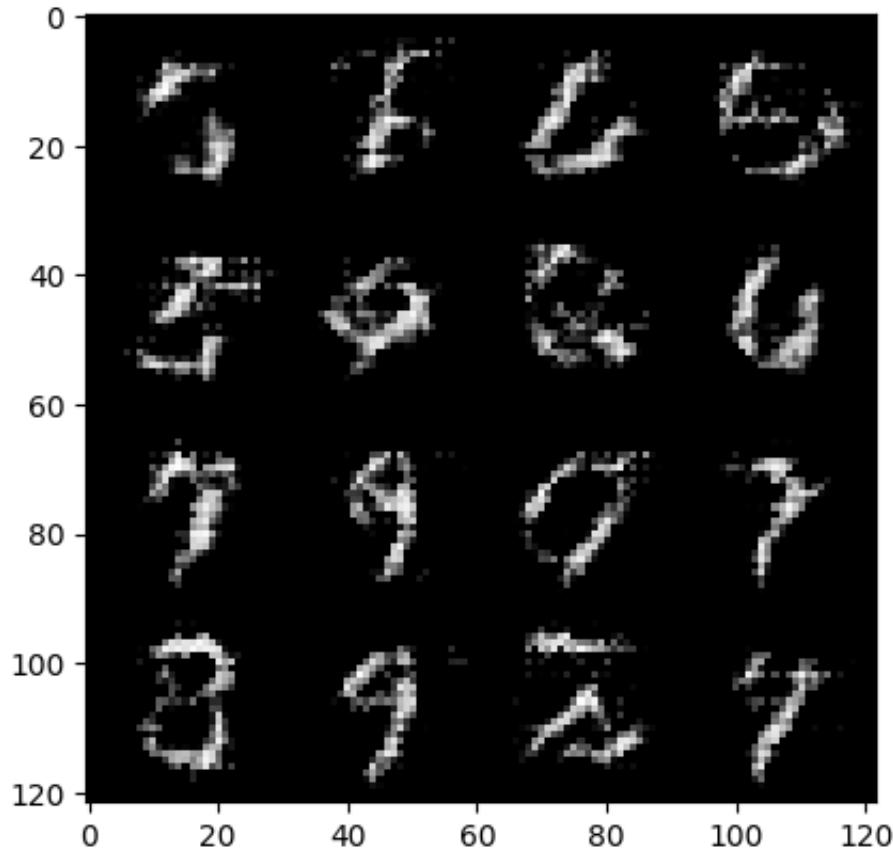


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6753, G_loss: 0.7165



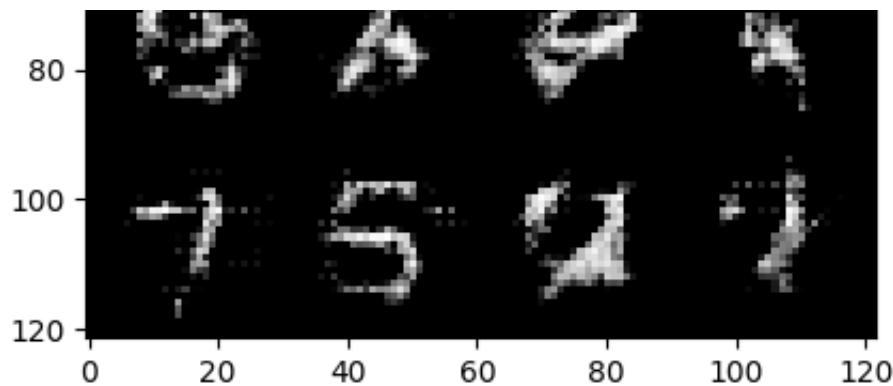


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6753, G_loss: 0.7165



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with min=-0.1, max=1.0
D_loss: 0.6752, G_loss: 0.7167

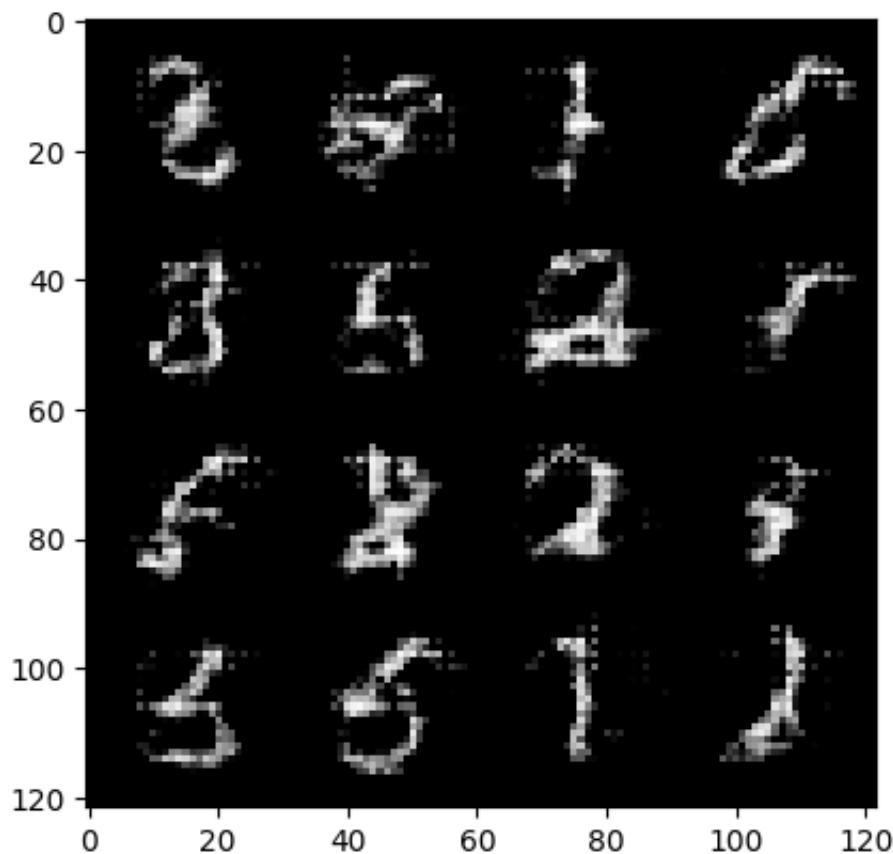




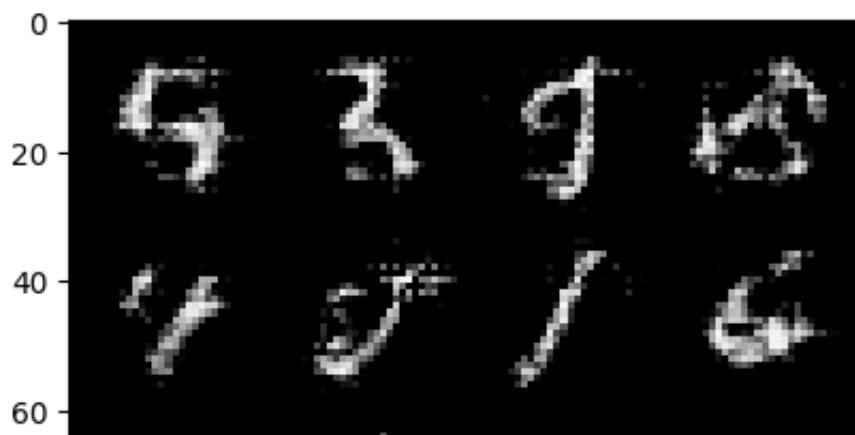
1%

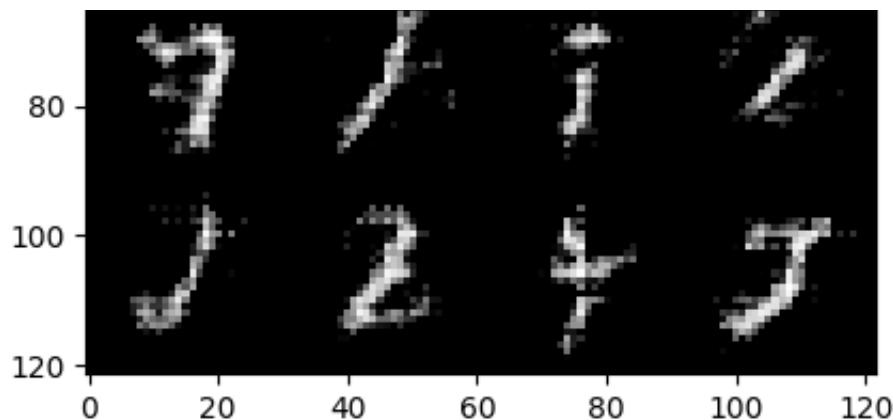
6/469 [00:01<02:27, 3.14it/s]

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6534, G_loss: 0.7283

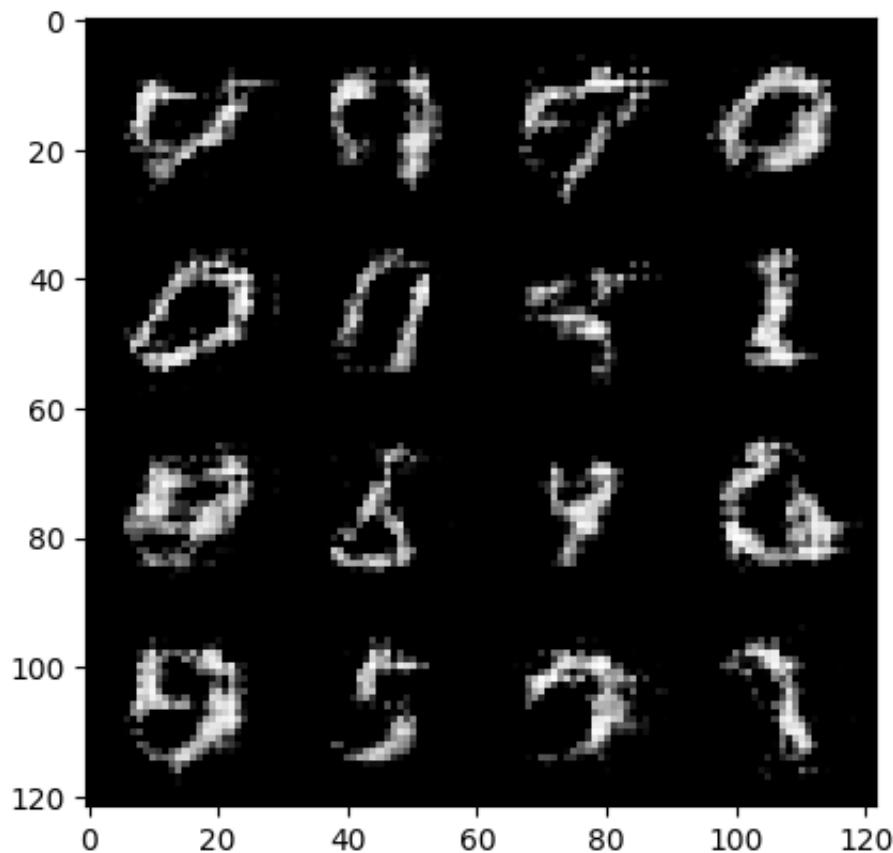


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6517, G_loss: 0.7382

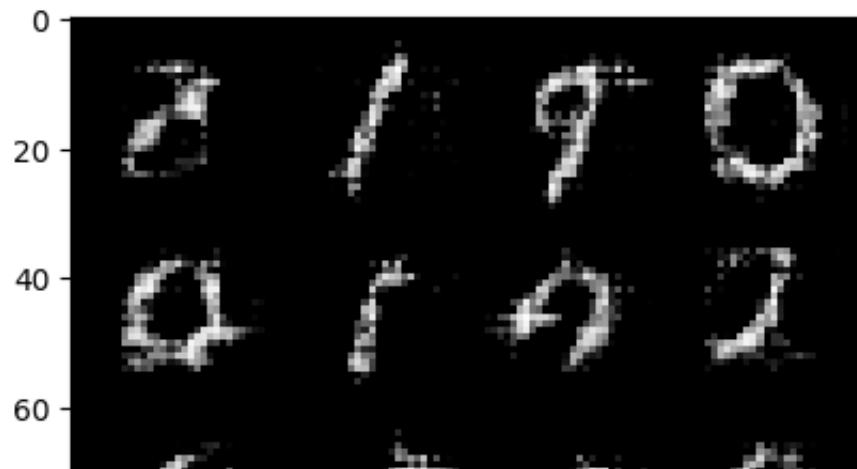


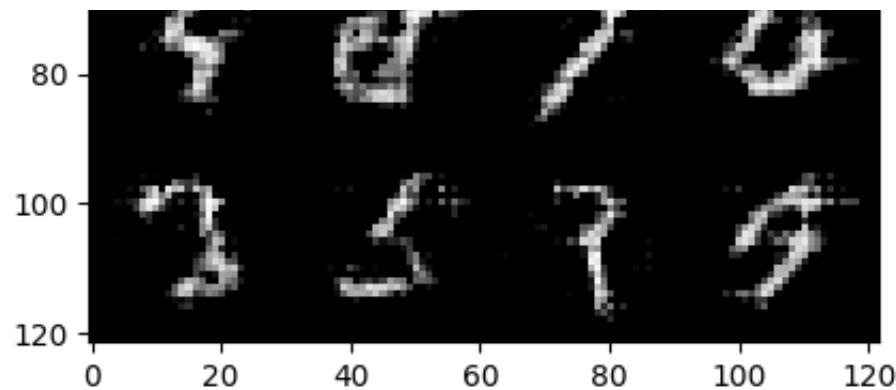


WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6515, G_loss: 0.7483



WARNING:matplotlib.image:Clipping input data to the valid range for imshow with data type float32
D_loss: 0.6516, G_loss: 0.7476





WARNING:matplotlib.image:Clipping input data to the valid range for imshow with D_loss: 0.6504, G_loss: 0.7510



Expected Behavior of the Losses:

D_loss: In the early stages of training, discriminator loss will generally be low because the discriminator can easily distinguish between real and fake images because the generator produces poor-quality images.

G_loss In the beginning of training, generator loss is high as the generator produces poor images, so the discriminator can easily identify them as fake.

In equilibrium, both the discriminator and generator losses tend to stabilize. The discriminator will classify real and fake images with near 50% accuracy because the generator will be producing realistic images, and the discriminator won't be able to distinguish them easily.

GAN architecture

- We used batch normalization and advanced DCGAN (Deep Convolutional GAN). You can improve the quality of generated images by tweaking the architecture:

Optimization:

- We used the Adam optimizer for both the generator and discriminator with a learning rate of `0.0002` and the recommended betas (`0.5, 0.999`) for stable training.

Hyperparams:

- The model is trained for 20 epochs. You can adjust the number of epochs, batch size, or other hyperparameters as needed.

If you run this code on a GPU, it should train efficiently, but on CPU, it might take longer. Let me know if you have any questions or issues with the code!

**** After training is complete**:**

The model can be used to generate realistic fake handwritten images:

```
noise = torch.randn(batch_size, noise_dim, device = device)
realistic_image = G(noise)

show_tensor_images(realistic_image)
```

