```
from google.colab import drive
 drive.mount('/content/drive')

→ Mounted at /content/drive
 import tensorflow as tf
 from tensorflow.keras import layers, models
 import numpy as np
 import matplotlib.pyplot as plt
 import tensorflow as tf
 from tensorflow.keras import layers, models
 import numpy as np
 import matplotlib.pyplot as plt
 import os
 from PIL import Image
 # # Load MNIST dataset
 # (train_images, _), (_, _) = tf.keras.datasets.mnist.load_data()
 # train_images = train_images.reshape(train_images.shape[0], 28, 28, 1).astype('float32')
 # train_images = (train_images - 127.5) / 127.5 # Normalize to [-1, 1]
 # Path to the folder containing your images
 images folder = "/content/drive/MyDrive/glioma tumor"
# Load images from the folder
def load images from folder(folder):
    images = []
   for filename in os.listdir(folder):
        img = Image.open(os.path.join(folder,filename))
        if img is not None:
            images.append(img)
    return images
# Preprocess images
def preprocess images(images):
   processed images = []
   for img in images:
        # Resize image to 28x28 and convert to grayscale
        img = img.resize((28, 28)).convert('L')
        img_array = np.array(img)
        img array = img array.reshape((28, 28, 1))
        img array = img array.astype('float32')
        img_array = (img_array - 127.5) / 127.5 # Normalize to [-1, 1]
        processed images.append(img array)
   return np.array(processed images)
# Load images from folder
images = load images from folder(images folder)
# Preprocess images
images = preprocess_images(images)
```

```
# Generator model
def build generator():
    model = models.Sequential()
    model.add(layers.Dense(7 * 7 * 256, input shape=(100,)))
    model.add(layers.Reshape((7, 7, 256)))
    model.add(layers.Conv2DTranspose(128, (5, 5), strides=(1, 1), padding='same'))
    model.add(layers.BatchNormalization())
    model.add(layers.LeakyReLU(alpha=0.2))
    model.add(layers.Conv2DTranspose(64, (5, 5), strides=(2, 2), padding='same'))
    model.add(layers.BatchNormalization())
    model.add(layers.LeakyReLU(alpha=0.2))
    model.add(layers.Conv2DTranspose(1, (5, 5), strides=(2, 2), padding='same', activation='tanh'))
    return model
# Discriminator model
def build discriminator():
    model = models.Sequential()
    model.add(layers.Conv2D(64, (5, 5), strides=(2, 2), padding='same', input_shape=(28, 28, 1)))
    model.add(layers.LeakyReLU(alpha=0.2))
    model.add(layers.Dropout(0.3))
    model.add(layers.Conv2D(128, (5, 5), strides=(2, 2), padding='same'))
    model.add(layers.LeakyReLU(alpha=0.2))
    model.add(layers.Dropout(0.3))
    model.add(layers.Flatten())
    model.add(layers.Dense(1, activation='sigmoid'))
    return model
# Build and compile the discriminator
discriminator = build discriminator()
discriminator.compile(loss='binary_crossentropy', optimizer=tf.keras.optimizers.Adam(learning_rate=0.0002, bε
# Build the generator
generator = build_generator()
# Build and compile the combined model (generator and discriminator)
discriminator.trainable = False
gan input = tf.keras.Input(shape=(100,))
x = generator(gan input)
gan_output = discriminator(x)
gan = models.Model(gan_input, gan_output)
gan.compile(loss='binary_crossentropy', optimizer=tf.keras.optimizers.Adam(learning_rate=0.0002, beta_1=0.5))
# Training loop
epochs = 10000
batch size = 64
```

```
for epoch in range(epochs):
          # Train discriminator
          noise = np.random.normal(0, 1, size=(batch_size, 100))
          generated images = generator.predict(noise)
          real_images = images[np.random.randint(0, images.shape[0], batch_size)] # Use images loaded from folder
          labels_real = np.ones((batch_size, 1))
          labels fake = np.zeros((batch size, 1))
          d_loss_real = discriminator.train_on_batch(real_images, labels_real)
          d_loss_fake = discriminator.train_on_batch(generated_images, labels_fake)
          d_loss = 0.5 * np.add(d_loss_real, d_loss_fake)
          # Train generator
          noise = np.random.normal(0, 1, size=(batch size, 100))
          labels_gan = np.ones((batch_size, 1))
          g_loss = gan.train_on_batch(noise, labels_gan)
          # Print progress
          if epoch % 100 == 0:
                    print(f"Epoch {epoch}/{epochs} [D loss: {d_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss: {g_loss[0]} | D accuracy: {100 * d_loss[1]}] [G loss[0]] [G 
                     # Save generated images at specific intervals
                     if epoch % 500 == 0:
                               samples = generator.predict(np.random.normal(0, 1, size=(16, 100)))
                               samples = (samples + 1) / 2.0 \# Rescale to [0, 1]
                               fig, axs = plt.subplots(4, 4)
                               cnt = 0
                               for i in range(4):
                                          for j in range(4):
                                                     axs[i, j].imshow(samples[cnt, :, :, 0], cmap='gray')
                                                     axs[i, j].axis('off')
                                                     cnt += 1
                               plt.show()
```

```
Epoch 0/10000 [D loss: 0.6901606321334839 | D accuracy: 33.59375] [G loss: 0.65622001886
  1/1 [======] - 0s 311ms/step
  2/2 [======= ] - 0s 9ms/step
  2/2 [======] - 0s 6ms/step
  2/2 [======] - 0s 8ms/step
  2/2 [=======] - 0s 4ms/step
  2/2 [======] - 0s 10ms/step
  2/2 [=======] - 0s 6ms/step
  2/2 [=======] - 0s 4ms/step
  2/2 [=======] - 0s 9ms/step
  2/2 [======= ] - 0s 4ms/step
  2/2 [======] - 0s 4ms/step
  2/2 [======] - 0s 8ms/step
  2/2 [======== ] - 0s 6ms/step
  2/2 [======] - 0s 4ms/step
  2/2 [======] - 0s 4ms/step
  2/2 [======== ] - 0s 3ms/step
  2/2 [======= ] - 0s 8ms/step
  2/2 [======] - 0s 4ms/step
  2/2 [======= ] - 0s 5ms/step
  2/2 [======] - 0s 4ms/step
  2/2 [======] - 0s 5ms/step
  2/2 [=======] - 0s 5ms/step
  2/2 [======= ] - 0s 4ms/step
  2/2 [======= ] - 0s 4ms/step
  2/2 [======] - 0s 5ms/step
  2/2 [=======] - 0s 5ms/step
  2/2 [======== ] - 0s 4ms/step
  2/2 [======= ] - 0s 3ms/step
  2/2 [======] - 0s 4ms/step
  2/2 [======== ] - 0s 5ms/step
  2/2 [======] - 0s 5ms/step
  2/2 [=======] - 0s 5ms/step
  2/2 [=======] - 0s 4ms/step
  2/2 [======= ] - 0s 4ms/step
  2/2 [======] - 0s 4ms/step
  2/2 [=======] - 0s 4ms/step
  2/2 [======= ] - 0s 5ms/step
  2/2 [======= ] - 0s 5ms/step
  2/2 [======] - 0s 5ms/step
  2/2 [=======] - 0s 3ms/step
  2/2 [======== ] - 0s 5ms/step
  2/2 [======] - 0s 5ms/step
  2/2 [=======] - 0s 5ms/step
  2/2 [======== ] - 0s 4ms/step
  2/2 [======] - 0s 5ms/step
  2/2 [=======] - 0s 4ms/step
  2/2 [=======] - 0s 5ms/step
  2/2 [======] - 0s 4ms/step
  2/2 [======] - 0s 5ms/step
  2/2 [======] - 0s 4ms/step
  2/2 [======] - 0s 5ms/step
  2/2 [======] - 0s 5ms/step
  2/2 [======] - 0s 4ms/step
  2/2 [======= ] - 0s 4ms/step
  2/2 [======== ] - 0s 4ms/step
  2/2 [======] - 0s 8ms/step
  2/2 [=======] - 0s 4ms/step
  2/2 [======== ] - 0s 5ms/step
  2/2 [======] - 0s 5ms/step
  2/2 [=======] - 0s 4ms/step
```

```
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
Epoch 100/10000 [D loss: 0.0026514865458011627 | D accuracy: 100.0] [G loss: 3.816259413
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - Os 9ms/step
2/2 [======= ] - 0s 11ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - Os 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [=======] - 0s 12ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/sten
```

```
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 10ms/sten
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [-----] - 0s 5ms/step
2/2 [-----] - 0s 5ms/step
Epoch 200/10000 [D loss: 0.0006442570884246379 | D accuracy: 100.0] [G loss: 1.766969035
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 13ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
Epoch 300/10000 [D loss: 0.5747427940368652 | D accuracy: 75.0] [G loss: 2.8281078338623
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
```

```
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [=======] - 0s 11ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 6ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 10ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 6ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 10ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
```

```
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
Epoch 400/10000 [D loss: 0.6566779613494873 | D accuracy: 60.15625] [G loss: 0.574911952
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [========] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 13ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
7/7 [======= ] - 0c 6mc/sten
```

```
2/2 [======] - Os 11ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
Epoch 500/10000 [D loss: 0.7565619945526123 | D accuracy: 30.46875] [G loss: 0.638446331
1/1 [======= ] - 0s 21ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/sten
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - Os 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - Os 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
Epoch 600/10000 [D loss: 0.748831033706665 | D accuracy: 25.0] [G loss: 0.67142379283905
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/sten
```

```
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 6ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========] - 0s 7ms/step
Epoch 700/10000 [D loss: 0.7069417834281921 | D accuracy: 38.28125] [G loss: 0.713418602
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 |======== | - ws sms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s
                      3ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/sten
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [============ ] - 0s 14ms/step
2/2 [======] - 0s 12ms/step
2/2 [======] - 0s 5ms/step
Epoch 800/10000 [D loss: 0.7032021284103394 | D accuracy: 44.53125] [G loss: 0.712712645
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - Os 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - Os 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
```

```
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
Epoch 900/10000 [D loss: 0.6983278691768646 | D accuracy: 47.65625] [G loss: 0.724666953
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - Os 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 10ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 14ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 12ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0c 5mc/sten
```

```
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [========] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
Epoch 1000/10000 [D loss: 0.6846426129341125 | D accuracy: 53.90625] [G loss: 0.72701728
1/1 [======] - 0s 17ms/step
2/2 [=======] - 0s 4ms/sten
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - Os 12ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [========= ] - 0s 8ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [========] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [========] - Os 5ms/step
Epoch 1100/10000 [D loss: 0.673014223575592 | D accuracy: 58.59375] [G loss: 0.721814393
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - As 5ms/sten
```

:32 AN	Λ			
-, -				
	[========]	-	0s	4ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[=========]	-	0s	4ms/step
2/2	[=========]	_	0s	4ms/step
2/2	Г====================================	_	0s	3ms/step
	[=========]		0s	
		-		5ms/step
2/2	[==========] -	-	0s	4ms/step
2/2	[========]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[========]	_	0s	5ms/step
2/2	[==========]	_	0s	5ms/step
2/2	[====================================	_	0s	6ms/step
2/2			0s	5ms/step
	[==========] -	-		
	[==========]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	- [==========]	_	0s	4ms/step
2/2	[===========]	_	0s	10ms/ster
	•			
,	[==========] [-	0s	4ms/step
2/2	[=========]	-	0s	4ms/step
	[=======]	-	0s	4ms/step
2/2	[========]	-	0s	5ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[=========]	-	0s	5ms/step
2/2	- [=========]	_	0s	9ms/step
	[===========]	_	0s	4ms/step
	: :		0s	
	[========]	-		4ms/step
,	[==========]	-	0s	5ms/step
2/2	[=======]	-	0s	6ms/step
2/2	[========]	-	0s	4ms/step
2/2	[=========]	-	0s	8ms/step
2/2	[========]	-	0s	4ms/step
2/2	[===========]	_	0s	4ms/step
	[====================================	_	0s	4ms/step
	[=========]	_	0s	4ms/step
	: :			-
	[=========]	-	0s	9ms/step
	[=======]	-	0s	5ms/step
2/2	[========]	-	0s	10ms/step
2/2	г ,			
-, -	[==========]	-	0s	4ms/step
	[===========]	-	0s 0s	4ms/step 9ms/step
2/2		-		9ms/step
2/2 2/2	[========] [==========]	-	0s 0s	9ms/step 4ms/step
2/2 2/2 2/2	[=======] [============================		0s 0s 0s	9ms/step 4ms/step 7ms/step
2/2 2/2 2/2 2/2	[=====================================	-	0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2	[=====================================		0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2	[=====================================	-	0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2	[=====================================	-	0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2	[=====================================	-	0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2	[=====================================	-	0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		-	0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		- - - -	0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step 4ms/step 5ms/step 4ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step 4ms/step 4ms/step 6ms/step 6ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 6ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step 4ms/step 5ms/step 4ms/step 6ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step 4ms/step 6ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 11ms/step 5ms/step 4ms/step 6ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step 6ms/step 6ms/step 6ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 6ms/step 11ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 6ms/step 11ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 6ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 6ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 6ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 6ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	9ms/step 4ms/step 7ms/step 6ms/step 6ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	9ms/step 4ms/step 7ms/step 6ms/step 6ms/step 11ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	9ms/step 4ms/step 7ms/step 6ms/step 6ms/step 5ms/step 5ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	9ms/step 4ms/step 7ms/step 6ms/step 6ms/step 4ms/step 5ms/step

```
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
Epoch 1200/10000 [D loss: 0.6850899457931519 | D accuracy: 60.9375] [G loss: 0.729446589
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========] - Os 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 9ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - Os 12ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [==========] - 0s 12ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 8ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - Os 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
```

```
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
Epoch 1300/10000 [D loss: 0.6806632876396179 | D accuracy: 62.5] [G loss: 0.715969324111
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 7ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 10ms/step
2/2 [=======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 6ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - Os 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 5ms/step
Epoch 1400/10000 [D loss: 0.6893925666809082 | D accuracy: 54.6875] [G loss: 0.719438552
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 8ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
7/7 [======= ] - 0c 10mc/sten
```

```
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 12ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 7ms/step
Epoch 1500/10000 [D loss: 0.6754721105098724 | D accuracy: 60.15625] [G loss: 0.72490972
1/1 [======] - 0s 18ms/step
```

```
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 11ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======= ] - 0s 4ms/sten
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 11ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s
                      3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 8ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 12ms/step
2/2 [======] - Os 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [========= ] - 0s 11ms/step
```

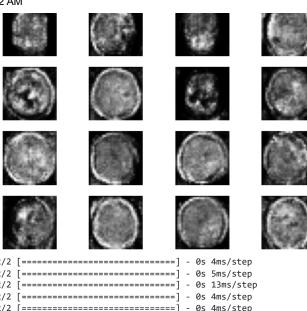
```
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - Os 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 12ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
Epoch 1600/10000 [D loss: 0.6835058331489563 | D accuracy: 56.25] [G loss: 0.71076542139
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 12ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 7ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - Os 9ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - Os 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - Os 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 13ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
```

```
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 11ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 11ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
Epoch 1700/10000 [D loss: 0.6749250888824463 | D accuracy: 66.40625] [G loss: 0.71179753
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 11ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 10ms/step
2/2 [=======] - 0s 11ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/sten
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 17ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - Os 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== - - Os 11ms/step
Epoch 1800/10000 [D loss: 0.6699724793434143 | D accuracy: 62.5] [G loss: 0.718183338642
2/2 [=======] - 0s 9ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - Os 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 12ms/step
2/2 [=======] - 0s 13ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/sten
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 11ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 12ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 8ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 12ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
Epoch 1900/10000 [D loss: 0.6728114783763885 | D accuracy: 63.28125] [G loss: 0.71081387
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - Os 7ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/sten
```

```
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
  [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/sten
Epoch 2000/10000 [D loss: 0.6720178723335266 | D accuracy: 57.03125] [G loss: 0.73119831
1/1 [======] - 0s 27ms/step
```



2/2 [=======] - 0s 4ms/step 2/2 [======] - 0s 5ms/step 2/2 [=======] - 0s 4ms/step 2/2 [=======] - 0s 4ms/step 2/2 [======] - 0s 4ms/step 2/2 [======] - 0s 4ms/step 2/2 [========] - 0s 4ms/step 2/2 [=======] - 0s 5ms/step 2/2 [======] - 0s 4ms/step 2/2 [========] - 0s 4ms/step 2/2 [=======] - 0s 9ms/step 2/2 [======] - 0s 10ms/step 2/2 [=======] - 0s 4ms/step 2/2 [========] - 0s 8ms/step 2/2 [======] - 0s 8ms/step 2/2 [=======] - 0s 8ms/step 2/2 [========] - 0s 6ms/step 2/2 [=======] - 0s 5ms/step 2/2 [======] - 0s 7ms/step 2/2 [=======] - 0s 6ms/step 2/2 [=======] - 0s 5ms/step 2/2 [=======] - 0s 5ms/step 2/2 [======] - 0s 6ms/step 2/2 [=======] - 0s 4ms/step 2/2 [=======] - 0s 4ms/step 2/2 [======] - 0s 4ms/step 2/2 [=======] - 0s 5ms/step 2/2 [======] - 0s 5ms/step 2/2 [======] - 0s 6ms/step 2/2 [=======] - 0s 5ms/step 2/2 [=======] - 0s 5ms/step 2/2 [=======] - 0s 4ms/step 2/2 [======] - 0s 6ms/step 2/2 [========] - 0s 6ms/step 2/2 [=======] - 0s 6ms/step 2/2 [=======] - 0s 4ms/step 2/2 [=======] - 0s 5ms/step 2/2 [=======] - 0s 4ms/step 2/2 [========] - 0s 5ms/step 2/2 [======] - 0s 4ms/step 2/2 [=======] - 0s 6ms/step 2/2 [======] - 0s 4ms/step 2/2 [======] - 0s 5ms/step 2/2 [========] - 0s 4ms/step 2/2 [=======] - 0s 7ms/step 2/2 [======] - 0s 5ms/step 2/2 [======] - 0s 6ms/step 2/2 [=======] - 0s 4ms/step 2/2 [=======] - 0s 5ms/step 2/2 [=======] - 0s 5ms/step 2/2 [======] - 0s 5ms/step 2/2 [======] - 0s 6ms/step 2/2 [======] - 0s 7ms/step 2/2 [=======] - 0s 4ms/step 2/2 [=======] - 0s 5ms/step 2/2 [=======] - 0s 3ms/step 2/2 [======] - 0s 6ms/step 2/2 [=======] - 0s 6ms/step 2/2 [=======] - 0s 5ms/step 2/2 [======] - 0s 5ms/step 2/2 [======] - 0s 4ms/step 2/2 [=======] - 0s 4ms/step 2/2 [=======] - 0s 9ms/step

```
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 9ms/step
  [======] - Os 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 8ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 10ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 7ms/step
Epoch 2100/10000 [D loss: 0.664717435836792 | D accuracy: 67.1875] [G loss: 0.7334188222
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [========] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 16ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
Epoch 2200/10000 [D loss: 0.6682146787643433 | D accuracy: 62.5] [G loss: 0.740095853805
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [========= ] - 0s 10ms/step
2/2 [========= ] - 0s 10ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - Os 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 11ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
Epoch 2300/10000 [D loss: 0.67294642329216 | D accuracy: 61.71875] [G loss: 0.7478578090
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
```

	VI			
0 (0			_	
2/2	[=========]	-	0s	4ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	_	0s	-
	i :	-		5ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[=======]	-	0s	6ms/step
2/2	[========]	_	0s	5ms/step
	i :	_		
2/2	[=========]	-	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[========]	_	0s	5ms/step
	i :			
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[========]	_	0s	6ms/step
	1			-
2/2	[========]	-	0s	4ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[========]	_	0s	3ms/step
	i :			-
2/2	[========]	-	0s	4ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[======]	_	0s	16ms/step
2/2	[=======]		0s	
		_		4ms/step
2/2	[]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	_	0s	4ms/step
	i :			
2/2	[========]	-	0s	4ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[=======]	_	0s	9ms/step
	[=======]		0s	13ms/step
2/2		-		
2/2	[=========]	-	0s	9ms/step
2/2	[=======]	_	0s	4ms/step
2/2	[========]		0s	
	-	_		4ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[=======]	_	0s	4ms/step
	i :	_		-
2/2	[========]	-	0s	5ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	_	0s	-
		_		4ms/step
2/2	[=========]	-	0s	9ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[========]	_	0s	7ms/step
				-
2/2	[]	-	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	_	0s	4ms/step
				-
2/2	[========]	-	0s	8ms/step
2/2	[======]	_	0s	
			03	4ms/step
2/2		_		
2/2	[]	-	0s	5ms/step
2/2 2/2		-		
	[]	-	0s	5ms/step
2/2 2/2	[] []	-	0s 0s 0s	5ms/step 5ms/step 12ms/step
2/2 2/2 2/2	[] [] []	-	0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step
2/2 2/2 2/2 2/2	[] [] [] []	-	0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step
2/2 2/2 2/2	[] [] []		0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s	Sms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s	Sms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s	Sms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s	Sms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		-	0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		-	0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		-	0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		-	0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		-	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		-	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		-	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 6ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 6ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5m
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 5ms/step 6ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 5ms/step 6ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 12ms/step 12ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 5ms/step 6ms/step 6ms/step 6ms/step 6ms/step 6ms/step 5ms/step 6ms/step 6ms/step 5ms/step 6ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 5ms/step 12ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 6ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 6ms/step 6ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 6ms/step 6ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 5ms/step 12ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 6ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 12ms/step 12ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 6ms/step 5ms/step 6ms/step 6ms/step 6ms/step 5ms/step 6ms/step 6ms/step 6ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 12ms/step 12ms/step 5ms/step 6ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 12ms/step 12ms/step 5ms/step 6ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 6ms/step 6ms/step 6ms/step 5ms/step 6ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step 6ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 12ms/step 12ms/step 5ms/step 6ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 12ms/step 12ms/step 5ms/step 6ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 6ms/step 6ms/step 6ms/step 5ms/step 6ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step 6ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 6ms/step 5ms/step 6ms/step 5ms/step 6ms/step

```
Epoch 2400/10000 [D loss: 0.6558224260807037 | D accuracy: 64.0625] [G loss: 0.726452356
2/2 [======] - 0s 5ms/step
  [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 12ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 10ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - Os 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
```

```
در العام عرب العام عرب العام 
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 10ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
Epoch 2500/10000 [D loss: 0.6538751721382141 | D accuracy: 71.09375] [G loss: 0.76708841
1/1 [======= ] - Os 17ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - Os 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 11ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 14ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - Os 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
Epoch 2600/10000 [D loss: 0.6541244685649872 | D accuracy: 64.84375] [G loss: 0.75433480
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - Os 10ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - Os 4ms/step
2/2 [========= ] - 0s 4ms/step
Epoch 2700/10000 [D loss: 0.6518959701061249 | D accuracy: 66.40625] [G loss: 0.78513276
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 |======= | - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/sten
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/sten
2/2 [========= ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
Epoch 2800/10000 [D loss: 0.6350954473018646 | D accuracy: 69.53125] [G loss: 0.78756451
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 14ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/sten
```

```
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
  [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
Epoch 2900/10000 [D loss: 0.6232856214046478 | D accuracy: 76.5625] [G loss: 0.803919076
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 13ms/step
```

```
در العام عرب العام عرب العام 
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 15ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 5ms/step
Epoch 3000/10000 [D loss: 0.6281962394714355 | D accuracy: 67.96875] [G loss: 0.82421654
1/1 [=======] - 0s 35ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
```

2/2 [=======] - 0s 5ms/step

```
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/sten
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
Epoch 3100/10000 [D loss: 0.6081558465957642 | D accuracy: 75.0] [G loss: 0.839242219924
2/2 [======] - 0s 9ms/step
2/2 [========] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
```

4/4	M			
	j	-	U.S	41113/3CEP
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	6ms/step
2/2	[=======]	-	0s	12ms/ste
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[=======]		0s	4ms/step 6ms/step
2/2	[========]	-	0s 0s	
2/2	[=======]	-	0s	5ms/step 5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[======]	_	0s	5ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[======]	_	0s	5ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[======]	_	0s	3ms/step
2/2	[=======]	_	0s	3ms/step
2/2	[======]	_	0s	5ms/step
2/2	[=======]	_	0s	3ms/step
2/2	[=======]	_	0s	4ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[=======]	-	0s	7ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	-	0s	6ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	6ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[======]	-	0s	4ms/step
2/2	[======]	-	0s	4ms/step
2/2	[======]	-	0s	5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[======]	-	0s	4ms/step
2/2	[======]	-	0s	3ms/step
2/2	[======]	-	0s	4ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[=======]	-	0s	7ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[======]	-	0s	4ms/step
2/2	[========]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
	[=======]	-	0s	4ms/step
	[=======]	-		5ms/step
2/2		-	0s	
			0.0	5ms/step
	[=======]	-	0s	5ms/step
	[=======]	-	0s	5ms/step 5ms/step
2/2	[======]	-	0s 0s	5ms/step 5ms/step 4ms/step
2/2 2/2	[] []	- - -	0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step
2/2 2/2 2/2	[] []	- - -	0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2	[] [] [] []		0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2	[] [] [] [] []		0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step 5ms/step 6ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 3ms/step 4ms/step 3ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	5ms/step 5ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step

```
2/2 [======] - 0s 8ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
Epoch 3200/10000 [D loss: 0.6055653691291809 | D accuracy: 73.4375] [G loss: 0.831240594
2/2 [======] - 0s 4ms/step
2/2 [=====] - 0s 4ms/step
2/2 [=====] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/sten
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 10ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/sten
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
Epoch 3300/10000 [D loss: 0.5639771223068237 | D accuracy: 79.6875] [G loss: 0.883887529
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - Os 12ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 13ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 17ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 10ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - Os 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 12ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== 1 - 0s 5ms/step
```

```
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
Epoch 3400/10000 [D loss: 0.5737378299236298 | D accuracy: 74.21875] [G loss: 0.88131684
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=========] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=========] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 15ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 12ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
```

```
z/z [============ ] - سs oms/scep
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
Epoch 3500/10000 [D loss: 0.5531117916107178 | D accuracy: 78.90625] [G loss: 0.92698681
1/1 [======= ] - 0s 28ms/step
  [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
```

```
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 9ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/sten
2/2 [======] - 0s 6ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
                     ac Amelo
```

```
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
Epoch 3600/10000 [D loss: 0.5788361132144928 | D accuracy: 77.34375] [G loss: 0.9418393]
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 13ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [========] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
```

```
2/2 |======= | - @s 3ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [========] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
Epoch 3700/10000 [D loss: 0.5079774856567383 | D accuracy: 87.5] [G loss: 0.989050149917
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 12ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 15ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 12ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 10ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [=======] - 0s 4ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - Os 12ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
Epoch 3800/10000 [D loss: 0.5636551678180695 | D accuracy: 71.875] [G loss: 1.0135319232
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 12ms/step
2/2 [======== 1 - 0s 4ms/step
```

```
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
  [======] - 0s 11ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - Os 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
Epoch 3900/10000 [D loss: 0.5118468999862671 | D accuracy: 84.375] [G loss: 1.0048377513
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [========] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
1/1 [======= ] - 0s 20ms/step
```

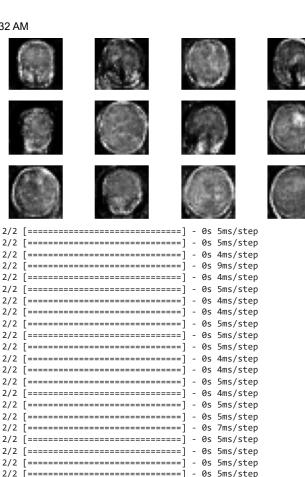
Epoch 4000/10000 [D loss: 0.5195123255252838 | D accuracy: 79.6875] [G loss: 0.999182224











2/2 [======] - 0s 4ms/step 2/2 [=======] - 0s 5ms/step 2/2 [=======] - 0s 4ms/step 2/2 [======] - 0s 3ms/step 2/2 [=======] - 0s 4ms/step 2/2 [======] - 0s 5ms/step 2/2 [======] - 0s 8ms/step 2/2 [======] - 0s 5ms/step 2/2 [=======] - 0s 3ms/step 2/2 [========] - 0s 5ms/step 2/2 [======] - 0s 5ms/step 2/2 [=======] - 0s 4ms/step 2/2 [=========] - 0s 4ms/step 2/2 [======] - 0s 4ms/step 2/2 [======] - 0s 4ms/step 2/2 [=======] - 0s 5ms/step 2/2 [=======] - 0s 4ms/step 2/2 [======] - 0s 4ms/step 2/2 [=======] - 0s 5ms/step 2/2 [======] - 0s 5ms/step 2/2 [=======] - 0s 5ms/step 2/2 [======] - 0s 5ms/step 2/2 [=======] - 0s 5ms/step

```
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 11ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
Epoch 4100/10000 [D loss: 0.513679251074791 | D accuracy: 82.03125] [G loss: 1.033393144
2/2 [=======] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======== ] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
```

```
2/2 |======= | - @s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
Epoch 4200/10000 [D loss: 0.5429697632789612 | D accuracy: 73.4375] [G loss: 1.085546731
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======== ] - 0s 8ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 8ms/step
2/2 [======] - 0s 10ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - Os 5ms/step
Epoch 4300/10000 [D loss: 0.47090692818164825 | D accuracy: 82.8125] [G loss: 1.14269018
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= 1 - 0s 5ms/step
```

```
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - Os 8ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
Epoch 4400/10000 [D loss: 0.4672802686691284 | D accuracy: 82.8125] [G loss: 1.114486694
2/2 [======= ] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
```

:32 AI	M			
4/4	Lj	-	υs	אסאב / בוווכ
2/2	[========]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	[========]	-	0s	5ms/step
2/2	[========]	-	0s	4ms/step
2/2	[========]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[=========]	-	0s	3ms/step
2/2	[========]	-	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[========]	-	0s 0s	5ms/step
2/2		-	0s	4ms/step
2/2	[=======]	_	0S	4ms/step 5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	_	0s	3ms/step
2/2	[======]	_	0s	5ms/step
2/2	[=======]	_	0s	4ms/step
2/2	[========]	_	0s	3ms/step
2/2	[======]	_	0s	4ms/step
2/2	[======]	_	0s	5ms/step
2/2	[======]	_	0s	5ms/step
2/2	[========]	_	0s	4ms/step
2/2	[=======]	_	0s	4ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[========]	_	0s	4ms/step
2/2	[=======]	_	0s	3ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[======]	-	0s	8ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[========]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[======]	-	0s	6ms/step
2/2	[=======]	-	0s	5ms/step
	[========]	-		5ms/step
2/2	-	-	0s	4ms/step
	[=======]	-		5ms/step
2/2		-	0s	5ms/step
	[========]	-		
	[========]	-		5ms/step
	[=========]	-	0s	5ms/step
	[=======]	-		4ms/step
2/2	[========]	-	0s 0s	4ms/step
	[========]	_	0S 0S	4ms/step 5ms/step
	[=======]	_		3ms/step
2/2	-	_		4ms/step
	[======]	_	0s	5ms/step
	[=======]	_		4ms/step
	[======]	_	-	4ms/step
	[=======]	_	0s	5ms/step
2/2		_	0s	8ms/step
	[========]	-	_	
2/2		-	0s	3ms/step
	[=======]	-	0s	5ms/step
2/2	-	-	0s	4ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	-	0s	
2/2	[======]	-	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2		-	0s	
	[1	-	0s	5ms/step
	[=======]			
2/2	[======]	-	0s	4ms/step
2/2 2/2	[]	-	0s	4ms/step
2/2 2/2 2/2	[] []		0s 0s	4ms/step 9ms/step
2/2 2/2 2/2 2/2	[] [] []	- - -	0s 0s 0s	4ms/step 9ms/step 4ms/step
2/2 2/2 2/2 2/2	[] []	-	0s 0s 0s	4ms/step 9ms/step

```
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
Epoch 4500/10000 [D loss: 0.4652802646160126 | D accuracy: 76.5625] [G loss: 1.259048938
1/1 [======] - 0s 33ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [------ ] - 0c /mc/ctor
```

```
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======= ] - 0s 8ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 13ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========] - 0s 9ms/step
Epoch 4600/10000 [D loss: 0.48483484983444214 | D accuracy: 78.90625] [G loss: 1.1292469
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/sten
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
```

```
2/2 |========= | - WS 4MS/STEP
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 9ms/step
Epoch 4700/10000 [D loss: 0.4672625809907913 | D accuracy: 81.25] [G loss: 1.27029657363
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
```

```
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
```

Epoch 4800/10000 [D loss: 0.44893456995487213 | D accuracy: 81.25] [G loss: 1.2175257205

```
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/sten
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/sten
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s
                       5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/sten
2/2 [======= ] - 0s 4ms/sten
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
```

ac Emc/c

```
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
Epoch 4900/10000 [D loss: 0.4367572069168091 | D accuracy: 85.15625] [G loss: 1.32967656
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 12ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 13ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 8ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 14ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - Os 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
```

```
2/2 |======= | - @s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 12ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
Epoch 5000/10000 [D loss: 0.4268532246351242 | D accuracy: 81.25] [G loss: 1.38585948944
1/1 [=======] - 0s 18ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
```

2/2 [-----] - Ac 3mc/c+an

```
2/2 [=======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - Os 6ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
Epoch 5100/10000 [D loss: 0.4199850261211395 | D accuracy: 77.34375] [G loss: 1.27309405
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
```

```
2/2 [======] - 0s 4ms/sten
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [=======] - 0s 13ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
Epoch 5200/10000 [D loss: 0.44005149602890015 | D accuracy: 79.6875] [G loss: 1.33252882
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== 1 - 0s 3ms/step
```

```
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
Epoch 5300/10000 [D loss: 0.39243075251579285 | D accuracy: 89.0625] [G loss: 1.34443902
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [-----] - 0s 4ms/step
2/2 [-----] - 0s 11ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [-----] - Ac /mc/ctai
```

```
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 6ms/step
2/2 [======= ] - 0s 11ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [========] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
Epoch 5400/10000 [D loss: 0.3603394627571106 | D accuracy: 84.375] [G loss: 1.3497650623
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - Os 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
```

```
2/2 |======= | - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
Epoch 5500/10000 [D loss: 0.35272449254989624 | D accuracy: 88.28125] [G loss: 1.4012204
1/1 [======] - 0s 18ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
```

2/2 [========] - 0c 5mc/sten

-/-	VI			
	L		~~	JJ, J CCP
2/2	[========]	_	0s	5ms/step
•	[=========]	_	0s	
2/2				6ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[=========]	_	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[========]	_	0s	4ms/step
2/2	[========]	-	0s	8ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[=========]	_	0s	5ms/step
	<u> </u>		0s	5ms/step
	[=======]	-		
2/2	[=========]	-	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[====================================	_	0s	4ms/step
2/2	[=========]	-	0s	4ms/step
2/2	[========]	_	0s	5ms/step
2/2	[=========]	_	0s	4ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[========]	-	0s	4ms/step
2/2	[====================================	_	0s	5ms/step
	: :			-
2/2	[=======]	-	0s	5ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[=========]	_	0s	5ms/step
2/2	[=========]	_	0s	6ms/step
•		_		
2/2		-	0s	6ms/step
2/2	[========]	-	0s	4ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=========]	_	0s	4ms/step
	[]			
2/2	[========]	-	0s	4ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[========]	_	0s	5ms/step
2/2	[====================================	_	0s	4ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	- [=========]	_	0s	4ms/step
	[==========]	_	0s	
		-		4ms/step
2/2	[========]	-	0s	4ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	- [=========]	_	0s	4ms/step
2/2	[===========]	_	0s	4ms/step
2/2	[=========]	_	0s	4ms/step
2/2	<u> </u>			4ms/step
	[=======]	-	0s	4IIIS/Step
2/2				
	[=========]	-	0s	4ms/step
2/2	[=========]	-	0s	15ms/step
		-		
2/2	[========]	-	0s	15ms/step
2/2 2/2 2/2	[]	-	0s 0s	15ms/step 10ms/step 4ms/step
2/2 2/2 2/2 2/2	[] [] []		0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2	[] [] [] []	- - -	0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2	[] [] [] [] [] []		0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2	[] [] [] [] [] [] [] []	- - -	0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2	[] [] [] [] [] []		0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2	[] [] [] [] [] [] [] []		0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 7ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 7ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 7ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 7ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 7ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	15ms/step 10ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 6ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 6ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 6ms/step 5ms/step 5ms/step 6ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 5ms/step 6ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 6ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 6ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 6ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	15ms/step 10ms/step 4ms/step 5ms/step 7ms/step 5ms/step 6ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 4ms/step 5ms/step

```
2/2 [======= ] - US 4MS/STEP
2/2 [======== ] - 0s 4ms/sten
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
Epoch 5600/10000 [D loss: 0.417239248752594 | D accuracy: 80.46875] [G loss: 1.453914284
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 12ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 7ms/step
2/2 [========= ] - 0s 8ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
```

```
[======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
Epoch 5700/10000 [D loss: 0.35103005170822144 | D accuracy: 90.625] [G loss: 1.593935728
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
```

```
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [===========] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 8ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - Os 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
Epoch 5800/10000 [D loss: 0.4079809635877609 | D accuracy: 83.59375] [G loss: 1.45276486
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 3ms/step
2/2 [-----] - Ac 3mc/cto
```

```
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======= ] - 0s 6ms/sten
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
Epoch 5900/10000 [D loss: 0.353109672665596 | D accuracy: 85.15625] [G loss: 1.596775054
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [========] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 |======= | - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 13ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
Epoch 6000/10000 [D loss: 0.30033358931541443 | D accuracy: 92.1875] [G loss: 1.75882434
1/1 [======] - 0s 19ms/step
```

















8		ķ	g	2
2/2	[==========	-	0s	5ms/step
2/2	[==========	-	0s	5ms/step
2/2	[======================================	-	0s	4ms/step
2/2	[======================================	- -	0s 0s	5ms/step 5ms/step
2/2	[===========	! -	0s	5ms/step
2/2	[=========	-	0s	9ms/step
2/2	[======================================	-	0s	5ms/step
2/2	[======================================	-	0s	6ms/step
2/2	[=====================================	- -	0s 0s	4ms/step 5ms/step
2/2	[===========	- -	0s	5ms/step
2/2	[=========	-	0s	5ms/step
2/2	[======================================	-	0s	5ms/step
2/2	[======================================	-	0s	3ms/step
2/2	[======================================	- _	0s 0s	6ms/step 5ms/step
2/2	[==========	 -	0s	5ms/step
2/2	[==========	-	0s	4ms/step
2/2	[======================================	-	0s	4ms/step
2/2	[======================================	-	0s	5ms/step
2/2 2/2	[======================================	-	0s 0s	4ms/step 5ms/step
2/2	[=====================================	- -	0s	5ms/step
2/2	[===========	-	0s	4ms/step
2/2	[========	j -	0s	4ms/step
2/2	[========	:	0s	4ms/step
2/2	[:	0s	6ms/step
2/2	[======================================	- -	0s 0s	5ms/step 5ms/step
2/2	[==========	 -	0s	5ms/step
2/2	[========	j -	0s	5ms/step
2/2	[-	0s	5ms/step
2/2	[=====================================	-	0s	5ms/step
2/2	[=====================================	- _	0s 0s	5ms/step 4ms/step
2/2	[===========		0s	5ms/step
2/2	[==========	-	0s	5ms/step
2/2	[-	0s	5ms/step
2/2	[======================================	-	0s	5ms/step
2/2	[======================================	- -	0s 0s	6ms/step 4ms/step
2/2	[===========	-	0s	5ms/step
2/2	[==========	-	0s	5ms/step
2/2	[======================================	-	0s	4ms/step
2/2	[======================================	- -	0s	5ms/step
2/2	[=====================================	- -	0s 0s	5ms/step 5ms/step
2/2	[===========	-	0s	5ms/step
2/2	[==========	-	0s	5ms/step
2/2	[======================================		0s	5ms/step
2/2	[=====================================		0s	5ms/step 5ms/step
2/2	[===========		0s 0s	5ms/step
2/2	[=====================================		0s	6ms/step
2/2	[=========	j -	0s	5ms/step
2/2	[======================================		0s	4ms/step
2/2	[=====================================		0s 0s	5ms/step
2/2	[===========		0s	5ms/step 6ms/step
2/2	[=========		0s	4ms/step
2/2	[=========	-	0s	4ms/step
2/2	[======================================		0s	12ms/step
2/2	[======================================		0s 0s	11ms/step 4ms/step
2/2	[======================================		0s	4ms/step 4ms/step
2/2	[=========		0s	4ms/step
2/2	[==========		0s	4ms/step
2/2	[======================================		0s	4ms/step
2/2	[=====================================		0s 0s	5ms/step 7ms/step
2/2	[===========		0s	7ms/step 7ms/step
2/2	[=========		0s	8ms/step
2/2	r	1	^-	C /

2/2 |======== | - ws bms/step

```
2/2 [======= ] - 0s 8ms/sten
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 7ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
Epoch 6100/10000 [D loss: 0.35387521982192993 | D accuracy: 89.0625] [G loss: 1.48862600
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [========] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 11ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 9ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/sten
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
Epoch 6200/10000 [D loss: 0.3644702434539795 | D accuracy: 85.15625] [G loss: 1.63458812
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - Os 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========] - 0s 4ms/step
Epoch 6300/10000 [D loss: 0.3498831242322922 | D accuracy: 83.59375] [G loss: 1.58507645
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [-----] - Oc /mc/ctar
```

```
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/sten
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
Epoch 6400/10000 [D loss: 0.36245517432689667 | D accuracy: 87.5] [G loss: 1.56022834777
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 9ms/step
```

:32 AI	VI			
2/2	[==========]	-	Ø5	4ms/step
	[=========]		0s	
	[=========]		0s	4ms/step
2/2	[=========]	-	0s	4ms/step
2/2	[=======]	-	0s	6ms/step
2/2	[==========]		0s	5ms/step
	-			
2/2	[=========]	-	0s	5ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[========]	-	0s	4ms/step
	-			
	[=========]	_	0s	5ms/step
	[==========]	-	0s	4ms/step
2/2	[===========]	-	0s	5ms/step
2/2	[===========]	-	0s	5ms/step
2/2	[========]		0s	4ms/step
	-			
2/2	[=========]	-	0s	5ms/step
2/2	[===========]	-	0s	5ms/step
2/2	[=======]	-	0s	3ms/step
2/2	[=========]	_	0s	5ms/step
				-
2/2	[=========]	-	0s	4ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[==========]	-	0s	4ms/step
2/2	_		0s	5ms/step
	[=======]			
2/2	[=========]	-	0s	4ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[====================================	_	0s	5ms/step
2/2	[==========]		0s	4ms/step
2/2	[==========	-	0s	5ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[===========]	-	0s	4ms/step
2/2	[=======]		0s	4ms/step
	-			
2/2	[========]	-	0s	5ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[=========]	-	0s	4ms/step
2/2	[=========]		0s	4ms/step
	I I			
2/2	[=========]	-	0s	5ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[===========]	_	0s	4ms/step
2/2	[=======]	_	0s	5ms/step
	<u> </u>	-		
2/2	[=========]	-	0s	5ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[========]		0s	5ms/step
2/2	[========]	-	0s	6ms/step
2/2	[=========]	-	0s	6ms/step
2/2	[==========]	-	0s	5ms/step
	[]	_	0s	5ms/step
	-			
2/2	[=========]		0s	7ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[===========]	-	0s	5ms/step
	[]		0s	11ms/step
	[==========]			4ms/step
			0s	
	[=========]			
2/2	[===========]	-	0s	5ms/step
2/2	[========]	_	0 s	5ms/step
	[========]			
	[=========]			5ms/step
2/2	[=========]	-	0s	6ms/step
2/2	[==========]	-	0s	4ms/step
	[=========]			5ms/step
	[=========]			
	-			
	[=========]			5ms/step
	[==========]		92	ъms/stер
2/2	[=========]	-	0s	5ms/step
2/2	[=========]	-	05	5ms/sten
	[=========]			5ms/step
	-			
	[=========]			5ms/step
2/2	[=========]	-	Øs	4ms/step
2/2	[=========]	-	0s	4ms/step
2/2	[========]	-	0s	5ms/sten
	[========]			
	[========]			
2/2	[=========]	-	0s	5ms/step
2/2	[=========]	-	0s	5ms/step
	[========]			5ms/step
	-			
	[=========]			4ms/step
	[=========]			4ms/step
2/2	[=========]	-	0s	5ms/step
	[=========]			
	[=========]			
	-			
	[=========]			
	[========]			5ms/step
2/2	[=========]	-	0s	4ms/step
2/2	-	-		4ms/stan
	[=======]			
2/2	[=========] [==========================	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step

```
2/2 [======] - 0s 5ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
Epoch 6500/10000 [D loss: 0.33658812940120697 | D accuracy: 89.0625] [G loss: 1.62133061
1/1 [======] - 0s 28ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======= ] - 0s 10ms/sten
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 17ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 9ms/step
Epoch 6600/10000 [D loss: 0.328778401017189 | D accuracy: 86.71875] [G loss: 1.956408619
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========] - Os 7ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
```

```
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - Os 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
Epoch 6700/10000 [D loss: 0.3077414631843567 | D accuracy: 89.0625] [G loss: 1.865691661
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/sten
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 13ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
Epoch 6800/10000 [D loss: 0.34988462924957275 | D accuracy: 86.71875] [G loss: 1.8200746
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
```

32 AN				
2/2	[========]	_	0s	4ms/step
	[============]	_	0s	4ms/step
	[==========]	_	0s	4ms/step
	[==========]	_	0s	4ms/step
2/2	[==========]	_	0s	4ms/step
2/2	- [=========]	-	0s	5ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[=========]	-	0s	4ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[==========]	-	0s	11ms/step
2/2	[=========]	-	0s	4ms/step
2/2	[]	-	0s	4ms/step
•	[]	-	0s	4ms/step
2/2	[=========]	-	0s	8ms/step
,	[=========]	-	0s	4ms/step
2/2	[=========]	-	0s	4ms/step
	[========]	-	0s	11ms/step
	[=========]	-	0s	8ms/step
2/2	[========]	-	0s	10ms/step
2/2 2/2	[=========] [============]	-	0s 0s	4ms/step 5ms/step
	[=========]	_	0s	4ms/step
	[=========]	_	0s	5ms/step
	[=========]	_	0s	3ms/step
2/2	[==========]	_	0s	4ms/step
	[==========]	_	0s	4ms/step
2/2	[===========]	_	0s	4ms/step
2/2	- [=========]	-	0s	5ms/step
2/2	- [=========]	-	0s	4ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[===========]	-	0s	4ms/step
2/2	[===========]	-	0s	4ms/step
2/2	[]	-	0s	5ms/step
	[========]	-	0s	5ms/step
	[=========]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
	[=========]	-	0s	3ms/step
	[=========]	-	0s	5ms/step
	[========]	-	0s	4ms/step
2/2 2/2	[=========] [============]	-	0s 0s	5ms/step 3ms/step
2/2	[=========]	-	0s	4ms/step
2/2	[=========]	_	0s	5ms/step
	[=========]	_	0s	4ms/step
2/2	[=========]	_	0s	4ms/step
2/2	[==========]	_	0s	4ms/step
2/2	[==========]	_	0s	5ms/step
2/2	[===========]	-	0s	5ms/step
2/2	[==========]	-	0s	5ms/step
2/2	[==========]	-	0s	4ms/step
2/2	[]	-	0s	5ms/step
,	[]	-	0s	5ms/step
	[========]	-	0s	5ms/step
,	[=========]	-	0s	4ms/step
,	[=========]	-	0s	5ms/step
•	[========]	-	0s	7ms/step
,	[]	-	0s	5ms/step
	[=========] [============]	_	0s 0s	5ms/step 5ms/step
	[==========]	_	0S	5ms/step
	[=========] [==========================	_	0s	10ms/step
	[===========]	_	0s	6ms/step
	[==========]	_	0s	5ms/step
	[==========]	_	0s	5ms/step
	[=========]	-	0s	5ms/step
2/2	- [=========]	-	0s	4ms/step
2/2	- [========]	-	0s	5ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[===========]	-	0s	5ms/step
	[]	-	0s	4ms/step
	[=======]	-	0s	4ms/step
,	[=======]	-	0s	4ms/step
•	[========]	-	0s	5ms/step
,	[=========]	-	0s	4ms/step
	[========]	-	0s	3ms/step
	[========]	-	0s	5ms/step
	[=========] [==========================	-	0s	7ms/step
	[==========] [===========]	_	0s 0s	4ms/step 4ms/step
	[==========]	_	0S	4ms/step
2/2	[=========]	_	0s	5ms/step
	[========]	_	0s	5ms/step
2/2	÷ ;		^	- , .

```
2/2 [======= ] - 0s 5ms/sten
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
Epoch 6900/10000 [D loss: 0.27278129011392593 | D accuracy: 88.28125] [G loss: 1.9586443
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 9ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/sten
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
```

```
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
Epoch 7000/10000 [D loss: 0.31684666872024536 | D accuracy: 85.9375] [G loss: 1.75773823
1/1 [======] - 0s 18ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/sten
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - Os 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
Epoch 7100/10000 [D loss: 0.250040203332901 | D accuracy: 92.1875] [G loss: 2.1281871795
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======== ] - 0s 9ms/sten
2/2 [======= ] - 0s 14ms/step
2/2 [======] - 0s 11ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======= ] - Os 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
Epoch 7200/10000 [D loss: 0.27675534784793854 | D accuracy: 91.40625] [G loss: 2.0194315
2/2 [======= ] - 0s 5ms/step
```

0 /0			_	- , .
2/2	[======]	-	0s	5ms/step
2/2	[======]	_	0s	5ms/step
	-			
2/2	[]	-	0s	4ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[=====]	-	0s	5ms/step
				-
2/2	[======]	-	0s	5ms/step
2/2	[=======]	-	0s	6ms/step
2/2	[=======]	-	0s	6ms/step
	-			-
2/2	[======]	-	0s	6ms/step
2/2	[======]	-	0s	4ms/step
2/2	[========]	_	0s	6ms/step
2/2	[======]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	_	0s	4ms/step
2/2	[======]	-	0s	4ms/step
2/2	[======]	-	0s	8ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	_	0s	4ms/step
	-			
2/2	[======]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	[======]	_	0s	14ms/step
2/2	[=======]	-	0s	7ms/step
2/2	[=======]	-	0s	9ms/step
2/2	[=======]	_	0s	8ms/step
2/2	[======]	-	0s	7ms/step
2/2	[=======]	-	0s	7ms/step
2/2	[=======]	_	0s	4ms/step
2/2				
	[=======]	-	0s	7ms/step
2/2	[=======]	-	0s	7ms/step
2/2	[========]	-	0s	4ms/step
2/2	[======]	-	0s	5ms/step
	: :			-
2/2	[=======]	-	0s	4ms/step
2/2	[]	-	0s	7ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=====]	-	0s	4ms/step
			0s	
2/2	[=======]	-		6ms/step
2/2	[======]	-	0s	5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[=======]	_	0s	4ms/step
2/2	[======]	_	0s	5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	_	0s	4ms/step
2/2	[======]	-	0s	5ms/step
2/2	[========]	-	0s	4ms/step
2/2	[======]	-	0s	5ms/step
2/2	[=======]	_	0s	4ms/step
2/2	[======]	-	0s	
2/2	[========]	-	0s	5ms/step
2/2	[======]	_	0s	5ms/step
	[======]			5ms/step
2/2	-	-	ØS	5ms/step
2/2	[========]	-	0s	4ms/step
2/2	[========]	_	0s	5ms/step
			0s	
2/2	-	-		5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=====]	-	0s	Fmc/cton
2/2				5ms/step
	-	_	۵c	-
2/2	[=======]	-	0s	5ms/step
2/2	[======]	-	0s	5ms/step 5ms/step
2/2 2/2	[=======]			5ms/step
2/2	[======]	-	0s 0s	5ms/step 5ms/step 5ms/step
2/2 2/2	[] [] []	- - -	0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step
2/2 2/2 2/2	[] [] []	-	0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2	[] [] [] [] []	- - -	0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step
2/2 2/2 2/2		- - -	0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2	[] [] [] [] [] []		0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	Sms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	Sms/step Sms/step Sms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	Sms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	Sms/step Ams/step Sms/step Ams/step Ams/step Sms/step Sms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step

```
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/sten
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
Epoch 7300/10000 [D loss: 0.23775382339954376 | D accuracy: 92.96875] [G loss: 1.7791721
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 9ms/step
2/2 [========] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 7ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 10ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======] - WS 5mS/STEP
2/2 [======== ] - 0s 6ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
Epoch 7400/10000 [D loss: 0.23975449055433273 | D accuracy: 92.1875] [G loss: 2.06681704
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/sten
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========] - 0s 6ms/step
2/2 [========= ] - 0s 13ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 7ms/step
```

```
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
Epoch 7500/10000 [D loss: 0.24011631309986115 | D accuracy: 93.75] [G loss: 1.9486482143
1/1 [=======] - 0s 17ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
```

:32 AN	Л			
4/4	[========]	-	80	oms/scep
	[========]	-	0s	4ms/step
	[=========]	-	0s	5ms/step
	[=========]	-	0s	4ms/step
	[==========] [============]	-	0s 0s	3ms/step 5ms/step
-	[=========]	_	0s	5ms/step
	[========]	_	0s	5ms/step
	[=========]	_	0s	5ms/step
	[=========]	_	0s	5ms/step
	[========]	-	0s	6ms/step
2/2	[=========]	-	0s	3ms/step
2/2	[=========]	-	0s	4ms/step
	[]	-	0s	6ms/step
	[=========]	-	0s	5ms/step
	[=========]	-	0s	4ms/step
	[=========]	-	0s	4ms/step
	[=========] [==========]	-	0s 0s	4ms/step 6ms/step
	[=========]	_	0s	5ms/step
	[=========]	_	0s	4ms/step
	[=========]	-	0s	4ms/step
2/2	[========]	-	0s	16ms/ste
2/2	[=======]	-	0s	4ms/step
2/2	[=========]	-	0s	4ms/step
-	[========]	-	0s	4ms/step
	[=========]	-	0s	4ms/step
	[========]	-	0s	4ms/step
	[=========] [============]	-	0s 0s	4ms/step 6ms/step
	[==========] [=========================	-	0S	5ms/step
-	[=========]	_	0s	5ms/step
	[========]	_	0s	5ms/step
	[========]	-	0s	10ms/ste
2/2	- []	-	0s	5ms/step
2/2	[=========]	-	0s	4ms/step
	[=========]	-	0s	6ms/step
	[=========]	-	0s	4ms/step
	[==========] [===========]	-	0s 0s	7ms/step 4ms/step
	[=========]	_	0s	4ms/step
	[========]	_	0s	8ms/step
2/2	- []	-	0s	9ms/step
	[========]	-	0s	11ms/ste
-	[=========]	-	0s	9ms/step
,	[=========]	-	0s	6ms/step
	[==========] [===========]	-	0s 0s	5ms/step 4ms/step
	[=========]	_	0s	4ms/step
	[========]	-	0s	4ms/step
2/2	[========]	-	0s	5ms/step
	[]		0s	
	[=========]			5ms/step
-	[]	-	0s	
	[==========] [===========]	-	0s 0s	5ms/step 4ms/step
-	[=========]		0s	4ms/step
	[=========]	_		4ms/step
,	[=========]	-	0s	5ms/step
2/2	[========]	-	0s	4ms/step
	[=========]		0s	4ms/step
	[=========]	-		5ms/step
	[==========] [===========]	-	0s 0s	5ms/step 5ms/step
	[=========]		0s	5ms/step
	[=========]		0s	-
	[========]	_	0s	5ms/step
2/2	[==========]	-	0s	5ms/step
	[]		0s	3ms/step
	[=========]		0s	4ms/step
	[=========]		0s	
	[==========] [===========]	-	0s 0s	4ms/step
	[=========]		0s	3ms/step
	[========]		0s	3ms/step
2/2	[=========]	-	0s	
	[========]	-	0s	5ms/step
	[=========]	-	0s	5ms/step
	[========] [===========================	-		
	[==========] [===========]	-	0s 0s	4ms/step 5ms/step
	[=========] [==========================	_		
	[=========]	-	0s	5ms/step
	[=========]			5ms/step
2/2	[======]	-	0s	4ms/step

```
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 5ms/step
Epoch 7600/10000 [D loss: 0.2469208538532257 | D accuracy: 92.96875] [G loss: 2.03326773
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [========] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======] - 0s 13ms/step
2/2 [======] - 0s 9ms/step
2/2 [======== ] - 0s 12ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
Epoch 7700/10000 [D loss: 0.25630608946084976 | D accuracy: 92.1875] [G loss: 1.89704132
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 8ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [========= ] - 0s 5ms/step
7/7 [======= 1 - 0c 5mc/sten
```

```
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/sten
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=====] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - Os 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
Epoch 7800/10000 [D loss: 0.22531268000602722 | D accuracy: 93.75] [G loss: 2.0716893672
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 11ms/step
```

```
2/2 [======= ] - 0s 5ms/sten
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 7ms/step
2/2 [======== ] - 0s 4ms/sten
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======= ] - 0s 11ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 6ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
Epoch 7900/10000 [D loss: 0.3611818104982376 | D accuracy: 86.71875] [G loss: 2.07739973
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
```

```
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 12ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
Epoch 8000/10000 [D loss: 0.22661707550287247 | D accuracy: 90.625] [G loss: 2.157523155
1/1 [======= ] - 0s 23ms/step
```









			v	100
2/2	[======================================] -	09	s 5ms/step
2/2	[======================================] -	09	s 5ms/step
2/2	[=========	ī -	09	s 4ms/step
2/2	- [===========	1 -	09	s 5ms/step
2/2	[==========	-		
2/2	[==========	i -		
2/2	[=====================================	_		
2/2	[===========	-		
2/2	[===========	-		
	L	-		
2/2	[======================================	-		
2/2	[======================================] -		
2/2	[======================================] -		
2/2	[======================================	-		-,
2/2	[======================================	-	٠.	
2/2	[======================================	-		
2/2	[======================================	-		
2/2	[======================================	_		
2/2	[======================================	-	09	s 4ms/step
2/2	[======================================] -	09	s 5ms/step
2/2	[======================================] -	09	s 4ms/step
2/2	[======================================] -	09	s 4ms/step
2/2	[======================================] -	09	s 4ms/step
2/2	[======================================] -	09	s 4ms/step
2/2	[======================================] -	09	s 4ms/step
2/2	[======================================] -	09	s 5ms/step
2/2	[======================================] -	09	s 4ms/step
2/2	[==========	i -	09	s 5ms/step
2/2	[==========	i -	09	
2/2	[==========	1 -	09	5 5ms/step
2/2	[==========	i -		
2/2	[==========	-		
2/2	[==========	_	0:	
2/2	[=====================================	-		
2/2	[===========	-		
2/2	[============	_		
	<u>.</u>	-		
2/2	[======================================	-		
2/2	[======================================	-		
2/2	[======================================	-		
2/2	[======================================] -		
2/2	[======================================	-		
2/2	[======================================	-		
2/2	[======================================	-		
2/2	[======================================	-	0.	
2/2	[======================================	_		
2/2	[======================================	_		
2/2	[=======	_		
2/2	[======================================	-	09	s 5ms/step
2/2	[======================================] -	09	s 3ms/step
2/2	[======================================] -	09	s 8ms/step
2/2	[======================================] -	09	s 5ms/step
2/2	[======================================] -	09	s 4ms/step
2/2	[======================================] -	09	s 4ms/step
2/2	[======================================] -	09	s 4ms/step
2/2	[======================================] -	09	s 7ms/step
2/2	[======================================] -	09	s 5ms/step
2/2	[=========] -	09	4ms/step
2/2	[======================================] -	0	s 4ms/step
2/2	[=========] -	09	s 4ms/step
2/2	[=========] -	09	s 4ms/step
2/2	[===========	1 -	09	s 10ms/step
2/2	[==========	i -	09	s 4ms/step
2/2	[===========	-		s 4ms/step
2/2	[==========			s 4ms/step
2/2	[==========	-		s 9ms/step
2/2	[===========	-		s 4ms/step
2/2	[============	-		4ms/step
2/2	[===========	-		s 6ms/step
2/2	[==========	-		s 4ms/step
2/2	[======================================	-	0:	
2/2	[======================================	-		s 4ms/step
2/2	[======================================	-	0:	
	-	-		
2/2	[_		4ms/step
2/2	[======================================	-		s 6ms/step
2/2	-	-		s 8ms/step
2/2	[======================================	-		s 9ms/step
2/2	[======================================			s 7ms/step
2/2	[======================================	-		
2/2	[======================================	1 -	09	s 4ms/step

```
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/sten
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
Epoch 8100/10000 [D loss: 0.28645700216293335 | D accuracy: 89.84375] [G loss: 2.1278810
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 14ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
Epoch 8200/10000 [D loss: 0.2659447491168976 | D accuracy: 89.0625] [G loss: 2.152184963
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/sten
```

```
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - Os 4ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 9ms/step
Epoch 8300/10000 [D loss: 0.245294988155365 | D accuracy: 92.1875] [G loss: 2.1011033058
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/sten
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [=======] - 0s 12ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 10ms/step
2/2 [========= ] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
Epoch 8400/10000 [D loss: 0.22964486479759216 | D accuracy: 90.625] [G loss: 2.225928306
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 11ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/sten
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 10ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 11ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 17ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 10ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/sten
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 10ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
Epoch 8500/10000 [D loss: 0.18627259135246277 | D accuracy: 95.3125] [G loss: 2.51632094
1/1 [======= ] - 0s 19ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
```

```
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========= ] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
Epoch 8600/10000 [D loss: 0.22339697182178497 | D accuracy: 92.96875] [G loss: 2.2444944
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 8ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======= ] - 0s 7ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 9ms/sten
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 15ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 13ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 14ms/step
2/2 [======] - Os 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 9ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/sten
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [========] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
Epoch 8700/10000 [D loss: 0.33737123012542725 | D accuracy: 84.375] [G loss: 2.168693780
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 12ms/step
2/2 [======= 1 - 0s 5ms/sten
```

```
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
  [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - Os 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
Epoch 8800/10000 [D loss: 0.2148868590593338 | D accuracy: 96.09375] [G loss: 2.40353441
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
```

2/2	[==========]	_	Ø5	4ms/step
2/2	[]	-	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[========]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[]	-	0s 0s	4ms/step 5ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[======]	-	0s	5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	[]	-	0s 0s	5ms/step 5ms/step
2/2	[======]	_	0s	6ms/step
2/2	[=========]	_	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[======]	-	0s	4ms/step
2/2	[======]	-	0s	5ms/step
2/2	[========]	-	0s	4ms/step
2/2	[=========]	-	0s	5ms/step
2/2	[=======]	-	0s 0s	4ms/step 5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[========]	_	0s	5ms/step
2/2	[======]	_	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[======]	-	0s	5ms/step
2/2	[======]	-	0s	4ms/step
2/2	[======]	-	0s	6ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[======================================	-	0s	5ms/step
2/2	[]	-	0s 0s	4ms/step 6ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[========]	_	0s	6ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[======]	-	0s	8ms/step
2/2	[]	-	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[=======]	_	0s 0s	4ms/step 4ms/step
2/2	[========]	_	0s	9ms/step
2/2	[=======]	_	0s	4ms/step
2/2	[=======]	-	0s	7ms/step
2/2	[======]	-	0s	4ms/step
	[]	-		7ms/step
	[=======]	-	0s	4ms/step
	[]	-	0s	9ms/step
2/2	[=======]	_	0s 0s	5ms/step 5ms/step
2/2		_	0s	10ms/step
	[=======]	-	0s	7ms/step
2/2	[=======]	-	0s	11ms/step
2/2	[]	-	0s	9ms/step
2/2	[========]	-	0s	6ms/step
2/2	[========]	-	0s	4ms/step
2/2	[=======]	-	0s 0s	6ms/step 5ms/step
2/2	[=======]	-	0s	4ms/step
	[======]	_		4ms/step
2/2	[======]	_	0s	5ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[]	-	0s	4ms/step
2/2	[======]	-		4ms/step
2/2	[]	-		4ms/step
2/2	[=======]	-	0s 0s	5ms/step 5ms/step
2/2	[========]	_	0s	
2/2	-	_	0s	
2/2	[=========]	-	0s	5ms/step
2/2	[=======]	-		4ms/step
	[]	-	0s	
2/2	[======]	-		4ms/step
	[]	-		4ms/step
2/2	[=======]	-	0s 0s	4ms/step 5ms/step
2/2	[=========]	_		4ms/step
	[=========]	_	0s	-
2/2				

```
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
Epoch 8900/10000 [D loss: 0.2094547227025032 | D accuracy: 92.96875] [G loss: 2.32645535
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/sten
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======= ] - 0s 11ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
```

```
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
Epoch 9000/10000 [D loss: 0.2208108752965927 | D accuracy: 92.1875] [G loss: 2.243129491
1/1 [======= ] - 0s 17ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======== ] - 0s 9ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
Epoch 9100/10000 [D loss: 0.1927068829536438 | D accuracy: 91.40625] [G loss: 2.39880943
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
```

```
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [========] - 0s 6ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - Os 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
Epoch 9200/10000 [D loss: 0.3271699994802475 | D accuracy: 86.71875] [G loss: 2.24313712
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/sten
```

	VI			
-, -	<u>.</u>			
2/2	[=======]	-	0s	4ms/step
2/2	[======]	-	0s	4ms/step
2/2	[=======]	_	0s	5ms/step
	[=======]		0s	
2/2	1	-		4ms/step
2/2	[=======]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	[=======]	_	0s	4ms/step
	1 1			
2/2	[========]	-	0s	4ms/step
2/2	[=======]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[======]	_	0s	5ms/step
2/2	[1	_	0s	5ms/step
	[]			
2/2	[======]	-	0s	5ms/step
2/2	[========]	-	0s	5ms/step
2/2	[======]	-	0s	5ms/step
2/2	[=======]	_	0s	4ms/step
	[]			-
2/2	[=======]	-	0s	4ms/step
2/2	[========]	-	0s	5ms/step
2/2	[======]	-	0s	6ms/step
2/2	[=======]	_	0s	4ms/step
	[]			
2/2	[]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	[======]	-	0s	5ms/step
2/2	[=======]	_	0s	5ms/step
2/2	[======]		0s	
	[]	-		4ms/step
2/2	[======]	-	0s	3ms/step
2/2	[======]	-	0s	5ms/step
2/2	[======]	-	0s	7ms/step
2/2	[========]	_	0s	4ms/step
	1			
2/2	[=======]	-	0s	4ms/step
2/2	[========]	-	0s	4ms/step
2/2	[=======]	_	0s	3ms/step
2/2	[1	_	0s	4ms/step
	[]	_		
2/2	[=======]	-	0s	5ms/step
2/2	[========]	-	0s	6ms/step
2/2	[======]	_	0s	4ms/step
2/2	[]	_	0s	5ms/step
	[]			
2/2	[========]	-	0s	4ms/step
2/2	[========]	-	0s	5ms/step
2/2	[======]	-	0s	11ms/step
2/2	[========]	_	0s	7ms/step
	[]			-
2/2	[]	-	0s	8ms/step
2/2	[=========]	-	0s	4ms/step
				э, эсср
2/2	[=======]	-	0s	4ms/step
	[=======] [=======]	-		4ms/step
2/2	[]	-	0s	4ms/step 4ms/step
2/2 2/2	[]	- - -	0s 0s	4ms/step 4ms/step 4ms/step
2/2	[] [] []	-	0s	4ms/step 4ms/step
2/2 2/2	[] [] [] []		0s 0s	4ms/step 4ms/step 4ms/step
2/2 2/2 2/2	[]		0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step
2/2 2/2 2/2 2/2 2/2 2/2	[] [] []		0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2	[] [] [] []		0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2	[] [] [] [] [] []		0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 8ms/step
2/2 2/2 2/2 2/2 2/2 2/2	[] [] [] []		0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2	[] [] [] [] [] []		0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 8ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 8ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		- - -	0s 0s 0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		- - -	0s 0s 0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		- - -	0s 0s 0s 0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		- - -	0s 0s 0s 0s 0s 0s 0s 0s 0s	4ms/step 6ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		- - - -	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 10ms/step 10ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 10ms/step 11ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2		- - - -	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 11ms/step 11ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	Ams/step Ins/step Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 11ms/step 11ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	Ams/step Ins/step Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	4ms/step 11ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 10ms/step 11ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 10ms/step 11ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 10ms/step 11ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 10ms/step 11ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	4ms/step 5ms/step 4ms/step 4ms/step 4ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	4ms/step 10ms/step 11ms/step 4ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	4ms/step 10ms/step 11ms/step 4ms/step 5ms/step 4ms/step 4ms/step 5ms/step 5ms/step 5ms/step 5ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 5ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step Sms/step Ams/step Sms/step Ams/step Sms/step Ams/step Sms/step Ams/step Sms/step Ams/step Sms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step Sms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 11ms/step 11ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	4ms/step 4ms/step 4ms/step 4ms/step 13ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 4ms/step 10ms/step 11ms/step 4ms/step 4ms/step 5ms/step 4ms/step 5ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	4ms/step 11ms/step 11ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	Ams/step
2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2 2/2			0s 0	4ms/step 11ms/step 11ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step 5ms/step 4ms/step

```
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
Epoch 9300/10000 [D loss: 0.1690262258052826 | D accuracy: 94.53125] [G loss: 2.50586891
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [======] - 0s 9ms/step
2/2 [======] - Os 9ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 16ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 11ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [========] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - Os 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 9ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - Os 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
Epoch 9400/10000 [D loss: 0.2284260392189026 | D accuracy: 91.40625] [G loss: 2.59333229
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [========= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - Os 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [========= ] - 0s 8ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
```

```
2/2 [======= ] - 0s 7ms/step
2/2 [======= ] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 12ms/step
2/2 [======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
Epoch 9500/10000 [D loss: 0.21248763799667358 | D accuracy: 93.75] [G loss: 2.3476805686
1/1 [======] - 0s 20ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
```

```
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 7ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 8ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
Epoch 9600/10000 [D loss: 0.16267922520637512 | D accuracy: 92.96875] [G loss: 2.7367835
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/sten
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 10ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [========] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - Os 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 10ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= 1 - 0s 3ms/step
```

```
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
  [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/sten
2/2 [=======] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 3ms/step
Epoch 9700/10000 [D loss: 0.23761005699634552 | D accuracy: 89.0625] [G loss: 2.31292796
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 9ms/step
2/2 [======] - 0s 9ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - Os 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 6ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
```

```
------ אם ארייים אם דפון - פא - ב------ אוואר אי
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 14ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [========] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
Epoch 9800/10000 [D loss: 0.1941637471318245 | D accuracy: 92.96875] [G loss: 2.50254106
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [========] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 13ms/step
2/2 [======] - 0s 7ms/step
2/2 [======] - 0s 6ms/step
2/2 [=======] - 0s 8ms/step
```

```
2/2 [======= ] - 0s 6ms/step
2/2 [======] - 0s 6ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======== ] - 0s 6ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/sten
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 8ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 7ms/step
2/2 [========= ] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 7ms/step
2/2 [=======] - 0s 7ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 12ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
Epoch 9900/10000 [D loss: 0.2372918277978897 | D accuracy: 91.40625] [G loss: 2.64681220
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - Os 5ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - Os 3ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
```

```
2/2 [======= ] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 3ms/step
2/2 [======== ] - 0s 3ms/sten
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 6ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 3ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 10ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======= ] - 0s 8ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 5ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======] - 0s 3ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 4ms/step
2/2 [======== ] - 0s 7ms/step
2/2 [======] - 0s 8ms/step
2/2 [======= ] - 0s 4ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 9ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [=======] - 0s 6ms/step
2/2 [=======] - 0s 4ms/step
2/2 [=======] - 0s 6ms/step
2/2 [======= ] - 0s 7ms/step
2/2 [======] - 0s 5ms/step
2/2 [======] - 0s 6ms/step
2/2 [======== ] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [======= ] - 0s 5ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 4ms/step
2/2 [=======] - 0s 5ms/step
2/2 [======] - 0s 5ms/step
```

```
import tensorflow as tf
from tensorflow.keras import layers, models

# Define the CNN model
def create_cnn_model(input_shape, num_classes):
    model = models.Sequential()

# Add convolutional layers
    model add(layers Conv2D(22 (2 2) activation='nolut' input changeinput shape))
```