assignment10-228-1

May 3, 2024

22b2224 Assignment 10

[ ]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import cv2
```

[ ]:
```
import tensorflow as tf
from tensorflow import keras
from tensorflow.keras import backend as K
from tensorflow.keras import layers
import tensorflow_datasets as tfds
from keras.models import Sequential , Model
from keras.layers import␣
↪Dense,Flatten,Reshape,Dropout,LeakyReLU,Conv2DTranspose,Conv2D
from keras.optimizers import Adam,SGD
from keras.layers import  LeakyReLU, BatchNormalization, Input
from skimage.metrics import structural_similarity as ssim
```

[ ]:
```
from keras.datasets import mnist
(train_images, y_train), (_, _) = mnist.load_data()                              ␣
↪          # loading mnist data
print(len(train_images))
train_images=train_images[(y_train==0) | (y_train==1) | (y_train==5) |␣
↪(y_train==7)]      # taking images with labels 1,2,3,4 for demostration␣
↪purposes only
train_images=train_images[:5000]                                                 ␣
↪          # taking only 5000 images
```

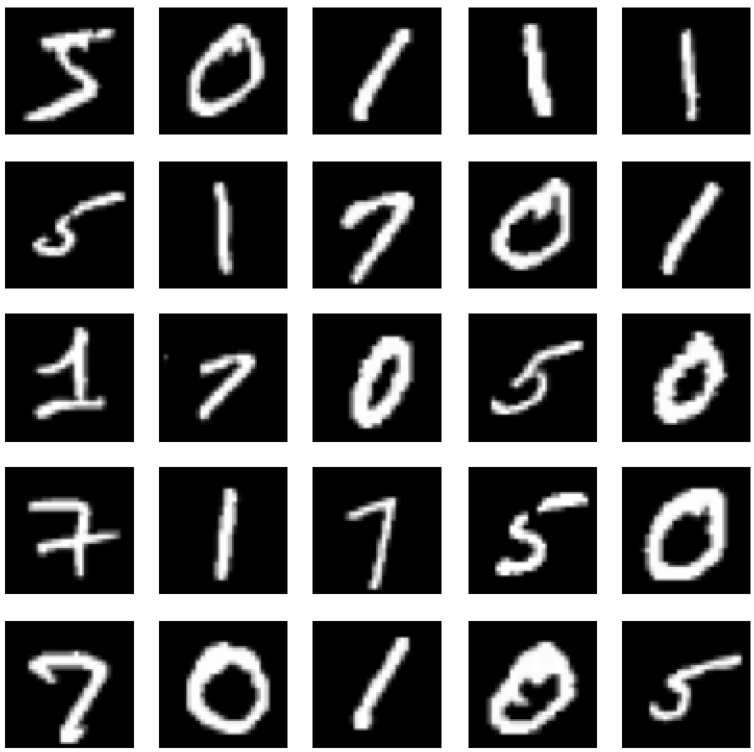
```
Downloading data from https://storage.googleapis.com/tensorflow/tf-keras-
datasets/mnist.npz
11490434/11490434 [==============================] - 0s 0us/step
60000
```

[ ]:
```
len(train_images)
```

[ ]: 5000

[ ]:
```python
def plot_images(images):
    fig, axes = plt.subplots(5, 5, figsize=(5, 5))

    for i, ax in enumerate(axes.flat):
        ax.imshow(images[i], cmap='gray')
        ax.axis('off')

    plt.show()
```

[ ]:
```python
plot_images(train_images)
```



[ ]:
```python
train_images=train_images.astype("float32")/127.5-1                          #␣
 ↪normalising so that values are between -1 & +1
train_images=train_images.reshape(train_images.shape[0],28,28,1)             #␣
 ↪now train_images has shape [5000,28,28,1]
```

[ ]:
```python
def build_generator(latent_dim,input_shape):
    generator=Sequential([

        Dense(7*7*128 , input_dim=latent_dim),
        LeakyReLU(alpha=.2),
        Reshape((7, 7, 128)),
```

```python
        BatchNormalization(),

        Conv2DTranspose(64 , (4,4) , padding="same" , strides=(2,2)),
        LeakyReLU(alpha=.2),
        BatchNormalization(),

        Conv2DTranspose(32 , (4,4) , padding="same" , strides=(2,2)),
        LeakyReLU(alpha=.2),
        BatchNormalization(),

        Conv2DTranspose(1 , (4,4) , padding="same" , activation="tanh"),


    ])

    return generator
```

[ ]:
```python
def build_discriminator(input_shape):
    discriminator=Sequential([

        Conv2D(64 , (3,3) , strides=(2,2) , padding="same" ,␣
 ↪input_shape=input_shape),
        LeakyReLU(alpha=.2),
        Dropout(rate=.4),

        Conv2D(64 , (3,3) , strides=(2,2) , padding="same" ,␣
 ↪input_shape=input_shape),
        LeakyReLU(alpha=.2),
        Dropout(rate=.4),

        Flatten(),

        Dense(1 , activation="sigmoid" )

     ])
    return discriminator
```

[ ]:
```python
def build_gan(generator, discriminator):
    discriminator.trainable = False  # Freeze discriminator during GAN training

    gan_input = Input(shape=(latent_dim,))
    x = generator(gan_input)
    gan_output = discriminator(x)

    gan = Model(gan_input, gan_output)
    return gan
```

[ ]:
```
latent_dim=100
image_shape=(28,28,1)
```

[ ]:
```
generator = build_generator(latent_dim, image_shape)
generator.compile(loss='binary_crossentropy', optimizer=Adam(0.0002, 0.5))

discriminator = build_discriminator(image_shape)
discriminator.compile(loss='binary_crossentropy', optimizer=Adam(0.0002, 0.5),␣
↪metrics=['accuracy'])

gan = build_gan(generator, discriminator)
gan.compile(loss='binary_crossentropy', optimizer=Adam(0.0002, 0.5))
```

[ ]:
```
epochs = 400
batch_size = 256
```

[ ]:
```
def generate_real_samples(dataset, n_samples):
    idx = np.random.randint(0, train_images.shape[0], n_samples)
    X = train_images[idx]
    y = np.ones((n_samples, 1))
    return X, y

# Generate fake samples using the generator
def generate_fake_samples(generator, latent_dim, n_samples):
    noise = np.random.normal(0, 1, size=(n_samples, latent_dim))
    X = generator.predict(noise)
    y = np.zeros((n_samples, 1))
    return X, y

# Generate points in latent space as input for the generator
def generate_latent_points(latent_dim, n_samples):
    noise = np.random.normal(0, 1, size=(n_samples, latent_dim))
    return noise
```

[ ]:
```
discriminator_loss=[]
gan_loss=[]
generated_list=[]
```

[ ]:
```
def train(g_model, d_model, gan_model, dataset, latent_dim, n_epochs, n_batch):
    bat_per_epo = int(dataset.shape[0] / n_batch)
    half_batch = int(n_batch / 2)
    discriminator_loss=[]
    gan_loss=[]
    generated_list=[]
    # Manually enumerate epochs
    for i in range(n_epochs):
        # Enumerate batches over the training set
```

```
        for j in range(bat_per_epo):
            batch_loss_d=[]
            batch_loss_g=[]
            # Get randomly selected 'real' samples
            X_real, y_real = generate_real_samples(dataset, half_batch)

            # Generate 'fake' examples
            X_fake, y_fake = generate_fake_samples(g_model, latent_dim,␣
↪half_batch)

            # Create training set for the discriminator
            X, y = np.vstack((X_real, X_fake)), np.vstack((y_real, y_fake))

            # Update discriminator model weights
            d_loss, _ = d_model.train_on_batch(X, y)
            batch_loss_d.append(d_loss)
            # Prepare points in latent space as input for the generator
            X_gan = generate_latent_points(latent_dim, n_batch)

            # Create inverted labels for the fake samples
            y_gan = np.ones((n_batch, 1))

            # Update the generator via the discriminator's error
            g_loss = gan_model.train_on_batch(X_gan, y_gan)
            batch_loss_g.append(g_loss)
        gan_los=np.mean(batch_loss_g)
        gan_loss.append(gan_los)
        dis_loss=np.mean(batch_loss_d)
        discriminator_loss.append(dis_loss)

        # Summarize loss on this batch

        if (i + 1) % 10 == 0:
                print(f'Epoch {i + 1}/{n_epochs}, Batch {j + 1}/{bat_per_epo},␣
↪D Loss: {d_loss:.3f}, G Loss: {g_loss:.3f}')
        if (i + 1) % 10 == 0:
                num_samples=5
                noise = generate_latent_points(latent_dim, num_samples)
                generated_images = generator.predict(noise)
                generated_list.append(generated_images)

    return discriminator_loss, gan_loss, generated_list
```

[ ]:
```
discriminator_loss, gan_loss, generated_list=train(generator, discriminator,␣
↪gan, train_images, latent_dim, n_epochs=epochs, n_batch=batch_size)
```

Streaming output truncated to the last 5000 lines.

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
Epoch 140/400, Batch 19/19, D Loss: 0.697, G Loss: 0.711
1/1 [==============================] - 0s 18ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
Epoch 150/400, Batch 19/19, D Loss: 0.690, G Loss: 0.693
1/1 [==============================] - 0s 25ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 160/400, Batch 19/19, D Loss: 0.690, G Loss: 0.689
1/1 [==============================] - 0s 17ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 170/400, Batch 19/19, D Loss: 0.696, G Loss: 0.712
1/1 [==============================] - 0s 17ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
Epoch 180/400, Batch 19/19, D Loss: 0.693, G Loss: 0.729
1/1 [==============================] - 0s 35ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 190/400, Batch 19/19, D Loss: 0.697, G Loss: 0.721
1/1 [==============================] - 0s 17ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 200/400, Batch 19/19, D Loss: 0.702, G Loss: 0.710
1/1 [==============================] - 0s 19ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 9ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 210/400, Batch 19/19, D Loss: 0.686, G Loss: 0.666
1/1 [==============================] - 0s 19ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 10ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 220/400, Batch 19/19, D Loss: 0.697, G Loss: 0.713
1/1 [==============================] - 0s 18ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 14ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 10ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 10ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 230/400, Batch 19/19, D Loss: 0.692, G Loss: 0.701
1/1 [==============================] - 0s 20ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 10ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 16ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 19ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 10ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 12ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 13ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 13ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 15ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 240/400, Batch 19/19, D Loss: 0.680, G Loss: 0.704
1/1 [==============================] - 0s 18ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 10ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 12ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 12ms/step
4/4 [==============================] - 0s 12ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
Epoch 250/400, Batch 19/19, D Loss: 0.686, G Loss: 0.713
1/1 [==============================] - 0s 24ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 12ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 14ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 260/400, Batch 19/19, D Loss: 0.695, G Loss: 0.703
1/1 [==============================] - 0s 17ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 10ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
```

```
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
Epoch 270/400, Batch 19/19, D Loss: 0.688, G Loss: 0.680
1/1 [==============================] - 0s 20ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 280/400, Batch 19/19, D Loss: 0.682, G Loss: 0.662
1/1 [==============================] - 0s 18ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
Epoch 290/400, Batch 19/19, D Loss: 0.692, G Loss: 0.728
1/1 [==============================] - 0s 37ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 12ms/step
4/4 [==============================] - 0s 12ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 300/400, Batch 19/19, D Loss: 0.689, G Loss: 0.678
1/1 [==============================] - 0s 18ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 310/400, Batch 19/19, D Loss: 0.677, G Loss: 0.690
1/1 [==============================] - 0s 18ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 320/400, Batch 19/19, D Loss: 0.678, G Loss: 0.693
1/1 [==============================] - 0s 17ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 330/400, Batch 19/19, D Loss: 0.688, G Loss: 0.715
1/1 [==============================] - 0s 17ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
Epoch 340/400, Batch 19/19, D Loss: 0.687, G Loss: 0.756
1/1 [==============================] - 0s 32ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 350/400, Batch 19/19, D Loss: 0.688, G Loss: 0.713
1/1 [==============================] - 0s 18ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 360/400, Batch 19/19, D Loss: 0.684, G Loss: 0.701
1/1 [==============================] - 0s 18ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 9ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
Epoch 370/400, Batch 19/19, D Loss: 0.687, G Loss: 0.723
1/1 [==============================] - 0s 23ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 11ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 380/400, Batch 19/19, D Loss: 0.674, G Loss: 0.681
1/1 [==============================] - 0s 17ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 8ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
Epoch 390/400, Batch 19/19, D Loss: 0.693, G Loss: 0.728
1/1 [==============================] - 0s 17ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 10ms/step
```

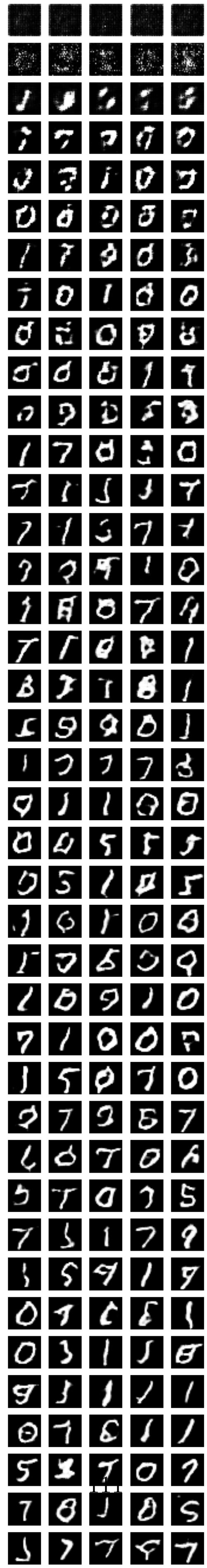
```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 7ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 5ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 6ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
```

```
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 3ms/step
4/4 [==============================] - 0s 4ms/step
Epoch 400/400, Batch 19/19, D Loss: 0.684, G Loss: 0.721
1/1 [==============================] - 0s 21ms/step
```

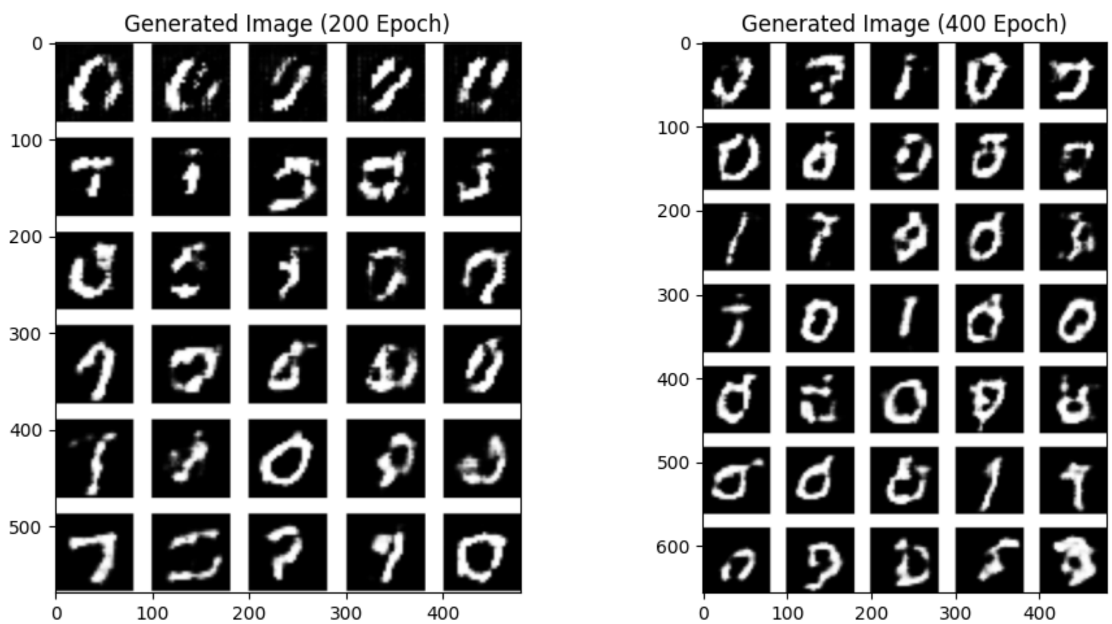
Question 1)

```
[ ]: fig, axes = plt.subplots(len(generated_list), 5, figsize=(5,␣
      ↪len(generated_list)))
     for i in range(len(generated_list)):
         image_list=generated_list[i]
         for j in range(5):
             axes[i,j].imshow(image_list[j],cmap="gray")
             axes[i, j].axis('off')
     #plt.tight_layout()
     plt.show()
```



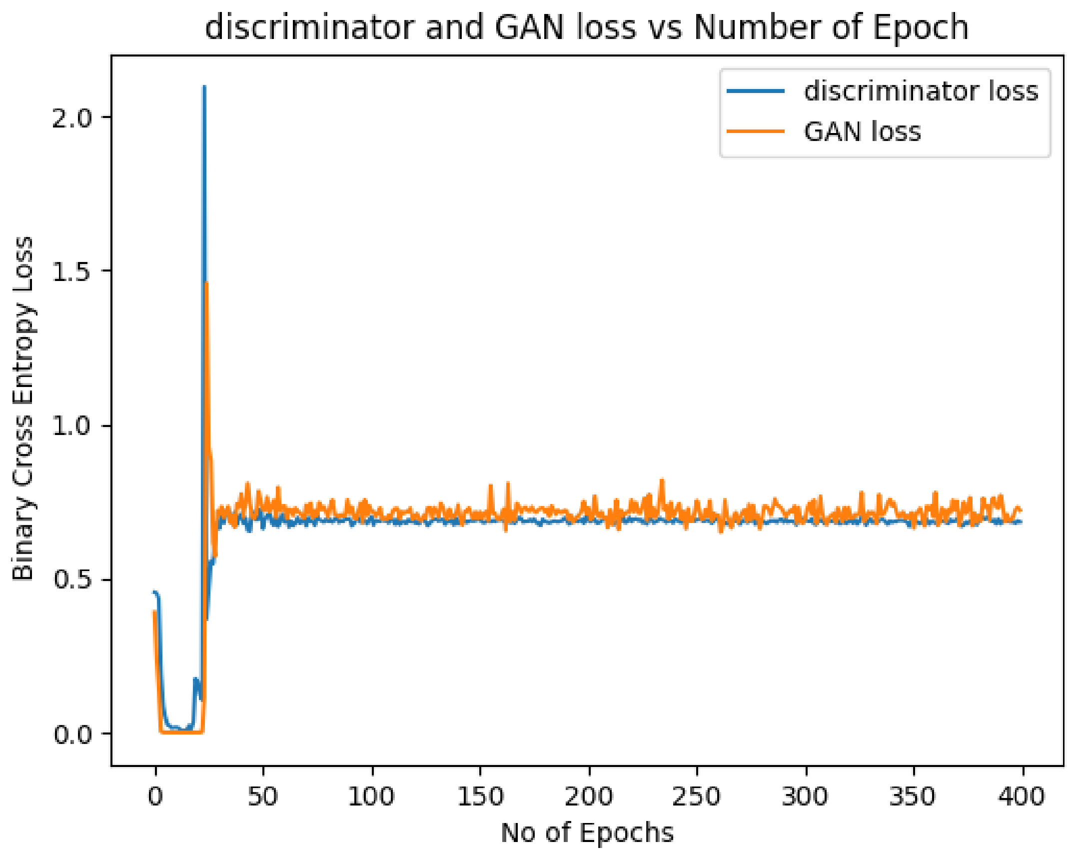
[ ]:

```
# Load the images
image_200_epoch = cv2.imread('generated200epoch.png')
image_400_epoch = cv2.imread('generated400epoch.png')

# Plotting side by side
plt.figure(figsize=(10, 5))

# Plotting 200 epoch image
plt.subplot(1, 2, 1)
plt.imshow(cv2.cvtColor(image_200_epoch, cv2.COLOR_BGR2RGB))  # Convert BGR to␣
 ↪RGB
plt.title('Generated Image (200 Epoch)')

# Plotting 400 epoch image
plt.subplot(1, 2, 2)
plt.imshow(cv2.cvtColor(image_400_epoch, cv2.COLOR_BGR2RGB))  # Convert BGR to␣
 ↪RGB
plt.title('Generated Image (400 Epoch)')

plt.tight_layout()
plt.show()
```



The generated images at 400 epochs exhibit sharper details and clearer contours compared to those generated at 200 epochs, indicating improved image quality with prolonged training.

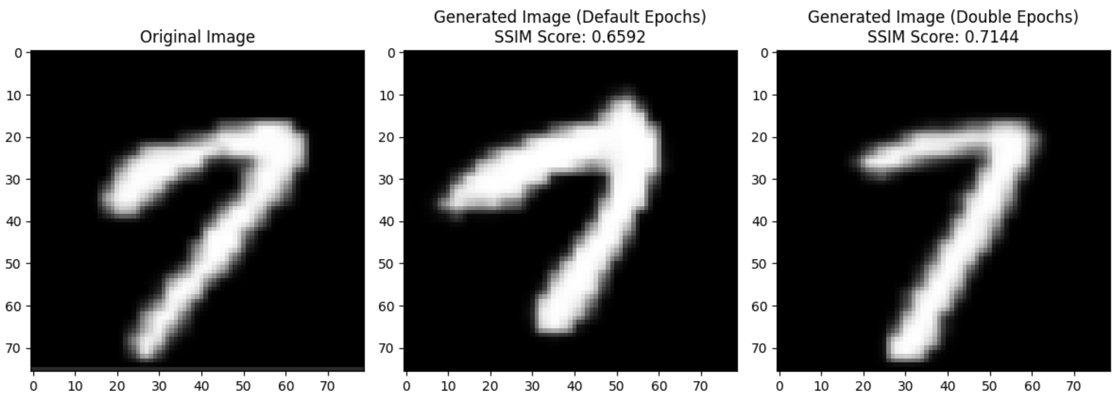
```
[ ]: plt.plot(discriminator_loss,label="discriminator loss")
     plt.plot(gan_loss,label="GAN loss")
     plt.legend()
     plt.title("discriminator and GAN loss vs Number of Epoch")
     plt.xlabel("No of Epochs")
     plt.ylabel(" Binary Cross Entropy Loss")
     plt.show()
```



Question 2)

```
[ ]: from skimage.metrics import structural_similarity as ssim
     # Library: scikit-image (skimage)
     # Algorithm used is Structural Similarity Index (SSIM)

     # Load original image of digit '7'
     original_image = cv2.imread('Original.png', cv2.IMREAD_GRAYSCALE)

     # Load generated images of digit '7' for default epochs and double epochs
     generated_image_default_epochs = cv2.imread('Epoch200.png', cv2.
      ↪IMREAD_GRAYSCALE)
```

```python
generated_image_double_epochs = cv2.imread('Epoch400.png', cv2.IMREAD_GRAYSCALE)

# Resize original image to match the dimensions of the generated images
original_image_resized = cv2.resize(original_image, (generated_image_default_epochs.shape[1], generated_image_default_epochs.shape[0]), interpolation=cv2.INTER_AREA)

# Resize generated images to match the dimensions of the original image
generated_image_default_epochs_resized = cv2.resize(generated_image_default_epochs, (original_image_resized.shape[1], original_image_resized.shape[0]), interpolation=cv2.INTER_AREA)
generated_image_double_epochs_resized = cv2.resize(generated_image_double_epochs, (original_image_resized.shape[1], original_image_resized.shape[0]), interpolation=cv2.INTER_AREA)

# Compute SSIM score for each comparison
ssim_score_default_epochs = ssim(original_image_resized, generated_image_default_epochs_resized)
ssim_score_double_epochs = ssim(original_image_resized, generated_image_double_epochs_resized)

# Plot the original image and generated images
plt.figure(figsize=(12, 6))

plt.subplot(1, 3, 1)
plt.imshow(original_image_resized, cmap='gray')
plt.title('Original Image')

plt.subplot(1, 3, 2)
plt.imshow(generated_image_default_epochs_resized, cmap='gray')
plt.title('Generated Image (Default Epochs)\nSSIM Score: {:.4f}'.format(ssim_score_default_epochs))

plt.subplot(1, 3, 3)
plt.imshow(generated_image_double_epochs_resized, cmap='gray')
plt.title('Generated Image (Double Epochs)\nSSIM Score: {:.4f}'.format(ssim_score_double_epochs))

plt.tight_layout()
plt.show()
```


Original Image
Generated Image (Default Epochs)
SSIM Score: 0.6592
Generated Image (Double Epochs)
SSIM Score: 0.7144
0
10
20
30
40
50
60
70