2_Intro_DeepLearning

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En esta introducción de Deep Learning haremos un simple ejercicio para comprender el mecanismo.

La idea es ver los contenidos iniciales aplicados a algunas de las puertas lógicas:

- AND

- OR

- XOR

```python
[1]: import warnings
     warnings.filterwarnings('ignore')
```

1 PUERTA OR

Si cualquiera de las entradas es 1 entonces la salida es 1

```python
[2]: import pandas as pd
     df = pd.DataFrame({'Entrada_1': [0, 0, 1, 1],
                        'Entrada_2': [0, 1, 0, 1],
                        'Salida_12': [0, 1, 1, 1]})

     df
```

```
[2]:    Entrada_1  Entrada_2  Salida_12
     0          0          0          0
     1          0          1          1
     2          1          0          1
     3          1          1          1
```

```python
[3]: # Entonces trataremos de simular esto con Deep Learning usando ANN
```

```
# ANN viene de Artificial Neural Networks (Redes Neuronales Artificiales)

# Existen muchas más cosas en este tema, pero esta es una de ellas.
```

[4]:
```python
import numpy as np
```

[5]:
```python
training_data = np.array([[0,0], [0,1], [1,0], [1,1]], "float32")
training_data
```

[5]:
```
array([[0., 0.],
       [0., 1.],
       [1., 0.],
       [1., 1.]], dtype=float32)
```

[6]:
```python
target_data = np.array([[0], [1], [1], [1]], "float32")
target_data
```

[6]:
```
array([[0.],
       [1.],
       [1.],
       [1.]], dtype=float32)
```

2 Tensorflow

[7]:
```python
# pip install tensorflow
```

Error de: I tensorflow/core/platform/cpu_feature_guard.cc:210] This TensorFlow binary is optimized to use available CPU instructions in performance-critical operations.

Solucionarlo con:

[8]:
```python
# pip install tensorflow[and-cuda]
```

[9]:
```python
# https://pypi.org/project/tensorflow/
# pip install tensorflow --user

# necesario añadir el --user
```

[10]:
```python
import tensorflow as tf
from tensorflow.keras import Sequential
from tensorflow.keras.layers import Dense
```

```
2025-06-12 18:36:40.353121: I tensorflow/core/util/port.cc:153] oneDNN custom
operations are on. You may see slightly different numerical results due to
floating-point round-off errors from different computation orders. To turn them
off, set the environment variable `TF_ENABLE_ONEDNN_OPTS=0`.
2025-06-12 18:36:40.361695: E
external/local_xla/xla/stream_executor/cuda/cuda_fft.cc:467] Unable to register
cuFFT factory: Attempting to register factory for plugin cuFFT when one has
```

```
already been registered
WARNING: All log messages before absl::InitializeLog() is called are written to
STDERR
E0000 00:00:1749746200.371573 1344843 cuda_dnn.cc:8579] Unable to register cuDNN
factory: Attempting to register factory for plugin cuDNN when one has already
been registered
E0000 00:00:1749746200.374497 1344843 cuda_blas.cc:1407] Unable to register
cuBLAS factory: Attempting to register factory for plugin cuBLAS when one has
already been registered
W0000 00:00:1749746200.382229 1344843 computation_placer.cc:177] computation
placer already registered. Please check linkage and avoid linking the same
target more than once.
W0000 00:00:1749746200.382238 1344843 computation_placer.cc:177] computation
placer already registered. Please check linkage and avoid linking the same
target more than once.
W0000 00:00:1749746200.382240 1344843 computation_placer.cc:177] computation
placer already registered. Please check linkage and avoid linking the same
target more than once.
W0000 00:00:1749746200.382241 1344843 computation_placer.cc:177] computation
placer already registered. Please check linkage and avoid linking the same
target more than once.
2025-06-12 18:36:40.384994: I tensorflow/core/platform/cpu_feature_guard.cc:210]
This TensorFlow binary is optimized to use available CPU instructions in
performance-critical operations.
To enable the following instructions: AVX2 AVX_VNNI FMA, in other operations,
rebuild TensorFlow with the appropriate compiler flags.
```

[11]: `training_data.shape # 4 filas 2 columnas (2 variables)`

[11]: (4, 2)

[12]: `len(training_data)`

[12]: 4

[13]: `target_data.shape # 1 columna`

[13]: (4, 1)

[14]:
```python
# from tensorflow.keras import Sequential

model = Sequential()

# segun esto:
# input_dim es el numero de columnas
# 4 es el numero de filas, osea len(df)
# 1 es la salida, que es 0 o 1 pero es una sola salida.
```

```
model.add(Dense(4, input_dim = 2, activation="relu"))
model.add(Dense(1, activation = "sigmoid"))
```

I0000 00:00:1749746201.871185 1344843 gpu_device.cc:2019] Created device
/job:localhost/replica:0/task:0/device:GPU:0 with 1144 MB memory: -> device: 0,
name: NVIDIA GeForce RTX 3060 Laptop GPU, pci bus id: 0000:01:00.0, compute
capability: 8.6

[15]:
```
model.compile(optimizer='adam',
              loss = 'mean_squared_error',
              metrics=['binary_accuracy'])
```

[16]: `model.summary()`

Model: "sequential"

Layer (type)	Output Shape	Param #
dense (Dense)	(None, 4)	12
dense_1 (Dense)	(None, 1)	5

Total params: 17 (68.00 B)

Trainable params: 17 (68.00 B)

Non-trainable params: 0 (0.00 B)

[17]: `history = model.fit(training_data, target_data, epochs=4000, verbose=2)`

Epoch 1/4000

WARNING: All log messages before absl::InitializeLog() is called are written to
STDERR
I0000 00:00:1749746202.636803 1344959 service.cc:152] XLA service 0x718390003520
initialized for platform CUDA (this does not guarantee that XLA will be used).
Devices:
I0000 00:00:1749746202.636820 1344959 service.cc:160]   StreamExecutor device
(0): NVIDIA GeForce RTX 3060 Laptop GPU, Compute Capability 8.6
2025-06-12 18:36:42.650587: I
tensorflow/compiler/mlir/tensorflow/utils/dump_mlir_util.cc:269] disabling MLIR
crash reproducer, set env var `MLIR_CRASH_REPRODUCER_DIRECTORY` to enable.
I0000 00:00:1749746202.708926 1344959 cuda_dnn.cc:529] Loaded cuDNN version
90300
```

```
1/1 - 1s - 550ms/step - binary_accuracy: 0.2500 - loss: 0.3028
Epoch 2/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.0000e+00 - loss: 0.3021
Epoch 3/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.0000e+00 - loss: 0.3014
Epoch 4/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.0000e+00 - loss: 0.3007
Epoch 5/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.0000e+00 - loss: 0.3000
Epoch 6/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2993
Epoch 7/4000

I0000 00:00:1749746202.846651 1344959 device_compiler.h:188] Compiled cluster
using XLA!  This line is logged at most once for the lifetime of the process.

1/1 - 0s - 28ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2986
Epoch 8/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2979
Epoch 9/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2972
Epoch 10/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2965
Epoch 11/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2958
Epoch 12/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2951
Epoch 13/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2944
Epoch 14/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2938
Epoch 15/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2931
Epoch 16/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2924
Epoch 17/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2917
Epoch 18/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2911
Epoch 19/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2904
Epoch 20/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2898
Epoch 21/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2891
Epoch 22/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2885
Epoch 23/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2878
```

```
Epoch 24/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2872
Epoch 25/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2865
Epoch 26/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2859
Epoch 27/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2853
Epoch 28/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2846
Epoch 29/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2840
Epoch 30/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2834
Epoch 31/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2828
Epoch 32/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2822
Epoch 33/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2815
Epoch 34/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2809
Epoch 35/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2803
Epoch 36/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2797
Epoch 37/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2791
Epoch 38/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2786
Epoch 39/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2780
Epoch 40/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2774
Epoch 41/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2768
Epoch 42/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2762
Epoch 43/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2757
Epoch 44/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2751
Epoch 45/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2745
Epoch 46/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2740
Epoch 47/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2734
```

```
Epoch 48/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2728
Epoch 49/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2723
Epoch 50/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2717
Epoch 51/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2712
Epoch 52/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2707
Epoch 53/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2701
Epoch 54/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2696
Epoch 55/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2690
Epoch 56/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2685
Epoch 57/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2680
Epoch 58/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2675
Epoch 59/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2670
Epoch 60/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2664
Epoch 61/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2659
Epoch 62/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2654
Epoch 63/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2649
Epoch 64/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2644
Epoch 65/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2639
Epoch 66/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2634
Epoch 67/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2629
Epoch 68/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2624
Epoch 69/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2620
Epoch 70/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2615
Epoch 71/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2610
```

```
Epoch 72/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2605
Epoch 73/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2600
Epoch 74/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2596
Epoch 75/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.0000e+00 - loss: 0.2591
Epoch 76/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.2500 - loss: 0.2586
Epoch 77/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.2500 - loss: 0.2582
Epoch 78/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.2500 - loss: 0.2577
Epoch 79/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.2500 - loss: 0.2572
Epoch 80/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.2500 - loss: 0.2568
Epoch 81/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.2500 - loss: 0.2563
Epoch 82/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.2500 - loss: 0.2559
Epoch 83/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.2500 - loss: 0.2554
Epoch 84/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.2500 - loss: 0.2550
Epoch 85/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.2500 - loss: 0.2546
Epoch 86/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.2500 - loss: 0.2541
Epoch 87/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.2500 - loss: 0.2537
Epoch 88/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.2500 - loss: 0.2532
Epoch 89/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.5000 - loss: 0.2528
Epoch 90/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.5000 - loss: 0.2524
Epoch 91/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.5000 - loss: 0.2520
Epoch 92/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.5000 - loss: 0.2515
Epoch 93/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2511
Epoch 94/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2507
Epoch 95/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2503
```

```
Epoch 96/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2499
Epoch 97/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2495
Epoch 98/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2492
Epoch 99/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2489
Epoch 100/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2486
Epoch 101/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2483
Epoch 102/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2480
Epoch 103/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2477
Epoch 104/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2474
Epoch 105/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2471
Epoch 106/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2469
Epoch 107/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2466
Epoch 108/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2463
Epoch 109/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2460
Epoch 110/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2457
Epoch 111/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2454
Epoch 112/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2451
Epoch 113/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2449
Epoch 114/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2446
Epoch 115/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2443
Epoch 116/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2440
Epoch 117/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2437
Epoch 118/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2435
Epoch 119/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2432
```

```
Epoch 120/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2429
Epoch 121/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2427
Epoch 122/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2424
Epoch 123/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2421
Epoch 124/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2418
Epoch 125/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2416
Epoch 126/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2413
Epoch 127/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2411
Epoch 128/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2408
Epoch 129/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2405
Epoch 130/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2403
Epoch 131/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2400
Epoch 132/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2397
Epoch 133/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2395
Epoch 134/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2392
Epoch 135/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2390
Epoch 136/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2387
Epoch 137/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.2385
Epoch 138/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.2382
Epoch 139/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.2380
Epoch 140/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2377
Epoch 141/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2375
Epoch 142/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2372
Epoch 143/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2370
```

```
Epoch 144/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2367
Epoch 145/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2365
Epoch 146/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2362
Epoch 147/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2360
Epoch 148/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2357
Epoch 149/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2355
Epoch 150/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2352
Epoch 151/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2350
Epoch 152/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2347
Epoch 153/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2345
Epoch 154/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2343
Epoch 155/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2340
Epoch 156/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2338
Epoch 157/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2335
Epoch 158/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2333
Epoch 159/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2331
Epoch 160/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2328
Epoch 161/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2326
Epoch 162/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2323
Epoch 163/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.2321
Epoch 164/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2319
Epoch 165/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.2316
Epoch 166/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.2314
Epoch 167/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.2311
```

```
Epoch 168/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.2309
Epoch 169/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.2307
Epoch 170/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.2304
Epoch 171/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.2302
Epoch 172/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2300
Epoch 173/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.2297
Epoch 174/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.2295
Epoch 175/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.2293
Epoch 176/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.2290
Epoch 177/4000
1/1 - 0s - 34ms/step - binary_accuracy: 0.7500 - loss: 0.2288
Epoch 178/4000
1/1 - 0s - 34ms/step - binary_accuracy: 0.7500 - loss: 0.2285
Epoch 179/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.2283
Epoch 180/4000
1/1 - 0s - 34ms/step - binary_accuracy: 0.7500 - loss: 0.2281
Epoch 181/4000
1/1 - 0s - 50ms/step - binary_accuracy: 0.7500 - loss: 0.2278
Epoch 182/4000
1/1 - 0s - 34ms/step - binary_accuracy: 0.7500 - loss: 0.2276
Epoch 183/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.2274
Epoch 184/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2271
Epoch 185/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.2269
Epoch 186/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.2267
Epoch 187/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2264
Epoch 188/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2262
Epoch 189/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.2260
Epoch 190/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2257
Epoch 191/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.2255
```

```
Epoch 192/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.2252
Epoch 193/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2250
Epoch 194/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2248
Epoch 195/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2245
Epoch 196/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.2243
Epoch 197/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.2241
Epoch 198/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.2238
Epoch 199/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.2236
Epoch 200/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2233
Epoch 201/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.2231
Epoch 202/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2229
Epoch 203/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.2226
Epoch 204/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2224
Epoch 205/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.2221
Epoch 206/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2219
Epoch 207/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2217
Epoch 208/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2214
Epoch 209/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.2212
Epoch 210/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.2209
Epoch 211/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.2207
Epoch 212/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2204
Epoch 213/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2202
Epoch 214/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.2200
Epoch 215/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2197
```

```
Epoch 216/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.2195
Epoch 217/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2192
Epoch 218/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2190
Epoch 219/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2187
Epoch 220/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2185
Epoch 221/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2182
Epoch 222/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2180
Epoch 223/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2177
Epoch 224/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2175
Epoch 225/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2172
Epoch 226/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.2170
Epoch 227/4000
1/1 - 0s - 34ms/step - binary_accuracy: 0.7500 - loss: 0.2167
Epoch 228/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.2165
Epoch 229/4000
1/1 - 0s - 54ms/step - binary_accuracy: 0.7500 - loss: 0.2162
Epoch 230/4000
1/1 - 0s - 52ms/step - binary_accuracy: 0.7500 - loss: 0.2160
Epoch 231/4000
1/1 - 0s - 43ms/step - binary_accuracy: 0.7500 - loss: 0.2157
Epoch 232/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.2155
Epoch 233/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2152
Epoch 234/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2149
Epoch 235/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2147
Epoch 236/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2144
Epoch 237/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2142
Epoch 238/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2139
Epoch 239/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2137
```

```
Epoch 240/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2134
Epoch 241/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2131
Epoch 242/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2129
Epoch 243/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2126
Epoch 244/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.2124
Epoch 245/4000
1/1 - 0s - 35ms/step - binary_accuracy: 0.7500 - loss: 0.2121
Epoch 246/4000
1/1 - 0s - 35ms/step - binary_accuracy: 0.7500 - loss: 0.2118
Epoch 247/4000
1/1 - 0s - 35ms/step - binary_accuracy: 0.7500 - loss: 0.2116
Epoch 248/4000
1/1 - 0s - 37ms/step - binary_accuracy: 0.7500 - loss: 0.2113
Epoch 249/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.2110
Epoch 250/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2108
Epoch 251/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2105
Epoch 252/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.2103
Epoch 253/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2100
Epoch 254/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2097
Epoch 255/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2095
Epoch 256/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2092
Epoch 257/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2090
Epoch 258/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2087
Epoch 259/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2085
Epoch 260/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2082
Epoch 261/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2080
Epoch 262/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2077
Epoch 263/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2075
```

```
Epoch 264/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2072
Epoch 265/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2069
Epoch 266/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2067
Epoch 267/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2064
Epoch 268/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2062
Epoch 269/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.2059
Epoch 270/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2057
Epoch 271/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2054
Epoch 272/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2052
Epoch 273/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2049
Epoch 274/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2047
Epoch 275/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2044
Epoch 276/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2041
Epoch 277/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2039
Epoch 278/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2036
Epoch 279/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2034
Epoch 280/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2031
Epoch 281/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.2029
Epoch 282/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2026
Epoch 283/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.2024
Epoch 284/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2021
Epoch 285/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2018
Epoch 286/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.2016
Epoch 287/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2013
```

```
Epoch 288/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.2011
Epoch 289/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.2008
Epoch 290/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2006
Epoch 291/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.2003
Epoch 292/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.2000
Epoch 293/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1998
Epoch 294/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1995
Epoch 295/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1993
Epoch 296/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1990
Epoch 297/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1987
Epoch 298/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1985
Epoch 299/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1982
Epoch 300/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1980
Epoch 301/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1977
Epoch 302/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1974
Epoch 303/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1972
Epoch 304/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1969
Epoch 305/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1967
Epoch 306/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1964
Epoch 307/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1961
Epoch 308/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1959
Epoch 309/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1956
Epoch 310/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1954
Epoch 311/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1951
```

```
Epoch 312/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1948
Epoch 313/4000
1/1 - 0s - 38ms/step - binary_accuracy: 0.7500 - loss: 0.1946
Epoch 314/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1943
Epoch 315/4000
1/1 - 0s - 37ms/step - binary_accuracy: 0.7500 - loss: 0.1941
Epoch 316/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.1938
Epoch 317/4000
1/1 - 0s - 40ms/step - binary_accuracy: 0.7500 - loss: 0.1935
Epoch 318/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1933
Epoch 319/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1930
Epoch 320/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1928
Epoch 321/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1925
Epoch 322/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1922
Epoch 323/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1920
Epoch 324/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1917
Epoch 325/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1915
Epoch 326/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1912
Epoch 327/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1909
Epoch 328/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1907
Epoch 329/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1904
Epoch 330/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1902
Epoch 331/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1899
Epoch 332/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1896
Epoch 333/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1894
Epoch 334/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1891
Epoch 335/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1889
```

```
Epoch 336/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1886
Epoch 337/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1883
Epoch 338/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1881
Epoch 339/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1878
Epoch 340/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1876
Epoch 341/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1873
Epoch 342/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1871
Epoch 343/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1868
Epoch 344/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1865
Epoch 345/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1863
Epoch 346/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1860
Epoch 347/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1858
Epoch 348/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1855
Epoch 349/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1853
Epoch 350/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1850
Epoch 351/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1848
Epoch 352/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1845
Epoch 353/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1842
Epoch 354/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1840
Epoch 355/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1837
Epoch 356/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1835
Epoch 357/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1832
Epoch 358/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1830
Epoch 359/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1827
```

```
Epoch 360/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1825
Epoch 361/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1822
Epoch 362/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1820
Epoch 363/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1817
Epoch 364/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1815
Epoch 365/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1812
Epoch 366/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1810
Epoch 367/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1807
Epoch 368/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1805
Epoch 369/4000
1/1 - 0s - 34ms/step - binary_accuracy: 0.7500 - loss: 0.1802
Epoch 370/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1800
Epoch 371/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1797
Epoch 372/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1795
Epoch 373/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1792
Epoch 374/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1790
Epoch 375/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1788
Epoch 376/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1785
Epoch 377/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1783
Epoch 378/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1780
Epoch 379/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1778
Epoch 380/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1775
Epoch 381/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1773
Epoch 382/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1771
Epoch 383/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1768
```

```
Epoch 384/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1766
Epoch 385/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1763
Epoch 386/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1761
Epoch 387/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1759
Epoch 388/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1756
Epoch 389/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1754
Epoch 390/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1751
Epoch 391/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1749
Epoch 392/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1747
Epoch 393/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1744
Epoch 394/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1742
Epoch 395/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1740
Epoch 396/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1737
Epoch 397/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1735
Epoch 398/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1733
Epoch 399/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1730
Epoch 400/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1728
Epoch 401/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1726
Epoch 402/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1724
Epoch 403/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1721
Epoch 404/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1719
Epoch 405/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1717
Epoch 406/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1714
Epoch 407/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1712
```

```
Epoch 408/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1710
Epoch 409/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1708
Epoch 410/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1705
Epoch 411/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1703
Epoch 412/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1701
Epoch 413/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1699
Epoch 414/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1696
Epoch 415/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1694
Epoch 416/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1692
Epoch 417/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1690
Epoch 418/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1688
Epoch 419/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1686
Epoch 420/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1683
Epoch 421/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1681
Epoch 422/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1679
Epoch 423/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1677
Epoch 424/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1675
Epoch 425/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1673
Epoch 426/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1670
Epoch 427/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1668
Epoch 428/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1666
Epoch 429/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1664
Epoch 430/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1662
Epoch 431/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1660
```

```
Epoch 432/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1658
Epoch 433/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1656
Epoch 434/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1654
Epoch 435/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1652
Epoch 436/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1650
Epoch 437/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1647
Epoch 438/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1645
Epoch 439/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1643
Epoch 440/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1641
Epoch 441/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1639
Epoch 442/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1637
Epoch 443/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1635
Epoch 444/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1633
Epoch 445/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1631
Epoch 446/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1629
Epoch 447/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1627
Epoch 448/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1625
Epoch 449/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1623
Epoch 450/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1621
Epoch 451/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1619
Epoch 452/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1618
Epoch 453/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1616
Epoch 454/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1614
Epoch 455/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1612
```

```
Epoch 456/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1610
Epoch 457/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1608
Epoch 458/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1606
Epoch 459/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1604
Epoch 460/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1602
Epoch 461/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1600
Epoch 462/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1599
Epoch 463/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1597
Epoch 464/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1595
Epoch 465/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1593
Epoch 466/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1591
Epoch 467/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.1589
Epoch 468/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1587
Epoch 469/4000
1/1 - 0s - 40ms/step - binary_accuracy: 0.7500 - loss: 0.1586
Epoch 470/4000
1/1 - 0s - 40ms/step - binary_accuracy: 0.7500 - loss: 0.1584
Epoch 471/4000
1/1 - 0s - 44ms/step - binary_accuracy: 0.7500 - loss: 0.1582
Epoch 472/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.1580
Epoch 473/4000
1/1 - 0s - 35ms/step - binary_accuracy: 0.7500 - loss: 0.1578
Epoch 474/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1577
Epoch 475/4000
1/1 - 0s - 42ms/step - binary_accuracy: 0.7500 - loss: 0.1575
Epoch 476/4000
1/1 - 0s - 38ms/step - binary_accuracy: 0.7500 - loss: 0.1573
Epoch 477/4000
1/1 - 0s - 39ms/step - binary_accuracy: 0.7500 - loss: 0.1571
Epoch 478/4000
1/1 - 0s - 51ms/step - binary_accuracy: 0.7500 - loss: 0.1570
Epoch 479/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1568
```

```
Epoch 480/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1566
Epoch 481/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1564
Epoch 482/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1563
Epoch 483/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1561
Epoch 484/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1559
Epoch 485/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1558
Epoch 486/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1556
Epoch 487/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1554
Epoch 488/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1552
Epoch 489/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1551
Epoch 490/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1549
Epoch 491/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1547
Epoch 492/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1546
Epoch 493/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1544
Epoch 494/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1543
Epoch 495/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1541
Epoch 496/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1539
Epoch 497/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1538
Epoch 498/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1536
Epoch 499/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1534
Epoch 500/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1533
Epoch 501/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1531
Epoch 502/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1530
Epoch 503/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1528
```

```
Epoch 504/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1526
Epoch 505/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1525
Epoch 506/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1523
Epoch 507/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1522
Epoch 508/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1520
Epoch 509/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1519
Epoch 510/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1517
Epoch 511/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1516
Epoch 512/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1514
Epoch 513/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1513
Epoch 514/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1511
Epoch 515/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1510
Epoch 516/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1508
Epoch 517/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1507
Epoch 518/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1505
Epoch 519/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1504
Epoch 520/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1502
Epoch 521/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1501
Epoch 522/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1499
Epoch 523/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1498
Epoch 524/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1496
Epoch 525/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1495
Epoch 526/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1493
Epoch 527/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1492
```

```
Epoch 528/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1490
Epoch 529/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1489
Epoch 530/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1488
Epoch 531/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1486
Epoch 532/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1485
Epoch 533/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1483
Epoch 534/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1482
Epoch 535/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1481
Epoch 536/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1479
Epoch 537/4000
1/1 - 0s - 51ms/step - binary_accuracy: 0.7500 - loss: 0.1478
Epoch 538/4000
1/1 - 0s - 45ms/step - binary_accuracy: 0.7500 - loss: 0.1476
Epoch 539/4000
1/1 - 0s - 39ms/step - binary_accuracy: 0.7500 - loss: 0.1475
Epoch 540/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1474
Epoch 541/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1472
Epoch 542/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1471
Epoch 543/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1470
Epoch 544/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1468
Epoch 545/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1467
Epoch 546/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1466
Epoch 547/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1464
Epoch 548/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1463
Epoch 549/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1462
Epoch 550/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1460
Epoch 551/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1459
```

```
Epoch 552/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1458
Epoch 553/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1456
Epoch 554/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1455
Epoch 555/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1454
Epoch 556/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1453
Epoch 557/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1451
Epoch 558/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1450
Epoch 559/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1449
Epoch 560/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1447
Epoch 561/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1446
Epoch 562/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1445
Epoch 563/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1444
Epoch 564/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1442
Epoch 565/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1441
Epoch 566/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1440
Epoch 567/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1439
Epoch 568/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1437
Epoch 569/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1436
Epoch 570/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1435
Epoch 571/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1434
Epoch 572/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1432
Epoch 573/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1431
Epoch 574/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1430
Epoch 575/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1429
```

```
Epoch 576/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1428
Epoch 577/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1426
Epoch 578/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1425
Epoch 579/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1424
Epoch 580/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1423
Epoch 581/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1422
Epoch 582/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1420
Epoch 583/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1419
Epoch 584/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1418
Epoch 585/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1417
Epoch 586/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1416
Epoch 587/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1415
Epoch 588/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1413
Epoch 589/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1412
Epoch 590/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1411
Epoch 591/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1410
Epoch 592/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1409
Epoch 593/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1408
Epoch 594/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1406
Epoch 595/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1405
Epoch 596/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1404
Epoch 597/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1403
Epoch 598/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1402
Epoch 599/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1401
```

```
Epoch 600/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1400
Epoch 601/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1399
Epoch 602/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1397
Epoch 603/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1396
Epoch 604/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1395
Epoch 605/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1394
Epoch 606/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1393
Epoch 607/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1392
Epoch 608/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1391
Epoch 609/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1390
Epoch 610/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1388
Epoch 611/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1387
Epoch 612/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1386
Epoch 613/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1385
Epoch 614/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1384
Epoch 615/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1383
Epoch 616/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1382
Epoch 617/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1381
Epoch 618/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1380
Epoch 619/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1379
Epoch 620/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1378
Epoch 621/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1376
Epoch 622/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1375
Epoch 623/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1374
```

```
Epoch 624/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1373
Epoch 625/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1372
Epoch 626/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1371
Epoch 627/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1370
Epoch 628/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1369
Epoch 629/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1368
Epoch 630/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1367
Epoch 631/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1366
Epoch 632/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1365
Epoch 633/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1364
Epoch 634/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1363
Epoch 635/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1362
Epoch 636/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1360
Epoch 637/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1359
Epoch 638/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1358
Epoch 639/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1357
Epoch 640/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1356
Epoch 641/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1355
Epoch 642/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1354
Epoch 643/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1353
Epoch 644/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1352
Epoch 645/4000
1/1 - 0s - 34ms/step - binary_accuracy: 0.7500 - loss: 0.1351
Epoch 646/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1350
Epoch 647/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1349
```

```
Epoch 648/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1348
Epoch 649/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1347
Epoch 650/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1346
Epoch 651/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1345
Epoch 652/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1344
Epoch 653/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1343
Epoch 654/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1342
Epoch 655/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1341
Epoch 656/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1340
Epoch 657/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1339
Epoch 658/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1338
Epoch 659/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1337
Epoch 660/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1336
Epoch 661/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1335
Epoch 662/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1334
Epoch 663/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1332
Epoch 664/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1331
Epoch 665/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1330
Epoch 666/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1329
Epoch 667/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1328
Epoch 668/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1327
Epoch 669/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1326
Epoch 670/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1325
Epoch 671/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1324
```

```
Epoch 672/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1323
Epoch 673/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1322
Epoch 674/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1321
Epoch 675/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1320
Epoch 676/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1319
Epoch 677/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1318
Epoch 678/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1317
Epoch 679/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1316
Epoch 680/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1315
Epoch 681/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1314
Epoch 682/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1313
Epoch 683/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1312
Epoch 684/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1311
Epoch 685/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1310
Epoch 686/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1309
Epoch 687/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1308
Epoch 688/4000
1/1 - 0s - 37ms/step - binary_accuracy: 0.7500 - loss: 0.1307
Epoch 689/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1306
Epoch 690/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1305
Epoch 691/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1304
Epoch 692/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1303
Epoch 693/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1302
Epoch 694/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1301
Epoch 695/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1300
```

```
Epoch 696/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1299
Epoch 697/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1298
Epoch 698/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1297
Epoch 699/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1296
Epoch 700/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1295
Epoch 701/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1294
Epoch 702/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1293
Epoch 703/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1292
Epoch 704/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1291
Epoch 705/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1290
Epoch 706/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1289
Epoch 707/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1288
Epoch 708/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1287
Epoch 709/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1286
Epoch 710/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1285
Epoch 711/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1284
Epoch 712/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1283
Epoch 713/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1282
Epoch 714/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1281
Epoch 715/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1280
Epoch 716/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1279
Epoch 717/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1278
Epoch 718/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1277
Epoch 719/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1276
```

```
Epoch 720/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1274
Epoch 721/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1273
Epoch 722/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1272
Epoch 723/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1271
Epoch 724/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1270
Epoch 725/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1269
Epoch 726/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1268
Epoch 727/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1267
Epoch 728/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1266
Epoch 729/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1265
Epoch 730/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1264
Epoch 731/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1263
Epoch 732/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1262
Epoch 733/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1261
Epoch 734/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1260
Epoch 735/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1259
Epoch 736/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1258
Epoch 737/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1257
Epoch 738/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1256
Epoch 739/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1255
Epoch 740/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1254
Epoch 741/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1253
Epoch 742/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1252
Epoch 743/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1251
```

```
Epoch 744/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1250
Epoch 745/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1249
Epoch 746/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1248
Epoch 747/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1247
Epoch 748/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1245
Epoch 749/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1244
Epoch 750/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1243
Epoch 751/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1242
Epoch 752/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1241
Epoch 753/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1240
Epoch 754/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1239
Epoch 755/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1238
Epoch 756/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1237
Epoch 757/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1236
Epoch 758/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1235
Epoch 759/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1234
Epoch 760/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1233
Epoch 761/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1232
Epoch 762/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1231
Epoch 763/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1230
Epoch 764/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1229
Epoch 765/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1228
Epoch 766/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1226
Epoch 767/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1225
```

```
Epoch 768/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1224
Epoch 769/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1223
Epoch 770/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1222
Epoch 771/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1221
Epoch 772/4000
1/1 - 0s - 34ms/step - binary_accuracy: 0.7500 - loss: 0.1220
Epoch 773/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.1219
Epoch 774/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.1218
Epoch 775/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1217
Epoch 776/4000
1/1 - 0s - 35ms/step - binary_accuracy: 0.7500 - loss: 0.1216
Epoch 777/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.1215
Epoch 778/4000
1/1 - 0s - 35ms/step - binary_accuracy: 0.7500 - loss: 0.1214
Epoch 779/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1213
Epoch 780/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1211
Epoch 781/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1210
Epoch 782/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.1209
Epoch 783/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1208
Epoch 784/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1207
Epoch 785/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1206
Epoch 786/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1205
Epoch 787/4000
1/1 - 0s - 49ms/step - binary_accuracy: 0.7500 - loss: 0.1204
Epoch 788/4000
1/1 - 0s - 39ms/step - binary_accuracy: 0.7500 - loss: 0.1203
Epoch 789/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1202
Epoch 790/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1201
Epoch 791/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1200
```

```
Epoch 792/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1198
Epoch 793/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1197
Epoch 794/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1196
Epoch 795/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1195
Epoch 796/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1194
Epoch 797/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1193
Epoch 798/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1192
Epoch 799/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1191
Epoch 800/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1190
Epoch 801/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1189
Epoch 802/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1187
Epoch 803/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1186
Epoch 804/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1185
Epoch 805/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1184
Epoch 806/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1183
Epoch 807/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1182
Epoch 808/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1181
Epoch 809/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1180
Epoch 810/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1179
Epoch 811/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1177
Epoch 812/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1176
Epoch 813/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1175
Epoch 814/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1174
Epoch 815/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1173
```

```
Epoch 816/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1172
Epoch 817/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1171
Epoch 818/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1170
Epoch 819/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1168
Epoch 820/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1167
Epoch 821/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1166
Epoch 822/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1165
Epoch 823/4000
1/1 - 0s - 35ms/step - binary_accuracy: 0.7500 - loss: 0.1164
Epoch 824/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1163
Epoch 825/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1162
Epoch 826/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1161
Epoch 827/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1159
Epoch 828/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1158
Epoch 829/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1157
Epoch 830/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1156
Epoch 831/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1155
Epoch 832/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1154
Epoch 833/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1153
Epoch 834/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1151
Epoch 835/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1150
Epoch 836/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1149
Epoch 837/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1148
Epoch 838/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1147
Epoch 839/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1146
```

```
Epoch 840/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1145
Epoch 841/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1143
Epoch 842/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1142
Epoch 843/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1141
Epoch 844/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1140
Epoch 845/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1139
Epoch 846/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1138
Epoch 847/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1137
Epoch 848/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1135
Epoch 849/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1134
Epoch 850/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1133
Epoch 851/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1132
Epoch 852/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1131
Epoch 853/4000
1/1 - 0s - 34ms/step - binary_accuracy: 0.7500 - loss: 0.1130
Epoch 854/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1128
Epoch 855/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1127
Epoch 856/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1126
Epoch 857/4000
1/1 - 0s - 35ms/step - binary_accuracy: 0.7500 - loss: 0.1125
Epoch 858/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1124
Epoch 859/4000
1/1 - 0s - 32ms/step - binary_accuracy: 0.7500 - loss: 0.1122
Epoch 860/4000
1/1 - 0s - 35ms/step - binary_accuracy: 0.7500 - loss: 0.1121
Epoch 861/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1120
Epoch 862/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1119
Epoch 863/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1118
```

```
Epoch 864/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1117
Epoch 865/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1115
Epoch 866/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1115
Epoch 867/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1114
Epoch 868/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1113
Epoch 869/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1112
Epoch 870/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1111
Epoch 871/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1110
Epoch 872/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1109
Epoch 873/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1108
Epoch 874/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1107
Epoch 875/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1106
Epoch 876/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1105
Epoch 877/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1104
Epoch 878/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1103
Epoch 879/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1102
Epoch 880/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1101
Epoch 881/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1100
Epoch 882/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1099
Epoch 883/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1098
Epoch 884/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1097
Epoch 885/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1096
Epoch 886/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1095
Epoch 887/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1094
```

```
Epoch 888/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1093
Epoch 889/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1092
Epoch 890/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1092
Epoch 891/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1091
Epoch 892/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1090
Epoch 893/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1088
Epoch 894/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1087
Epoch 895/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1087
Epoch 896/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1086
Epoch 897/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1085
Epoch 898/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1084
Epoch 899/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1083
Epoch 900/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1082
Epoch 901/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1081
Epoch 902/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1080
Epoch 903/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1079
Epoch 904/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1078
Epoch 905/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1077
Epoch 906/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1076
Epoch 907/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1075
Epoch 908/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1074
Epoch 909/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1073
Epoch 910/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1072
Epoch 911/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1071
```

```
Epoch 912/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1071
Epoch 913/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1070
Epoch 914/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1069
Epoch 915/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.1068
Epoch 916/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1067
Epoch 917/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1066
Epoch 918/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1065
Epoch 919/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1064
Epoch 920/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1063
Epoch 921/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1062
Epoch 922/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1061
Epoch 923/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1060
Epoch 924/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1060
Epoch 925/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1059
Epoch 926/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1058
Epoch 927/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1057
Epoch 928/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1056
Epoch 929/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1055
Epoch 930/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1054
Epoch 931/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1053
Epoch 932/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1052
Epoch 933/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1051
Epoch 934/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1050
Epoch 935/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1049
```

```
Epoch 936/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1049
Epoch 937/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1048
Epoch 938/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1047
Epoch 939/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1046
Epoch 940/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1045
Epoch 941/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1044
Epoch 942/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1043
Epoch 943/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1042
Epoch 944/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1041
Epoch 945/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1040
Epoch 946/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1039
Epoch 947/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1039
Epoch 948/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1038
Epoch 949/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1037
Epoch 950/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1036
Epoch 951/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1035
Epoch 952/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1034
Epoch 953/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1033
Epoch 954/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1032
Epoch 955/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1031
Epoch 956/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1031
Epoch 957/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.1030
Epoch 958/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1029
Epoch 959/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1028
```

```
Epoch 960/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1027
Epoch 961/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1026
Epoch 962/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1025
Epoch 963/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1024
Epoch 964/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1023
Epoch 965/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.1023
Epoch 966/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1022
Epoch 967/4000
1/1 - 0s - 33ms/step - binary_accuracy: 0.7500 - loss: 0.1021
Epoch 968/4000
1/1 - 0s - 35ms/step - binary_accuracy: 0.7500 - loss: 0.1020
Epoch 969/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.1019
Epoch 970/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1018
Epoch 971/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1017
Epoch 972/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1016
Epoch 973/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.1015
Epoch 974/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.1015
Epoch 975/4000
1/1 - 0s - 39ms/step - binary_accuracy: 0.7500 - loss: 0.1014
Epoch 976/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1013
Epoch 977/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1012
Epoch 978/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1011
Epoch 979/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.1010
Epoch 980/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1009
Epoch 981/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1008
Epoch 982/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1008
Epoch 983/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.1007
```

```
Epoch 984/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1006
Epoch 985/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.1005
Epoch 986/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1004
Epoch 987/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.1003
Epoch 988/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1002
Epoch 989/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.1001
Epoch 990/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.1001
Epoch 991/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.1000
Epoch 992/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.0999
Epoch 993/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0998
Epoch 994/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0997
Epoch 995/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0996
Epoch 996/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0995
Epoch 997/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0994
Epoch 998/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0994
Epoch 999/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0993
Epoch 1000/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0992
Epoch 1001/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0991
Epoch 1002/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0990
Epoch 1003/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0989
Epoch 1004/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0988
Epoch 1005/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0988
Epoch 1006/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0987
Epoch 1007/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0986
```

```
Epoch 1008/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0985
Epoch 1009/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0984
Epoch 1010/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0983
Epoch 1011/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0982
Epoch 1012/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0982
Epoch 1013/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0981
Epoch 1014/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0980
Epoch 1015/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0979
Epoch 1016/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0978
Epoch 1017/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0977
Epoch 1018/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0976
Epoch 1019/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0976
Epoch 1020/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0975
Epoch 1021/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0974
Epoch 1022/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0973
Epoch 1023/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0972
Epoch 1024/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.0971
Epoch 1025/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0970
Epoch 1026/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0970
Epoch 1027/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0969
Epoch 1028/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0968
Epoch 1029/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0967
Epoch 1030/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0966
Epoch 1031/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0965
```

```
Epoch 1032/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0965
Epoch 1033/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0964
Epoch 1034/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0963
Epoch 1035/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0962
Epoch 1036/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0961
Epoch 1037/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0960
Epoch 1038/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0959
Epoch 1039/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0959
Epoch 1040/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0958
Epoch 1041/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0957
Epoch 1042/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0956
Epoch 1043/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0955
Epoch 1044/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0954
Epoch 1045/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0954
Epoch 1046/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0953
Epoch 1047/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0952
Epoch 1048/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0951
Epoch 1049/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0950
Epoch 1050/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.0949
Epoch 1051/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0948
Epoch 1052/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0948
Epoch 1053/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0947
Epoch 1054/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0946
Epoch 1055/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0945
```

```
Epoch 1056/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0944
Epoch 1057/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0944
Epoch 1058/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0943
Epoch 1059/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0942
Epoch 1060/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0941
Epoch 1061/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0940
Epoch 1062/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0939
Epoch 1063/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0938
Epoch 1064/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0938
Epoch 1065/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0937
Epoch 1066/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0936
Epoch 1067/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.0935
Epoch 1068/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.0934
Epoch 1069/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0934
Epoch 1070/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0933
Epoch 1071/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0932
Epoch 1072/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0931
Epoch 1073/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0930
Epoch 1074/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0929
Epoch 1075/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0929
Epoch 1076/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0928
Epoch 1077/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0927
Epoch 1078/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0926
Epoch 1079/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0925
```

```
Epoch 1080/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0924
Epoch 1081/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0924
Epoch 1082/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0923
Epoch 1083/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0922
Epoch 1084/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0921
Epoch 1085/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0920
Epoch 1086/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0919
Epoch 1087/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0919
Epoch 1088/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0918
Epoch 1089/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0917
Epoch 1090/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0916
Epoch 1091/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0915
Epoch 1092/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0914
Epoch 1093/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0914
Epoch 1094/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0913
Epoch 1095/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0912
Epoch 1096/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0911
Epoch 1097/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0910
Epoch 1098/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0910
Epoch 1099/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0909
Epoch 1100/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0908
Epoch 1101/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0907
Epoch 1102/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0906
Epoch 1103/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0905
```

```
Epoch 1104/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0905
Epoch 1105/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0904
Epoch 1106/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0903
Epoch 1107/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0902
Epoch 1108/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0901
Epoch 1109/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0901
Epoch 1110/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0900
Epoch 1111/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.0899
Epoch 1112/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.0898
Epoch 1113/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.0897
Epoch 1114/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.0896
Epoch 1115/4000
1/1 - 0s - 34ms/step - binary_accuracy: 0.7500 - loss: 0.0896
Epoch 1116/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0895
Epoch 1117/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0894
Epoch 1118/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.0893
Epoch 1119/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0892
Epoch 1120/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0892
Epoch 1121/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0891
Epoch 1122/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0890
Epoch 1123/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0889
Epoch 1124/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0888
Epoch 1125/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0888
Epoch 1126/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0887
Epoch 1127/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0886
```

```
Epoch 1128/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0885
Epoch 1129/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0884
Epoch 1130/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0884
Epoch 1131/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0883
Epoch 1132/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0882
Epoch 1133/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0881
Epoch 1134/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0880
Epoch 1135/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0880
Epoch 1136/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0879
Epoch 1137/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0878
Epoch 1138/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0877
Epoch 1139/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0877
Epoch 1140/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0876
Epoch 1141/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0875
Epoch 1142/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0874
Epoch 1143/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0873
Epoch 1144/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0873
Epoch 1145/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0872
Epoch 1146/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0871
Epoch 1147/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0870
Epoch 1148/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0869
Epoch 1149/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0869
Epoch 1150/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0868
Epoch 1151/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.0867
```

```
Epoch 1152/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0866
Epoch 1153/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.0866
Epoch 1154/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0865
Epoch 1155/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0864
Epoch 1156/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.0863
Epoch 1157/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.0863
Epoch 1158/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0862
Epoch 1159/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.0861
Epoch 1160/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0860
Epoch 1161/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.0859
Epoch 1162/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.0859
Epoch 1163/4000
1/1 - 0s - 36ms/step - binary_accuracy: 0.7500 - loss: 0.0858
Epoch 1164/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0857
Epoch 1165/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0856
Epoch 1166/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0856
Epoch 1167/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0855
Epoch 1168/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0854
Epoch 1169/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0853
Epoch 1170/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0853
Epoch 1171/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0852
Epoch 1172/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0851
Epoch 1173/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0850
Epoch 1174/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0849
Epoch 1175/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0849
```

```
Epoch 1176/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0848
Epoch 1177/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0847
Epoch 1178/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0846
Epoch 1179/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0846
Epoch 1180/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0845
Epoch 1181/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0844
Epoch 1182/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0843
Epoch 1183/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0843
Epoch 1184/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0842
Epoch 1185/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0841
Epoch 1186/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0840
Epoch 1187/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0839
Epoch 1188/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0839
Epoch 1189/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0838
Epoch 1190/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0837
Epoch 1191/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0837
Epoch 1192/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0836
Epoch 1193/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0835
Epoch 1194/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0834
Epoch 1195/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0833
Epoch 1196/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0833
Epoch 1197/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0832
Epoch 1198/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0831
Epoch 1199/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0830
```

```
Epoch 1200/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0830
Epoch 1201/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0829
Epoch 1202/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0828
Epoch 1203/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0827
Epoch 1204/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0827
Epoch 1205/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0826
Epoch 1206/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0825
Epoch 1207/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0824
Epoch 1208/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0824
Epoch 1209/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0823
Epoch 1210/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0822
Epoch 1211/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0821
Epoch 1212/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0821
Epoch 1213/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0820
Epoch 1214/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0819
Epoch 1215/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0818
Epoch 1216/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0818
Epoch 1217/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0817
Epoch 1218/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0816
Epoch 1219/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0815
Epoch 1220/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0815
Epoch 1221/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0814
Epoch 1222/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0813
Epoch 1223/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0812
```

```
Epoch 1224/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0812
Epoch 1225/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0811
Epoch 1226/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0810
Epoch 1227/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0809
Epoch 1228/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0809
Epoch 1229/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0808
Epoch 1230/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0807
Epoch 1231/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0806
Epoch 1232/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0806
Epoch 1233/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0805
Epoch 1234/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.0804
Epoch 1235/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0803
Epoch 1236/4000
1/1 - 0s - 31ms/step - binary_accuracy: 0.7500 - loss: 0.0803
Epoch 1237/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0802
Epoch 1238/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0801
Epoch 1239/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.0800
Epoch 1240/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.0800
Epoch 1241/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0799
Epoch 1242/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0798
Epoch 1243/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0797
Epoch 1244/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0797
Epoch 1245/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0796
Epoch 1246/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0795
Epoch 1247/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0794
```

```
Epoch 1248/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0794
Epoch 1249/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0793
Epoch 1250/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0792
Epoch 1251/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0792
Epoch 1252/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0791
Epoch 1253/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.0790
Epoch 1254/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0789
Epoch 1255/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0789
Epoch 1256/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0788
Epoch 1257/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0787
Epoch 1258/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0786
Epoch 1259/4000
1/1 - 0s - 25ms/step - binary_accuracy: 0.7500 - loss: 0.0786
Epoch 1260/4000
1/1 - 0s - 26ms/step - binary_accuracy: 0.7500 - loss: 0.0785
Epoch 1261/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0784
Epoch 1262/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.0783
Epoch 1263/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0783
Epoch 1264/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.0782
Epoch 1265/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0781
Epoch 1266/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0781
Epoch 1267/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0780
Epoch 1268/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0779
Epoch 1269/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0778
Epoch 1270/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0778
Epoch 1271/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0777
```

```
Epoch 1272/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0776
Epoch 1273/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0775
Epoch 1274/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0775
Epoch 1275/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0774
Epoch 1276/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0773
Epoch 1277/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0773
Epoch 1278/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0772
Epoch 1279/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0771
Epoch 1280/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0770
Epoch 1281/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0770
Epoch 1282/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0769
Epoch 1283/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0768
Epoch 1284/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0767
Epoch 1285/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0767
Epoch 1286/4000
1/1 - 0s - 21ms/step - binary_accuracy: 0.7500 - loss: 0.0766
Epoch 1287/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0765
Epoch 1288/4000
1/1 - 0s - 22ms/step - binary_accuracy: 0.7500 - loss: 0.0765
Epoch 1289/4000
1/1 - 0s - 24ms/step - binary_accuracy: 0.7500 - loss: 0.0764
Epoch 1290/4000
1/1 - 0s - 27ms/step - binary_accuracy: 0.7500 - loss: 0.0763
Epoch 1291/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0762
Epoch 1292/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0762
Epoch 1293/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0761
Epoch 1294/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0760
Epoch 1295/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0759
```

```
Epoch 1296/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0759
Epoch 1297/4000
1/1 - 0s - 23ms/step - binary_accuracy: 0.7500 - loss: 0.0758
Epoch 1298/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0757
Epoch 1299/4000
1/1 - 0s - 29ms/step - binary_accuracy: 0.7500 - loss: 0.0757
Epoch 1300/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.0756
Epoch 1301/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0755
Epoch 1302/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.0755
Epoch 1303/4000
1/1 - 0s - 30ms/step - binary_accuracy: 0.7500 - loss: 0.0754
Epoch 1304/4000
1/1 - 0s - 28ms/step - binary_accuracy: 0.7500 - loss: 0.0753
Epoch 1305/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0752
Epoch 1306/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0752
Epoch 1307/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0751
Epoch 1308/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0750
Epoch 1309/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0749
Epoch 1310/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0749
Epoch 1311/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0748
Epoch 1312/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0747
Epoch 1313/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0747
Epoch 1314/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0746
Epoch 1315/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0745
Epoch 1316/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0745
Epoch 1317/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0744
Epoch 1318/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0743
Epoch 1319/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0742
```

```
Epoch 1320/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0742
Epoch 1321/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0741
Epoch 1322/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0740
Epoch 1323/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0740
Epoch 1324/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0739
Epoch 1325/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0738
Epoch 1326/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0737
Epoch 1327/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0737
Epoch 1328/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0736
Epoch 1329/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0735
Epoch 1330/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0735
Epoch 1331/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0734
Epoch 1332/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0733
Epoch 1333/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0733
Epoch 1334/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0732
Epoch 1335/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0731
Epoch 1336/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0730
Epoch 1337/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0730
Epoch 1338/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0729
Epoch 1339/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0728
Epoch 1340/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0728
Epoch 1341/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0727
Epoch 1342/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0726
Epoch 1343/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0725
```

```
Epoch 1344/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0725
Epoch 1345/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0724
Epoch 1346/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0723
Epoch 1347/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0723
Epoch 1348/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0722
Epoch 1349/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0721
Epoch 1350/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0721
Epoch 1351/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0720
Epoch 1352/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0719
Epoch 1353/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0718
Epoch 1354/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0718
Epoch 1355/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0717
Epoch 1356/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0716
Epoch 1357/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0716
Epoch 1358/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0715
Epoch 1359/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0714
Epoch 1360/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0714
Epoch 1361/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0713
Epoch 1362/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0712
Epoch 1363/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0712
Epoch 1364/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0711
Epoch 1365/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0710
Epoch 1366/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0710
Epoch 1367/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0709
```

```
Epoch 1368/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0708
Epoch 1369/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0707
Epoch 1370/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0707
Epoch 1371/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0706
Epoch 1372/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0705
Epoch 1373/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0705
Epoch 1374/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0704
Epoch 1375/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0703
Epoch 1376/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0703
Epoch 1377/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0702
Epoch 1378/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0701
Epoch 1379/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0701
Epoch 1380/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0700
Epoch 1381/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0699
Epoch 1382/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0699
Epoch 1383/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0698
Epoch 1384/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0697
Epoch 1385/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0697
Epoch 1386/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0696
Epoch 1387/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0695
Epoch 1388/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0695
Epoch 1389/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0694
Epoch 1390/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0693
Epoch 1391/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0692
```

```
Epoch 1392/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0692
Epoch 1393/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0691
Epoch 1394/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0690
Epoch 1395/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0690
Epoch 1396/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0689
Epoch 1397/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0688
Epoch 1398/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0688
Epoch 1399/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0687
Epoch 1400/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0686
Epoch 1401/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0686
Epoch 1402/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0685
Epoch 1403/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0684
Epoch 1404/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0684
Epoch 1405/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0683
Epoch 1406/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0682
Epoch 1407/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0682
Epoch 1408/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0681
Epoch 1409/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0680
Epoch 1410/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0680
Epoch 1411/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0679
Epoch 1412/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0678
Epoch 1413/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0678
Epoch 1414/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0677
Epoch 1415/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0676
```

```
Epoch 1416/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0676
Epoch 1417/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0675
Epoch 1418/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0674
Epoch 1419/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0674
Epoch 1420/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0673
Epoch 1421/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0672
Epoch 1422/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0672
Epoch 1423/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0671
Epoch 1424/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0670
Epoch 1425/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0670
Epoch 1426/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0669
Epoch 1427/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0668
Epoch 1428/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0668
Epoch 1429/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0667
Epoch 1430/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0666
Epoch 1431/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0666
Epoch 1432/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0665
Epoch 1433/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0664
Epoch 1434/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0664
Epoch 1435/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0663
Epoch 1436/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0662
Epoch 1437/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0662
Epoch 1438/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0661
Epoch 1439/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0660
```

```
Epoch 1440/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0660
Epoch 1441/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0659
Epoch 1442/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0659
Epoch 1443/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0658
Epoch 1444/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0657
Epoch 1445/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0657
Epoch 1446/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0656
Epoch 1447/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0655
Epoch 1448/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0655
Epoch 1449/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0654
Epoch 1450/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0653
Epoch 1451/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0653
Epoch 1452/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0652
Epoch 1453/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0651
Epoch 1454/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0651
Epoch 1455/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0650
Epoch 1456/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0649
Epoch 1457/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0649
Epoch 1458/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0648
Epoch 1459/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0647
Epoch 1460/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0647
Epoch 1461/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0646
Epoch 1462/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0646
Epoch 1463/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0645
```

```
Epoch 1464/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0644
Epoch 1465/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0644
Epoch 1466/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0643
Epoch 1467/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0642
Epoch 1468/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0642
Epoch 1469/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0641
Epoch 1470/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0640
Epoch 1471/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0640
Epoch 1472/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0639
Epoch 1473/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0638
Epoch 1474/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0638
Epoch 1475/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0637
Epoch 1476/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0637
Epoch 1477/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0636
Epoch 1478/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0635
Epoch 1479/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0635
Epoch 1480/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0634
Epoch 1481/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0633
Epoch 1482/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0633
Epoch 1483/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0632
Epoch 1484/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0631
Epoch 1485/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0631
Epoch 1486/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0630
Epoch 1487/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0630
```

```
Epoch 1488/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0629
Epoch 1489/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0628
Epoch 1490/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0628
Epoch 1491/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0627
Epoch 1492/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0626
Epoch 1493/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0626
Epoch 1494/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0625
Epoch 1495/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0625
Epoch 1496/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0624
Epoch 1497/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0623
Epoch 1498/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0623
Epoch 1499/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0622
Epoch 1500/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0621
Epoch 1501/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0621
Epoch 1502/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0620
Epoch 1503/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0620
Epoch 1504/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0619
Epoch 1505/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0618
Epoch 1506/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0618
Epoch 1507/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0617
Epoch 1508/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0616
Epoch 1509/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0616
Epoch 1510/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0615
Epoch 1511/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0615
```

```
Epoch 1512/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0614
Epoch 1513/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0613
Epoch 1514/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0613
Epoch 1515/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0612
Epoch 1516/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0611
Epoch 1517/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0611
Epoch 1518/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0610
Epoch 1519/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0610
Epoch 1520/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0609
Epoch 1521/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0608
Epoch 1522/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0608
Epoch 1523/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0607
Epoch 1524/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0607
Epoch 1525/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0606
Epoch 1526/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0605
Epoch 1527/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0605
Epoch 1528/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0604
Epoch 1529/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0604
Epoch 1530/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0603
Epoch 1531/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0602
Epoch 1532/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0602
Epoch 1533/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0601
Epoch 1534/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0601
Epoch 1535/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0600
```

```
Epoch 1536/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0599
Epoch 1537/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0599
Epoch 1538/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0598
Epoch 1539/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0597
Epoch 1540/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0597
Epoch 1541/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0596
Epoch 1542/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0596
Epoch 1543/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0595
Epoch 1544/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0594
Epoch 1545/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0594
Epoch 1546/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0593
Epoch 1547/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0593
Epoch 1548/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0592
Epoch 1549/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0591
Epoch 1550/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0591
Epoch 1551/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0590
Epoch 1552/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0590
Epoch 1553/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0589
Epoch 1554/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0588
Epoch 1555/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0588
Epoch 1556/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0587
Epoch 1557/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0587
Epoch 1558/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0586
Epoch 1559/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0585
```

```
Epoch 1560/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0585
Epoch 1561/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0584
Epoch 1562/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0584
Epoch 1563/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0583
Epoch 1564/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0582
Epoch 1565/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0582
Epoch 1566/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0581
Epoch 1567/4000
1/1 - 0s - 39ms/step - binary_accuracy: 1.0000 - loss: 0.0581
Epoch 1568/4000
1/1 - 0s - 42ms/step - binary_accuracy: 1.0000 - loss: 0.0580
Epoch 1569/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0579
Epoch 1570/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0579
Epoch 1571/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0578
Epoch 1572/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0578
Epoch 1573/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0577
Epoch 1574/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0577
Epoch 1575/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0576
Epoch 1576/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0575
Epoch 1577/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0575
Epoch 1578/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0574
Epoch 1579/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0574
Epoch 1580/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0573
Epoch 1581/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0572
Epoch 1582/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0572
Epoch 1583/4000
1/1 - 0s - 47ms/step - binary_accuracy: 1.0000 - loss: 0.0571
```

```
Epoch 1584/4000
1/1 - 0s - 71ms/step - binary_accuracy: 1.0000 - loss: 0.0571
Epoch 1585/4000
1/1 - 0s - 53ms/step - binary_accuracy: 1.0000 - loss: 0.0570
Epoch 1586/4000
1/1 - 0s - 44ms/step - binary_accuracy: 1.0000 - loss: 0.0570
Epoch 1587/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0569
Epoch 1588/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0568
Epoch 1589/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0568
Epoch 1590/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0567
Epoch 1591/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0567
Epoch 1592/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0566
Epoch 1593/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0565
Epoch 1594/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0565
Epoch 1595/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0564
Epoch 1596/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0564
Epoch 1597/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0563
Epoch 1598/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0563
Epoch 1599/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0562
Epoch 1600/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0561
Epoch 1601/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0561
Epoch 1602/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0560
Epoch 1603/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0560
Epoch 1604/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0559
Epoch 1605/4000
1/1 - 0s - 55ms/step - binary_accuracy: 1.0000 - loss: 0.0559
Epoch 1606/4000
1/1 - 0s - 67ms/step - binary_accuracy: 1.0000 - loss: 0.0558
Epoch 1607/4000
1/1 - 0s - 72ms/step - binary_accuracy: 1.0000 - loss: 0.0557
```

```
Epoch 1608/4000
1/1 - 0s - 60ms/step - binary_accuracy: 1.0000 - loss: 0.0557
Epoch 1609/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0556
Epoch 1610/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0556
Epoch 1611/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0555
Epoch 1612/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0555
Epoch 1613/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0554
Epoch 1614/4000
1/1 - 0s - 50ms/step - binary_accuracy: 1.0000 - loss: 0.0553
Epoch 1615/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0553
Epoch 1616/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0552
Epoch 1617/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0552
Epoch 1618/4000
1/1 - 0s - 57ms/step - binary_accuracy: 1.0000 - loss: 0.0551
Epoch 1619/4000
1/1 - 0s - 50ms/step - binary_accuracy: 1.0000 - loss: 0.0551
Epoch 1620/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0550
Epoch 1621/4000
1/1 - 0s - 58ms/step - binary_accuracy: 1.0000 - loss: 0.0549
Epoch 1622/4000
1/1 - 0s - 60ms/step - binary_accuracy: 1.0000 - loss: 0.0549
Epoch 1623/4000
1/1 - 0s - 52ms/step - binary_accuracy: 1.0000 - loss: 0.0548
Epoch 1624/4000
1/1 - 0s - 53ms/step - binary_accuracy: 1.0000 - loss: 0.0548
Epoch 1625/4000
1/1 - 0s - 49ms/step - binary_accuracy: 1.0000 - loss: 0.0547
Epoch 1626/4000
1/1 - 0s - 56ms/step - binary_accuracy: 1.0000 - loss: 0.0547
Epoch 1627/4000
1/1 - 0s - 44ms/step - binary_accuracy: 1.0000 - loss: 0.0546
Epoch 1628/4000
1/1 - 0s - 43ms/step - binary_accuracy: 1.0000 - loss: 0.0546
Epoch 1629/4000
1/1 - 0s - 65ms/step - binary_accuracy: 1.0000 - loss: 0.0545
Epoch 1630/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0544
Epoch 1631/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0544
```

```
Epoch 1632/4000
1/1 - 0s - 74ms/step - binary_accuracy: 1.0000 - loss: 0.0543
Epoch 1633/4000
1/1 - 0s - 66ms/step - binary_accuracy: 1.0000 - loss: 0.0543
Epoch 1634/4000
1/1 - 0s - 77ms/step - binary_accuracy: 1.0000 - loss: 0.0542
Epoch 1635/4000
1/1 - 0s - 58ms/step - binary_accuracy: 1.0000 - loss: 0.0542
Epoch 1636/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0541
Epoch 1637/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0541
Epoch 1638/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0540
Epoch 1639/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0539
Epoch 1640/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0539
Epoch 1641/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0538
Epoch 1642/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0538
Epoch 1643/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0537
Epoch 1644/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0537
Epoch 1645/4000
1/1 - 0s - 44ms/step - binary_accuracy: 1.0000 - loss: 0.0536
Epoch 1646/4000
1/1 - 0s - 43ms/step - binary_accuracy: 1.0000 - loss: 0.0536
Epoch 1647/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0535
Epoch 1648/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0534
Epoch 1649/4000
1/1 - 0s - 48ms/step - binary_accuracy: 1.0000 - loss: 0.0534
Epoch 1650/4000
1/1 - 0s - 51ms/step - binary_accuracy: 1.0000 - loss: 0.0533
Epoch 1651/4000
1/1 - 0s - 42ms/step - binary_accuracy: 1.0000 - loss: 0.0533
Epoch 1652/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0532
Epoch 1653/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0532
Epoch 1654/4000
1/1 - 0s - 43ms/step - binary_accuracy: 1.0000 - loss: 0.0531
Epoch 1655/4000
1/1 - 0s - 42ms/step - binary_accuracy: 1.0000 - loss: 0.0531
```

```
Epoch 1656/4000
1/1 - 0s - 48ms/step - binary_accuracy: 1.0000 - loss: 0.0530
Epoch 1657/4000
1/1 - 0s - 61ms/step - binary_accuracy: 1.0000 - loss: 0.0529
Epoch 1658/4000
1/1 - 0s - 42ms/step - binary_accuracy: 1.0000 - loss: 0.0529
Epoch 1659/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0528
Epoch 1660/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0528
Epoch 1661/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0527
Epoch 1662/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0527
Epoch 1663/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0526
Epoch 1664/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0526
Epoch 1665/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0525
Epoch 1666/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0525
Epoch 1667/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0524
Epoch 1668/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0524
Epoch 1669/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0523
Epoch 1670/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0522
Epoch 1671/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0522
Epoch 1672/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0521
Epoch 1673/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0521
Epoch 1674/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0520
Epoch 1675/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0520
Epoch 1676/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0519
Epoch 1677/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0519
Epoch 1678/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0518
Epoch 1679/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0518
```

```
Epoch 1680/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0517
Epoch 1681/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0517
Epoch 1682/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0516
Epoch 1683/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0516
Epoch 1684/4000
1/1 - 0s - 57ms/step - binary_accuracy: 1.0000 - loss: 0.0515
Epoch 1685/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0514
Epoch 1686/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0514
Epoch 1687/4000
1/1 - 0s - 47ms/step - binary_accuracy: 1.0000 - loss: 0.0513
Epoch 1688/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0513
Epoch 1689/4000
1/1 - 0s - 47ms/step - binary_accuracy: 1.0000 - loss: 0.0512
Epoch 1690/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0512
Epoch 1691/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0511
Epoch 1692/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0511
Epoch 1693/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0510
Epoch 1694/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0510
Epoch 1695/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0509
Epoch 1696/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0509
Epoch 1697/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0508
Epoch 1698/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0508
Epoch 1699/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0507
Epoch 1700/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0507
Epoch 1701/4000
1/1 - 0s - 49ms/step - binary_accuracy: 1.0000 - loss: 0.0506
Epoch 1702/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0505
Epoch 1703/4000
1/1 - 0s - 55ms/step - binary_accuracy: 1.0000 - loss: 0.0505
```

```
Epoch 1704/4000
1/1 - 0s - 49ms/step - binary_accuracy: 1.0000 - loss: 0.0504
Epoch 1705/4000
1/1 - 0s - 50ms/step - binary_accuracy: 1.0000 - loss: 0.0504
Epoch 1706/4000
1/1 - 0s - 53ms/step - binary_accuracy: 1.0000 - loss: 0.0503
Epoch 1707/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0503
Epoch 1708/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0502
Epoch 1709/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0502
Epoch 1710/4000
1/1 - 0s - 57ms/step - binary_accuracy: 1.0000 - loss: 0.0501
Epoch 1711/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0501
Epoch 1712/4000
1/1 - 0s - 39ms/step - binary_accuracy: 1.0000 - loss: 0.0500
Epoch 1713/4000
1/1 - 0s - 39ms/step - binary_accuracy: 1.0000 - loss: 0.0500
Epoch 1714/4000
1/1 - 0s - 52ms/step - binary_accuracy: 1.0000 - loss: 0.0499
Epoch 1715/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0499
Epoch 1716/4000
1/1 - 0s - 42ms/step - binary_accuracy: 1.0000 - loss: 0.0498
Epoch 1717/4000
1/1 - 0s - 42ms/step - binary_accuracy: 1.0000 - loss: 0.0498
Epoch 1718/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0497
Epoch 1719/4000
1/1 - 0s - 50ms/step - binary_accuracy: 1.0000 - loss: 0.0497
Epoch 1720/4000
1/1 - 0s - 59ms/step - binary_accuracy: 1.0000 - loss: 0.0496
Epoch 1721/4000
1/1 - 0s - 65ms/step - binary_accuracy: 1.0000 - loss: 0.0496
Epoch 1722/4000
1/1 - 0s - 78ms/step - binary_accuracy: 1.0000 - loss: 0.0495
Epoch 1723/4000
1/1 - 0s - 51ms/step - binary_accuracy: 1.0000 - loss: 0.0495
Epoch 1724/4000
1/1 - 0s - 59ms/step - binary_accuracy: 1.0000 - loss: 0.0494
Epoch 1725/4000
1/1 - 0s - 43ms/step - binary_accuracy: 1.0000 - loss: 0.0494
Epoch 1726/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0493
Epoch 1727/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0493
```

```
Epoch 1728/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0492
Epoch 1729/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0492
Epoch 1730/4000
1/1 - 0s - 52ms/step - binary_accuracy: 1.0000 - loss: 0.0491
Epoch 1731/4000
1/1 - 0s - 55ms/step - binary_accuracy: 1.0000 - loss: 0.0491
Epoch 1732/4000
1/1 - 0s - 49ms/step - binary_accuracy: 1.0000 - loss: 0.0490
Epoch 1733/4000
1/1 - 0s - 56ms/step - binary_accuracy: 1.0000 - loss: 0.0490
Epoch 1734/4000
1/1 - 0s - 53ms/step - binary_accuracy: 1.0000 - loss: 0.0489
Epoch 1735/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0489
Epoch 1736/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0488
Epoch 1737/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0488
Epoch 1738/4000
1/1 - 0s - 57ms/step - binary_accuracy: 1.0000 - loss: 0.0487
Epoch 1739/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0487
Epoch 1740/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0486
Epoch 1741/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0485
Epoch 1742/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0485
Epoch 1743/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0484
Epoch 1744/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0484
Epoch 1745/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0484
Epoch 1746/4000
1/1 - 0s - 43ms/step - binary_accuracy: 1.0000 - loss: 0.0483
Epoch 1747/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0483
Epoch 1748/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0482
Epoch 1749/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0481
Epoch 1750/4000
1/1 - 0s - 52ms/step - binary_accuracy: 1.0000 - loss: 0.0481
Epoch 1751/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0481
```

```
Epoch 1752/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0480
Epoch 1753/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0479
Epoch 1754/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0479
Epoch 1755/4000
1/1 - 0s - 44ms/step - binary_accuracy: 1.0000 - loss: 0.0479
Epoch 1756/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0478
Epoch 1757/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0477
Epoch 1758/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0477
Epoch 1759/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0477
Epoch 1760/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0476
Epoch 1761/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0476
Epoch 1762/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0475
Epoch 1763/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0475
Epoch 1764/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0474
Epoch 1765/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0474
Epoch 1766/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0473
Epoch 1767/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0473
Epoch 1768/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0472
Epoch 1769/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0472
Epoch 1770/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0471
Epoch 1771/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0471
Epoch 1772/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0470
Epoch 1773/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0470
Epoch 1774/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0469
Epoch 1775/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0469
```

```
Epoch 1776/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0468
Epoch 1777/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0468
Epoch 1778/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0467
Epoch 1779/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0467
Epoch 1780/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0466
Epoch 1781/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0466
Epoch 1782/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0465
Epoch 1783/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0465
Epoch 1784/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0464
Epoch 1785/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0464
Epoch 1786/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0463
Epoch 1787/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0463
Epoch 1788/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0462
Epoch 1789/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0462
Epoch 1790/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0461
Epoch 1791/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0461
Epoch 1792/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0461
Epoch 1793/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0460
Epoch 1794/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0460
Epoch 1795/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0459
Epoch 1796/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0459
Epoch 1797/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0458
Epoch 1798/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0458
Epoch 1799/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0457
```

```
Epoch 1800/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0457
Epoch 1801/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0456
Epoch 1802/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0456
Epoch 1803/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0455
Epoch 1804/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0455
Epoch 1805/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0454
Epoch 1806/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0454
Epoch 1807/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0453
Epoch 1808/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0453
Epoch 1809/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0453
Epoch 1810/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0452
Epoch 1811/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0452
Epoch 1812/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0451
Epoch 1813/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0451
Epoch 1814/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0450
Epoch 1815/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0450
Epoch 1816/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0449
Epoch 1817/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0449
Epoch 1818/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0448
Epoch 1819/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0448
Epoch 1820/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0447
Epoch 1821/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0447
Epoch 1822/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0446
Epoch 1823/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0446
```

```
Epoch 1824/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0445
Epoch 1825/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0445
Epoch 1826/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0445
Epoch 1827/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0444
Epoch 1828/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0444
Epoch 1829/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0443
Epoch 1830/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0443
Epoch 1831/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0442
Epoch 1832/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0442
Epoch 1833/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0441
Epoch 1834/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0441
Epoch 1835/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0440
Epoch 1836/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0440
Epoch 1837/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0440
Epoch 1838/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0439
Epoch 1839/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0439
Epoch 1840/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0438
Epoch 1841/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0438
Epoch 1842/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0437
Epoch 1843/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0437
Epoch 1844/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0436
Epoch 1845/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0436
Epoch 1846/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0435
Epoch 1847/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0435
```

```
Epoch 1848/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0435
Epoch 1849/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0434
Epoch 1850/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0434
Epoch 1851/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0433
Epoch 1852/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0433
Epoch 1853/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0432
Epoch 1854/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0432
Epoch 1855/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0431
Epoch 1856/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0431
Epoch 1857/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0431
Epoch 1858/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0430
Epoch 1859/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0430
Epoch 1860/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0429
Epoch 1861/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0429
Epoch 1862/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0428
Epoch 1863/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0428
Epoch 1864/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0427
Epoch 1865/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0427
Epoch 1866/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0426
Epoch 1867/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0426
Epoch 1868/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0426
Epoch 1869/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0425
Epoch 1870/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0425
Epoch 1871/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0424
```

```
Epoch 1872/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0424
Epoch 1873/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0423
Epoch 1874/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0423
Epoch 1875/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0423
Epoch 1876/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0422
Epoch 1877/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0422
Epoch 1878/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0421
Epoch 1879/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0421
Epoch 1880/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0420
Epoch 1881/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0420
Epoch 1882/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0419
Epoch 1883/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0419
Epoch 1884/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0419
Epoch 1885/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0418
Epoch 1886/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0418
Epoch 1887/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0417
Epoch 1888/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0417
Epoch 1889/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0416
Epoch 1890/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0416
Epoch 1891/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0416
Epoch 1892/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0415
Epoch 1893/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0415
Epoch 1894/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0414
Epoch 1895/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0414
```

```
Epoch 1896/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0413
Epoch 1897/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0413
Epoch 1898/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0413
Epoch 1899/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0412
Epoch 1900/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0412
Epoch 1901/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0411
Epoch 1902/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0411
Epoch 1903/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0410
Epoch 1904/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0410
Epoch 1905/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0410
Epoch 1906/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0409
Epoch 1907/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0409
Epoch 1908/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0408
Epoch 1909/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0408
Epoch 1910/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0408
Epoch 1911/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0407
Epoch 1912/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0407
Epoch 1913/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0406
Epoch 1914/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0406
Epoch 1915/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0405
Epoch 1916/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0405
Epoch 1917/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0405
Epoch 1918/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0404
Epoch 1919/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0404
```

```
Epoch 1920/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0403
Epoch 1921/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0403
Epoch 1922/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0403
Epoch 1923/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0402
Epoch 1924/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0402
Epoch 1925/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0401
Epoch 1926/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0401
Epoch 1927/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0400
Epoch 1928/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0400
Epoch 1929/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0400
Epoch 1930/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0399
Epoch 1931/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0399
Epoch 1932/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0398
Epoch 1933/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0398
Epoch 1934/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0398
Epoch 1935/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0397
Epoch 1936/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0397
Epoch 1937/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0396
Epoch 1938/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0396
Epoch 1939/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0396
Epoch 1940/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0395
Epoch 1941/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0395
Epoch 1942/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0394
Epoch 1943/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0394
```

```
Epoch 1944/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0393
Epoch 1945/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0393
Epoch 1946/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0393
Epoch 1947/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0392
Epoch 1948/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0392
Epoch 1949/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0391
Epoch 1950/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0391
Epoch 1951/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0391
Epoch 1952/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0390
Epoch 1953/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0390
Epoch 1954/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0389
Epoch 1955/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0389
Epoch 1956/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0389
Epoch 1957/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0388
Epoch 1958/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0388
Epoch 1959/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0387
Epoch 1960/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0387
Epoch 1961/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0387
Epoch 1962/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0386
Epoch 1963/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0386
Epoch 1964/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0385
Epoch 1965/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0385
Epoch 1966/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0385
Epoch 1967/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0384
```

```
Epoch 1968/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0384
Epoch 1969/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0383
Epoch 1970/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0383
Epoch 1971/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0383
Epoch 1972/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0382
Epoch 1973/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0382
Epoch 1974/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0381
Epoch 1975/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0381
Epoch 1976/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0381
Epoch 1977/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0380
Epoch 1978/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0380
Epoch 1979/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0379
Epoch 1980/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0379
Epoch 1981/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0379
Epoch 1982/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0378
Epoch 1983/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0378
Epoch 1984/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0378
Epoch 1985/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0377
Epoch 1986/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0377
Epoch 1987/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0376
Epoch 1988/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0376
Epoch 1989/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0376
Epoch 1990/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0375
Epoch 1991/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0375
```

```
Epoch 1992/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0374
Epoch 1993/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0374
Epoch 1994/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0374
Epoch 1995/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0373
Epoch 1996/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0373
Epoch 1997/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0373
Epoch 1998/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0372
Epoch 1999/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0372
Epoch 2000/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0371
Epoch 2001/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0371
Epoch 2002/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0371
Epoch 2003/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0370
Epoch 2004/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0370
Epoch 2005/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0369
Epoch 2006/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0369
Epoch 2007/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0369
Epoch 2008/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0368
Epoch 2009/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0368
Epoch 2010/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0368
Epoch 2011/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0367
Epoch 2012/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0367
Epoch 2013/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0366
Epoch 2014/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0366
Epoch 2015/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0366
```

```
Epoch 2016/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0365
Epoch 2017/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0365
Epoch 2018/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0365
Epoch 2019/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0364
Epoch 2020/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0364
Epoch 2021/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0363
Epoch 2022/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0363
Epoch 2023/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0363
Epoch 2024/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0362
Epoch 2025/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0362
Epoch 2026/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0362
Epoch 2027/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0361
Epoch 2028/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0361
Epoch 2029/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0360
Epoch 2030/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0360
Epoch 2031/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0360
Epoch 2032/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0359
Epoch 2033/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0359
Epoch 2034/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0359
Epoch 2035/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0358
Epoch 2036/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0358
Epoch 2037/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0358
Epoch 2038/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0357
Epoch 2039/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0357
```

```
Epoch 2040/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0356
Epoch 2041/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0356
Epoch 2042/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0356
Epoch 2043/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0355
Epoch 2044/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0355
Epoch 2045/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0355
Epoch 2046/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0354
Epoch 2047/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0354
Epoch 2048/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0354
Epoch 2049/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0353
Epoch 2050/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0353
Epoch 2051/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0352
Epoch 2052/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0352
Epoch 2053/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0352
Epoch 2054/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0351
Epoch 2055/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0351
Epoch 2056/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0351
Epoch 2057/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0350
Epoch 2058/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0350
Epoch 2059/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0350
Epoch 2060/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0349
Epoch 2061/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0349
Epoch 2062/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0349
Epoch 2063/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0348
```

```
Epoch 2064/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0348
Epoch 2065/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0347
Epoch 2066/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0347
Epoch 2067/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0347
Epoch 2068/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0346
Epoch 2069/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0346
Epoch 2070/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0346
Epoch 2071/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0345
Epoch 2072/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0345
Epoch 2073/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0345
Epoch 2074/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0344
Epoch 2075/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0344
Epoch 2076/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0344
Epoch 2077/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0343
Epoch 2078/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0343
Epoch 2079/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0343
Epoch 2080/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0342
Epoch 2081/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0342
Epoch 2082/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0341
Epoch 2083/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0341
Epoch 2084/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0341
Epoch 2085/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0340
Epoch 2086/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0340
Epoch 2087/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0340
```

```
Epoch 2088/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0339
Epoch 2089/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0339
Epoch 2090/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0339
Epoch 2091/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0338
Epoch 2092/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0338
Epoch 2093/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0338
Epoch 2094/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0337
Epoch 2095/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0337
Epoch 2096/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0337
Epoch 2097/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0336
Epoch 2098/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0336
Epoch 2099/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0336
Epoch 2100/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0335
Epoch 2101/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0335
Epoch 2102/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0335
Epoch 2103/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0334
Epoch 2104/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0334
Epoch 2105/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0334
Epoch 2106/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0333
Epoch 2107/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0333
Epoch 2108/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0333
Epoch 2109/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0332
Epoch 2110/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0332
Epoch 2111/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0332
```

```
Epoch 2112/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0331
Epoch 2113/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0331
Epoch 2114/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0331
Epoch 2115/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0330
Epoch 2116/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0330
Epoch 2117/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0330
Epoch 2118/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0329
Epoch 2119/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0329
Epoch 2120/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0329
Epoch 2121/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0328
Epoch 2122/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0328
Epoch 2123/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0328
Epoch 2124/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0327
Epoch 2125/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0327
Epoch 2126/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0327
Epoch 2127/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0326
Epoch 2128/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0326
Epoch 2129/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0326
Epoch 2130/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0325
Epoch 2131/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0325
Epoch 2132/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0325
Epoch 2133/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0324
Epoch 2134/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0324
Epoch 2135/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0324
```

```
Epoch 2136/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0323
Epoch 2137/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0323
Epoch 2138/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0323
Epoch 2139/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0322
Epoch 2140/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0322
Epoch 2141/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0322
Epoch 2142/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0321
Epoch 2143/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0321
Epoch 2144/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0321
Epoch 2145/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0320
Epoch 2146/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0320
Epoch 2147/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0320
Epoch 2148/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0319
Epoch 2149/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0319
Epoch 2150/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0319
Epoch 2151/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0318
Epoch 2152/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0318
Epoch 2153/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0318
Epoch 2154/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0317
Epoch 2155/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0317
Epoch 2156/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0317
Epoch 2157/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0316
Epoch 2158/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0316
Epoch 2159/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0316
```

```
Epoch 2160/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0315
Epoch 2161/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0315
Epoch 2162/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0315
Epoch 2163/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0315
Epoch 2164/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0314
Epoch 2165/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0314
Epoch 2166/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0314
Epoch 2167/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0313
Epoch 2168/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0313
Epoch 2169/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0313
Epoch 2170/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0312
Epoch 2171/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0312
Epoch 2172/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0312
Epoch 2173/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0311
Epoch 2174/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0311
Epoch 2175/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0311
Epoch 2176/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0310
Epoch 2177/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0310
Epoch 2178/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0310
Epoch 2179/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0309
Epoch 2180/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0309
Epoch 2181/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0309
Epoch 2182/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0309
Epoch 2183/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0308
```

```
Epoch 2184/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0308
Epoch 2185/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0308
Epoch 2186/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0307
Epoch 2187/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0307
Epoch 2188/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0307
Epoch 2189/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0306
Epoch 2190/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0306
Epoch 2191/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0306
Epoch 2192/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0305
Epoch 2193/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0305
Epoch 2194/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0305
Epoch 2195/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0305
Epoch 2196/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0304
Epoch 2197/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0304
Epoch 2198/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0304
Epoch 2199/4000
1/1 - 0s - 43ms/step - binary_accuracy: 1.0000 - loss: 0.0303
Epoch 2200/4000
1/1 - 0s - 52ms/step - binary_accuracy: 1.0000 - loss: 0.0303
Epoch 2201/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0303
Epoch 2202/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0302
Epoch 2203/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0302
Epoch 2204/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0302
Epoch 2205/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0301
Epoch 2206/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0301
Epoch 2207/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0301
```

```
Epoch 2208/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0301
Epoch 2209/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0300
Epoch 2210/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0300
Epoch 2211/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0300
Epoch 2212/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0299
Epoch 2213/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0299
Epoch 2214/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0299
Epoch 2215/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0298
Epoch 2216/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0298
Epoch 2217/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0298
Epoch 2218/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0298
Epoch 2219/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0297
Epoch 2220/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0297
Epoch 2221/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0297
Epoch 2222/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0296
Epoch 2223/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0296
Epoch 2224/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0296
Epoch 2225/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0295
Epoch 2226/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0295
Epoch 2227/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0295
Epoch 2228/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0295
Epoch 2229/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0294
Epoch 2230/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0294
Epoch 2231/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0294
```

```
Epoch 2232/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0293
Epoch 2233/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0293
Epoch 2234/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0293
Epoch 2235/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0293
Epoch 2236/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0292
Epoch 2237/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0292
Epoch 2238/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0292
Epoch 2239/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0291
Epoch 2240/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0291
Epoch 2241/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0291
Epoch 2242/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0291
Epoch 2243/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0290
Epoch 2244/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0290
Epoch 2245/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0290
Epoch 2246/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0289
Epoch 2247/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0289
Epoch 2248/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0289
Epoch 2249/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0288
Epoch 2250/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0288
Epoch 2251/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0288
Epoch 2252/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0288
Epoch 2253/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0287
Epoch 2254/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0287
Epoch 2255/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0287
```

```
Epoch 2256/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0286
Epoch 2257/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0286
Epoch 2258/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0286
Epoch 2259/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0286
Epoch 2260/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0285
Epoch 2261/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0285
Epoch 2262/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0285
Epoch 2263/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0285
Epoch 2264/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0284
Epoch 2265/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0284
Epoch 2266/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0284
Epoch 2267/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0283
Epoch 2268/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0283
Epoch 2269/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0283
Epoch 2270/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0283
Epoch 2271/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0282
Epoch 2272/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0282
Epoch 2273/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0282
Epoch 2274/4000
1/1 - 0s - 52ms/step - binary_accuracy: 1.0000 - loss: 0.0281
Epoch 2275/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0281
Epoch 2276/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0281
Epoch 2277/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0281
Epoch 2278/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0280
Epoch 2279/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0280
```

```
Epoch 2280/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0280
Epoch 2281/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0279
Epoch 2282/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0279
Epoch 2283/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0279
Epoch 2284/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0279
Epoch 2285/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0278
Epoch 2286/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0278
Epoch 2287/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0278
Epoch 2288/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0278
Epoch 2289/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0277
Epoch 2290/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0277
Epoch 2291/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0277
Epoch 2292/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0276
Epoch 2293/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0276
Epoch 2294/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0276
Epoch 2295/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0276
Epoch 2296/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0275
Epoch 2297/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0275
Epoch 2298/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0275
Epoch 2299/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0275
Epoch 2300/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0274
Epoch 2301/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0274
Epoch 2302/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0274
Epoch 2303/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0273
```

```
Epoch 2304/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0273
Epoch 2305/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0273
Epoch 2306/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0273
Epoch 2307/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0272
Epoch 2308/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0272
Epoch 2309/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0272
Epoch 2310/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0272
Epoch 2311/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0271
Epoch 2312/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0271
Epoch 2313/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0271
Epoch 2314/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0270
Epoch 2315/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0270
Epoch 2316/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0270
Epoch 2317/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0270
Epoch 2318/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0269
Epoch 2319/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0269
Epoch 2320/4000
1/1 - 0s - 39ms/step - binary_accuracy: 1.0000 - loss: 0.0269
Epoch 2321/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0269
Epoch 2322/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0268
Epoch 2323/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0268
Epoch 2324/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0268
Epoch 2325/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0268
Epoch 2326/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0267
Epoch 2327/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0267
```

```
Epoch 2328/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0267
Epoch 2329/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0266
Epoch 2330/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0266
Epoch 2331/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0266
Epoch 2332/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0266
Epoch 2333/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0265
Epoch 2334/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0265
Epoch 2335/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0265
Epoch 2336/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0265
Epoch 2337/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0264
Epoch 2338/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0264
Epoch 2339/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0264
Epoch 2340/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0264
Epoch 2341/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0263
Epoch 2342/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0263
Epoch 2343/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0263
Epoch 2344/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0263
Epoch 2345/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0262
Epoch 2346/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0262
Epoch 2347/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0262
Epoch 2348/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0262
Epoch 2349/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0261
Epoch 2350/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0261
Epoch 2351/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0261
```

```
Epoch 2352/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0261
Epoch 2353/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0260
Epoch 2354/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0260
Epoch 2355/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0260
Epoch 2356/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0259
Epoch 2357/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0259
Epoch 2358/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0259
Epoch 2359/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0259
Epoch 2360/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0258
Epoch 2361/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0258
Epoch 2362/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0258
Epoch 2363/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0258
Epoch 2364/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0257
Epoch 2365/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0257
Epoch 2366/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0257
Epoch 2367/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0257
Epoch 2368/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0256
Epoch 2369/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0256
Epoch 2370/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0256
Epoch 2371/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0256
Epoch 2372/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0255
Epoch 2373/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0255
Epoch 2374/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0255
Epoch 2375/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0255
```

```
Epoch 2376/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0254
Epoch 2377/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0254
Epoch 2378/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0254
Epoch 2379/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0254
Epoch 2380/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0253
Epoch 2381/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0253
Epoch 2382/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0253
Epoch 2383/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0253
Epoch 2384/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0252
Epoch 2385/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0252
Epoch 2386/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0252
Epoch 2387/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0252
Epoch 2388/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0251
Epoch 2389/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0251
Epoch 2390/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0251
Epoch 2391/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0251
Epoch 2392/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0251
Epoch 2393/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0250
Epoch 2394/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0250
Epoch 2395/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0250
Epoch 2396/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0250
Epoch 2397/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0249
Epoch 2398/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0249
Epoch 2399/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0249
```

```
Epoch 2400/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0249
Epoch 2401/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0248
Epoch 2402/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0248
Epoch 2403/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0248
Epoch 2404/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0248
Epoch 2405/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0247
Epoch 2406/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0247
Epoch 2407/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0247
Epoch 2408/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0247
Epoch 2409/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0246
Epoch 2410/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0246
Epoch 2411/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0246
Epoch 2412/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0246
Epoch 2413/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0245
Epoch 2414/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0245
Epoch 2415/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0245
Epoch 2416/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0245
Epoch 2417/4000
1/1 - 0s - 39ms/step - binary_accuracy: 1.0000 - loss: 0.0245
Epoch 2418/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0244
Epoch 2419/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0244
Epoch 2420/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0244
Epoch 2421/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0244
Epoch 2422/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0243
Epoch 2423/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0243
```

```
Epoch 2424/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0243
Epoch 2425/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0243
Epoch 2426/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0242
Epoch 2427/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0242
Epoch 2428/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0242
Epoch 2429/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0242
Epoch 2430/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0241
Epoch 2431/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0241
Epoch 2432/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0241
Epoch 2433/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0241
Epoch 2434/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0240
Epoch 2435/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0240
Epoch 2436/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0240
Epoch 2437/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0240
Epoch 2438/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0240
Epoch 2439/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0239
Epoch 2440/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0239
Epoch 2441/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0239
Epoch 2442/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0239
Epoch 2443/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0238
Epoch 2444/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0238
Epoch 2445/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0238
Epoch 2446/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0238
Epoch 2447/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0237
```

```
Epoch 2448/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0237
Epoch 2449/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0237
Epoch 2450/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0237
Epoch 2451/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0237
Epoch 2452/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0236
Epoch 2453/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0236
Epoch 2454/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0236
Epoch 2455/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0236
Epoch 2456/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0235
Epoch 2457/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0235
Epoch 2458/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0235
Epoch 2459/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0235
Epoch 2460/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0235
Epoch 2461/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0234
Epoch 2462/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0234
Epoch 2463/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0234
Epoch 2464/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0234
Epoch 2465/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0233
Epoch 2466/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0233
Epoch 2467/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0233
Epoch 2468/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0233
Epoch 2469/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0233
Epoch 2470/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0232
Epoch 2471/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0232
```

```
Epoch 2472/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0232
Epoch 2473/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0232
Epoch 2474/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0231
Epoch 2475/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0231
Epoch 2476/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0231
Epoch 2477/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0231
Epoch 2478/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0231
Epoch 2479/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0230
Epoch 2480/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0230
Epoch 2481/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0230
Epoch 2482/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0230
Epoch 2483/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0229
Epoch 2484/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0229
Epoch 2485/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0229
Epoch 2486/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0229
Epoch 2487/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0229
Epoch 2488/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0228
Epoch 2489/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0228
Epoch 2490/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0228
Epoch 2491/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0228
Epoch 2492/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0227
Epoch 2493/4000
1/1 - 0s - 43ms/step - binary_accuracy: 1.0000 - loss: 0.0227
Epoch 2494/4000
1/1 - 0s - 47ms/step - binary_accuracy: 1.0000 - loss: 0.0227
Epoch 2495/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0227
```

```
Epoch 2496/4000
1/1 - 0s - 42ms/step - binary_accuracy: 1.0000 - loss: 0.0227
Epoch 2497/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0226
Epoch 2498/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0226
Epoch 2499/4000
1/1 - 0s - 39ms/step - binary_accuracy: 1.0000 - loss: 0.0226
Epoch 2500/4000
1/1 - 0s - 49ms/step - binary_accuracy: 1.0000 - loss: 0.0226
Epoch 2501/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0225
Epoch 2502/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0225
Epoch 2503/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0225
Epoch 2504/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0225
Epoch 2505/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0225
Epoch 2506/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0224
Epoch 2507/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0224
Epoch 2508/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0224
Epoch 2509/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0224
Epoch 2510/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0224
Epoch 2511/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0223
Epoch 2512/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0223
Epoch 2513/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0223
Epoch 2514/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0223
Epoch 2515/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0222
Epoch 2516/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0222
Epoch 2517/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0222
Epoch 2518/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0222
Epoch 2519/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0222
```

```
Epoch 2520/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0221
Epoch 2521/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0221
Epoch 2522/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0221
Epoch 2523/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0221
Epoch 2524/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0221
Epoch 2525/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0220
Epoch 2526/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0220
Epoch 2527/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0220
Epoch 2528/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0220
Epoch 2529/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0220
Epoch 2530/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0219
Epoch 2531/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0219
Epoch 2532/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0219
Epoch 2533/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0219
Epoch 2534/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0218
Epoch 2535/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0218
Epoch 2536/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0218
Epoch 2537/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0218
Epoch 2538/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0218
Epoch 2539/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0217
Epoch 2540/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0217
Epoch 2541/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0217
Epoch 2542/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0217
Epoch 2543/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0217
```

```
Epoch 2544/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0216
Epoch 2545/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0216
Epoch 2546/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0216
Epoch 2547/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0216
Epoch 2548/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0216
Epoch 2549/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0215
Epoch 2550/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0215
Epoch 2551/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0215
Epoch 2552/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0215
Epoch 2553/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0215
Epoch 2554/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0214
Epoch 2555/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0214
Epoch 2556/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0214
Epoch 2557/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0214
Epoch 2558/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0214
Epoch 2559/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0213
Epoch 2560/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0213
Epoch 2561/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0213
Epoch 2562/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0213
Epoch 2563/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0213
Epoch 2564/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0212
Epoch 2565/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0212
Epoch 2566/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0212
Epoch 2567/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0212
```

```
Epoch 2568/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0212
Epoch 2569/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0211
Epoch 2570/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0211
Epoch 2571/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0211
Epoch 2572/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0211
Epoch 2573/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0211
Epoch 2574/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0210
Epoch 2575/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0210
Epoch 2576/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0210
Epoch 2577/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0210
Epoch 2578/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0210
Epoch 2579/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0209
Epoch 2580/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0209
Epoch 2581/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0209
Epoch 2582/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0209
Epoch 2583/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0209
Epoch 2584/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0208
Epoch 2585/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0208
Epoch 2586/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0208
Epoch 2587/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0208
Epoch 2588/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0208
Epoch 2589/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0207
Epoch 2590/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0207
Epoch 2591/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0207
```

```
Epoch 2592/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0207
Epoch 2593/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0207
Epoch 2594/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0206
Epoch 2595/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0206
Epoch 2596/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0206
Epoch 2597/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0206
Epoch 2598/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0206
Epoch 2599/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0205
Epoch 2600/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0205
Epoch 2601/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0205
Epoch 2602/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0205
Epoch 2603/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0205
Epoch 2604/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0205
Epoch 2605/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0204
Epoch 2606/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0204
Epoch 2607/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0204
Epoch 2608/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0204
Epoch 2609/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0204
Epoch 2610/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0203
Epoch 2611/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0203
Epoch 2612/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0203
Epoch 2613/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0203
Epoch 2614/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0203
Epoch 2615/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0202
```

```
Epoch 2616/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0202
Epoch 2617/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0202
Epoch 2618/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0202
Epoch 2619/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0202
Epoch 2620/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0201
Epoch 2621/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0201
Epoch 2622/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0201
Epoch 2623/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0201
Epoch 2624/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0201
Epoch 2625/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0201
Epoch 2626/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0200
Epoch 2627/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0200
Epoch 2628/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0200
Epoch 2629/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0200
Epoch 2630/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0200
Epoch 2631/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0199
Epoch 2632/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0199
Epoch 2633/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0199
Epoch 2634/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0199
Epoch 2635/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0199
Epoch 2636/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0198
Epoch 2637/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0198
Epoch 2638/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0198
Epoch 2639/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0198
```

```
Epoch 2640/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0198
Epoch 2641/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0198
Epoch 2642/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0197
Epoch 2643/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0197
Epoch 2644/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0197
Epoch 2645/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0197
Epoch 2646/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0197
Epoch 2647/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0196
Epoch 2648/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0196
Epoch 2649/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0196
Epoch 2650/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0196
Epoch 2651/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0196
Epoch 2652/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0196
Epoch 2653/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0195
Epoch 2654/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0195
Epoch 2655/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0195
Epoch 2656/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0195
Epoch 2657/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0195
Epoch 2658/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0194
Epoch 2659/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0194
Epoch 2660/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0194
Epoch 2661/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0194
Epoch 2662/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0194
Epoch 2663/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0194
```

```
Epoch 2664/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0193
Epoch 2665/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0193
Epoch 2666/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0193
Epoch 2667/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0193
Epoch 2668/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0193
Epoch 2669/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0192
Epoch 2670/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0192
Epoch 2671/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0192
Epoch 2672/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0192
Epoch 2673/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0192
Epoch 2674/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0192
Epoch 2675/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0191
Epoch 2676/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0191
Epoch 2677/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0191
Epoch 2678/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0191
Epoch 2679/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0191
Epoch 2680/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0191
Epoch 2681/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0190
Epoch 2682/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0190
Epoch 2683/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0190
Epoch 2684/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0190
Epoch 2685/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0190
Epoch 2686/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0189
Epoch 2687/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0189
```

```
Epoch 2688/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0189
Epoch 2689/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0189
Epoch 2690/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0189
Epoch 2691/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0189
Epoch 2692/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0188
Epoch 2693/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0188
Epoch 2694/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0188
Epoch 2695/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0188
Epoch 2696/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0188
Epoch 2697/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0188
Epoch 2698/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0187
Epoch 2699/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0187
Epoch 2700/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0187
Epoch 2701/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0187
Epoch 2702/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0187
Epoch 2703/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0187
Epoch 2704/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0186
Epoch 2705/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0186
Epoch 2706/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0186
Epoch 2707/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0186
Epoch 2708/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0186
Epoch 2709/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0185
Epoch 2710/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0185
Epoch 2711/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0185
```

```
Epoch 2712/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0185
Epoch 2713/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0185
Epoch 2714/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0185
Epoch 2715/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0184
Epoch 2716/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0184
Epoch 2717/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0184
Epoch 2718/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0184
Epoch 2719/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0184
Epoch 2720/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0184
Epoch 2721/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0183
Epoch 2722/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0183
Epoch 2723/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0183
Epoch 2724/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0183
Epoch 2725/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0183
Epoch 2726/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0183
Epoch 2727/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0182
Epoch 2728/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0182
Epoch 2729/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0182
Epoch 2730/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0182
Epoch 2731/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0182
Epoch 2732/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0182
Epoch 2733/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0181
Epoch 2734/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0181
Epoch 2735/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0181
```

```
Epoch 2736/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0181
Epoch 2737/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0181
Epoch 2738/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0181
Epoch 2739/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0180
Epoch 2740/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0180
Epoch 2741/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0180
Epoch 2742/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0180
Epoch 2743/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0180
Epoch 2744/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0180
Epoch 2745/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0179
Epoch 2746/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0179
Epoch 2747/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0179
Epoch 2748/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0179
Epoch 2749/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0179
Epoch 2750/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0179
Epoch 2751/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0178
Epoch 2752/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0178
Epoch 2753/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0178
Epoch 2754/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0178
Epoch 2755/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0178
Epoch 2756/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0178
Epoch 2757/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0177
Epoch 2758/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0177
Epoch 2759/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0177
```

```
Epoch 2760/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0177
Epoch 2761/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0177
Epoch 2762/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0177
Epoch 2763/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0177
Epoch 2764/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0176
Epoch 2765/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0176
Epoch 2766/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0176
Epoch 2767/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0176
Epoch 2768/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0176
Epoch 2769/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0176
Epoch 2770/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0175
Epoch 2771/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0175
Epoch 2772/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0175
Epoch 2773/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0175
Epoch 2774/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0175
Epoch 2775/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0175
Epoch 2776/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0174
Epoch 2777/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0174
Epoch 2778/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0174
Epoch 2779/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0174
Epoch 2780/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0174
Epoch 2781/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0174
Epoch 2782/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0174
Epoch 2783/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0173
```

```
Epoch 2784/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0173
Epoch 2785/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0173
Epoch 2786/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0173
Epoch 2787/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0173
Epoch 2788/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0173
Epoch 2789/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0172
Epoch 2790/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0172
Epoch 2791/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0172
Epoch 2792/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0172
Epoch 2793/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0172
Epoch 2794/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0172
Epoch 2795/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0171
Epoch 2796/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0171
Epoch 2797/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0171
Epoch 2798/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0171
Epoch 2799/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0171
Epoch 2800/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0171
Epoch 2801/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0171
Epoch 2802/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0170
Epoch 2803/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0170
Epoch 2804/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0170
Epoch 2805/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0170
Epoch 2806/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0170
Epoch 2807/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0170
```

```
Epoch 2808/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0169
Epoch 2809/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0169
Epoch 2810/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0169
Epoch 2811/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0169
Epoch 2812/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0169
Epoch 2813/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0169
Epoch 2814/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0169
Epoch 2815/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0168
Epoch 2816/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0168
Epoch 2817/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0168
Epoch 2818/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0168
Epoch 2819/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0168
Epoch 2820/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0168
Epoch 2821/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0167
Epoch 2822/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0167
Epoch 2823/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0167
Epoch 2824/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0167
Epoch 2825/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0167
Epoch 2826/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0167
Epoch 2827/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0167
Epoch 2828/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0166
Epoch 2829/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0166
Epoch 2830/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0166
Epoch 2831/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0166
```

```
Epoch 2832/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0166
Epoch 2833/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0166
Epoch 2834/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0166
Epoch 2835/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0165
Epoch 2836/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0165
Epoch 2837/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0165
Epoch 2838/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0165
Epoch 2839/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0165
Epoch 2840/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0165
Epoch 2841/4000
1/1 - 0s - 39ms/step - binary_accuracy: 1.0000 - loss: 0.0165
Epoch 2842/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0164
Epoch 2843/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0164
Epoch 2844/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0164
Epoch 2845/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0164
Epoch 2846/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0164
Epoch 2847/4000
1/1 - 0s - 47ms/step - binary_accuracy: 1.0000 - loss: 0.0164
Epoch 2848/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0163
Epoch 2849/4000
1/1 - 0s - 42ms/step - binary_accuracy: 1.0000 - loss: 0.0163
Epoch 2850/4000
1/1 - 0s - 63ms/step - binary_accuracy: 1.0000 - loss: 0.0163
Epoch 2851/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0163
Epoch 2852/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0163
Epoch 2853/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0163
Epoch 2854/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0163
Epoch 2855/4000
1/1 - 0s - 39ms/step - binary_accuracy: 1.0000 - loss: 0.0162
```

```
Epoch 2856/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0162
Epoch 2857/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0162
Epoch 2858/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0162
Epoch 2859/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0162
Epoch 2860/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0162
Epoch 2861/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0162
Epoch 2862/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0161
Epoch 2863/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0161
Epoch 2864/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0161
Epoch 2865/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0161
Epoch 2866/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0161
Epoch 2867/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0161
Epoch 2868/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0161
Epoch 2869/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0160
Epoch 2870/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0160
Epoch 2871/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0160
Epoch 2872/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0160
Epoch 2873/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0160
Epoch 2874/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0160
Epoch 2875/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0160
Epoch 2876/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0159
Epoch 2877/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0159
Epoch 2878/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0159
Epoch 2879/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0159
```

```
Epoch 2880/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0159
Epoch 2881/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0159
Epoch 2882/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0159
Epoch 2883/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0158
Epoch 2884/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0158
Epoch 2885/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0158
Epoch 2886/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0158
Epoch 2887/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0158
Epoch 2888/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0158
Epoch 2889/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0158
Epoch 2890/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0157
Epoch 2891/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0157
Epoch 2892/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0157
Epoch 2893/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0157
Epoch 2894/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0157
Epoch 2895/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0157
Epoch 2896/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0157
Epoch 2897/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0156
Epoch 2898/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0156
Epoch 2899/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0156
Epoch 2900/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0156
Epoch 2901/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0156
Epoch 2902/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0156
Epoch 2903/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0156
```

```
Epoch 2904/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0156
Epoch 2905/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0155
Epoch 2906/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0155
Epoch 2907/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0155
Epoch 2908/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0155
Epoch 2909/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0155
Epoch 2910/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0155
Epoch 2911/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0155
Epoch 2912/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0154
Epoch 2913/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0154
Epoch 2914/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0154
Epoch 2915/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0154
Epoch 2916/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0154
Epoch 2917/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0154
Epoch 2918/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0154
Epoch 2919/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0153
Epoch 2920/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0153
Epoch 2921/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0153
Epoch 2922/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0153
Epoch 2923/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0153
Epoch 2924/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0153
Epoch 2925/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0153
Epoch 2926/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0153
Epoch 2927/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0152
```

```
Epoch 2928/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0152
Epoch 2929/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0152
Epoch 2930/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0152
Epoch 2931/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0152
Epoch 2932/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0152
Epoch 2933/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0152
Epoch 2934/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0151
Epoch 2935/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0151
Epoch 2936/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0151
Epoch 2937/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0151
Epoch 2938/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0151
Epoch 2939/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0151
Epoch 2940/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0151
Epoch 2941/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0151
Epoch 2942/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0150
Epoch 2943/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0150
Epoch 2944/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0150
Epoch 2945/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0150
Epoch 2946/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0150
Epoch 2947/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0150
Epoch 2948/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0150
Epoch 2949/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0149
Epoch 2950/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0149
Epoch 2951/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0149
```

```
Epoch 2952/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0149
Epoch 2953/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0149
Epoch 2954/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0149
Epoch 2955/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0149
Epoch 2956/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0149
Epoch 2957/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0148
Epoch 2958/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0148
Epoch 2959/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0148
Epoch 2960/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0148
Epoch 2961/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0148
Epoch 2962/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0148
Epoch 2963/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0148
Epoch 2964/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0148
Epoch 2965/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0147
Epoch 2966/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0147
Epoch 2967/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0147
Epoch 2968/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0147
Epoch 2969/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0147
Epoch 2970/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0147
Epoch 2971/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0147
Epoch 2972/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0146
Epoch 2973/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0146
Epoch 2974/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0146
Epoch 2975/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0146
```

```
Epoch 2976/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0146
Epoch 2977/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0146
Epoch 2978/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0146
Epoch 2979/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0146
Epoch 2980/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0145
Epoch 2981/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0145
Epoch 2982/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0145
Epoch 2983/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0145
Epoch 2984/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0145
Epoch 2985/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0145
Epoch 2986/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0145
Epoch 2987/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0145
Epoch 2988/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0144
Epoch 2989/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0144
Epoch 2990/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0144
Epoch 2991/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0144
Epoch 2992/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0144
Epoch 2993/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0144
Epoch 2994/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0144
Epoch 2995/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0144
Epoch 2996/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0143
Epoch 2997/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0143
Epoch 2998/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0143
Epoch 2999/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0143
```

```
Epoch 3000/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0143
Epoch 3001/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0143
Epoch 3002/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0143
Epoch 3003/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0143
Epoch 3004/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0142
Epoch 3005/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0142
Epoch 3006/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0142
Epoch 3007/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0142
Epoch 3008/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0142
Epoch 3009/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0142
Epoch 3010/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0142
Epoch 3011/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0142
Epoch 3012/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0141
Epoch 3013/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0141
Epoch 3014/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0141
Epoch 3015/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0141
Epoch 3016/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0141
Epoch 3017/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0141
Epoch 3018/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0141
Epoch 3019/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0141
Epoch 3020/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0140
Epoch 3021/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0140
Epoch 3022/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0140
Epoch 3023/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0140
```

```
Epoch 3024/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0140
Epoch 3025/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0140
Epoch 3026/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0140
Epoch 3027/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0140
Epoch 3028/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0140
Epoch 3029/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0139
Epoch 3030/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0139
Epoch 3031/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0139
Epoch 3032/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0139
Epoch 3033/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0139
Epoch 3034/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0139
Epoch 3035/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0139
Epoch 3036/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0139
Epoch 3037/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0138
Epoch 3038/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0138
Epoch 3039/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0138
Epoch 3040/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0138
Epoch 3041/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0138
Epoch 3042/4000
1/1 - 0s - 44ms/step - binary_accuracy: 1.0000 - loss: 0.0138
Epoch 3043/4000
1/1 - 0s - 50ms/step - binary_accuracy: 1.0000 - loss: 0.0138
Epoch 3044/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0138
Epoch 3045/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0137
Epoch 3046/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0137
Epoch 3047/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0137
```

```
Epoch 3048/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0137
Epoch 3049/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0137
Epoch 3050/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0137
Epoch 3051/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0137
Epoch 3052/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0137
Epoch 3053/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0137
Epoch 3054/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0136
Epoch 3055/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0136
Epoch 3056/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0136
Epoch 3057/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0136
Epoch 3058/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0136
Epoch 3059/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0136
Epoch 3060/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0136
Epoch 3061/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0136
Epoch 3062/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0135
Epoch 3063/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0135
Epoch 3064/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0135
Epoch 3065/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0135
Epoch 3066/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0135
Epoch 3067/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0135
Epoch 3068/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0135
Epoch 3069/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0135
Epoch 3070/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0135
Epoch 3071/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0134
```

```
Epoch 3072/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0134
Epoch 3073/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0134
Epoch 3074/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0134
Epoch 3075/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0134
Epoch 3076/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0134
Epoch 3077/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0134
Epoch 3078/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0134
Epoch 3079/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0134
Epoch 3080/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0133
Epoch 3081/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0133
Epoch 3082/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0133
Epoch 3083/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0133
Epoch 3084/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0133
Epoch 3085/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0133
Epoch 3086/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0133
Epoch 3087/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0133
Epoch 3088/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0132
Epoch 3089/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0132
Epoch 3090/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0132
Epoch 3091/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0132
Epoch 3092/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0132
Epoch 3093/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0132
Epoch 3094/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0132
Epoch 3095/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0132
```

```
Epoch 3096/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0132
Epoch 3097/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0131
Epoch 3098/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0131
Epoch 3099/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0131
Epoch 3100/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0131
Epoch 3101/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0131
Epoch 3102/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0131
Epoch 3103/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0131
Epoch 3104/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0131
Epoch 3105/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0131
Epoch 3106/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0130
Epoch 3107/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0130
Epoch 3108/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0130
Epoch 3109/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0130
Epoch 3110/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0130
Epoch 3111/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0130
Epoch 3112/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0130
Epoch 3113/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0130
Epoch 3114/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0130
Epoch 3115/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0129
Epoch 3116/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0129
Epoch 3117/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0129
Epoch 3118/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0129
Epoch 3119/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0129
```

```
Epoch 3120/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0129
Epoch 3121/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0129
Epoch 3122/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0129
Epoch 3123/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0129
Epoch 3124/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0128
Epoch 3125/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0128
Epoch 3126/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0128
Epoch 3127/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0128
Epoch 3128/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0128
Epoch 3129/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0128
Epoch 3130/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0128
Epoch 3131/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0128
Epoch 3132/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0128
Epoch 3133/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0128
Epoch 3134/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0127
Epoch 3135/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0127
Epoch 3136/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0127
Epoch 3137/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0127
Epoch 3138/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0127
Epoch 3139/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0127
Epoch 3140/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0127
Epoch 3141/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0127
Epoch 3142/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0127
Epoch 3143/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0126
```

```
Epoch 3144/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0126
Epoch 3145/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0126
Epoch 3146/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0126
Epoch 3147/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0126
Epoch 3148/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0126
Epoch 3149/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0126
Epoch 3150/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0126
Epoch 3151/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0126
Epoch 3152/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0125
Epoch 3153/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0125
Epoch 3154/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0125
Epoch 3155/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0125
Epoch 3156/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0125
Epoch 3157/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0125
Epoch 3158/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0125
Epoch 3159/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0125
Epoch 3160/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0125
Epoch 3161/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0125
Epoch 3162/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0124
Epoch 3163/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0124
Epoch 3164/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0124
Epoch 3165/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0124
Epoch 3166/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0124
Epoch 3167/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0124
```

```
Epoch 3168/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0124
Epoch 3169/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0124
Epoch 3170/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0124
Epoch 3171/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0123
Epoch 3172/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0123
Epoch 3173/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0123
Epoch 3174/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0123
Epoch 3175/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0123
Epoch 3176/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0123
Epoch 3177/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0123
Epoch 3178/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0123
Epoch 3179/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0123
Epoch 3180/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0123
Epoch 3181/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0122
Epoch 3182/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0122
Epoch 3183/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0122
Epoch 3184/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0122
Epoch 3185/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0122
Epoch 3186/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0122
Epoch 3187/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0122
Epoch 3188/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0122
Epoch 3189/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0122
Epoch 3190/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0122
Epoch 3191/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0121
```

```
Epoch 3192/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0121
Epoch 3193/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0121
Epoch 3194/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0121
Epoch 3195/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0121
Epoch 3196/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0121
Epoch 3197/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0121
Epoch 3198/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0121
Epoch 3199/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0121
Epoch 3200/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0121
Epoch 3201/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0120
Epoch 3202/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0120
Epoch 3203/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0120
Epoch 3204/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0120
Epoch 3205/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0120
Epoch 3206/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0120
Epoch 3207/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0120
Epoch 3208/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0120
Epoch 3209/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0120
Epoch 3210/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0119
Epoch 3211/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0119
Epoch 3212/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0119
Epoch 3213/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0119
Epoch 3214/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0119
Epoch 3215/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0119
```

```
Epoch 3216/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0119
Epoch 3217/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0119
Epoch 3218/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0119
Epoch 3219/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0119
Epoch 3220/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0119
Epoch 3221/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0118
Epoch 3222/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0118
Epoch 3223/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0118
Epoch 3224/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0118
Epoch 3225/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0118
Epoch 3226/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0118
Epoch 3227/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0118
Epoch 3228/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0118
Epoch 3229/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0118
Epoch 3230/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0118
Epoch 3231/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0117
Epoch 3232/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0117
Epoch 3233/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0117
Epoch 3234/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0117
Epoch 3235/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0117
Epoch 3236/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0117
Epoch 3237/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0117
Epoch 3238/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0117
Epoch 3239/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0117
```

```
Epoch 3240/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0117
Epoch 3241/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0116
Epoch 3242/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0116
Epoch 3243/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0116
Epoch 3244/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0116
Epoch 3245/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0116
Epoch 3246/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0116
Epoch 3247/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0116
Epoch 3248/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0116
Epoch 3249/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0116
Epoch 3250/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0116
Epoch 3251/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3252/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3253/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3254/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3255/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3256/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3257/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3258/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3259/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3260/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3261/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0115
Epoch 3262/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0114
Epoch 3263/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0114
```

```
Epoch 3264/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0114
Epoch 3265/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0114
Epoch 3266/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0114
Epoch 3267/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0114
Epoch 3268/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0114
Epoch 3269/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0114
Epoch 3270/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0114
Epoch 3271/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0114
Epoch 3272/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3273/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3274/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3275/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3276/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3277/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3278/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3279/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3280/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3281/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3282/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0113
Epoch 3283/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0112
Epoch 3284/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0112
Epoch 3285/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0112
Epoch 3286/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0112
Epoch 3287/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0112
```

```
Epoch 3288/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0112
Epoch 3289/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0112
Epoch 3290/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0112
Epoch 3291/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0112
Epoch 3292/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0112
Epoch 3293/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0112
Epoch 3294/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3295/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3296/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3297/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3298/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3299/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3300/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3301/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3302/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3303/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3304/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0111
Epoch 3305/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0110
Epoch 3306/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0110
Epoch 3307/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0110
Epoch 3308/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0110
Epoch 3309/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0110
Epoch 3310/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0110
Epoch 3311/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0110
```

```
Epoch 3312/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0110
Epoch 3313/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0110
Epoch 3314/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0110
Epoch 3315/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0110
Epoch 3316/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3317/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3318/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3319/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3320/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3321/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3322/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3323/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3324/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3325/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3326/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0109
Epoch 3327/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3328/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3329/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3330/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3331/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3332/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3333/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3334/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3335/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0108
```

```
Epoch 3336/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3337/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3338/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0108
Epoch 3339/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3340/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3341/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3342/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3343/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3344/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3345/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3346/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3347/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3348/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3349/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0107
Epoch 3350/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3351/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3352/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3353/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3354/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3355/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3356/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3357/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3358/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3359/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0106
```

```
Epoch 3360/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3361/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0106
Epoch 3362/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3363/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3364/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3365/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3366/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3367/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3368/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3369/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3370/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3371/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3372/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0105
Epoch 3373/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3374/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3375/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3376/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3377/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3378/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3379/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3380/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3381/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3382/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3383/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0104
```

```
Epoch 3384/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0104
Epoch 3385/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3386/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3387/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3388/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3389/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3390/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3391/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3392/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3393/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3394/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3395/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3396/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0103
Epoch 3397/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3398/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3399/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3400/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3401/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3402/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3403/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3404/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3405/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3406/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3407/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0102
```

```
Epoch 3408/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0102
Epoch 3409/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3410/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3411/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3412/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3413/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3414/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3415/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3416/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3417/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3418/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3419/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3420/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3421/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0101
Epoch 3422/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3423/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3424/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3425/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3426/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3427/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3428/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3429/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3430/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3431/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0100
```

```
Epoch 3432/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3433/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0100
Epoch 3434/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3435/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3436/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3437/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3438/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3439/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3440/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3441/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3442/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3443/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3444/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3445/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3446/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0099
Epoch 3447/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3448/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3449/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3450/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3451/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3452/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3453/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3454/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3455/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0098
```

```
Epoch 3456/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3457/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3458/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0098
Epoch 3459/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3460/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3461/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3462/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3463/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3464/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3465/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3466/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3467/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3468/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3469/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3470/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3471/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0097
Epoch 3472/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3473/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3474/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3475/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3476/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3477/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3478/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3479/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0096
```

```
Epoch 3480/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3481/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3482/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3483/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3484/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0096
Epoch 3485/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3486/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3487/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3488/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3489/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3490/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3491/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3492/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3493/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3494/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3495/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3496/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3497/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3498/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0095
Epoch 3499/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3500/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3501/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3502/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3503/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0094
```

```
Epoch 3504/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3505/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3506/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3507/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3508/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3509/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3510/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3511/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0094
Epoch 3512/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3513/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3514/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3515/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3516/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3517/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3518/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3519/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3520/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3521/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3522/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3523/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3524/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3525/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0093
Epoch 3526/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3527/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0092
```

```
Epoch 3528/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3529/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3530/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3531/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3532/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3533/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3534/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3535/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3536/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3537/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3538/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0092
Epoch 3539/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3540/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3541/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3542/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3543/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3544/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3545/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3546/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3547/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3548/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3549/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3550/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3551/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0091
```

```
Epoch 3552/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0091
Epoch 3553/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3554/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3555/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3556/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3557/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3558/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3559/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3560/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3561/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3562/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3563/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3564/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3565/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3566/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0090
Epoch 3567/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3568/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3569/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3570/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3571/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3572/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3573/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3574/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3575/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0089
```

```
Epoch 3576/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3577/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3578/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3579/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3580/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3581/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0089
Epoch 3582/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3583/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3584/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3585/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3586/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3587/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3588/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3589/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3590/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3591/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3592/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3593/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3594/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3595/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0088
Epoch 3596/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3597/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3598/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3599/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0087
```

```
Epoch 3600/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3601/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3602/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3603/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3604/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3605/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3606/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3607/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3608/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3609/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3610/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0087
Epoch 3611/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3612/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3613/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3614/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3615/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3616/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3617/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3618/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3619/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3620/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3621/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3622/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3623/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0086
```

```
Epoch 3624/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3625/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0086
Epoch 3626/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3627/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3628/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3629/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3630/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3631/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3632/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3633/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3634/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3635/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3636/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3637/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3638/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3639/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3640/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0085
Epoch 3641/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3642/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3643/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3644/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3645/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3646/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3647/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0084
```

```
Epoch 3648/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3649/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3650/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3651/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3652/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3653/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3654/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3655/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3656/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0084
Epoch 3657/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3658/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3659/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3660/4000
1/1 - 0s - 21ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3661/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3662/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3663/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3664/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3665/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3666/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3667/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3668/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3669/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3670/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0083
Epoch 3671/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0083
```

```
Epoch 3672/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3673/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3674/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3675/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3676/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3677/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3678/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3679/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3680/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3681/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3682/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3683/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3684/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3685/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3686/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3687/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0082
Epoch 3688/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3689/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3690/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3691/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3692/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3693/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3694/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3695/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0081
```

```
Epoch 3696/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3697/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3698/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3699/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3700/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3701/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3702/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3703/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0081
Epoch 3704/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3705/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3706/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3707/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3708/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3709/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3710/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3711/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3712/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3713/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3714/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3715/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3716/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3717/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3718/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3719/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0080
```

```
Epoch 3720/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0080
Epoch 3721/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3722/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3723/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3724/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3725/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3726/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3727/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3728/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3729/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3730/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3731/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3732/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3733/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3734/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3735/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3736/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0079
Epoch 3737/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3738/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3739/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3740/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3741/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3742/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3743/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0078
```

```
Epoch 3744/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3745/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3746/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3747/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3748/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3749/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3750/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3751/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3752/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3753/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0078
Epoch 3754/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3755/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3756/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3757/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3758/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3759/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3760/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3761/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3762/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3763/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3764/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3765/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3766/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3767/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0077
```

```
Epoch 3768/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3769/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3770/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0077
Epoch 3771/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3772/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3773/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3774/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3775/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3776/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3777/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3778/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3779/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3780/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3781/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3782/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3783/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3784/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3785/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3786/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3787/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0076
Epoch 3788/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3789/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3790/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3791/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0075
```

```
Epoch 3792/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3793/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3794/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3795/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3796/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3797/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3798/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3799/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3800/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3801/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3802/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3803/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3804/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3805/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0075
Epoch 3806/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3807/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3808/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3809/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3810/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3811/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3812/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3813/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3814/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3815/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0074
```

```
Epoch 3816/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3817/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3818/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3819/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3820/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3821/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3822/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3823/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0074
Epoch 3824/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3825/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3826/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3827/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3828/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3829/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3830/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3831/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3832/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3833/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3834/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3835/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3836/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3837/4000
1/1 - 0s - 32ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3838/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3839/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0073
```

```
Epoch 3840/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3841/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0073
Epoch 3842/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3843/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3844/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3845/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3846/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3847/4000
1/1 - 0s - 39ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3848/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3849/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3850/4000
1/1 - 0s - 39ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3851/4000
1/1 - 0s - 43ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3852/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3853/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3854/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3855/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3856/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3857/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3858/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3859/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3860/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0072
Epoch 3861/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3862/4000
1/1 - 0s - 43ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3863/4000
1/1 - 0s - 45ms/step - binary_accuracy: 1.0000 - loss: 0.0071
```

```
Epoch 3864/4000
1/1 - 0s - 46ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3865/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3866/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3867/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3868/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3869/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3870/4000
1/1 - 0s - 43ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3871/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3872/4000
1/1 - 0s - 47ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3873/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3874/4000
1/1 - 0s - 41ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3875/4000
1/1 - 0s - 50ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3876/4000
1/1 - 0s - 58ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3877/4000
1/1 - 0s - 50ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3878/4000
1/1 - 0s - 50ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3879/4000
1/1 - 0s - 51ms/step - binary_accuracy: 1.0000 - loss: 0.0071
Epoch 3880/4000
1/1 - 0s - 63ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3881/4000
1/1 - 0s - 49ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3882/4000
1/1 - 0s - 36ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3883/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3884/4000
1/1 - 0s - 69ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3885/4000
1/1 - 0s - 44ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3886/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3887/4000
1/1 - 0s - 40ms/step - binary_accuracy: 1.0000 - loss: 0.0070
```

```
Epoch 3888/4000
1/1 - 0s - 37ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3889/4000
1/1 - 0s - 35ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3890/4000
1/1 - 0s - 38ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3891/4000
1/1 - 0s - 33ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3892/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3893/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3894/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3895/4000
1/1 - 0s - 30ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3896/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3897/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3898/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0070
Epoch 3899/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3900/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3901/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3902/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3903/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3904/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3905/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3906/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3907/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3908/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3909/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3910/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3911/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0069
```

```
Epoch 3912/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3913/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3914/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3915/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3916/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3917/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0069
Epoch 3918/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3919/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3920/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3921/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3922/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3923/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3924/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3925/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3926/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3927/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3928/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3929/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3930/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3931/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3932/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3933/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3934/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3935/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0068
```

```
Epoch 3936/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3937/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0068
Epoch 3938/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3939/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3940/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3941/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3942/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3943/4000
1/1 - 0s - 34ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3944/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3945/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3946/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3947/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3948/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3949/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3950/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3951/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3952/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3953/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3954/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3955/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3956/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3957/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3958/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0067
Epoch 3959/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0066
```

```
Epoch 3960/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3961/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3962/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3963/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3964/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3965/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3966/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3967/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3968/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3969/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3970/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3971/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3972/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3973/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3974/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3975/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3976/4000
1/1 - 0s - 22ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3977/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3978/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0066
Epoch 3979/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3980/4000
1/1 - 0s - 28ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3981/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3982/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3983/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0065
```

```
Epoch 3984/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3985/4000
1/1 - 0s - 29ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3986/4000
1/1 - 0s - 31ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3987/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3988/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3989/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3990/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3991/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3992/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3993/4000
1/1 - 0s - 27ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3994/4000
1/1 - 0s - 23ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3995/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3996/4000
1/1 - 0s - 26ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3997/4000
1/1 - 0s - 25ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3998/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 3999/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0065
Epoch 4000/4000
1/1 - 0s - 24ms/step - binary_accuracy: 1.0000 - loss: 0.0064

1/1 - 0s - loss: 0.0154 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1804/5000
1/1 - 0s - loss: 0.0154 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1805/5000
1/1 - 0s - loss: 0.0154 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1806/5000
1/1 - 0s - loss: 0.0153 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1807/5000
1/1 - 0s - loss: 0.0153 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1808/5000
1/1 - 0s - loss: 0.0153 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1809/5000
1/1 - 0s - loss: 0.0153 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

```
Epoch 1810/5000
1/1 - 0s - loss: 0.0153 - binary_accuracy: 1.0000 - 964us/epoch - 964us/step
Epoch 1811/5000
1/1 - 0s - loss: 0.0153 - binary_accuracy: 1.0000 - 994us/epoch - 994us/step
Epoch 1812/5000
1/1 - 0s - loss: 0.0153 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1813/5000
1/1 - 0s - loss: 0.0152 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1814/5000
1/1 - 0s - loss: 0.0152 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1815/5000
1/1 - 0s - loss: 0.0152 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1816/5000
1/1 - 0s - loss: 0.0152 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1817/5000
1/1 - 0s - loss: 0.0152 - binary_accuracy: 1.0000 - 911us/epoch - 911us/step
Epoch 1818/5000
1/1 - 0s - loss: 0.0152 - binary_accuracy: 1.0000 - 802us/epoch - 802us/step
Epoch 1819/5000
1/1 - 0s - loss: 0.0151 - binary_accuracy: 1.0000 - 968us/epoch - 968us/step
Epoch 1820/5000
1/1 - 0s - loss: 0.0151 - binary_accuracy: 1.0000 - 800us/epoch - 800us/step
Epoch 1821/5000
1/1 - 0s - loss: 0.0151 - binary_accuracy: 1.0000 - 733us/epoch - 733us/step
Epoch 1822/5000
1/1 - 0s - loss: 0.0151 - binary_accuracy: 1.0000 - 667us/epoch - 667us/step
Epoch 1823/5000
1/1 - 0s - loss: 0.0151 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 1824/5000
1/1 - 0s - loss: 0.0151 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1825/5000
1/1 - 0s - loss: 0.0151 - binary_accuracy: 1.0000 - 856us/epoch - 856us/step
Epoch 1826/5000
1/1 - 0s - loss: 0.0150 - binary_accuracy: 1.0000 - 810us/epoch - 810us/step
Epoch 1827/5000
1/1 - 0s - loss: 0.0150 - binary_accuracy: 1.0000 - 856us/epoch - 856us/step
Epoch 1828/5000
1/1 - 0s - loss: 0.0150 - binary_accuracy: 1.0000 - 831us/epoch - 831us/step
Epoch 1829/5000
1/1 - 0s - loss: 0.0150 - binary_accuracy: 1.0000 - 946us/epoch - 946us/step
Epoch 1830/5000
1/1 - 0s - loss: 0.0150 - binary_accuracy: 1.0000 - 775us/epoch - 775us/step
Epoch 1831/5000
1/1 - 0s - loss: 0.0150 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1832/5000
1/1 - 0s - loss: 0.0149 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1833/5000
1/1 - 0s - loss: 0.0149 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
```

```
Epoch 1834/5000
1/1 - 0s - loss: 0.0149 - binary_accuracy: 1.0000 - 994us/epoch - 994us/step
Epoch 1835/5000
1/1 - 0s - loss: 0.0149 - binary_accuracy: 1.0000 - 928us/epoch - 928us/step
Epoch 1836/5000
1/1 - 0s - loss: 0.0149 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1837/5000
1/1 - 0s - loss: 0.0149 - binary_accuracy: 1.0000 - 919us/epoch - 919us/step
Epoch 1838/5000
1/1 - 0s - loss: 0.0149 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1839/5000
1/1 - 0s - loss: 0.0148 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1840/5000
1/1 - 0s - loss: 0.0148 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1841/5000
1/1 - 0s - loss: 0.0148 - binary_accuracy: 1.0000 - 963us/epoch - 963us/step
Epoch 1842/5000
1/1 - 0s - loss: 0.0148 - binary_accuracy: 1.0000 - 872us/epoch - 872us/step
Epoch 1843/5000
1/1 - 0s - loss: 0.0148 - binary_accuracy: 1.0000 - 865us/epoch - 865us/step
Epoch 1844/5000
1/1 - 0s - loss: 0.0148 - binary_accuracy: 1.0000 - 891us/epoch - 891us/step
Epoch 1845/5000
1/1 - 0s - loss: 0.0148 - binary_accuracy: 1.0000 - 738us/epoch - 738us/step
Epoch 1846/5000
1/1 - 0s - loss: 0.0147 - binary_accuracy: 1.0000 - 701us/epoch - 701us/step
Epoch 1847/5000
1/1 - 0s - loss: 0.0147 - binary_accuracy: 1.0000 - 785us/epoch - 785us/step
Epoch 1848/5000
1/1 - 0s - loss: 0.0147 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1849/5000
1/1 - 0s - loss: 0.0147 - binary_accuracy: 1.0000 - 4ms/epoch - 4ms/step
Epoch 1850/5000
1/1 - 0s - loss: 0.0147 - binary_accuracy: 1.0000 - 967us/epoch - 967us/step
Epoch 1851/5000
1/1 - 0s - loss: 0.0147 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1852/5000
1/1 - 0s - loss: 0.0146 - binary_accuracy: 1.0000 - 825us/epoch - 825us/step
Epoch 1853/5000
1/1 - 0s - loss: 0.0146 - binary_accuracy: 1.0000 - 799us/epoch - 799us/step
Epoch 1854/5000
1/1 - 0s - loss: 0.0146 - binary_accuracy: 1.0000 - 837us/epoch - 837us/step
Epoch 1855/5000
1/1 - 0s - loss: 0.0146 - binary_accuracy: 1.0000 - 940us/epoch - 940us/step
Epoch 1856/5000
1/1 - 0s - loss: 0.0146 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1857/5000
1/1 - 0s - loss: 0.0146 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
```

```
Epoch 1858/5000
1/1 - 0s - loss: 0.0146 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1859/5000
1/1 - 0s - loss: 0.0145 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1860/5000
1/1 - 0s - loss: 0.0145 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1861/5000
1/1 - 0s - loss: 0.0145 - binary_accuracy: 1.0000 - 899us/epoch - 899us/step
Epoch 1862/5000
1/1 - 0s - loss: 0.0145 - binary_accuracy: 1.0000 - 934us/epoch - 934us/step
Epoch 1863/5000
1/1 - 0s - loss: 0.0145 - binary_accuracy: 1.0000 - 970us/epoch - 970us/step
Epoch 1864/5000
1/1 - 0s - loss: 0.0145 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1865/5000
1/1 - 0s - loss: 0.0145 - binary_accuracy: 1.0000 - 962us/epoch - 962us/step
Epoch 1866/5000
1/1 - 0s - loss: 0.0144 - binary_accuracy: 1.0000 - 816us/epoch - 816us/step
Epoch 1867/5000
1/1 - 0s - loss: 0.0144 - binary_accuracy: 1.0000 - 673us/epoch - 673us/step
Epoch 1868/5000
1/1 - 0s - loss: 0.0144 - binary_accuracy: 1.0000 - 878us/epoch - 878us/step
Epoch 1869/5000
1/1 - 0s - loss: 0.0144 - binary_accuracy: 1.0000 - 913us/epoch - 913us/step
Epoch 1870/5000
1/1 - 0s - loss: 0.0144 - binary_accuracy: 1.0000 - 722us/epoch - 722us/step
Epoch 1871/5000
1/1 - 0s - loss: 0.0144 - binary_accuracy: 1.0000 - 710us/epoch - 710us/step
Epoch 1872/5000
1/1 - 0s - loss: 0.0144 - binary_accuracy: 1.0000 - 654us/epoch - 654us/step
Epoch 1873/5000
1/1 - 0s - loss: 0.0143 - binary_accuracy: 1.0000 - 738us/epoch - 738us/step
Epoch 1874/5000
1/1 - 0s - loss: 0.0143 - binary_accuracy: 1.0000 - 810us/epoch - 810us/step
Epoch 1875/5000
1/1 - 0s - loss: 0.0143 - binary_accuracy: 1.0000 - 697us/epoch - 697us/step
Epoch 1876/5000
1/1 - 0s - loss: 0.0143 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1877/5000
1/1 - 0s - loss: 0.0143 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1878/5000
1/1 - 0s - loss: 0.0143 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1879/5000
1/1 - 0s - loss: 0.0143 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1880/5000
1/1 - 0s - loss: 0.0142 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1881/5000
1/1 - 0s - loss: 0.0142 - binary_accuracy: 1.0000 - 825us/epoch - 825us/step
```

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Epoch 1882/5000
1/1 - 0s - loss: 0.0142 - binary_accuracy: 1.0000 - 876us/epoch - 876us/step
Epoch 1883/5000
1/1 - 0s - loss: 0.0142 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1884/5000
1/1 - 0s - loss: 0.0142 - binary_accuracy: 1.0000 - 910us/epoch - 910us/step
Epoch 1885/5000
1/1 - 0s - loss: 0.0142 - binary_accuracy: 1.0000 - 745us/epoch - 745us/step
Epoch 1886/5000
1/1 - 0s - loss: 0.0142 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1887/5000
1/1 - 0s - loss: 0.0141 - binary_accuracy: 1.0000 - 921us/epoch - 921us/step
Epoch 1888/5000
1/1 - 0s - loss: 0.0141 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1889/5000
1/1 - 0s - loss: 0.0141 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1890/5000
1/1 - 0s - loss: 0.0141 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1891/5000
1/1 - 0s - loss: 0.0141 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1892/5000
1/1 - 0s - loss: 0.0141 - binary_accuracy: 1.0000 - 918us/epoch - 918us/step

Epoch 1893/5000
1/1 - 0s - loss: 0.0141 - binary_accuracy: 1.0000 - 948us/epoch - 948us/step
Epoch 1894/5000
1/1 - 0s - loss: 0.0140 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1895/5000
1/1 - 0s - loss: 0.0140 - binary_accuracy: 1.0000 - 984us/epoch - 984us/step
Epoch 1896/5000
1/1 - 0s - loss: 0.0140 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1897/5000
1/1 - 0s - loss: 0.0140 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1898/5000
1/1 - 0s - loss: 0.0140 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1899/5000
1/1 - 0s - loss: 0.0140 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1900/5000
1/1 - 0s - loss: 0.0140 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1901/5000
1/1 - 0s - loss: 0.0139 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1902/5000
1/1 - 0s - loss: 0.0139 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1903/5000
1/1 - 0s - loss: 0.0139 - binary_accuracy: 1.0000 - 695us/epoch - 695us/step
Epoch 1904/5000
1/1 - 0s - loss: 0.0139 - binary_accuracy: 1.0000 - 721us/epoch - 721us/step
Epoch 1905/5000
```

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1/1 - 0s - loss: 0.0139 - binary_accuracy: 1.0000 - 893us/epoch - 893us/step
Epoch 1906/5000
1/1 - 0s - loss: 0.0139 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1907/5000
1/1 - 0s - loss: 0.0139 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1908/5000
1/1 - 0s - loss: 0.0138 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1909/5000
1/1 - 0s - loss: 0.0138 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1910/5000
1/1 - 0s - loss: 0.0138 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1911/5000
1/1 - 0s - loss: 0.0138 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1912/5000
1/1 - 0s - loss: 0.0138 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1913/5000
1/1 - 0s - loss: 0.0138 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1914/5000
1/1 - 0s - loss: 0.0138 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1915/5000
1/1 - 0s - loss: 0.0138 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1916/5000
1/1 - 0s - loss: 0.0137 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1917/5000
1/1 - 0s - loss: 0.0137 - binary_accuracy: 1.0000 - 732us/epoch - 732us/step
Epoch 1918/5000
1/1 - 0s - loss: 0.0137 - binary_accuracy: 1.0000 - 949us/epoch - 949us/step
Epoch 1919/5000
1/1 - 0s - loss: 0.0137 - binary_accuracy: 1.0000 - 888us/epoch - 888us/step
Epoch 1920/5000
1/1 - 0s - loss: 0.0137 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1921/5000
1/1 - 0s - loss: 0.0137 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1922/5000
1/1 - 0s - loss: 0.0137 - binary_accuracy: 1.0000 - 1000us/epoch - 1000us/step
Epoch 1923/5000
1/1 - 0s - loss: 0.0136 - binary_accuracy: 1.0000 - 920us/epoch - 920us/step
Epoch 1924/5000
1/1 - 0s - loss: 0.0136 - binary_accuracy: 1.0000 - 856us/epoch - 856us/step
Epoch 1925/5000
1/1 - 0s - loss: 0.0136 - binary_accuracy: 1.0000 - 903us/epoch - 903us/step
Epoch 1926/5000
1/1 - 0s - loss: 0.0136 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1927/5000
1/1 - 0s - loss: 0.0136 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1928/5000
1/1 - 0s - loss: 0.0136 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1929/5000
```

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1/1 - 0s - loss: 0.0136 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1930/5000
1/1 - 0s - loss: 0.0136 - binary_accuracy: 1.0000 - 929us/epoch - 929us/step
Epoch 1931/5000
1/1 - 0s - loss: 0.0135 - binary_accuracy: 1.0000 - 931us/epoch - 931us/step
Epoch 1932/5000
1/1 - 0s - loss: 0.0135 - binary_accuracy: 1.0000 - 702us/epoch - 702us/step
Epoch 1933/5000
1/1 - 0s - loss: 0.0135 - binary_accuracy: 1.0000 - 703us/epoch - 703us/step
Epoch 1934/5000
1/1 - 0s - loss: 0.0135 - binary_accuracy: 1.0000 - 725us/epoch - 725us/step
Epoch 1935/5000
1/1 - 0s - loss: 0.0135 - binary_accuracy: 1.0000 - 820us/epoch - 820us/step
Epoch 1936/5000
1/1 - 0s - loss: 0.0135 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1937/5000
1/1 - 0s - loss: 0.0135 - binary_accuracy: 1.0000 - 4ms/epoch - 4ms/step
Epoch 1938/5000
1/1 - 0s - loss: 0.0134 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1939/5000
1/1 - 0s - loss: 0.0134 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1940/5000
1/1 - 0s - loss: 0.0134 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1941/5000
1/1 - 0s - loss: 0.0134 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1942/5000
1/1 - 0s - loss: 0.0134 - binary_accuracy: 1.0000 - 874us/epoch - 874us/step
Epoch 1943/5000
1/1 - 0s - loss: 0.0134 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1944/5000
1/1 - 0s - loss: 0.0134 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1945/5000
1/1 - 0s - loss: 0.0134 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1946/5000
1/1 - 0s - loss: 0.0133 - binary_accuracy: 1.0000 - 883us/epoch - 883us/step
Epoch 1947/5000
1/1 - 0s - loss: 0.0133 - binary_accuracy: 1.0000 - 842us/epoch - 842us/step
Epoch 1948/5000
1/1 - 0s - loss: 0.0133 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1949/5000
1/1 - 0s - loss: 0.0133 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1950/5000
1/1 - 0s - loss: 0.0133 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1951/5000
1/1 - 0s - loss: 0.0133 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1952/5000
1/1 - 0s - loss: 0.0133 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1953/5000
```

```
1/1 - 0s - loss: 0.0132 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1954/5000
1/1 - 0s - loss: 0.0132 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 1955/5000
1/1 - 0s - loss: 0.0132 - binary_accuracy: 1.0000 - 942us/epoch - 942us/step
Epoch 1956/5000
1/1 - 0s - loss: 0.0132 - binary_accuracy: 1.0000 - 830us/epoch - 830us/step
Epoch 1957/5000
1/1 - 0s - loss: 0.0132 - binary_accuracy: 1.0000 - 935us/epoch - 935us/step
Epoch 1958/5000
1/1 - 0s - loss: 0.0132 - binary_accuracy: 1.0000 - 873us/epoch - 873us/step
Epoch 1959/5000
1/1 - 0s - loss: 0.0132 - binary_accuracy: 1.0000 - 869us/epoch - 869us/step
Epoch 1960/5000
1/1 - 0s - loss: 0.0132 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 1961/5000
1/1 - 0s - loss: 0.0131 - binary_accuracy: 1.0000 - 934us/epoch - 934us/step
Epoch 1962/5000
1/1 - 0s - loss: 0.0131 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1963/5000
1/1 - 0s - loss: 0.0131 - binary_accuracy: 1.0000 - 997us/epoch - 997us/step
Epoch 1964/5000
1/1 - 0s - loss: 0.0131 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1965/5000
1/1 - 0s - loss: 0.0131 - binary_accuracy: 1.0000 - 981us/epoch - 981us/step
Epoch 1966/5000
1/1 - 0s - loss: 0.0131 - binary_accuracy: 1.0000 - 746us/epoch - 746us/step
Epoch 1967/5000
1/1 - 0s - loss: 0.0131 - binary_accuracy: 1.0000 - 650us/epoch - 650us/step
Epoch 1968/5000
1/1 - 0s - loss: 0.0131 - binary_accuracy: 1.0000 - 649us/epoch - 649us/step
Epoch 1969/5000
1/1 - 0s - loss: 0.0130 - binary_accuracy: 1.0000 - 682us/epoch - 682us/step
Epoch 1970/5000
1/1 - 0s - loss: 0.0130 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1971/5000
1/1 - 0s - loss: 0.0130 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1972/5000
1/1 - 0s - loss: 0.0130 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1973/5000
1/1 - 0s - loss: 0.0130 - binary_accuracy: 1.0000 - 800us/epoch - 800us/step
Epoch 1974/5000
1/1 - 0s - loss: 0.0130 - binary_accuracy: 1.0000 - 822us/epoch - 822us/step
Epoch 1975/5000
1/1 - 0s - loss: 0.0130 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1976/5000
1/1 - 0s - loss: 0.0130 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1977/5000
```

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1/1 - 0s - loss: 0.0129 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1978/5000
1/1 - 0s - loss: 0.0129 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1979/5000
1/1 - 0s - loss: 0.0129 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1980/5000
1/1 - 0s - loss: 0.0129 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1981/5000
1/1 - 0s - loss: 0.0129 - binary_accuracy: 1.0000 - 851us/epoch - 851us/step
Epoch 1982/5000
1/1 - 0s - loss: 0.0129 - binary_accuracy: 1.0000 - 771us/epoch - 771us/step
Epoch 1983/5000
1/1 - 0s - loss: 0.0129 - binary_accuracy: 1.0000 - 780us/epoch - 780us/step

Epoch 1984/5000
1/1 - 0s - loss: 0.0129 - binary_accuracy: 1.0000 - 786us/epoch - 786us/step
Epoch 1985/5000
1/1 - 0s - loss: 0.0128 - binary_accuracy: 1.0000 - 870us/epoch - 870us/step
Epoch 1986/5000
1/1 - 0s - loss: 0.0128 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1987/5000
1/1 - 0s - loss: 0.0128 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 1988/5000
1/1 - 0s - loss: 0.0128 - binary_accuracy: 1.0000 - 862us/epoch - 862us/step
Epoch 1989/5000
1/1 - 0s - loss: 0.0128 - binary_accuracy: 1.0000 - 727us/epoch - 727us/step
Epoch 1990/5000
1/1 - 0s - loss: 0.0128 - binary_accuracy: 1.0000 - 681us/epoch - 681us/step
Epoch 1991/5000
1/1 - 0s - loss: 0.0128 - binary_accuracy: 1.0000 - 740us/epoch - 740us/step
Epoch 1992/5000
1/1 - 0s - loss: 0.0128 - binary_accuracy: 1.0000 - 710us/epoch - 710us/step
Epoch 1993/5000
1/1 - 0s - loss: 0.0127 - binary_accuracy: 1.0000 - 772us/epoch - 772us/step
Epoch 1994/5000
1/1 - 0s - loss: 0.0127 - binary_accuracy: 1.0000 - 712us/epoch - 712us/step
Epoch 1995/5000
1/1 - 0s - loss: 0.0127 - binary_accuracy: 1.0000 - 669us/epoch - 669us/step
Epoch 1996/5000
1/1 - 0s - loss: 0.0127 - binary_accuracy: 1.0000 - 727us/epoch - 727us/step
Epoch 1997/5000
1/1 - 0s - loss: 0.0127 - binary_accuracy: 1.0000 - 848us/epoch - 848us/step
Epoch 1998/5000
1/1 - 0s - loss: 0.0127 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 1999/5000
1/1 - 0s - loss: 0.0127 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2000/5000
1/1 - 0s - loss: 0.0127 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 2001/5000
1/1 - 0s - loss: 0.0126 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2002/5000
1/1 - 0s - loss: 0.0126 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2003/5000
1/1 - 0s - loss: 0.0126 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2004/5000
1/1 - 0s - loss: 0.0126 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2005/5000
1/1 - 0s - loss: 0.0126 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2006/5000
1/1 - 0s - loss: 0.0126 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2007/5000
1/1 - 0s - loss: 0.0126 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2008/5000
1/1 - 0s - loss: 0.0126 - binary_accuracy: 1.0000 - 798us/epoch - 798us/step
Epoch 2009/5000
1/1 - 0s - loss: 0.0125 - binary_accuracy: 1.0000 - 676us/epoch - 676us/step
Epoch 2010/5000
1/1 - 0s - loss: 0.0125 - binary_accuracy: 1.0000 - 770us/epoch - 770us/step
Epoch 2011/5000
1/1 - 0s - loss: 0.0125 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2012/5000
1/1 - 0s - loss: 0.0125 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2013/5000
1/1 - 0s - loss: 0.0125 - binary_accuracy: 1.0000 - 919us/epoch - 919us/step
Epoch 2014/5000
1/1 - 0s - loss: 0.0125 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2015/5000
1/1 - 0s - loss: 0.0125 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2016/5000
1/1 - 0s - loss: 0.0125 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2017/5000
1/1 - 0s - loss: 0.0125 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2018/5000
1/1 - 0s - loss: 0.0124 - binary_accuracy: 1.0000 - 758us/epoch - 758us/step
Epoch 2019/5000
1/1 - 0s - loss: 0.0124 - binary_accuracy: 1.0000 - 884us/epoch - 884us/step
Epoch 2020/5000
1/1 - 0s - loss: 0.0124 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2021/5000
1/1 - 0s - loss: 0.0124 - binary_accuracy: 1.0000 - 978us/epoch - 978us/step
Epoch 2022/5000
1/1 - 0s - loss: 0.0124 - binary_accuracy: 1.0000 - 909us/epoch - 909us/step
Epoch 2023/5000
1/1 - 0s - loss: 0.0124 - binary_accuracy: 1.0000 - 991us/epoch - 991us/step
Epoch 2024/5000
1/1 - 0s - loss: 0.0124 - binary_accuracy: 1.0000 - 949us/epoch - 949us/step
```

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Epoch 2025/5000
1/1 - 0s - loss: 0.0124 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2026/5000
1/1 - 0s - loss: 0.0123 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2027/5000
1/1 - 0s - loss: 0.0123 - binary_accuracy: 1.0000 - 785us/epoch - 785us/step
Epoch 2028/5000
1/1 - 0s - loss: 0.0123 - binary_accuracy: 1.0000 - 743us/epoch - 743us/step
Epoch 2029/5000
1/1 - 0s - loss: 0.0123 - binary_accuracy: 1.0000 - 750us/epoch - 750us/step
Epoch 2030/5000
1/1 - 0s - loss: 0.0123 - binary_accuracy: 1.0000 - 783us/epoch - 783us/step
Epoch 2031/5000
1/1 - 0s - loss: 0.0123 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2032/5000
1/1 - 0s - loss: 0.0123 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2033/5000
1/1 - 0s - loss: 0.0123 - binary_accuracy: 1.0000 - 872us/epoch - 872us/step
Epoch 2034/5000
1/1 - 0s - loss: 0.0122 - binary_accuracy: 1.0000 - 923us/epoch - 923us/step
Epoch 2035/5000
1/1 - 0s - loss: 0.0122 - binary_accuracy: 1.0000 - 853us/epoch - 853us/step
Epoch 2036/5000
1/1 - 0s - loss: 0.0122 - binary_accuracy: 1.0000 - 945us/epoch - 945us/step
Epoch 2037/5000
1/1 - 0s - loss: 0.0122 - binary_accuracy: 1.0000 - 798us/epoch - 798us/step
Epoch 2038/5000
1/1 - 0s - loss: 0.0122 - binary_accuracy: 1.0000 - 762us/epoch - 762us/step
Epoch 2039/5000
1/1 - 0s - loss: 0.0122 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2040/5000
1/1 - 0s - loss: 0.0122 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2041/5000
1/1 - 0s - loss: 0.0122 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2042/5000
1/1 - 0s - loss: 0.0122 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2043/5000
1/1 - 0s - loss: 0.0121 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2044/5000
1/1 - 0s - loss: 0.0121 - binary_accuracy: 1.0000 - 880us/epoch - 880us/step
Epoch 2045/5000
1/1 - 0s - loss: 0.0121 - binary_accuracy: 1.0000 - 994us/epoch - 994us/step
Epoch 2046/5000
1/1 - 0s - loss: 0.0121 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2047/5000
1/1 - 0s - loss: 0.0121 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2048/5000
1/1 - 0s - loss: 0.0121 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
```

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Epoch 2049/5000
1/1 - 0s - loss: 0.0121 - binary_accuracy: 1.0000 - 980us/epoch - 980us/step
Epoch 2050/5000
1/1 - 0s - loss: 0.0121 - binary_accuracy: 1.0000 - 713us/epoch - 713us/step
Epoch 2051/5000
1/1 - 0s - loss: 0.0121 - binary_accuracy: 1.0000 - 687us/epoch - 687us/step
Epoch 2052/5000
1/1 - 0s - loss: 0.0120 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2053/5000
1/1 - 0s - loss: 0.0120 - binary_accuracy: 1.0000 - 700us/epoch - 700us/step
Epoch 2054/5000
1/1 - 0s - loss: 0.0120 - binary_accuracy: 1.0000 - 840us/epoch - 840us/step
Epoch 2055/5000
1/1 - 0s - loss: 0.0120 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2056/5000
1/1 - 0s - loss: 0.0120 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2057/5000
1/1 - 0s - loss: 0.0120 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2058/5000
1/1 - 0s - loss: 0.0120 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2059/5000
1/1 - 0s - loss: 0.0120 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2060/5000
1/1 - 0s - loss: 0.0119 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2061/5000
1/1 - 0s - loss: 0.0119 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2062/5000
1/1 - 0s - loss: 0.0119 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2063/5000
1/1 - 0s - loss: 0.0119 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2064/5000
1/1 - 0s - loss: 0.0119 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2065/5000
1/1 - 0s - loss: 0.0119 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2066/5000
1/1 - 0s - loss: 0.0119 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2067/5000
1/1 - 0s - loss: 0.0119 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2068/5000
1/1 - 0s - loss: 0.0119 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2069/5000
1/1 - 0s - loss: 0.0118 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 2070/5000
1/1 - 0s - loss: 0.0118 - binary_accuracy: 1.0000 - 971us/epoch - 971us/step
Epoch 2071/5000
1/1 - 0s - loss: 0.0118 - binary_accuracy: 1.0000 - 729us/epoch - 729us/step
Epoch 2072/5000
1/1 - 0s - loss: 0.0118 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 2073/5000
1/1 - 0s - loss: 0.0118 - binary_accuracy: 1.0000 - 942us/epoch - 942us/step
Epoch 2074/5000

1/1 - 0s - loss: 0.0118 - binary_accuracy: 1.0000 - 964us/epoch - 964us/step
Epoch 2075/5000
1/1 - 0s - loss: 0.0118 - binary_accuracy: 1.0000 - 936us/epoch - 936us/step
Epoch 2076/5000
1/1 - 0s - loss: 0.0118 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2077/5000
1/1 - 0s - loss: 0.0118 - binary_accuracy: 1.0000 - 972us/epoch - 972us/step
Epoch 2078/5000
1/1 - 0s - loss: 0.0117 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2079/5000
1/1 - 0s - loss: 0.0117 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2080/5000
1/1 - 0s - loss: 0.0117 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2081/5000
1/1 - 0s - loss: 0.0117 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2082/5000
1/1 - 0s - loss: 0.0117 - binary_accuracy: 1.0000 - 937us/epoch - 937us/step
Epoch 2083/5000
1/1 - 0s - loss: 0.0117 - binary_accuracy: 1.0000 - 759us/epoch - 759us/step
Epoch 2084/5000
1/1 - 0s - loss: 0.0117 - binary_accuracy: 1.0000 - 714us/epoch - 714us/step
Epoch 2085/5000
1/1 - 0s - loss: 0.0117 - binary_accuracy: 1.0000 - 683us/epoch - 683us/step
Epoch 2086/5000
1/1 - 0s - loss: 0.0117 - binary_accuracy: 1.0000 - 727us/epoch - 727us/step
Epoch 2087/5000
1/1 - 0s - loss: 0.0116 - binary_accuracy: 1.0000 - 741us/epoch - 741us/step
Epoch 2088/5000
1/1 - 0s - loss: 0.0116 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2089/5000
1/1 - 0s - loss: 0.0116 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2090/5000
1/1 - 0s - loss: 0.0116 - binary_accuracy: 1.0000 - 925us/epoch - 925us/step
Epoch 2091/5000
1/1 - 0s - loss: 0.0116 - binary_accuracy: 1.0000 - 839us/epoch - 839us/step
Epoch 2092/5000
1/1 - 0s - loss: 0.0116 - binary_accuracy: 1.0000 - 737us/epoch - 737us/step
Epoch 2093/5000
1/1 - 0s - loss: 0.0116 - binary_accuracy: 1.0000 - 827us/epoch - 827us/step
Epoch 2094/5000
1/1 - 0s - loss: 0.0116 - binary_accuracy: 1.0000 - 813us/epoch - 813us/step
Epoch 2095/5000
1/1 - 0s - loss: 0.0116 - binary_accuracy: 1.0000 - 830us/epoch - 830us/step
Epoch 2096/5000
```

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1/1 - 0s - loss: 0.0115 - binary_accuracy: 1.0000 - 712us/epoch - 712us/step
Epoch 2097/5000
1/1 - 0s - loss: 0.0115 - binary_accuracy: 1.0000 - 682us/epoch - 682us/step
Epoch 2098/5000
1/1 - 0s - loss: 0.0115 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2099/5000
1/1 - 0s - loss: 0.0115 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2100/5000
1/1 - 0s - loss: 0.0115 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2101/5000
1/1 - 0s - loss: 0.0115 - binary_accuracy: 1.0000 - 792us/epoch - 792us/step
Epoch 2102/5000
1/1 - 0s - loss: 0.0115 - binary_accuracy: 1.0000 - 702us/epoch - 702us/step
Epoch 2103/5000
1/1 - 0s - loss: 0.0115 - binary_accuracy: 1.0000 - 767us/epoch - 767us/step
Epoch 2104/5000
1/1 - 0s - loss: 0.0115 - binary_accuracy: 1.0000 - 702us/epoch - 702us/step
Epoch 2105/5000
1/1 - 0s - loss: 0.0114 - binary_accuracy: 1.0000 - 690us/epoch - 690us/step
Epoch 2106/5000
1/1 - 0s - loss: 0.0114 - binary_accuracy: 1.0000 - 715us/epoch - 715us/step
Epoch 2107/5000
1/1 - 0s - loss: 0.0114 - binary_accuracy: 1.0000 - 727us/epoch - 727us/step
Epoch 2108/5000
1/1 - 0s - loss: 0.0114 - binary_accuracy: 1.0000 - 704us/epoch - 704us/step
Epoch 2109/5000
1/1 - 0s - loss: 0.0114 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2110/5000
1/1 - 0s - loss: 0.0114 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2111/5000
1/1 - 0s - loss: 0.0114 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2112/5000
1/1 - 0s - loss: 0.0114 - binary_accuracy: 1.0000 - 940us/epoch - 940us/step
Epoch 2113/5000
1/1 - 0s - loss: 0.0114 - binary_accuracy: 1.0000 - 963us/epoch - 963us/step
Epoch 2114/5000
1/1 - 0s - loss: 0.0114 - binary_accuracy: 1.0000 - 896us/epoch - 896us/step
Epoch 2115/5000
1/1 - 0s - loss: 0.0113 - binary_accuracy: 1.0000 - 790us/epoch - 790us/step
Epoch 2116/5000
1/1 - 0s - loss: 0.0113 - binary_accuracy: 1.0000 - 738us/epoch - 738us/step
Epoch 2117/5000
1/1 - 0s - loss: 0.0113 - binary_accuracy: 1.0000 - 680us/epoch - 680us/step
Epoch 2118/5000
1/1 - 0s - loss: 0.0113 - binary_accuracy: 1.0000 - 661us/epoch - 661us/step
Epoch 2119/5000
1/1 - 0s - loss: 0.0113 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2120/5000
```

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1/1 - 0s - loss: 0.0113 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2121/5000
1/1 - 0s - loss: 0.0113 - binary_accuracy: 1.0000 - 936us/epoch - 936us/step
Epoch 2122/5000
1/1 - 0s - loss: 0.0113 - binary_accuracy: 1.0000 - 809us/epoch - 809us/step
Epoch 2123/5000
1/1 - 0s - loss: 0.0113 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2124/5000
1/1 - 0s - loss: 0.0112 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2125/5000
1/1 - 0s - loss: 0.0112 - binary_accuracy: 1.0000 - 984us/epoch - 984us/step
Epoch 2126/5000
1/1 - 0s - loss: 0.0112 - binary_accuracy: 1.0000 - 898us/epoch - 898us/step
Epoch 2127/5000
1/1 - 0s - loss: 0.0112 - binary_accuracy: 1.0000 - 768us/epoch - 768us/step
Epoch 2128/5000
1/1 - 0s - loss: 0.0112 - binary_accuracy: 1.0000 - 749us/epoch - 749us/step
Epoch 2129/5000
1/1 - 0s - loss: 0.0112 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2130/5000
1/1 - 0s - loss: 0.0112 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2131/5000
1/1 - 0s - loss: 0.0112 - binary_accuracy: 1.0000 - 845us/epoch - 845us/step
Epoch 2132/5000
1/1 - 0s - loss: 0.0112 - binary_accuracy: 1.0000 - 791us/epoch - 791us/step
Epoch 2133/5000
1/1 - 0s - loss: 0.0112 - binary_accuracy: 1.0000 - 801us/epoch - 801us/step
Epoch 2134/5000
1/1 - 0s - loss: 0.0111 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2135/5000
1/1 - 0s - loss: 0.0111 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2136/5000
1/1 - 0s - loss: 0.0111 - binary_accuracy: 1.0000 - 980us/epoch - 980us/step
Epoch 2137/5000
1/1 - 0s - loss: 0.0111 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2138/5000
1/1 - 0s - loss: 0.0111 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2139/5000
1/1 - 0s - loss: 0.0111 - binary_accuracy: 1.0000 - 916us/epoch - 916us/step
Epoch 2140/5000
1/1 - 0s - loss: 0.0111 - binary_accuracy: 1.0000 - 681us/epoch - 681us/step
Epoch 2141/5000
1/1 - 0s - loss: 0.0111 - binary_accuracy: 1.0000 - 688us/epoch - 688us/step
Epoch 2142/5000
1/1 - 0s - loss: 0.0111 - binary_accuracy: 1.0000 - 676us/epoch - 676us/step
Epoch 2143/5000
1/1 - 0s - loss: 0.0110 - binary_accuracy: 1.0000 - 622us/epoch - 622us/step
Epoch 2144/5000
```

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1/1 - 0s - loss: 0.0110 - binary_accuracy: 1.0000 - 689us/epoch - 689us/step
Epoch 2145/5000
1/1 - 0s - loss: 0.0110 - binary_accuracy: 1.0000 - 836us/epoch - 836us/step
Epoch 2146/5000
1/1 - 0s - loss: 0.0110 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2147/5000
1/1 - 0s - loss: 0.0110 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2148/5000
1/1 - 0s - loss: 0.0110 - binary_accuracy: 1.0000 - 881us/epoch - 881us/step
Epoch 2149/5000
1/1 - 0s - loss: 0.0110 - binary_accuracy: 1.0000 - 869us/epoch - 869us/step
Epoch 2150/5000
1/1 - 0s - loss: 0.0110 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2151/5000
1/1 - 0s - loss: 0.0110 - binary_accuracy: 1.0000 - 874us/epoch - 874us/step
Epoch 2152/5000
1/1 - 0s - loss: 0.0110 - binary_accuracy: 1.0000 - 818us/epoch - 818us/step
Epoch 2153/5000
1/1 - 0s - loss: 0.0109 - binary_accuracy: 1.0000 - 811us/epoch - 811us/step
Epoch 2154/5000
1/1 - 0s - loss: 0.0109 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2155/5000
1/1 - 0s - loss: 0.0109 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2156/5000
1/1 - 0s - loss: 0.0109 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2157/5000
1/1 - 0s - loss: 0.0109 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2158/5000
1/1 - 0s - loss: 0.0109 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2159/5000
1/1 - 0s - loss: 0.0109 - binary_accuracy: 1.0000 - 813us/epoch - 813us/step
Epoch 2160/5000
1/1 - 0s - loss: 0.0109 - binary_accuracy: 1.0000 - 735us/epoch - 735us/step
Epoch 2161/5000
1/1 - 0s - loss: 0.0109 - binary_accuracy: 1.0000 - 710us/epoch - 710us/step
Epoch 2162/5000
1/1 - 0s - loss: 0.0109 - binary_accuracy: 1.0000 - 738us/epoch - 738us/step
Epoch 2163/5000
1/1 - 0s - loss: 0.0108 - binary_accuracy: 1.0000 - 683us/epoch - 683us/step

Epoch 2164/5000
1/1 - 0s - loss: 0.0108 - binary_accuracy: 1.0000 - 652us/epoch - 652us/step
Epoch 2165/5000
1/1 - 0s - loss: 0.0108 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2166/5000
1/1 - 0s - loss: 0.0108 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2167/5000
1/1 - 0s - loss: 0.0108 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 2168/5000
1/1 - 0s - loss: 0.0108 - binary_accuracy: 1.0000 - 841us/epoch - 841us/step
Epoch 2169/5000
1/1 - 0s - loss: 0.0108 - binary_accuracy: 1.0000 - 927us/epoch - 927us/step
Epoch 2170/5000
1/1 - 0s - loss: 0.0108 - binary_accuracy: 1.0000 - 890us/epoch - 890us/step
Epoch 2171/5000
1/1 - 0s - loss: 0.0108 - binary_accuracy: 1.0000 - 865us/epoch - 865us/step
Epoch 2172/5000
1/1 - 0s - loss: 0.0108 - binary_accuracy: 1.0000 - 928us/epoch - 928us/step
Epoch 2173/5000
1/1 - 0s - loss: 0.0107 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2174/5000
1/1 - 0s - loss: 0.0107 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2175/5000
1/1 - 0s - loss: 0.0107 - binary_accuracy: 1.0000 - 945us/epoch - 945us/step
Epoch 2176/5000
1/1 - 0s - loss: 0.0107 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2177/5000
1/1 - 0s - loss: 0.0107 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2178/5000
1/1 - 0s - loss: 0.0107 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2179/5000
1/1 - 0s - loss: 0.0107 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2180/5000
1/1 - 0s - loss: 0.0107 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2181/5000
1/1 - 0s - loss: 0.0107 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2182/5000
1/1 - 0s - loss: 0.0107 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2183/5000
1/1 - 0s - loss: 0.0106 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2184/5000
1/1 - 0s - loss: 0.0106 - binary_accuracy: 1.0000 - 939us/epoch - 939us/step
Epoch 2185/5000
1/1 - 0s - loss: 0.0106 - binary_accuracy: 1.0000 - 698us/epoch - 698us/step
Epoch 2186/5000
1/1 - 0s - loss: 0.0106 - binary_accuracy: 1.0000 - 923us/epoch - 923us/step
Epoch 2187/5000
1/1 - 0s - loss: 0.0106 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2188/5000
1/1 - 0s - loss: 0.0106 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2189/5000
1/1 - 0s - loss: 0.0106 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2190/5000
1/1 - 0s - loss: 0.0106 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2191/5000
1/1 - 0s - loss: 0.0106 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 2192/5000
1/1 - 0s - loss: 0.0106 - binary_accuracy: 1.0000 - 900us/epoch - 900us/step
Epoch 2193/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 759us/epoch - 759us/step
Epoch 2194/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 793us/epoch - 793us/step
Epoch 2195/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2196/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2197/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2198/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 839us/epoch - 839us/step
Epoch 2199/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 972us/epoch - 972us/step
Epoch 2200/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2201/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 978us/epoch - 978us/step
Epoch 2202/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 979us/epoch - 979us/step
Epoch 2203/5000
1/1 - 0s - loss: 0.0105 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2204/5000
1/1 - 0s - loss: 0.0104 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2205/5000
1/1 - 0s - loss: 0.0104 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2206/5000
1/1 - 0s - loss: 0.0104 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2207/5000
1/1 - 0s - loss: 0.0104 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2208/5000
1/1 - 0s - loss: 0.0104 - binary_accuracy: 1.0000 - 998us/epoch - 998us/step
Epoch 2209/5000
1/1 - 0s - loss: 0.0104 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2210/5000
1/1 - 0s - loss: 0.0104 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2211/5000
1/1 - 0s - loss: 0.0104 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2212/5000
1/1 - 0s - loss: 0.0104 - binary_accuracy: 1.0000 - 999us/epoch - 999us/step
Epoch 2213/5000
1/1 - 0s - loss: 0.0104 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2214/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2215/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 941us/epoch - 941us/step
```

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Epoch 2216/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 947us/epoch - 947us/step
Epoch 2217/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2218/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2219/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2220/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 961us/epoch - 961us/step
Epoch 2221/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 952us/epoch - 952us/step
Epoch 2222/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 817us/epoch - 817us/step
Epoch 2223/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 846us/epoch - 846us/step
Epoch 2224/5000
1/1 - 0s - loss: 0.0103 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2225/5000
1/1 - 0s - loss: 0.0102 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2226/5000
1/1 - 0s - loss: 0.0102 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2227/5000
1/1 - 0s - loss: 0.0102 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2228/5000
1/1 - 0s - loss: 0.0102 - binary_accuracy: 1.0000 - 940us/epoch - 940us/step
Epoch 2229/5000
1/1 - 0s - loss: 0.0102 - binary_accuracy: 1.0000 - 904us/epoch - 904us/step
Epoch 2230/5000
1/1 - 0s - loss: 0.0102 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2231/5000
1/1 - 0s - loss: 0.0102 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2232/5000
1/1 - 0s - loss: 0.0102 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 2233/5000
1/1 - 0s - loss: 0.0102 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2234/5000
1/1 - 0s - loss: 0.0102 - binary_accuracy: 1.0000 - 958us/epoch - 958us/step
Epoch 2235/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 958us/epoch - 958us/step
Epoch 2236/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 705us/epoch - 705us/step
Epoch 2237/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 649us/epoch - 649us/step
Epoch 2238/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 834us/epoch - 834us/step
Epoch 2239/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 905us/epoch - 905us/step
```

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Epoch 2240/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 809us/epoch - 809us/step
Epoch 2241/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2242/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2243/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2244/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 793us/epoch - 793us/step
Epoch 2245/5000
1/1 - 0s - loss: 0.0101 - binary_accuracy: 1.0000 - 777us/epoch - 777us/step
Epoch 2246/5000
1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 728us/epoch - 728us/step
Epoch 2247/5000
1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 656us/epoch - 656us/step
Epoch 2248/5000
1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 692us/epoch - 692us/step
Epoch 2249/5000
1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 746us/epoch - 746us/step
Epoch 2250/5000
1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2251/5000
1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 985us/epoch - 985us/step
Epoch 2252/5000
1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 835us/epoch - 835us/step
Epoch 2253/5000
1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 831us/epoch - 831us/step
Epoch 2254/5000

1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 892us/epoch - 892us/step
Epoch 2255/5000
1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 912us/epoch - 912us/step
Epoch 2256/5000
1/1 - 0s - loss: 0.0100 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2257/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2258/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2259/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2260/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2261/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2262/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2263/5000
```

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1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2264/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 929us/epoch - 929us/step
Epoch 2265/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 866us/epoch - 866us/step
Epoch 2266/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2267/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2268/5000
1/1 - 0s - loss: 0.0099 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2269/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2270/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 863us/epoch - 863us/step
Epoch 2271/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 881us/epoch - 881us/step
Epoch 2272/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2273/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2274/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2275/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2276/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2277/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2278/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2279/5000
1/1 - 0s - loss: 0.0098 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2280/5000
1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 919us/epoch - 919us/step
Epoch 2281/5000
1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2282/5000
1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 937us/epoch - 937us/step
Epoch 2283/5000
1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 832us/epoch - 832us/step
Epoch 2284/5000
1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2285/5000
1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2286/5000
1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2287/5000
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1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2288/5000
1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2289/5000
1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 948us/epoch - 948us/step
Epoch 2290/5000
1/1 - 0s - loss: 0.0097 - binary_accuracy: 1.0000 - 946us/epoch - 946us/step
Epoch 2291/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 786us/epoch - 786us/step
Epoch 2292/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 802us/epoch - 802us/step
Epoch 2293/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 776us/epoch - 776us/step
Epoch 2294/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 913us/epoch - 913us/step
Epoch 2295/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2296/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 973us/epoch - 973us/step
Epoch 2297/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 881us/epoch - 881us/step
Epoch 2298/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2299/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 839us/epoch - 839us/step
Epoch 2300/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 837us/epoch - 837us/step
Epoch 2301/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2302/5000
1/1 - 0s - loss: 0.0096 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2303/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2304/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2305/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2306/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 955us/epoch - 955us/step
Epoch 2307/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 880us/epoch - 880us/step
Epoch 2308/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 862us/epoch - 862us/step
Epoch 2309/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 817us/epoch - 817us/step
Epoch 2310/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2311/5000
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1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2312/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 881us/epoch - 881us/step
Epoch 2313/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2314/5000
1/1 - 0s - loss: 0.0095 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2315/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 814us/epoch - 814us/step
Epoch 2316/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 687us/epoch - 687us/step
Epoch 2317/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 840us/epoch - 840us/step
Epoch 2318/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 756us/epoch - 756us/step
Epoch 2319/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2320/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2321/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2322/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2323/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 910us/epoch - 910us/step
Epoch 2324/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 745us/epoch - 745us/step
Epoch 2325/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2326/5000
1/1 - 0s - loss: 0.0094 - binary_accuracy: 1.0000 - 877us/epoch - 877us/step
Epoch 2327/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 813us/epoch - 813us/step
Epoch 2328/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2329/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2330/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2331/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2332/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 714us/epoch - 714us/step
Epoch 2333/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 619us/epoch - 619us/step
Epoch 2334/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 820us/epoch - 820us/step
Epoch 2335/5000
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1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2336/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2337/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2338/5000
1/1 - 0s - loss: 0.0093 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2339/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2340/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2341/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 847us/epoch - 847us/step
Epoch 2342/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 841us/epoch - 841us/step
Epoch 2343/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 733us/epoch - 733us/step
Epoch 2344/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 694us/epoch - 694us/step

Epoch 2345/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 774us/epoch - 774us/step
Epoch 2346/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 937us/epoch - 937us/step
Epoch 2347/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2348/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 909us/epoch - 909us/step
Epoch 2349/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 762us/epoch - 762us/step
Epoch 2350/5000
1/1 - 0s - loss: 0.0092 - binary_accuracy: 1.0000 - 708us/epoch - 708us/step
Epoch 2351/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 782us/epoch - 782us/step
Epoch 2352/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 718us/epoch - 718us/step
Epoch 2353/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 690us/epoch - 690us/step
Epoch 2354/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 736us/epoch - 736us/step
Epoch 2355/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 669us/epoch - 669us/step
Epoch 2356/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 770us/epoch - 770us/step
Epoch 2357/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 990us/epoch - 990us/step
Epoch 2358/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
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Epoch 2359/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 2360/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2361/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 979us/epoch - 979us/step
Epoch 2362/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 948us/epoch - 948us/step
Epoch 2363/5000
1/1 - 0s - loss: 0.0091 - binary_accuracy: 1.0000 - 794us/epoch - 794us/step
Epoch 2364/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 928us/epoch - 928us/step
Epoch 2365/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 905us/epoch - 905us/step
Epoch 2366/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2367/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2368/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2369/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2370/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2371/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2372/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 758us/epoch - 758us/step
Epoch 2373/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 928us/epoch - 928us/step
Epoch 2374/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2375/5000
1/1 - 0s - loss: 0.0090 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2376/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 930us/epoch - 930us/step
Epoch 2377/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2378/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2379/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 842us/epoch - 842us/step
Epoch 2380/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 681us/epoch - 681us/step
Epoch 2381/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2382/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 793us/epoch - 793us/step
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Epoch 2383/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 662us/epoch - 662us/step
Epoch 2384/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 696us/epoch - 696us/step
Epoch 2385/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 763us/epoch - 763us/step
Epoch 2386/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 777us/epoch - 777us/step
Epoch 2387/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2388/5000
1/1 - 0s - loss: 0.0089 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2389/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2390/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2391/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2392/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2393/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2394/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2395/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2396/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2397/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2398/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2399/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 980us/epoch - 980us/step
Epoch 2400/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 907us/epoch - 907us/step
Epoch 2401/5000
1/1 - 0s - loss: 0.0088 - binary_accuracy: 1.0000 - 953us/epoch - 953us/step
Epoch 2402/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 830us/epoch - 830us/step
Epoch 2403/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2404/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2405/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 995us/epoch - 995us/step
Epoch 2406/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
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Epoch 2407/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2408/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2409/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2410/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 839us/epoch - 839us/step
Epoch 2411/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 781us/epoch - 781us/step
Epoch 2412/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 724us/epoch - 724us/step
Epoch 2413/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 776us/epoch - 776us/step
Epoch 2414/5000
1/1 - 0s - loss: 0.0087 - binary_accuracy: 1.0000 - 844us/epoch - 844us/step
Epoch 2415/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 816us/epoch - 816us/step
Epoch 2416/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 822us/epoch - 822us/step
Epoch 2417/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 914us/epoch - 914us/step
Epoch 2418/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 912us/epoch - 912us/step
Epoch 2419/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 809us/epoch - 809us/step
Epoch 2420/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 803us/epoch - 803us/step
Epoch 2421/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 752us/epoch - 752us/step
Epoch 2422/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 683us/epoch - 683us/step
Epoch 2423/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 698us/epoch - 698us/step
Epoch 2424/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 720us/epoch - 720us/step
Epoch 2425/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 648us/epoch - 648us/step
Epoch 2426/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 736us/epoch - 736us/step
Epoch 2427/5000
1/1 - 0s - loss: 0.0086 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2428/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2429/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2430/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 859us/epoch - 859us/step
```

```
Epoch 2431/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 852us/epoch - 852us/step
Epoch 2432/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 755us/epoch - 755us/step
Epoch 2433/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 700us/epoch - 700us/step
Epoch 2434/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 753us/epoch - 753us/step

Epoch 2435/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 718us/epoch - 718us/step
Epoch 2436/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 940us/epoch - 940us/step
Epoch 2437/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 865us/epoch - 865us/step
Epoch 2438/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 824us/epoch - 824us/step
Epoch 2439/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 785us/epoch - 785us/step
Epoch 2440/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 834us/epoch - 834us/step
Epoch 2441/5000
1/1 - 0s - loss: 0.0085 - binary_accuracy: 1.0000 - 766us/epoch - 766us/step
Epoch 2442/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2443/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 766us/epoch - 766us/step
Epoch 2444/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 824us/epoch - 824us/step
Epoch 2445/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2446/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2447/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2448/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2449/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2450/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2451/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 999us/epoch - 999us/step
Epoch 2452/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 767us/epoch - 767us/step
Epoch 2453/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 670us/epoch - 670us/step
Epoch 2454/5000
```

```
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 704us/epoch - 704us/step
Epoch 2455/5000
1/1 - 0s - loss: 0.0084 - binary_accuracy: 1.0000 - 672us/epoch - 672us/step
Epoch 2456/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2457/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2458/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2459/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2460/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2461/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 723us/epoch - 723us/step
Epoch 2462/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 733us/epoch - 733us/step
Epoch 2463/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 673us/epoch - 673us/step
Epoch 2464/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2465/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2466/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 903us/epoch - 903us/step
Epoch 2467/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 882us/epoch - 882us/step
Epoch 2468/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 706us/epoch - 706us/step
Epoch 2469/5000
1/1 - 0s - loss: 0.0083 - binary_accuracy: 1.0000 - 816us/epoch - 816us/step
Epoch 2470/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 746us/epoch - 746us/step
Epoch 2471/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 738us/epoch - 738us/step
Epoch 2472/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 741us/epoch - 741us/step
Epoch 2473/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 827us/epoch - 827us/step
Epoch 2474/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 662us/epoch - 662us/step
Epoch 2475/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 734us/epoch - 734us/step
Epoch 2476/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 684us/epoch - 684us/step
Epoch 2477/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2478/5000
```

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1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2479/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2480/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2481/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2482/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2483/5000
1/1 - 0s - loss: 0.0082 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2484/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 926us/epoch - 926us/step
Epoch 2485/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2486/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2487/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2488/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2489/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2490/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2491/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 939us/epoch - 939us/step
Epoch 2492/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 940us/epoch - 940us/step
Epoch 2493/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 999us/epoch - 999us/step
Epoch 2494/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 866us/epoch - 866us/step
Epoch 2495/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 973us/epoch - 973us/step
Epoch 2496/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 973us/epoch - 973us/step
Epoch 2497/5000
1/1 - 0s - loss: 0.0081 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2498/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2499/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2500/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2501/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2502/5000
```

```
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2503/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2504/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2505/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2506/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 990us/epoch - 990us/step
Epoch 2507/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 909us/epoch - 909us/step
Epoch 2508/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 940us/epoch - 940us/step
Epoch 2509/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 847us/epoch - 847us/step
Epoch 2510/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2511/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2512/5000
1/1 - 0s - loss: 0.0080 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2513/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 944us/epoch - 944us/step
Epoch 2514/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 996us/epoch - 996us/step
Epoch 2515/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2516/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2517/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 989us/epoch - 989us/step
Epoch 2518/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2519/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2520/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2521/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2522/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2523/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2524/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2525/5000

1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

```
Epoch 2526/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2527/5000
1/1 - 0s - loss: 0.0079 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2528/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2529/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 823us/epoch - 823us/step
Epoch 2530/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 838us/epoch - 838us/step
Epoch 2531/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 758us/epoch - 758us/step
Epoch 2532/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 760us/epoch - 760us/step
Epoch 2533/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 856us/epoch - 856us/step
Epoch 2534/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2535/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2536/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2537/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2538/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 787us/epoch - 787us/step
Epoch 2539/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 738us/epoch - 738us/step
Epoch 2540/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 685us/epoch - 685us/step
Epoch 2541/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 988us/epoch - 988us/step
Epoch 2542/5000
1/1 - 0s - loss: 0.0078 - binary_accuracy: 1.0000 - 975us/epoch - 975us/step
Epoch 2543/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 830us/epoch - 830us/step
Epoch 2544/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 865us/epoch - 865us/step
Epoch 2545/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2546/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2547/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2548/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 851us/epoch - 851us/step
Epoch 2549/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 947us/epoch - 947us/step
```

```
Epoch 2550/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 861us/epoch - 861us/step
Epoch 2551/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 888us/epoch - 888us/step
Epoch 2552/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 841us/epoch - 841us/step
Epoch 2553/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2554/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2555/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2556/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 906us/epoch - 906us/step
Epoch 2557/5000
1/1 - 0s - loss: 0.0077 - binary_accuracy: 1.0000 - 877us/epoch - 877us/step
Epoch 2558/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 906us/epoch - 906us/step
Epoch 2559/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2560/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2561/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 2562/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2563/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2564/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 962us/epoch - 962us/step
Epoch 2565/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 879us/epoch - 879us/step
Epoch 2566/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 868us/epoch - 868us/step
Epoch 2567/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2568/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2569/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2570/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2571/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2572/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2573/5000
1/1 - 0s - loss: 0.0076 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

```
Epoch 2574/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2575/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2576/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2577/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2578/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 921us/epoch - 921us/step
Epoch 2579/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 856us/epoch - 856us/step
Epoch 2580/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 834us/epoch - 834us/step
Epoch 2581/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 821us/epoch - 821us/step
Epoch 2582/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 867us/epoch - 867us/step
Epoch 2583/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2584/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2585/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 920us/epoch - 920us/step
Epoch 2586/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2587/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 770us/epoch - 770us/step
Epoch 2588/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 764us/epoch - 764us/step
Epoch 2589/5000
1/1 - 0s - loss: 0.0075 - binary_accuracy: 1.0000 - 765us/epoch - 765us/step
Epoch 2590/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 932us/epoch - 932us/step
Epoch 2591/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 911us/epoch - 911us/step
Epoch 2592/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2593/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2594/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 968us/epoch - 968us/step
Epoch 2595/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 823us/epoch - 823us/step
Epoch 2596/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2597/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

```
Epoch 2598/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 934us/epoch - 934us/step
Epoch 2599/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2600/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 2601/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 972us/epoch - 972us/step
Epoch 2602/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 780us/epoch - 780us/step
Epoch 2603/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 653us/epoch - 653us/step
Epoch 2604/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 632us/epoch - 632us/step
Epoch 2605/5000
1/1 - 0s - loss: 0.0074 - binary_accuracy: 1.0000 - 859us/epoch - 859us/step
Epoch 2606/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 657us/epoch - 657us/step
Epoch 2607/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 719us/epoch - 719us/step
Epoch 2608/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 701us/epoch - 701us/step
Epoch 2609/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 891us/epoch - 891us/step
Epoch 2610/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2611/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2612/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2613/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2614/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2615/5000

1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 738us/epoch - 738us/step
Epoch 2616/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 967us/epoch - 967us/step
Epoch 2617/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 774us/epoch - 774us/step
Epoch 2618/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 971us/epoch - 971us/step
Epoch 2619/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2620/5000
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 766us/epoch - 766us/step
Epoch 2621/5000
```

```
1/1 - 0s - loss: 0.0073 - binary_accuracy: 1.0000 - 728us/epoch - 728us/step
Epoch 2622/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 716us/epoch - 716us/step
Epoch 2623/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 660us/epoch - 660us/step
Epoch 2624/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 704us/epoch - 704us/step
Epoch 2625/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 705us/epoch - 705us/step
Epoch 2626/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 666us/epoch - 666us/step
Epoch 2627/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 833us/epoch - 833us/step
Epoch 2628/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2629/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2630/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2631/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2632/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2633/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2634/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2635/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2636/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2637/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2638/5000
1/1 - 0s - loss: 0.0072 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2639/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2640/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2641/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2642/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2643/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2644/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2645/5000
```

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1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2646/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 831us/epoch - 831us/step
Epoch 2647/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 800us/epoch - 800us/step
Epoch 2648/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2649/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2650/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2651/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2652/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2653/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2654/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2655/5000
1/1 - 0s - loss: 0.0071 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2656/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2657/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2658/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2659/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2660/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2661/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2662/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2663/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 882us/epoch - 882us/step
Epoch 2664/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 735us/epoch - 735us/step
Epoch 2665/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 785us/epoch - 785us/step
Epoch 2666/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 940us/epoch - 940us/step
Epoch 2667/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 965us/epoch - 965us/step
Epoch 2668/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 885us/epoch - 885us/step
Epoch 2669/5000
```

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1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 2670/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2671/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2672/5000
1/1 - 0s - loss: 0.0070 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2673/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2674/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2675/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 969us/epoch - 969us/step
Epoch 2676/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2677/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2678/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 992us/epoch - 992us/step
Epoch 2679/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 928us/epoch - 928us/step
Epoch 2680/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 858us/epoch - 858us/step
Epoch 2681/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 969us/epoch - 969us/step
Epoch 2682/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 905us/epoch - 905us/step
Epoch 2683/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 830us/epoch - 830us/step
Epoch 2684/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 892us/epoch - 892us/step
Epoch 2685/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2686/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2687/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 898us/epoch - 898us/step
Epoch 2688/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 849us/epoch - 849us/step
Epoch 2689/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 867us/epoch - 867us/step
Epoch 2690/5000
1/1 - 0s - loss: 0.0069 - binary_accuracy: 1.0000 - 796us/epoch - 796us/step
Epoch 2691/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 767us/epoch - 767us/step
Epoch 2692/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 761us/epoch - 761us/step
Epoch 2693/5000
```

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1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 777us/epoch - 777us/step
Epoch 2694/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 811us/epoch - 811us/step
Epoch 2695/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 930us/epoch - 930us/step
Epoch 2696/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 907us/epoch - 907us/step
Epoch 2697/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2698/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2699/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 901us/epoch - 901us/step
Epoch 2700/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 829us/epoch - 829us/step
Epoch 2701/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 850us/epoch - 850us/step
Epoch 2702/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 839us/epoch - 839us/step
Epoch 2703/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 941us/epoch - 941us/step
Epoch 2704/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 762us/epoch - 762us/step
Epoch 2705/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step

Epoch 2706/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2707/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2708/5000
1/1 - 0s - loss: 0.0068 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2709/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2710/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2711/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2712/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2713/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2714/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 988us/epoch - 988us/step
Epoch 2715/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2716/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 907us/epoch - 907us/step
```

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Epoch 2717/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 825us/epoch - 825us/step
Epoch 2718/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 742us/epoch - 742us/step
Epoch 2719/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 908us/epoch - 908us/step
Epoch 2720/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 2721/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2722/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2723/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 988us/epoch - 988us/step
Epoch 2724/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 988us/epoch - 988us/step
Epoch 2725/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 890us/epoch - 890us/step
Epoch 2726/5000
1/1 - 0s - loss: 0.0067 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2727/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 993us/epoch - 993us/step
Epoch 2728/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 4ms/epoch - 4ms/step
Epoch 2729/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2730/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2731/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 925us/epoch - 925us/step
Epoch 2732/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2733/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2734/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 997us/epoch - 997us/step
Epoch 2735/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 825us/epoch - 825us/step
Epoch 2736/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2737/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2738/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2739/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2740/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
```

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Epoch 2741/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2742/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 950us/epoch - 950us/step
Epoch 2743/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 665us/epoch - 665us/step
Epoch 2744/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 699us/epoch - 699us/step
Epoch 2745/5000
1/1 - 0s - loss: 0.0066 - binary_accuracy: 1.0000 - 757us/epoch - 757us/step
Epoch 2746/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 760us/epoch - 760us/step
Epoch 2747/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 708us/epoch - 708us/step
Epoch 2748/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 676us/epoch - 676us/step
Epoch 2749/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 814us/epoch - 814us/step
Epoch 2750/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2751/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2752/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2753/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 831us/epoch - 831us/step
Epoch 2754/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 689us/epoch - 689us/step
Epoch 2755/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 689us/epoch - 689us/step
Epoch 2756/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 645us/epoch - 645us/step
Epoch 2757/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 729us/epoch - 729us/step
Epoch 2758/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 634us/epoch - 634us/step
Epoch 2759/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 757us/epoch - 757us/step
Epoch 2760/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 670us/epoch - 670us/step
Epoch 2761/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2762/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2763/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2764/5000
1/1 - 0s - loss: 0.0065 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

```
Epoch 2765/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2766/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 842us/epoch - 842us/step
Epoch 2767/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2768/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2769/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2770/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2771/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2772/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2773/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 758us/epoch - 758us/step
Epoch 2774/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 696us/epoch - 696us/step
Epoch 2775/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 695us/epoch - 695us/step
Epoch 2776/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 720us/epoch - 720us/step
Epoch 2777/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 690us/epoch - 690us/step
Epoch 2778/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 706us/epoch - 706us/step
Epoch 2779/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2780/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 735us/epoch - 735us/step
Epoch 2781/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2782/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2783/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2784/5000
1/1 - 0s - loss: 0.0064 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2785/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2786/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 987us/epoch - 987us/step
Epoch 2787/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 777us/epoch - 777us/step
Epoch 2788/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 953us/epoch - 953us/step
```

```
Epoch 2789/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 717us/epoch - 717us/step
Epoch 2790/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 818us/epoch - 818us/step
Epoch 2791/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 931us/epoch - 931us/step
Epoch 2792/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 854us/epoch - 854us/step
Epoch 2793/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 848us/epoch - 848us/step
Epoch 2794/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 842us/epoch - 842us/step
Epoch 2795/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2796/5000

1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2797/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2798/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2799/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2800/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 990us/epoch - 990us/step
Epoch 2801/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2802/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 937us/epoch - 937us/step
Epoch 2803/5000
1/1 - 0s - loss: 0.0063 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2804/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2805/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2806/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2807/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2808/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2809/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 866us/epoch - 866us/step
Epoch 2810/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2811/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2812/5000
```

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1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2813/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2814/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2815/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2816/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2817/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2818/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2819/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2820/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 991us/epoch - 991us/step
Epoch 2821/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 783us/epoch - 783us/step
Epoch 2822/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 886us/epoch - 886us/step
Epoch 2823/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 760us/epoch - 760us/step
Epoch 2824/5000
1/1 - 0s - loss: 0.0062 - binary_accuracy: 1.0000 - 921us/epoch - 921us/step
Epoch 2825/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 667us/epoch - 667us/step
Epoch 2826/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 630us/epoch - 630us/step
Epoch 2827/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2828/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2829/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2830/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2831/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2832/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 771us/epoch - 771us/step
Epoch 2833/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 680us/epoch - 680us/step
Epoch 2834/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 626us/epoch - 626us/step
Epoch 2835/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2836/5000
```

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1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2837/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2838/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2839/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2840/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2841/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2842/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2843/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2844/5000
1/1 - 0s - loss: 0.0061 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2845/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2846/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2847/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2848/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2849/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2850/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2851/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2852/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2853/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2854/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2855/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2856/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2857/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2858/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2859/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2860/5000
```

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1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2861/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2862/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2863/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2864/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2865/5000
1/1 - 0s - loss: 0.0060 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2866/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2867/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2868/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2869/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 989us/epoch - 989us/step
Epoch 2870/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 970us/epoch - 970us/step
Epoch 2871/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2872/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2873/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2874/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2875/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 835us/epoch - 835us/step
Epoch 2876/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 937us/epoch - 937us/step
Epoch 2877/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 715us/epoch - 715us/step
Epoch 2878/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 832us/epoch - 832us/step
Epoch 2879/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2880/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2881/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 954us/epoch - 954us/step
Epoch 2882/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2883/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 700us/epoch - 700us/step
Epoch 2884/5000
```

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1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 690us/epoch - 690us/step
Epoch 2885/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 855us/epoch - 855us/step
Epoch 2886/5000
1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 901us/epoch - 901us/step
Epoch 2887/5000

1/1 - 0s - loss: 0.0059 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2888/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 2889/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2890/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 920us/epoch - 920us/step
Epoch 2891/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2892/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 802us/epoch - 802us/step
Epoch 2893/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 709us/epoch - 709us/step
Epoch 2894/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 723us/epoch - 723us/step
Epoch 2895/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 700us/epoch - 700us/step
Epoch 2896/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 649us/epoch - 649us/step
Epoch 2897/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2898/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2899/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 703us/epoch - 703us/step
Epoch 2900/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2901/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2902/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2903/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2904/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2905/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 942us/epoch - 942us/step
Epoch 2906/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2907/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 2908/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2909/5000
1/1 - 0s - loss: 0.0058 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2910/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 818us/epoch - 818us/step
Epoch 2911/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 746us/epoch - 746us/step
Epoch 2912/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 677us/epoch - 677us/step
Epoch 2913/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2914/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2915/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 932us/epoch - 932us/step
Epoch 2916/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 838us/epoch - 838us/step
Epoch 2917/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 964us/epoch - 964us/step
Epoch 2918/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 935us/epoch - 935us/step
Epoch 2919/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 826us/epoch - 826us/step
Epoch 2920/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 891us/epoch - 891us/step
Epoch 2921/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2922/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 2923/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2924/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2925/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2926/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 849us/epoch - 849us/step
Epoch 2927/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 932us/epoch - 932us/step
Epoch 2928/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 924us/epoch - 924us/step
Epoch 2929/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 967us/epoch - 967us/step
Epoch 2930/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2931/5000
1/1 - 0s - loss: 0.0057 - binary_accuracy: 1.0000 - 770us/epoch - 770us/step
```

```
Epoch 2932/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 789us/epoch - 789us/step
Epoch 2933/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2934/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2935/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2936/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 801us/epoch - 801us/step
Epoch 2937/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 922us/epoch - 922us/step
Epoch 2938/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 773us/epoch - 773us/step
Epoch 2939/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 720us/epoch - 720us/step
Epoch 2940/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 649us/epoch - 649us/step
Epoch 2941/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 682us/epoch - 682us/step
Epoch 2942/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 799us/epoch - 799us/step
Epoch 2943/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 991us/epoch - 991us/step
Epoch 2944/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 721us/epoch - 721us/step
Epoch 2945/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 877us/epoch - 877us/step
Epoch 2946/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2947/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2948/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2949/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 988us/epoch - 988us/step
Epoch 2950/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2951/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 993us/epoch - 993us/step
Epoch 2952/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 929us/epoch - 929us/step
Epoch 2953/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 679us/epoch - 679us/step
Epoch 2954/5000
1/1 - 0s - loss: 0.0056 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2955/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

```
Epoch 2956/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 979us/epoch - 979us/step
Epoch 2957/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 981us/epoch - 981us/step
Epoch 2958/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2959/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 999us/epoch - 999us/step
Epoch 2960/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2961/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2962/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2963/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2964/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2965/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2966/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2967/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2968/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 892us/epoch - 892us/step
Epoch 2969/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 992us/epoch - 992us/step
Epoch 2970/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 938us/epoch - 938us/step
Epoch 2971/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 863us/epoch - 863us/step
Epoch 2972/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 971us/epoch - 971us/step
Epoch 2973/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 894us/epoch - 894us/step
Epoch 2974/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2975/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2976/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2977/5000

1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2978/5000
1/1 - 0s - loss: 0.0055 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2979/5000
```

```
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 954us/epoch - 954us/step
Epoch 2980/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 839us/epoch - 839us/step
Epoch 2981/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 853us/epoch - 853us/step
Epoch 2982/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 815us/epoch - 815us/step
Epoch 2983/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 707us/epoch - 707us/step
Epoch 2984/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 666us/epoch - 666us/step
Epoch 2985/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 927us/epoch - 927us/step
Epoch 2986/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2987/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 2988/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2989/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2990/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 955us/epoch - 955us/step
Epoch 2991/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2992/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 806us/epoch - 806us/step
Epoch 2993/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 831us/epoch - 831us/step
Epoch 2994/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 797us/epoch - 797us/step
Epoch 2995/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 847us/epoch - 847us/step
Epoch 2996/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 766us/epoch - 766us/step
Epoch 2997/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2998/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 2999/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3000/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3001/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 886us/epoch - 886us/step
Epoch 3002/5000
1/1 - 0s - loss: 0.0054 - binary_accuracy: 1.0000 - 766us/epoch - 766us/step
Epoch 3003/5000
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1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 766us/epoch - 766us/step
Epoch 3004/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 677us/epoch - 677us/step
Epoch 3005/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 670us/epoch - 670us/step
Epoch 3006/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 651us/epoch - 651us/step
Epoch 3007/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 710us/epoch - 710us/step
Epoch 3008/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3009/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 827us/epoch - 827us/step
Epoch 3010/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 778us/epoch - 778us/step
Epoch 3011/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 689us/epoch - 689us/step
Epoch 3012/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 702us/epoch - 702us/step
Epoch 3013/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3014/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3015/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3016/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3017/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 956us/epoch - 956us/step
Epoch 3018/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 948us/epoch - 948us/step
Epoch 3019/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 992us/epoch - 992us/step
Epoch 3020/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 953us/epoch - 953us/step
Epoch 3021/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 901us/epoch - 901us/step
Epoch 3022/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3023/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3024/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3025/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 977us/epoch - 977us/step
Epoch 3026/5000
1/1 - 0s - loss: 0.0053 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3027/5000
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1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3028/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 894us/epoch - 894us/step
Epoch 3029/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 794us/epoch - 794us/step
Epoch 3030/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 998us/epoch - 998us/step
Epoch 3031/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 988us/epoch - 988us/step
Epoch 3032/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 771us/epoch - 771us/step
Epoch 3033/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 797us/epoch - 797us/step
Epoch 3034/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 662us/epoch - 662us/step
Epoch 3035/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 920us/epoch - 920us/step
Epoch 3036/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 3037/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 4ms/epoch - 4ms/step
Epoch 3038/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3039/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3040/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3041/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 926us/epoch - 926us/step
Epoch 3042/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3043/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3044/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 906us/epoch - 906us/step
Epoch 3045/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3046/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3047/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3048/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3049/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 947us/epoch - 947us/step
Epoch 3050/5000
1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 907us/epoch - 907us/step
Epoch 3051/5000
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1/1 - 0s - loss: 0.0052 - binary_accuracy: 1.0000 - 845us/epoch - 845us/step
Epoch 3052/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 842us/epoch - 842us/step
Epoch 3053/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3054/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3055/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3056/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3057/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 957us/epoch - 957us/step
Epoch 3058/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 885us/epoch - 885us/step
Epoch 3059/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 894us/epoch - 894us/step
Epoch 3060/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 3061/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 919us/epoch - 919us/step
Epoch 3062/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3063/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3064/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3065/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 946us/epoch - 946us/step
Epoch 3066/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 895us/epoch - 895us/step

Epoch 3067/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 750us/epoch - 750us/step
Epoch 3068/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 799us/epoch - 799us/step
Epoch 3069/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 672us/epoch - 672us/step
Epoch 3070/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 665us/epoch - 665us/step
Epoch 3071/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 668us/epoch - 668us/step
Epoch 3072/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3073/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3074/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
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Epoch 3075/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3076/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3077/5000
1/1 - 0s - loss: 0.0051 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3078/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3079/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 867us/epoch - 867us/step
Epoch 3080/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 762us/epoch - 762us/step
Epoch 3081/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 779us/epoch - 779us/step
Epoch 3082/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 684us/epoch - 684us/step
Epoch 3083/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 963us/epoch - 963us/step
Epoch 3084/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 811us/epoch - 811us/step
Epoch 3085/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 878us/epoch - 878us/step
Epoch 3086/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 926us/epoch - 926us/step
Epoch 3087/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3088/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 3089/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3090/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 880us/epoch - 880us/step
Epoch 3091/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 824us/epoch - 824us/step
Epoch 3092/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 717us/epoch - 717us/step
Epoch 3093/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 714us/epoch - 714us/step
Epoch 3094/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 687us/epoch - 687us/step
Epoch 3095/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 696us/epoch - 696us/step
Epoch 3096/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 683us/epoch - 683us/step
Epoch 3097/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 674us/epoch - 674us/step
Epoch 3098/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 3099/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3100/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 767us/epoch - 767us/step
Epoch 3101/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 870us/epoch - 870us/step
Epoch 3102/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 887us/epoch - 887us/step
Epoch 3103/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 967us/epoch - 967us/step
Epoch 3104/5000
1/1 - 0s - loss: 0.0050 - binary_accuracy: 1.0000 - 808us/epoch - 808us/step
Epoch 3105/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 733us/epoch - 733us/step
Epoch 3106/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 729us/epoch - 729us/step
Epoch 3107/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 646us/epoch - 646us/step
Epoch 3108/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 746us/epoch - 746us/step
Epoch 3109/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 873us/epoch - 873us/step
Epoch 3110/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 723us/epoch - 723us/step
Epoch 3111/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 796us/epoch - 796us/step
Epoch 3112/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 956us/epoch - 956us/step
Epoch 3113/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3114/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 986us/epoch - 986us/step
Epoch 3115/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 871us/epoch - 871us/step
Epoch 3116/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 892us/epoch - 892us/step
Epoch 3117/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 879us/epoch - 879us/step
Epoch 3118/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 915us/epoch - 915us/step
Epoch 3119/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 1000us/epoch - 1000us/step
Epoch 3120/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3121/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3122/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 3123/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3124/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3125/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3126/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 828us/epoch - 828us/step
Epoch 3127/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 790us/epoch - 790us/step
Epoch 3128/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 707us/epoch - 707us/step
Epoch 3129/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 992us/epoch - 992us/step
Epoch 3130/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 826us/epoch - 826us/step
Epoch 3131/5000
1/1 - 0s - loss: 0.0049 - binary_accuracy: 1.0000 - 724us/epoch - 724us/step
Epoch 3132/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 758us/epoch - 758us/step
Epoch 3133/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 795us/epoch - 795us/step
Epoch 3134/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 851us/epoch - 851us/step
Epoch 3135/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3136/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3137/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 821us/epoch - 821us/step
Epoch 3138/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 741us/epoch - 741us/step
Epoch 3139/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 697us/epoch - 697us/step
Epoch 3140/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 720us/epoch - 720us/step
Epoch 3141/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 959us/epoch - 959us/step
Epoch 3142/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 629us/epoch - 629us/step
Epoch 3143/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 760us/epoch - 760us/step
Epoch 3144/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 796us/epoch - 796us/step
Epoch 3145/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3146/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 964us/epoch - 964us/step
```

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Epoch 3147/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 960us/epoch - 960us/step
Epoch 3148/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 859us/epoch - 859us/step
Epoch 3149/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 686us/epoch - 686us/step
Epoch 3150/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 741us/epoch - 741us/step
Epoch 3151/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 718us/epoch - 718us/step
Epoch 3152/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 742us/epoch - 742us/step
Epoch 3153/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 673us/epoch - 673us/step
Epoch 3154/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 688us/epoch - 688us/step
Epoch 3155/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 782us/epoch - 782us/step
Epoch 3156/5000

1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 702us/epoch - 702us/step
Epoch 3157/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3158/5000
1/1 - 0s - loss: 0.0048 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3159/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3160/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3161/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 851us/epoch - 851us/step
Epoch 3162/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3163/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 855us/epoch - 855us/step
Epoch 3164/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 901us/epoch - 901us/step
Epoch 3165/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3166/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 976us/epoch - 976us/step
Epoch 3167/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 933us/epoch - 933us/step
Epoch 3168/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 908us/epoch - 908us/step
Epoch 3169/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3170/5000
```

```
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3171/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3172/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3173/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3174/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 928us/epoch - 928us/step
Epoch 3175/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 793us/epoch - 793us/step
Epoch 3176/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 888us/epoch - 888us/step
Epoch 3177/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 839us/epoch - 839us/step
Epoch 3178/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 866us/epoch - 866us/step
Epoch 3179/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3180/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3181/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3182/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3183/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 941us/epoch - 941us/step
Epoch 3184/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 872us/epoch - 872us/step
Epoch 3185/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 941us/epoch - 941us/step
Epoch 3186/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3187/5000
1/1 - 0s - loss: 0.0047 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3188/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 812us/epoch - 812us/step
Epoch 3189/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 765us/epoch - 765us/step
Epoch 3190/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 979us/epoch - 979us/step
Epoch 3191/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 927us/epoch - 927us/step
Epoch 3192/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3193/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3194/5000
```

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1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 888us/epoch - 888us/step
Epoch 3195/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 835us/epoch - 835us/step
Epoch 3196/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 757us/epoch - 757us/step
Epoch 3197/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 728us/epoch - 728us/step
Epoch 3198/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 791us/epoch - 791us/step
Epoch 3199/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 908us/epoch - 908us/step
Epoch 3200/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3201/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 832us/epoch - 832us/step
Epoch 3202/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 872us/epoch - 872us/step
Epoch 3203/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 782us/epoch - 782us/step
Epoch 3204/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 729us/epoch - 729us/step
Epoch 3205/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 837us/epoch - 837us/step
Epoch 3206/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 828us/epoch - 828us/step
Epoch 3207/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 701us/epoch - 701us/step
Epoch 3208/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 726us/epoch - 726us/step
Epoch 3209/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 772us/epoch - 772us/step
Epoch 3210/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 755us/epoch - 755us/step
Epoch 3211/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 805us/epoch - 805us/step
Epoch 3212/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 935us/epoch - 935us/step
Epoch 3213/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 765us/epoch - 765us/step
Epoch 3214/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 906us/epoch - 906us/step
Epoch 3215/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3216/5000
1/1 - 0s - loss: 0.0046 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3217/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3218/5000
```

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1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3219/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3220/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3221/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3222/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3223/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3224/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3225/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3226/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3227/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3228/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 890us/epoch - 890us/step
Epoch 3229/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 944us/epoch - 944us/step
Epoch 3230/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3231/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 783us/epoch - 783us/step
Epoch 3232/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 769us/epoch - 769us/step
Epoch 3233/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 694us/epoch - 694us/step
Epoch 3234/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 740us/epoch - 740us/step
Epoch 3235/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 677us/epoch - 677us/step
Epoch 3236/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3237/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3238/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 987us/epoch - 987us/step
Epoch 3239/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 853us/epoch - 853us/step
Epoch 3240/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 765us/epoch - 765us/step
Epoch 3241/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 749us/epoch - 749us/step
Epoch 3242/5000
```

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1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 722us/epoch - 722us/step
Epoch 3243/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 732us/epoch - 732us/step
Epoch 3244/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 784us/epoch - 784us/step
Epoch 3245/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 818us/epoch - 818us/step

Epoch 3246/5000
1/1 - 0s - loss: 0.0045 - binary_accuracy: 1.0000 - 732us/epoch - 732us/step
Epoch 3247/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 645us/epoch - 645us/step
Epoch 3248/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 835us/epoch - 835us/step
Epoch 3249/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 781us/epoch - 781us/step
Epoch 3250/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3251/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 885us/epoch - 885us/step
Epoch 3252/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 869us/epoch - 869us/step
Epoch 3253/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 912us/epoch - 912us/step
Epoch 3254/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3255/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3256/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3257/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3258/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3259/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 998us/epoch - 998us/step
Epoch 3260/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 912us/epoch - 912us/step
Epoch 3261/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3262/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3263/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3264/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 751us/epoch - 751us/step
Epoch 3265/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 876us/epoch - 876us/step
```

```
Epoch 3266/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 3267/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3268/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 825us/epoch - 825us/step
Epoch 3269/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 761us/epoch - 761us/step
Epoch 3270/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 713us/epoch - 713us/step
Epoch 3271/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 676us/epoch - 676us/step
Epoch 3272/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 769us/epoch - 769us/step
Epoch 3273/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 736us/epoch - 736us/step
Epoch 3274/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3275/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3276/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3277/5000
1/1 - 0s - loss: 0.0044 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 3278/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 988us/epoch - 988us/step
Epoch 3279/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 825us/epoch - 825us/step
Epoch 3280/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 762us/epoch - 762us/step
Epoch 3281/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 885us/epoch - 885us/step
Epoch 3282/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 828us/epoch - 828us/step
Epoch 3283/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 736us/epoch - 736us/step
Epoch 3284/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3285/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3286/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 894us/epoch - 894us/step
Epoch 3287/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3288/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3289/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 859us/epoch - 859us/step
```

```
Epoch 3290/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3291/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 843us/epoch - 843us/step
Epoch 3292/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 882us/epoch - 882us/step
Epoch 3293/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 936us/epoch - 936us/step
Epoch 3294/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3295/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3296/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3297/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 3298/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3299/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 834us/epoch - 834us/step
Epoch 3300/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3301/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3302/5000
1/1 - 0s - loss: 0.0043 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3303/5000

IOPub message rate exceeded.
The notebook server will temporarily stop sending output
to the client in order to avoid crashing it.
To change this limit, set the config variable
`--NotebookApp.iopub_msg_rate_limit`.

Current values:
NotebookApp.iopub_msg_rate_limit=1000.0 (msgs/sec)
NotebookApp.rate_limit_window=3.0 (secs)


Epoch 3648/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3649/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3650/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3651/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3652/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
```

```
Epoch 3653/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 866us/epoch - 866us/step
Epoch 3654/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 750us/epoch - 750us/step
Epoch 3655/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3656/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3657/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3658/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3659/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3660/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 815us/epoch - 815us/step
Epoch 3661/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 712us/epoch - 712us/step
Epoch 3662/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3663/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3664/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3665/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3666/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3667/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3668/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 928us/epoch - 928us/step
Epoch 3669/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 899us/epoch - 899us/step
Epoch 3670/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 905us/epoch - 905us/step
Epoch 3671/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 709us/epoch - 709us/step
Epoch 3672/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 832us/epoch - 832us/step
Epoch 3673/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 676us/epoch - 676us/step
Epoch 3674/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 655us/epoch - 655us/step
Epoch 3675/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 686us/epoch - 686us/step
Epoch 3676/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 729us/epoch - 729us/step
```

```
Epoch 3677/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3678/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3679/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3680/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3681/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 799us/epoch - 799us/step
Epoch 3682/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 857us/epoch - 857us/step
Epoch 3683/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 811us/epoch - 811us/step
Epoch 3684/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3685/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3686/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 949us/epoch - 949us/step
Epoch 3687/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 712us/epoch - 712us/step
Epoch 3688/5000
1/1 - 0s - loss: 0.0033 - binary_accuracy: 1.0000 - 676us/epoch - 676us/step
Epoch 3689/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 681us/epoch - 681us/step
Epoch 3690/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 644us/epoch - 644us/step
Epoch 3691/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 723us/epoch - 723us/step
Epoch 3692/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 796us/epoch - 796us/step
Epoch 3693/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 762us/epoch - 762us/step
Epoch 3694/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3695/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3696/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3697/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 979us/epoch - 979us/step
Epoch 3698/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 757us/epoch - 757us/step
Epoch 3699/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 848us/epoch - 848us/step
Epoch 3700/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

```
Epoch 3701/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 968us/epoch - 968us/step
Epoch 3702/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 701us/epoch - 701us/step
Epoch 3703/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3704/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3705/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3706/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3707/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3708/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3709/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3710/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3711/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3712/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3713/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3714/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 851us/epoch - 851us/step
Epoch 3715/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 733us/epoch - 733us/step
Epoch 3716/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 883us/epoch - 883us/step
Epoch 3717/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3718/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 980us/epoch - 980us/step
Epoch 3719/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3720/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3721/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3722/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 921us/epoch - 921us/step
Epoch 3723/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 874us/epoch - 874us/step
Epoch 3724/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 875us/epoch - 875us/step
```

```
Epoch 3725/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3726/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 949us/epoch - 949us/step
Epoch 3727/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3728/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3729/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3730/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3731/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3732/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3733/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3734/5000
1/1 - 0s - loss: 0.0032 - binary_accuracy: 1.0000 - 944us/epoch - 944us/step
Epoch 3735/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3736/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3737/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3738/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step

Epoch 3739/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 942us/epoch - 942us/step
Epoch 3740/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3741/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 740us/epoch - 740us/step
Epoch 3742/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 833us/epoch - 833us/step
Epoch 3743/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 897us/epoch - 897us/step
Epoch 3744/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 917us/epoch - 917us/step
Epoch 3745/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3746/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3747/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3748/5000
```

```
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 853us/epoch - 853us/step
Epoch 3749/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 960us/epoch - 960us/step
Epoch 3750/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 869us/epoch - 869us/step
Epoch 3751/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 984us/epoch - 984us/step
Epoch 3752/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3753/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3754/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3755/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3756/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3757/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3758/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3759/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3760/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3761/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3762/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3763/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3764/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3765/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3766/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 875us/epoch - 875us/step
Epoch 3767/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3768/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3769/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 964us/epoch - 964us/step
Epoch 3770/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 881us/epoch - 881us/step
Epoch 3771/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3772/5000
```

```
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3773/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3774/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3775/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3776/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3777/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3778/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3779/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3780/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 774us/epoch - 774us/step
Epoch 3781/5000
1/1 - 0s - loss: 0.0031 - binary_accuracy: 1.0000 - 907us/epoch - 907us/step
Epoch 3782/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3783/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3784/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3785/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3786/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3787/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3788/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3789/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3790/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3791/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3792/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3793/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3794/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3795/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3796/5000
```

```
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3797/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3798/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3799/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3800/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3801/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 876us/epoch - 876us/step
Epoch 3802/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3803/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3804/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3805/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 981us/epoch - 981us/step
Epoch 3806/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 797us/epoch - 797us/step
Epoch 3807/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 751us/epoch - 751us/step
Epoch 3808/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3809/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3810/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3811/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3812/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3813/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3814/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3815/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3816/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3817/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3818/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3819/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 904us/epoch - 904us/step
Epoch 3820/5000
```

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1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 792us/epoch - 792us/step
Epoch 3821/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 789us/epoch - 789us/step
Epoch 3822/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 752us/epoch - 752us/step
Epoch 3823/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 793us/epoch - 793us/step
Epoch 3824/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 772us/epoch - 772us/step
Epoch 3825/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3826/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3827/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 3828/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3829/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step

Epoch 3830/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3831/5000
1/1 - 0s - loss: 0.0030 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3832/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3833/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3834/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3835/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 796us/epoch - 796us/step
Epoch 3836/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 797us/epoch - 797us/step
Epoch 3837/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 932us/epoch - 932us/step
Epoch 3838/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3839/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 999us/epoch - 999us/step
Epoch 3840/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3841/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3842/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3843/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
```

```
Epoch 3844/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3845/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 901us/epoch - 901us/step
Epoch 3846/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 724us/epoch - 724us/step
Epoch 3847/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 765us/epoch - 765us/step
Epoch 3848/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 805us/epoch - 805us/step
Epoch 3849/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 650us/epoch - 650us/step
Epoch 3850/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 978us/epoch - 978us/step
Epoch 3851/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 941us/epoch - 941us/step
Epoch 3852/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3853/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3854/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3855/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 805us/epoch - 805us/step
Epoch 3856/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 737us/epoch - 737us/step
Epoch 3857/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 839us/epoch - 839us/step
Epoch 3858/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 680us/epoch - 680us/step
Epoch 3859/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 761us/epoch - 761us/step
Epoch 3860/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 830us/epoch - 830us/step
Epoch 3861/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 854us/epoch - 854us/step
Epoch 3862/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3863/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3864/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3865/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3866/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3867/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

```
Epoch 3868/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3869/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3870/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3871/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3872/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 879us/epoch - 879us/step
Epoch 3873/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 756us/epoch - 756us/step
Epoch 3874/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 723us/epoch - 723us/step
Epoch 3875/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 636us/epoch - 636us/step
Epoch 3876/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 982us/epoch - 982us/step
Epoch 3877/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3878/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 986us/epoch - 986us/step
Epoch 3879/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 985us/epoch - 985us/step
Epoch 3880/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3881/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 998us/epoch - 998us/step
Epoch 3882/5000
1/1 - 0s - loss: 0.0029 - binary_accuracy: 1.0000 - 828us/epoch - 828us/step
Epoch 3883/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 762us/epoch - 762us/step
Epoch 3884/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 766us/epoch - 766us/step
Epoch 3885/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 767us/epoch - 767us/step
Epoch 3886/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3887/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3888/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3889/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 841us/epoch - 841us/step
Epoch 3890/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3891/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 3892/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 947us/epoch - 947us/step
Epoch 3893/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3894/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3895/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3896/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3897/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3898/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 3899/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 784us/epoch - 784us/step
Epoch 3900/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 800us/epoch - 800us/step
Epoch 3901/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 767us/epoch - 767us/step
Epoch 3902/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 704us/epoch - 704us/step
Epoch 3903/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 853us/epoch - 853us/step
Epoch 3904/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3905/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 960us/epoch - 960us/step
Epoch 3906/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 885us/epoch - 885us/step
Epoch 3907/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 746us/epoch - 746us/step
Epoch 3908/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 771us/epoch - 771us/step
Epoch 3909/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 857us/epoch - 857us/step
Epoch 3910/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 771us/epoch - 771us/step
Epoch 3911/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 853us/epoch - 853us/step
Epoch 3912/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3913/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3914/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 901us/epoch - 901us/step
Epoch 3915/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 3916/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3917/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3918/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3919/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step

Epoch 3920/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3921/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 842us/epoch - 842us/step
Epoch 3922/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 721us/epoch - 721us/step
Epoch 3923/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 677us/epoch - 677us/step
Epoch 3924/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 847us/epoch - 847us/step
Epoch 3925/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 767us/epoch - 767us/step
Epoch 3926/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 725us/epoch - 725us/step
Epoch 3927/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 801us/epoch - 801us/step
Epoch 3928/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 679us/epoch - 679us/step
Epoch 3929/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 988us/epoch - 988us/step
Epoch 3930/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3931/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3932/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 941us/epoch - 941us/step
Epoch 3933/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 757us/epoch - 757us/step
Epoch 3934/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 709us/epoch - 709us/step
Epoch 3935/5000
1/1 - 0s - loss: 0.0028 - binary_accuracy: 1.0000 - 690us/epoch - 690us/step
Epoch 3936/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 693us/epoch - 693us/step
Epoch 3937/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 672us/epoch - 672us/step
Epoch 3938/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 779us/epoch - 779us/step
Epoch 3939/5000
```

```
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3940/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 962us/epoch - 962us/step
Epoch 3941/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3942/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3943/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 828us/epoch - 828us/step
Epoch 3944/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3945/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3946/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3947/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3948/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3949/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3950/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3951/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 972us/epoch - 972us/step
Epoch 3952/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3953/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3954/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3955/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3956/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3957/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3958/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 899us/epoch - 899us/step
Epoch 3959/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 974us/epoch - 974us/step
Epoch 3960/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3961/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3962/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 943us/epoch - 943us/step
Epoch 3963/5000
```

```
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3964/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 3965/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 971us/epoch - 971us/step
Epoch 3966/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3967/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3968/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 955us/epoch - 955us/step
Epoch 3969/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 778us/epoch - 778us/step
Epoch 3970/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3971/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3972/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3973/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3974/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3975/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3976/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3977/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3978/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3979/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3980/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3981/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 3982/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3983/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3984/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3985/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 766us/epoch - 766us/step
Epoch 3986/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 771us/epoch - 771us/step
Epoch 3987/5000
```

```
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 700us/epoch - 700us/step
Epoch 3988/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 813us/epoch - 813us/step
Epoch 3989/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 890us/epoch - 890us/step
Epoch 3990/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3991/5000
1/1 - 0s - loss: 0.0027 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3992/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3993/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 3994/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 3995/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3996/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3997/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 3998/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 770us/epoch - 770us/step
Epoch 3999/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 652us/epoch - 652us/step
Epoch 4000/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 949us/epoch - 949us/step
Epoch 4001/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 756us/epoch - 756us/step
Epoch 4002/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 881us/epoch - 881us/step
Epoch 4003/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 821us/epoch - 821us/step
Epoch 4004/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 760us/epoch - 760us/step
Epoch 4005/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 674us/epoch - 674us/step
Epoch 4006/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 685us/epoch - 685us/step
Epoch 4007/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 628us/epoch - 628us/step
Epoch 4008/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 715us/epoch - 715us/step
Epoch 4009/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 694us/epoch - 694us/step
Epoch 4010/5000

1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 686us/epoch - 686us/step
```

```
Epoch 4011/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 851us/epoch - 851us/step
Epoch 4012/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4013/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 869us/epoch - 869us/step
Epoch 4014/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 957us/epoch - 957us/step
Epoch 4015/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4016/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 926us/epoch - 926us/step
Epoch 4017/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 870us/epoch - 870us/step
Epoch 4018/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 731us/epoch - 731us/step
Epoch 4019/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 788us/epoch - 788us/step
Epoch 4020/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 767us/epoch - 767us/step
Epoch 4021/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 675us/epoch - 675us/step
Epoch 4022/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4023/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4024/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4025/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 736us/epoch - 736us/step
Epoch 4026/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 741us/epoch - 741us/step
Epoch 4027/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 668us/epoch - 668us/step
Epoch 4028/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 720us/epoch - 720us/step
Epoch 4029/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 702us/epoch - 702us/step
Epoch 4030/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 809us/epoch - 809us/step
Epoch 4031/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 906us/epoch - 906us/step
Epoch 4032/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 842us/epoch - 842us/step
Epoch 4033/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 994us/epoch - 994us/step
Epoch 4034/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 991us/epoch - 991us/step
```

```
Epoch 4035/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4036/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4037/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4038/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 788us/epoch - 788us/step
Epoch 4039/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 693us/epoch - 693us/step
Epoch 4040/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 700us/epoch - 700us/step
Epoch 4041/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 690us/epoch - 690us/step
Epoch 4042/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 760us/epoch - 760us/step
Epoch 4043/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 709us/epoch - 709us/step
Epoch 4044/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 792us/epoch - 792us/step
Epoch 4045/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4046/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4047/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4048/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4049/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4050/5000
1/1 - 0s - loss: 0.0026 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4051/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4052/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4053/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 889us/epoch - 889us/step
Epoch 4054/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 810us/epoch - 810us/step
Epoch 4055/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 678us/epoch - 678us/step
Epoch 4056/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 694us/epoch - 694us/step
Epoch 4057/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 667us/epoch - 667us/step
Epoch 4058/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 684us/epoch - 684us/step
```

```
Epoch 4059/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 731us/epoch - 731us/step
Epoch 4060/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 716us/epoch - 716us/step
Epoch 4061/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 720us/epoch - 720us/step
Epoch 4062/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 771us/epoch - 771us/step
Epoch 4063/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 819us/epoch - 819us/step
Epoch 4064/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 798us/epoch - 798us/step
Epoch 4065/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 734us/epoch - 734us/step
Epoch 4066/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 998us/epoch - 998us/step
Epoch 4067/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 4068/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4069/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4070/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4071/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4072/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 955us/epoch - 955us/step
Epoch 4073/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 890us/epoch - 890us/step
Epoch 4074/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 978us/epoch - 978us/step
Epoch 4075/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4076/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4077/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4078/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4079/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4080/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4081/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4082/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
```

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Epoch 4083/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4084/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4085/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4086/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4087/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4088/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4089/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4090/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 768us/epoch - 768us/step
Epoch 4091/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 707us/epoch - 707us/step
Epoch 4092/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 681us/epoch - 681us/step
Epoch 4093/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 846us/epoch - 846us/step
Epoch 4094/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4095/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4096/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4097/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4098/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4099/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4100/5000

1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 974us/epoch - 974us/step
Epoch 4101/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4102/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4103/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4104/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4105/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4106/5000
```

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1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 938us/epoch - 938us/step
Epoch 4107/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4108/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4109/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4110/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4111/5000
1/1 - 0s - loss: 0.0025 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4112/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4113/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4114/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4115/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4116/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4117/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4118/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 941us/epoch - 941us/step
Epoch 4119/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4120/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 692us/epoch - 692us/step
Epoch 4121/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 688us/epoch - 688us/step
Epoch 4122/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 669us/epoch - 669us/step
Epoch 4123/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4124/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4125/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4126/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4127/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4128/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4129/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4130/5000
```

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1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4131/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4132/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4133/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 923us/epoch - 923us/step
Epoch 4134/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 921us/epoch - 921us/step
Epoch 4135/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 862us/epoch - 862us/step
Epoch 4136/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 947us/epoch - 947us/step
Epoch 4137/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4138/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 944us/epoch - 944us/step
Epoch 4139/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4140/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4141/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4142/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 994us/epoch - 994us/step
Epoch 4143/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 976us/epoch - 976us/step
Epoch 4144/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 850us/epoch - 850us/step
Epoch 4145/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 973us/epoch - 973us/step
Epoch 4146/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4147/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4148/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4149/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4150/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4151/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 786us/epoch - 786us/step
Epoch 4152/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 932us/epoch - 932us/step
Epoch 4153/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 884us/epoch - 884us/step
Epoch 4154/5000
```

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1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4155/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4156/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4157/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 971us/epoch - 971us/step
Epoch 4158/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4159/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4160/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4161/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 980us/epoch - 980us/step
Epoch 4162/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4163/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4164/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4165/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 931us/epoch - 931us/step
Epoch 4166/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 859us/epoch - 859us/step
Epoch 4167/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 732us/epoch - 732us/step
Epoch 4168/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 826us/epoch - 826us/step
Epoch 4169/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 765us/epoch - 765us/step
Epoch 4170/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 726us/epoch - 726us/step
Epoch 4171/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 678us/epoch - 678us/step
Epoch 4172/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 656us/epoch - 656us/step
Epoch 4173/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4174/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4175/5000
1/1 - 0s - loss: 0.0024 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4176/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4177/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4178/5000
```

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1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4179/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4180/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4181/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4182/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4183/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4184/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4185/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4186/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4187/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4188/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4189/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4190/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step

Epoch 4191/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4192/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4193/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4194/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4195/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4196/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4197/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4198/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4199/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4200/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4201/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 921us/epoch - 921us/step
```

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Epoch 4202/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 907us/epoch - 907us/step
Epoch 4203/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 868us/epoch - 868us/step
Epoch 4204/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 866us/epoch - 866us/step
Epoch 4205/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4206/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4207/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4208/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 954us/epoch - 954us/step
Epoch 4209/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 963us/epoch - 963us/step
Epoch 4210/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 752us/epoch - 752us/step
Epoch 4211/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4212/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4213/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4214/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4215/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4216/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 934us/epoch - 934us/step
Epoch 4217/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 850us/epoch - 850us/step
Epoch 4218/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4219/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4220/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4221/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4222/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4223/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4224/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4225/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 4226/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 943us/epoch - 943us/step
Epoch 4227/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 929us/epoch - 929us/step
Epoch 4228/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 899us/epoch - 899us/step
Epoch 4229/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4230/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4231/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4232/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 904us/epoch - 904us/step
Epoch 4233/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 921us/epoch - 921us/step
Epoch 4234/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 971us/epoch - 971us/step
Epoch 4235/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 914us/epoch - 914us/step
Epoch 4236/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4237/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4238/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4239/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4240/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4241/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 978us/epoch - 978us/step
Epoch 4242/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 883us/epoch - 883us/step
Epoch 4243/5000
1/1 - 0s - loss: 0.0023 - binary_accuracy: 1.0000 - 757us/epoch - 757us/step
Epoch 4244/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 768us/epoch - 768us/step
Epoch 4245/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4246/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4247/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4248/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 948us/epoch - 948us/step
Epoch 4249/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 914us/epoch - 914us/step
```

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Epoch 4250/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 858us/epoch - 858us/step
Epoch 4251/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4252/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4253/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4254/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4255/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4256/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 974us/epoch - 974us/step
Epoch 4257/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 873us/epoch - 873us/step
Epoch 4258/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 864us/epoch - 864us/step
Epoch 4259/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4260/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4261/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4262/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4263/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4264/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 885us/epoch - 885us/step
Epoch 4265/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 825us/epoch - 825us/step
Epoch 4266/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 707us/epoch - 707us/step
Epoch 4267/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 735us/epoch - 735us/step
Epoch 4268/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 713us/epoch - 713us/step
Epoch 4269/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 999us/epoch - 999us/step
Epoch 4270/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4271/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4272/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4273/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 4274/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 956us/epoch - 956us/step
Epoch 4275/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4276/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 942us/epoch - 942us/step
Epoch 4277/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4278/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 924us/epoch - 924us/step
Epoch 4279/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 819us/epoch - 819us/step
Epoch 4280/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 922us/epoch - 922us/step
Epoch 4281/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 862us/epoch - 862us/step

Epoch 4282/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 848us/epoch - 848us/step
Epoch 4283/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 757us/epoch - 757us/step
Epoch 4284/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 823us/epoch - 823us/step
Epoch 4285/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 777us/epoch - 777us/step
Epoch 4286/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 760us/epoch - 760us/step
Epoch 4287/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4288/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4289/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 968us/epoch - 968us/step
Epoch 4290/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 963us/epoch - 963us/step
Epoch 4291/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 937us/epoch - 937us/step
Epoch 4292/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4293/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4294/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4295/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4296/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4297/5000
```

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1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 985us/epoch - 985us/step
Epoch 4298/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 779us/epoch - 779us/step
Epoch 4299/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 718us/epoch - 718us/step
Epoch 4300/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 798us/epoch - 798us/step
Epoch 4301/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 920us/epoch - 920us/step
Epoch 4302/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 827us/epoch - 827us/step
Epoch 4303/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4304/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 865us/epoch - 865us/step
Epoch 4305/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4306/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4307/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 746us/epoch - 746us/step
Epoch 4308/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4309/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4310/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4311/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4312/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4313/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4314/5000
1/1 - 0s - loss: 0.0022 - binary_accuracy: 1.0000 - 931us/epoch - 931us/step
Epoch 4315/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4316/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4317/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4318/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4319/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 832us/epoch - 832us/step
Epoch 4320/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4321/5000
```

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1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4322/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4323/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4324/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4325/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4326/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 969us/epoch - 969us/step
Epoch 4327/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4328/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 793us/epoch - 793us/step
Epoch 4329/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 787us/epoch - 787us/step
Epoch 4330/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4331/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4332/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4333/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4334/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 783us/epoch - 783us/step
Epoch 4335/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 679us/epoch - 679us/step
Epoch 4336/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 674us/epoch - 674us/step
Epoch 4337/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 689us/epoch - 689us/step
Epoch 4338/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 644us/epoch - 644us/step
Epoch 4339/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 635us/epoch - 635us/step
Epoch 4340/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4341/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4342/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4343/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 911us/epoch - 911us/step
Epoch 4344/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 873us/epoch - 873us/step
Epoch 4345/5000
```

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1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 762us/epoch - 762us/step
Epoch 4346/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 677us/epoch - 677us/step
Epoch 4347/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 777us/epoch - 777us/step
Epoch 4348/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 705us/epoch - 705us/step
Epoch 4349/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4350/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 853us/epoch - 853us/step
Epoch 4351/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 941us/epoch - 941us/step
Epoch 4352/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 732us/epoch - 732us/step
Epoch 4353/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 655us/epoch - 655us/step
Epoch 4354/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 657us/epoch - 657us/step
Epoch 4355/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 755us/epoch - 755us/step
Epoch 4356/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 690us/epoch - 690us/step
Epoch 4357/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 689us/epoch - 689us/step
Epoch 4358/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 800us/epoch - 800us/step
Epoch 4359/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 681us/epoch - 681us/step
Epoch 4360/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 751us/epoch - 751us/step
Epoch 4361/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4362/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4363/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 917us/epoch - 917us/step
Epoch 4364/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 871us/epoch - 871us/step
Epoch 4365/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 781us/epoch - 781us/step
Epoch 4366/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 704us/epoch - 704us/step
Epoch 4367/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4368/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4369/5000
```

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1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4370/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4371/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 892us/epoch - 892us/step

Epoch 4372/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 948us/epoch - 948us/step
Epoch 4373/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 813us/epoch - 813us/step
Epoch 4374/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 789us/epoch - 789us/step
Epoch 4375/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 831us/epoch - 831us/step
Epoch 4376/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 735us/epoch - 735us/step
Epoch 4377/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 708us/epoch - 708us/step
Epoch 4378/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 725us/epoch - 725us/step
Epoch 4379/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4380/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4381/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4382/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 930us/epoch - 930us/step
Epoch 4383/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 748us/epoch - 748us/step
Epoch 4384/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 759us/epoch - 759us/step
Epoch 4385/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 706us/epoch - 706us/step
Epoch 4386/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 741us/epoch - 741us/step
Epoch 4387/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 668us/epoch - 668us/step
Epoch 4388/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4389/5000
1/1 - 0s - loss: 0.0021 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4390/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 892us/epoch - 892us/step
Epoch 4391/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 757us/epoch - 757us/step
Epoch 4392/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
```

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Epoch 4393/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 761us/epoch - 761us/step
Epoch 4394/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 746us/epoch - 746us/step
Epoch 4395/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 690us/epoch - 690us/step
Epoch 4396/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 921us/epoch - 921us/step
Epoch 4397/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4398/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4399/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 974us/epoch - 974us/step
Epoch 4400/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4401/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 828us/epoch - 828us/step
Epoch 4402/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 742us/epoch - 742us/step
Epoch 4403/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 893us/epoch - 893us/step
Epoch 4404/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4405/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4406/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4407/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 929us/epoch - 929us/step
Epoch 4408/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4409/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4410/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4411/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 998us/epoch - 998us/step
Epoch 4412/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4413/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4414/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4415/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4416/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 4417/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4418/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4419/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4420/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 934us/epoch - 934us/step
Epoch 4421/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 904us/epoch - 904us/step
Epoch 4422/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 878us/epoch - 878us/step
Epoch 4423/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 947us/epoch - 947us/step
Epoch 4424/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 942us/epoch - 942us/step
Epoch 4425/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 933us/epoch - 933us/step
Epoch 4426/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 729us/epoch - 729us/step
Epoch 4427/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4428/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4429/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4430/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4431/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4432/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 877us/epoch - 877us/step
Epoch 4433/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 793us/epoch - 793us/step
Epoch 4434/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 706us/epoch - 706us/step
Epoch 4435/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 689us/epoch - 689us/step
Epoch 4436/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 977us/epoch - 977us/step
Epoch 4437/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4438/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4439/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4440/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 4441/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4442/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 851us/epoch - 851us/step
Epoch 4443/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 932us/epoch - 932us/step
Epoch 4444/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 709us/epoch - 709us/step
Epoch 4445/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 828us/epoch - 828us/step
Epoch 4446/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 920us/epoch - 920us/step
Epoch 4447/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4448/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4449/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 856us/epoch - 856us/step
Epoch 4450/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4451/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 855us/epoch - 855us/step
Epoch 4452/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 863us/epoch - 863us/step
Epoch 4453/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 779us/epoch - 779us/step
Epoch 4454/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4455/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4456/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4457/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 976us/epoch - 976us/step
Epoch 4458/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 742us/epoch - 742us/step
Epoch 4459/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 712us/epoch - 712us/step
Epoch 4460/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 863us/epoch - 863us/step
Epoch 4461/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 754us/epoch - 754us/step

Epoch 4462/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 659us/epoch - 659us/step
Epoch 4463/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 749us/epoch - 749us/step
Epoch 4464/5000
```

```
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4465/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4466/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4467/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 954us/epoch - 954us/step
Epoch 4468/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4469/5000
1/1 - 0s - loss: 0.0020 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4470/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 997us/epoch - 997us/step
Epoch 4471/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4472/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4473/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4474/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4475/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 967us/epoch - 967us/step
Epoch 4476/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 848us/epoch - 848us/step
Epoch 4477/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4478/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4479/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4480/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4481/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4482/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4483/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 857us/epoch - 857us/step
Epoch 4484/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 750us/epoch - 750us/step
Epoch 4485/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 717us/epoch - 717us/step
Epoch 4486/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 751us/epoch - 751us/step
Epoch 4487/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4488/5000
```

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1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4489/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4490/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 987us/epoch - 987us/step
Epoch 4491/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4492/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4493/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4494/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4495/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4496/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4497/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 962us/epoch - 962us/step
Epoch 4498/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 841us/epoch - 841us/step
Epoch 4499/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 825us/epoch - 825us/step
Epoch 4500/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 837us/epoch - 837us/step
Epoch 4501/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4502/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4503/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4504/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 910us/epoch - 910us/step
Epoch 4505/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 813us/epoch - 813us/step
Epoch 4506/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 897us/epoch - 897us/step
Epoch 4507/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4508/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 837us/epoch - 837us/step
Epoch 4509/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 790us/epoch - 790us/step
Epoch 4510/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 717us/epoch - 717us/step
Epoch 4511/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4512/5000
```

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1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4513/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4514/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 965us/epoch - 965us/step
Epoch 4515/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 836us/epoch - 836us/step
Epoch 4516/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 900us/epoch - 900us/step
Epoch 4517/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 824us/epoch - 824us/step
Epoch 4518/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 950us/epoch - 950us/step
Epoch 4519/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4520/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4521/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 908us/epoch - 908us/step
Epoch 4522/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 913us/epoch - 913us/step
Epoch 4523/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4524/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 971us/epoch - 971us/step
Epoch 4525/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 976us/epoch - 976us/step
Epoch 4526/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4527/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4528/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4529/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4530/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 988us/epoch - 988us/step
Epoch 4531/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 771us/epoch - 771us/step
Epoch 4532/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 765us/epoch - 765us/step
Epoch 4533/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 699us/epoch - 699us/step
Epoch 4534/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 721us/epoch - 721us/step
Epoch 4535/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4536/5000
```

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1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4537/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4538/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 959us/epoch - 959us/step
Epoch 4539/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 781us/epoch - 781us/step
Epoch 4540/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 803us/epoch - 803us/step
Epoch 4541/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 722us/epoch - 722us/step
Epoch 4542/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 776us/epoch - 776us/step
Epoch 4543/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 743us/epoch - 743us/step
Epoch 4544/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 727us/epoch - 727us/step
Epoch 4545/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 845us/epoch - 845us/step
Epoch 4546/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4547/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4548/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4549/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4550/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4551/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4552/5000

1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4553/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4554/5000
1/1 - 0s - loss: 0.0019 - binary_accuracy: 1.0000 - 922us/epoch - 922us/step
Epoch 4555/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 881us/epoch - 881us/step
Epoch 4556/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 884us/epoch - 884us/step
Epoch 4557/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 958us/epoch - 958us/step
Epoch 4558/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 692us/epoch - 692us/step
Epoch 4559/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 697us/epoch - 697us/step
```

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Epoch 4560/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 808us/epoch - 808us/step
Epoch 4561/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 713us/epoch - 713us/step
Epoch 4562/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4563/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4564/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4565/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 976us/epoch - 976us/step
Epoch 4566/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 958us/epoch - 958us/step
Epoch 4567/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4568/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4569/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 884us/epoch - 884us/step
Epoch 4570/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4571/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4572/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 970us/epoch - 970us/step
Epoch 4573/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 800us/epoch - 800us/step
Epoch 4574/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 775us/epoch - 775us/step
Epoch 4575/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 751us/epoch - 751us/step
Epoch 4576/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 724us/epoch - 724us/step
Epoch 4577/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 813us/epoch - 813us/step
Epoch 4578/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 734us/epoch - 734us/step
Epoch 4579/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 788us/epoch - 788us/step
Epoch 4580/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4581/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4582/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4583/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 883us/epoch - 883us/step
```

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Epoch 4584/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 752us/epoch - 752us/step
Epoch 4585/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 906us/epoch - 906us/step
Epoch 4586/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4587/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4588/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4589/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4590/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 846us/epoch - 846us/step
Epoch 4591/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 887us/epoch - 887us/step
Epoch 4592/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 754us/epoch - 754us/step
Epoch 4593/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 736us/epoch - 736us/step
Epoch 4594/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 764us/epoch - 764us/step
Epoch 4595/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4596/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4597/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4598/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4599/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4600/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 854us/epoch - 854us/step
Epoch 4601/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 691us/epoch - 691us/step
Epoch 4602/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 690us/epoch - 690us/step
Epoch 4603/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 655us/epoch - 655us/step
Epoch 4604/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4605/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4606/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4607/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
```

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Epoch 4608/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4609/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 962us/epoch - 962us/step
Epoch 4610/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4611/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4612/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4613/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4614/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4615/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4616/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4617/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 882us/epoch - 882us/step
Epoch 4618/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 831us/epoch - 831us/step
Epoch 4619/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4620/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4621/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4622/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4623/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4624/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4625/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4626/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4627/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 934us/epoch - 934us/step
Epoch 4628/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 838us/epoch - 838us/step
Epoch 4629/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 795us/epoch - 795us/step
Epoch 4630/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 768us/epoch - 768us/step
Epoch 4631/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 688us/epoch - 688us/step
```

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Epoch 4632/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 733us/epoch - 733us/step
Epoch 4633/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 689us/epoch - 689us/step
Epoch 4634/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 679us/epoch - 679us/step
Epoch 4635/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 938us/epoch - 938us/step
Epoch 4636/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4637/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4638/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4639/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 963us/epoch - 963us/step
Epoch 4640/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 869us/epoch - 869us/step
Epoch 4641/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 868us/epoch - 868us/step
Epoch 4642/5000

1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 917us/epoch - 917us/step
Epoch 4643/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4644/5000
1/1 - 0s - loss: 0.0018 - binary_accuracy: 1.0000 - 990us/epoch - 990us/step
Epoch 4645/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4646/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 874us/epoch - 874us/step
Epoch 4647/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 4648/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 861us/epoch - 861us/step
Epoch 4649/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 829us/epoch - 829us/step
Epoch 4650/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 4651/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 892us/epoch - 892us/step
Epoch 4652/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 916us/epoch - 916us/step
Epoch 4653/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4654/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4655/5000
```

```
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4656/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4657/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4658/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4659/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 895us/epoch - 895us/step
Epoch 4660/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 847us/epoch - 847us/step
Epoch 4661/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 831us/epoch - 831us/step
Epoch 4662/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4663/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 920us/epoch - 920us/step
Epoch 4664/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4665/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 867us/epoch - 867us/step
Epoch 4666/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 998us/epoch - 998us/step
Epoch 4667/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 815us/epoch - 815us/step
Epoch 4668/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 908us/epoch - 908us/step
Epoch 4669/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 926us/epoch - 926us/step
Epoch 4670/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4671/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4672/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4673/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4674/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4675/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4676/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4677/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4678/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4679/5000
```

```
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4680/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4681/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 985us/epoch - 985us/step
Epoch 4682/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 882us/epoch - 882us/step
Epoch 4683/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4684/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4685/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4686/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 832us/epoch - 832us/step
Epoch 4687/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 644us/epoch - 644us/step
Epoch 4688/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 683us/epoch - 683us/step
Epoch 4689/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 683us/epoch - 683us/step
Epoch 4690/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 753us/epoch - 753us/step
Epoch 4691/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 648us/epoch - 648us/step
Epoch 4692/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 764us/epoch - 764us/step
Epoch 4693/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 762us/epoch - 762us/step
Epoch 4694/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4695/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 942us/epoch - 942us/step
Epoch 4696/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4697/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 756us/epoch - 756us/step
Epoch 4698/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4699/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 843us/epoch - 843us/step
Epoch 4700/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 768us/epoch - 768us/step
Epoch 4701/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 810us/epoch - 810us/step
Epoch 4702/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4703/5000
```

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1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4704/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4705/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4706/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4707/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4708/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 710us/epoch - 710us/step
Epoch 4709/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 684us/epoch - 684us/step
Epoch 4710/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 714us/epoch - 714us/step
Epoch 4711/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 686us/epoch - 686us/step
Epoch 4712/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 787us/epoch - 787us/step
Epoch 4713/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4714/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4715/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4716/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4717/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4718/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4719/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4720/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4721/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4722/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4723/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4724/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4725/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4726/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4727/5000
```

```
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4728/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 992us/epoch - 992us/step
Epoch 4729/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 940us/epoch - 940us/step
Epoch 4730/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 754us/epoch - 754us/step
Epoch 4731/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 714us/epoch - 714us/step
Epoch 4732/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step

Epoch 4733/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4734/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4735/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4736/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4737/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4738/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4739/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4740/5000
1/1 - 0s - loss: 0.0017 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4741/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4742/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4743/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4744/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4745/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4746/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4747/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4748/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4749/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4750/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 4751/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 990us/epoch - 990us/step
Epoch 4752/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 932us/epoch - 932us/step
Epoch 4753/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 834us/epoch - 834us/step
Epoch 4754/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 939us/epoch - 939us/step
Epoch 4755/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4756/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4757/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4758/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4759/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4760/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4761/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4762/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4763/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4764/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 830us/epoch - 830us/step
Epoch 4765/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 869us/epoch - 869us/step
Epoch 4766/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 684us/epoch - 684us/step
Epoch 4767/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 719us/epoch - 719us/step
Epoch 4768/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 781us/epoch - 781us/step
Epoch 4769/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 732us/epoch - 732us/step
Epoch 4770/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4771/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4772/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4773/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 835us/epoch - 835us/step
Epoch 4774/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 728us/epoch - 728us/step
```

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Epoch 4775/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4776/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 742us/epoch - 742us/step
Epoch 4777/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 683us/epoch - 683us/step
Epoch 4778/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4779/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4780/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4781/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4782/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 958us/epoch - 958us/step
Epoch 4783/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 948us/epoch - 948us/step
Epoch 4784/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 895us/epoch - 895us/step
Epoch 4785/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4786/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4787/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4788/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4789/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4790/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4791/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4792/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4793/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4794/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 925us/epoch - 925us/step
Epoch 4795/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 983us/epoch - 983us/step
Epoch 4796/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 686us/epoch - 686us/step
Epoch 4797/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 642us/epoch - 642us/step
Epoch 4798/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 719us/epoch - 719us/step
```

```
Epoch 4799/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 721us/epoch - 721us/step
Epoch 4800/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 737us/epoch - 737us/step
Epoch 4801/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 748us/epoch - 748us/step
Epoch 4802/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 812us/epoch - 812us/step
Epoch 4803/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4804/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 808us/epoch - 808us/step
Epoch 4805/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 825us/epoch - 825us/step
Epoch 4806/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 732us/epoch - 732us/step
Epoch 4807/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 761us/epoch - 761us/step
Epoch 4808/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 845us/epoch - 845us/step
Epoch 4809/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4810/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 774us/epoch - 774us/step
Epoch 4811/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4812/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4813/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 948us/epoch - 948us/step
Epoch 4814/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 938us/epoch - 938us/step
Epoch 4815/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4816/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4817/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4818/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4819/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4820/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4821/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 958us/epoch - 958us/step
Epoch 4822/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

```
Epoch 4823/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 946us/epoch - 946us/step

Epoch 4824/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4825/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4826/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4827/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4828/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4829/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 993us/epoch - 993us/step
Epoch 4830/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 941us/epoch - 941us/step
Epoch 4831/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 755us/epoch - 755us/step
Epoch 4832/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 849us/epoch - 849us/step
Epoch 4833/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4834/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4835/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4836/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4837/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4838/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4839/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4840/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4841/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4842/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4843/5000
1/1 - 0s - loss: 0.0016 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4844/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4845/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4846/5000
```

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1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4847/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4848/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4849/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4850/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 957us/epoch - 957us/step
Epoch 4851/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 903us/epoch - 903us/step
Epoch 4852/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 834us/epoch - 834us/step
Epoch 4853/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4854/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4855/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4856/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4857/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 996us/epoch - 996us/step
Epoch 4858/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4859/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 993us/epoch - 993us/step
Epoch 4860/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4861/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4862/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4863/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4864/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4865/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4866/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4867/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 956us/epoch - 956us/step
Epoch 4868/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4869/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4870/5000
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1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 852us/epoch - 852us/step
Epoch 4871/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4872/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 977us/epoch - 977us/step
Epoch 4873/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 851us/epoch - 851us/step
Epoch 4874/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 879us/epoch - 879us/step
Epoch 4875/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 823us/epoch - 823us/step
Epoch 4876/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4877/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4878/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4879/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4880/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 950us/epoch - 950us/step
Epoch 4881/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 922us/epoch - 922us/step
Epoch 4882/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4883/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4884/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4885/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4886/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4887/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4888/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4889/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 832us/epoch - 832us/step
Epoch 4890/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 736us/epoch - 736us/step
Epoch 4891/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4892/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4893/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4894/5000
```

```
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4895/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 937us/epoch - 937us/step
Epoch 4896/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4897/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 957us/epoch - 957us/step
Epoch 4898/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 821us/epoch - 821us/step
Epoch 4899/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 905us/epoch - 905us/step
Epoch 4900/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4901/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4902/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4903/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4904/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 914us/epoch - 914us/step
Epoch 4905/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 801us/epoch - 801us/step
Epoch 4906/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 862us/epoch - 862us/step
Epoch 4907/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 997us/epoch - 997us/step
Epoch 4908/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 989us/epoch - 989us/step
Epoch 4909/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 923us/epoch - 923us/step
Epoch 4910/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4911/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4912/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4913/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 905us/epoch - 905us/step
Epoch 4914/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 898us/epoch - 898us/step

Epoch 4915/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4916/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4917/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

```
Epoch 4918/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4919/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4920/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4921/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4922/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4923/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4924/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4925/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4926/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4927/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4928/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 908us/epoch - 908us/step
Epoch 4929/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4930/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4931/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 973us/epoch - 973us/step
Epoch 4932/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4933/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4934/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4935/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 869us/epoch - 869us/step
Epoch 4936/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 893us/epoch - 893us/step
Epoch 4937/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4938/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4939/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4940/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 855us/epoch - 855us/step
Epoch 4941/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 648us/epoch - 648us/step
```

```
Epoch 4942/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4943/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4944/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 930us/epoch - 930us/step
Epoch 4945/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 741us/epoch - 741us/step
Epoch 4946/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 3ms/epoch - 3ms/step
Epoch 4947/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4948/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 907us/epoch - 907us/step
Epoch 4949/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 742us/epoch - 742us/step
Epoch 4950/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 715us/epoch - 715us/step
Epoch 4951/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 729us/epoch - 729us/step
Epoch 4952/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 635us/epoch - 635us/step
Epoch 4953/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 686us/epoch - 686us/step
Epoch 4954/5000
1/1 - 0s - loss: 0.0015 - binary_accuracy: 1.0000 - 765us/epoch - 765us/step
Epoch 4955/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4956/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 942us/epoch - 942us/step
Epoch 4957/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4958/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4959/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4960/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 960us/epoch - 960us/step
Epoch 4961/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4962/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 880us/epoch - 880us/step
Epoch 4963/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4964/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4965/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

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Epoch 4966/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4967/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4968/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4969/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 921us/epoch - 921us/step
Epoch 4970/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 861us/epoch - 861us/step
Epoch 4971/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4972/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4973/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4974/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4975/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 964us/epoch - 964us/step
Epoch 4976/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 872us/epoch - 872us/step
Epoch 4977/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 971us/epoch - 971us/step
Epoch 4978/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 786us/epoch - 786us/step
Epoch 4979/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 922us/epoch - 922us/step
Epoch 4980/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 949us/epoch - 949us/step
Epoch 4981/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 878us/epoch - 878us/step
Epoch 4982/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 4983/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4984/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4985/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 892us/epoch - 892us/step
Epoch 4986/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 792us/epoch - 792us/step
Epoch 4987/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 736us/epoch - 736us/step
Epoch 4988/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 738us/epoch - 738us/step
Epoch 4989/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 857us/epoch - 857us/step
```

```
Epoch 4990/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4991/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4992/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4993/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4994/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4995/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 986us/epoch - 986us/step
Epoch 4996/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4997/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 998us/epoch - 998us/step
Epoch 4998/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
Epoch 4999/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 2ms/epoch - 2ms/step
Epoch 5000/5000
1/1 - 0s - loss: 0.0014 - binary_accuracy: 1.0000 - 1ms/epoch - 1ms/step
```

[18]:
```python
model.predict(training_data)
```

```
1/1                 0s 106ms/step
```

[18]:
```
array([[0.15368122],
       [0.9745113 ],
       [0.96117944],
       [0.9997633 ]], dtype=float32)
```

[19]:
```python
model.predict(training_data).round()
```

```
1/1                 0s 20ms/step
```

[19]:
```
array([[0.],
       [1.],
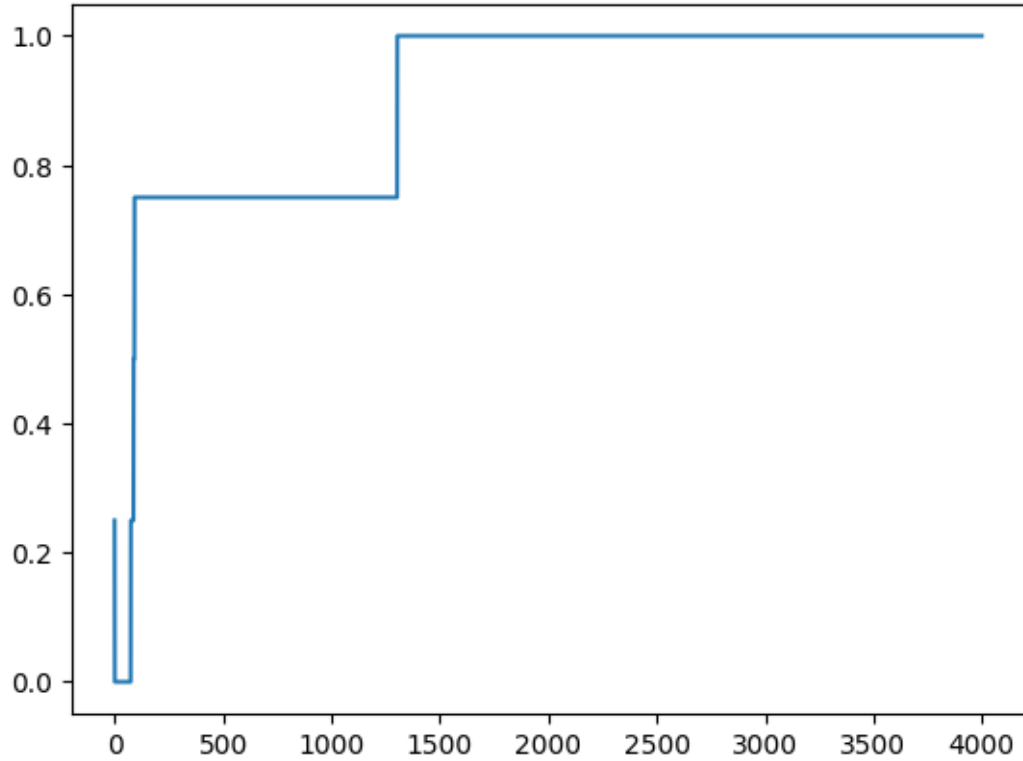       [1.],
       [1.]], dtype=float32)
```

[20]:
```python
# model.predict_classes(training_data)
# AttributeError: 'Sequential' object has no attribute 'predict_classes'
```

[21]:
```python
predictions = (model.predict(training_data) > 0.5).astype("int32")
predictions
```

```
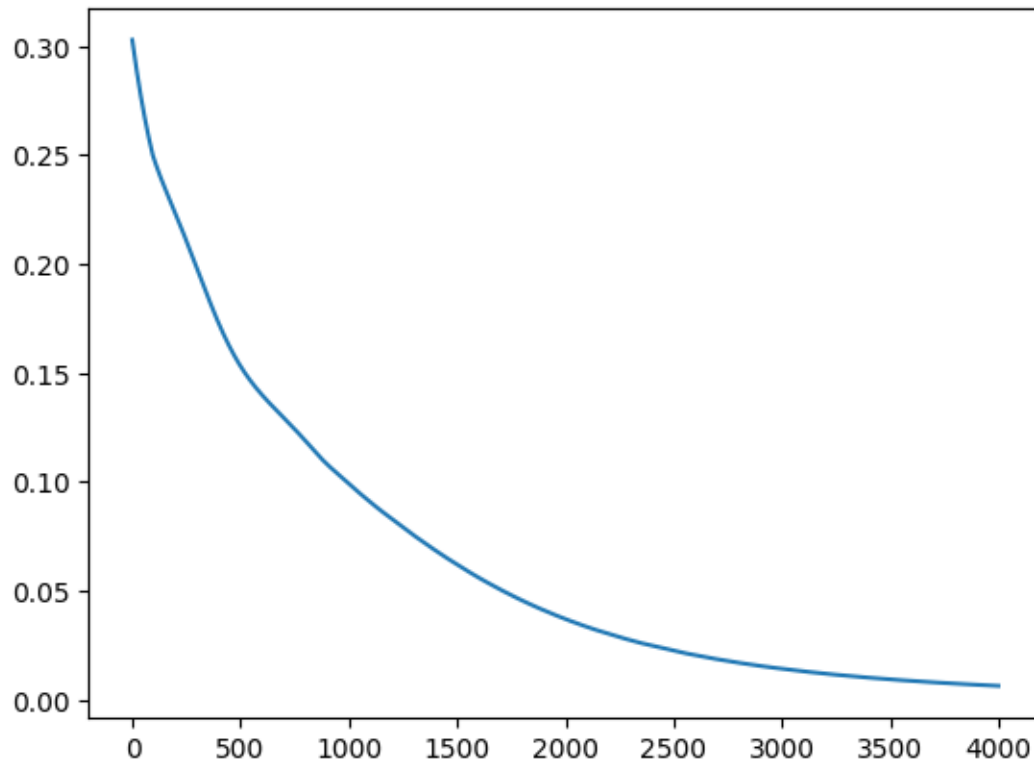1/1                 0s 20ms/step
```

```
[21]: array([[0],
             [1],
             [1],
             [1]], dtype=int32)
```

```python
[25]: import matplotlib.pyplot as plt
      plt.plot(history.history['binary_accuracy'], label = 'train')
      plt.show()
```



```python
[23]: plt.plot(history.history['loss'], label = 'train')
      plt.show()
```

```
[24]: scores = model.evaluate(training_data, target_data)
      print("\nAccuracy: %.2f%%" % (scores[1]*100))
```

```
1/1                0s 144ms/step -
binary_accuracy: 1.0000 - loss: 0.0064


Accuracy: 100.00%
```

Creado por:

Isabel Maniega