

insurance-prediction

February 18, 2024

1 insurance data model

Gradient Descent is an optimization algorithm commonly used in machine learning to minimize the loss function during the training of a model. The goal of Gradient Descent is to find the optimal parameters (weights and biases) for the model that minimize the loss function.

In the context of insurance data, Gradient Descent can be used to train a model (such as a logistic regression model or a neural network) to predict whether a person will buy insurance based on features like age and affordability.

```
[2]: import numpy as np
import pandas as pd
import tensorflow as tf
from tensorflow import keras
import matplotlib.pyplot as plt
%matplotlib inline
```

2 Importing insurance data

The `insurance_data` dataset contains information about individuals and their insurance policies. The dataset includes the following columns:

- **age:** The age of the individual.
- **affordability:** The affordability of the individual.
- **bought_insurance:** The bought_insurance of the individual.

The dataset can be used to train a machine learning model to predict the charges of an individual based on their other features.

```
[4]: df= pd.read_csv("insurance_data.csv")
df.head()
```

```
[4]:   age  affordability  bought_insurance
0   22                1                 0
1   25                0                 0
2   47                1                 1
3   52                0                 0
4   46                1                 1
```

This function splits the dataset into training and test sets

```
[5]: #train and test split function
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(df[['age','affordability']],
    ↪,df.bought_insurance ,test_size=0.2, random_state=25)
```

```
[6]: len(X_train)
```

```
[6]: 22
```

3 Scalling

scalling age between 0 and 1

```
[7]: x_train_Scalled=X_train.copy()
x_train_Scalled['age']=x_train_Scalled['age']/100
x_test_Scalled=X_test.copy()
x_test_Scalled['age']=x_test_Scalled['age']/100
```

```
[8]: x_train_Scalled.head()
```

```
[8]:
```

	age	affordability
0	0.22	1
13	0.29	0
6	0.55	0
17	0.58	1
24	0.50	1

4 Keras model

we are defining a neural network model using the Keras library. The model is a simple network with a single dense layer with a sigmoid activation function, designed to predict insurance purchase based on two features. The weight (`kernel_initializer`) and bias (`bias_initializer`) initializations are set to 'ones' and 'zeros', respectively.

Next, we compile the model using the 'adam' optimizer and 'binary_crossentropy' loss function for a binary classification problem. We are interested in the accuracy metric during training.

Finally, we fit the model to the scaled training data (`x_train_Scalled` and `y_train`) for 5000 epochs to allow the model to learn the relationship between the features and the target variable.

```
[9]: model=keras.Sequential([
    keras.layers.Dense(1,input_shape=(2,),activation='sigmoid',
    ↪kernel_initializer='ones',bias_initializer='zeros')
])
model.compile(optimizer='adam',
    loss='binary_crossentropy',
```

```
metrics=['accuracy'])
model.fit(x_train_Scaled,y_train,epochs=5000)
```

Streaming output truncated to the last 5000 lines.

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1/1 [=====] - 0s 7ms/step - loss: 0.5252 - accuracy:
0.7727
Epoch 2686/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5252 - accuracy:
0.7727
Epoch 2687/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5251 - accuracy:
0.7727
Epoch 2688/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5251 - accuracy:
0.7727
Epoch 2689/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5251 - accuracy:
0.7727
Epoch 2690/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5250 - accuracy:
0.7727
Epoch 2691/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5250 - accuracy:

0.7727
Epoch 2692/5000
1/1 [=====] - 0s 13ms/step - loss: 0.5250 - accuracy:
0.7727
Epoch 2693/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5249 - accuracy:
0.7727
Epoch 2694/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5249 - accuracy:
0.7727
Epoch 2695/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5249 - accuracy:
0.7727
Epoch 2696/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5248 - accuracy:
0.7727
Epoch 2697/5000
1/1 [=====] - 0s 13ms/step - loss: 0.5248 - accuracy:
0.7727
Epoch 2698/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5247 - accuracy:
0.7727
Epoch 2699/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5247 - accuracy:
0.7727
Epoch 2700/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5247 - accuracy:
0.7727
Epoch 2701/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5246 - accuracy:
0.7727
Epoch 2702/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5246 - accuracy:
0.7727
Epoch 2703/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5246 - accuracy:
0.7727
Epoch 2704/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5245 - accuracy:
0.7727
Epoch 2705/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5245 - accuracy:
0.7727
Epoch 2706/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5245 - accuracy:
0.7727
Epoch 2707/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5244 - accuracy:

0.7727
Epoch 2708/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5244 - accuracy:
0.7727
Epoch 2709/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5243 - accuracy:
0.7727
Epoch 2710/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5243 - accuracy:
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Epoch 2711/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5243 - accuracy:
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Epoch 2712/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5242 - accuracy:
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Epoch 2713/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5242 - accuracy:
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Epoch 2714/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5242 - accuracy:
0.7727
Epoch 2715/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5241 - accuracy:
0.7727
Epoch 2716/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5241 - accuracy:
0.7727
Epoch 2717/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5241 - accuracy:
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Epoch 2718/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5240 - accuracy:
0.7727
Epoch 2719/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5240 - accuracy:
0.7727
Epoch 2720/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5239 - accuracy:
0.7727
Epoch 2721/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5239 - accuracy:
0.7727
Epoch 2722/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5239 - accuracy:
0.7727
Epoch 2723/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5238 - accuracy:

0.7727
Epoch 2724/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5238 - accuracy:
0.7727
Epoch 2725/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5238 - accuracy:
0.7727
Epoch 2726/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5237 - accuracy:
0.7727
Epoch 2727/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5237 - accuracy:
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Epoch 2728/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5237 - accuracy:
0.7727
Epoch 2729/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5236 - accuracy:
0.7727
Epoch 2730/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5236 - accuracy:
0.7727
Epoch 2731/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5235 - accuracy:
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Epoch 2732/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5235 - accuracy:
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Epoch 2733/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5235 - accuracy:
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Epoch 2734/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5234 - accuracy:
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Epoch 2735/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5234 - accuracy:
0.7727
Epoch 2736/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5234 - accuracy:
0.7727
Epoch 2737/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5233 - accuracy:
0.7727
Epoch 2738/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5233 - accuracy:
0.7727
Epoch 2739/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5233 - accuracy:

0.7727
Epoch 2740/5000
1/1 [=====] - 0s 12ms/step - loss: 0.5232 - accuracy:
0.7727
Epoch 2741/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5232 - accuracy:
0.7727
Epoch 2742/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5231 - accuracy:
0.7727
Epoch 2743/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5231 - accuracy:
0.7727
Epoch 2744/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5231 - accuracy:
0.7727
Epoch 2745/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5230 - accuracy:
0.7727
Epoch 2746/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5230 - accuracy:
0.7727
Epoch 2747/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5230 - accuracy:
0.7727
Epoch 2748/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5229 - accuracy:
0.7727
Epoch 2749/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5229 - accuracy:
0.7727
Epoch 2750/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5229 - accuracy:
0.7727
Epoch 2751/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5228 - accuracy:
0.7727
Epoch 2752/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5228 - accuracy:
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Epoch 2753/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5227 - accuracy:
0.7727
Epoch 2754/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5227 - accuracy:
0.7727
Epoch 2755/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5227 - accuracy:

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Epoch 2756/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5226 - accuracy:
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Epoch 2757/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5226 - accuracy:
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Epoch 2758/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5226 - accuracy:
0.7727
Epoch 2759/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5225 - accuracy:
0.7727
Epoch 2760/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5225 - accuracy:
0.7727
Epoch 2761/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5225 - accuracy:
0.7727
Epoch 2762/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5224 - accuracy:
0.7727
Epoch 2763/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5224 - accuracy:
0.7727
Epoch 2764/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5224 - accuracy:
0.7727
Epoch 2765/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5223 - accuracy:
0.7727
Epoch 2766/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5223 - accuracy:
0.7727
Epoch 2767/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5222 - accuracy:
0.7727
Epoch 2768/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5222 - accuracy:
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Epoch 2769/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5222 - accuracy:
0.7727
Epoch 2770/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5221 - accuracy:
0.7727
Epoch 2771/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5221 - accuracy:

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Epoch 2772/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5221 - accuracy:
0.7727
Epoch 2773/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5220 - accuracy:
0.7727
Epoch 2774/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5220 - accuracy:
0.7727
Epoch 2775/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5220 - accuracy:
0.7727
Epoch 2776/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5219 - accuracy:
0.7727
Epoch 2777/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5219 - accuracy:
0.7727
Epoch 2778/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5219 - accuracy:
0.7727
Epoch 2779/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5218 - accuracy:
0.7727
Epoch 2780/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5218 - accuracy:
0.7727
Epoch 2781/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5217 - accuracy:
0.7727
Epoch 2782/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5217 - accuracy:
0.7727
Epoch 2783/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5217 - accuracy:
0.7727
Epoch 2784/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5216 - accuracy:
0.7727
Epoch 2785/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5216 - accuracy:
0.7727
Epoch 2786/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5216 - accuracy:
0.7727
Epoch 2787/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5215 - accuracy:

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0.7727
Epoch 2788/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5215 - accuracy:
0.7727
Epoch 2789/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5215 - accuracy:
0.7727
Epoch 2790/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5214 - accuracy:
0.7727
Epoch 2791/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5214 - accuracy:
0.7727
Epoch 2792/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5214 - accuracy:
0.8182
Epoch 2793/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5213 - accuracy:
0.8182
Epoch 2794/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5213 - accuracy:
0.8182
Epoch 2795/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5212 - accuracy:
0.8182
Epoch 2796/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5212 - accuracy:
0.8182
Epoch 2797/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5212 - accuracy:
0.8182
Epoch 2798/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5211 - accuracy:
0.8182
Epoch 2799/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5211 - accuracy:
0.8182
Epoch 2800/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5211 - accuracy:
0.8182
Epoch 2801/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5210 - accuracy:
0.8182
Epoch 2802/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5210 - accuracy:
0.8182
Epoch 2803/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5210 - accuracy:

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0.8182
Epoch 2804/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5209 - accuracy:
0.8182
Epoch 2805/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5209 - accuracy:
0.8182
Epoch 2806/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5209 - accuracy:
0.8182
Epoch 2807/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5208 - accuracy:
0.8182
Epoch 2808/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5208 - accuracy:
0.8182
Epoch 2809/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5207 - accuracy:
0.8182
Epoch 2810/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5207 - accuracy:
0.8182
Epoch 2811/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5207 - accuracy:
0.8182
Epoch 2812/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5206 - accuracy:
0.8182
Epoch 2813/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5206 - accuracy:
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Epoch 2814/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5206 - accuracy:
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Epoch 2815/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5205 - accuracy:
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Epoch 2816/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5205 - accuracy:
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Epoch 2817/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5205 - accuracy:
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Epoch 2818/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5204 - accuracy:
0.8182
Epoch 2819/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5204 - accuracy:

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Epoch 2820/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5204 - accuracy:
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Epoch 2821/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5203 - accuracy:
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Epoch 2822/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5203 - accuracy:
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Epoch 2823/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5203 - accuracy:
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Epoch 2824/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5202 - accuracy:
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Epoch 2825/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5202 - accuracy:
0.8182
Epoch 2826/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5201 - accuracy:
0.8182
Epoch 2827/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5201 - accuracy:
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Epoch 2828/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5201 - accuracy:
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Epoch 2829/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5200 - accuracy:
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Epoch 2830/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5200 - accuracy:
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Epoch 2831/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5200 - accuracy:
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Epoch 2832/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5199 - accuracy:
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Epoch 2833/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5199 - accuracy:
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Epoch 2834/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5199 - accuracy:
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Epoch 2835/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5198 - accuracy:

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Epoch 2836/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5198 - accuracy:
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Epoch 2837/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5198 - accuracy:
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Epoch 2838/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5197 - accuracy:
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Epoch 2839/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5197 - accuracy:
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Epoch 2840/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5197 - accuracy:
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Epoch 2841/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5196 - accuracy:
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Epoch 2842/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5196 - accuracy:
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Epoch 2843/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5195 - accuracy:
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Epoch 2844/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5195 - accuracy:
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Epoch 2845/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5195 - accuracy:
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Epoch 2846/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5194 - accuracy:
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Epoch 2847/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5194 - accuracy:
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Epoch 2848/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5194 - accuracy:
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Epoch 2849/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5193 - accuracy:
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Epoch 2850/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5193 - accuracy:
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Epoch 2851/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5193 - accuracy:

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Epoch 2852/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5192 - accuracy:
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Epoch 2853/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5192 - accuracy:
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Epoch 2854/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5192 - accuracy:
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Epoch 2855/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5191 - accuracy:
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Epoch 2856/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5191 - accuracy:
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Epoch 2857/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5191 - accuracy:
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Epoch 2858/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5190 - accuracy:
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Epoch 2859/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5190 - accuracy:
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Epoch 2860/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5190 - accuracy:
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Epoch 2861/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5189 - accuracy:
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Epoch 2862/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5189 - accuracy:
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Epoch 2863/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5188 - accuracy:
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Epoch 2864/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5188 - accuracy:
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Epoch 2865/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5188 - accuracy:
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Epoch 2866/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5187 - accuracy:
0.8182
Epoch 2867/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5187 - accuracy:

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Epoch 2868/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5187 - accuracy:
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Epoch 2869/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5186 - accuracy:
0.8182
Epoch 2870/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5186 - accuracy:
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Epoch 2871/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5186 - accuracy:
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Epoch 2872/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5185 - accuracy:
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Epoch 2873/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5185 - accuracy:
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Epoch 2874/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5185 - accuracy:
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Epoch 2875/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5184 - accuracy:
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Epoch 2876/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5184 - accuracy:
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Epoch 2877/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5184 - accuracy:
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Epoch 2878/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5183 - accuracy:
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Epoch 2879/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5183 - accuracy:
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Epoch 2880/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5183 - accuracy:
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Epoch 2881/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5182 - accuracy:
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Epoch 2882/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5182 - accuracy:
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Epoch 2883/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5181 - accuracy:

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Epoch 2884/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5181 - accuracy:
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Epoch 2885/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5181 - accuracy:
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Epoch 2886/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5180 - accuracy:
0.8182
Epoch 2887/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5180 - accuracy:
0.8182
Epoch 2888/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5180 - accuracy:
0.8182
Epoch 2889/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5179 - accuracy:
0.8182
Epoch 2890/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5179 - accuracy:
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Epoch 2891/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5179 - accuracy:
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Epoch 2892/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5178 - accuracy:
0.8182
Epoch 2893/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5178 - accuracy:
0.8182
Epoch 2894/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5178 - accuracy:
0.8182
Epoch 2895/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5177 - accuracy:
0.8182
Epoch 2896/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5177 - accuracy:
0.8182
Epoch 2897/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5177 - accuracy:
0.8182
Epoch 2898/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5176 - accuracy:
0.8182
Epoch 2899/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5176 - accuracy:

0.8182
Epoch 2900/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5176 - accuracy:
0.8182
Epoch 2901/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5175 - accuracy:
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Epoch 2902/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5175 - accuracy:
0.8182
Epoch 2903/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5175 - accuracy:
0.8182
Epoch 2904/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5174 - accuracy:
0.8182
Epoch 2905/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5174 - accuracy:
0.8182
Epoch 2906/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5174 - accuracy:
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Epoch 2907/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5173 - accuracy:
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Epoch 2908/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5173 - accuracy:
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Epoch 2909/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5172 - accuracy:
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Epoch 2910/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5172 - accuracy:
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Epoch 2911/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5172 - accuracy:
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Epoch 2912/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5171 - accuracy:
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Epoch 2913/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5171 - accuracy:
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Epoch 2914/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5171 - accuracy:
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Epoch 2915/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5170 - accuracy:

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Epoch 2916/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5170 - accuracy:
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Epoch 2917/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5170 - accuracy:
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Epoch 2918/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5169 - accuracy:
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Epoch 2919/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5169 - accuracy:
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Epoch 2920/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5169 - accuracy:
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Epoch 2921/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5168 - accuracy:
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Epoch 2922/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5168 - accuracy:
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Epoch 2923/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5168 - accuracy:
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Epoch 2924/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5167 - accuracy:
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Epoch 2925/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5167 - accuracy:
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Epoch 2926/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5167 - accuracy:
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Epoch 2927/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5166 - accuracy:
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Epoch 2928/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5166 - accuracy:
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Epoch 2929/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5166 - accuracy:
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Epoch 2930/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5165 - accuracy:
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Epoch 2931/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5165 - accuracy:

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Epoch 2932/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5165 - accuracy:
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Epoch 2933/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5164 - accuracy:
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Epoch 2934/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5164 - accuracy:
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Epoch 2935/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5164 - accuracy:
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Epoch 2936/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5163 - accuracy:
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Epoch 2937/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5163 - accuracy:
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Epoch 2938/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5163 - accuracy:
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Epoch 2939/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5162 - accuracy:
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Epoch 2940/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5162 - accuracy:
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Epoch 2941/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5162 - accuracy:
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Epoch 2942/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5161 - accuracy:
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Epoch 2943/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5161 - accuracy:
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Epoch 2944/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5160 - accuracy:
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Epoch 2945/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5160 - accuracy:
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Epoch 2946/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5160 - accuracy:
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Epoch 2947/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5159 - accuracy:

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Epoch 2948/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5159 - accuracy:
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Epoch 2949/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5159 - accuracy:
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Epoch 2950/5000
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Epoch 2951/5000
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Epoch 2952/5000
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Epoch 2953/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5157 - accuracy:
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Epoch 2954/5000
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Epoch 2955/5000
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Epoch 2956/5000
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Epoch 2957/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5156 - accuracy:
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Epoch 2958/5000
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Epoch 2959/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5155 - accuracy:
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Epoch 2960/5000
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Epoch 2961/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5155 - accuracy:
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Epoch 2962/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5154 - accuracy:
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Epoch 2963/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5154 - accuracy:

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Epoch 2964/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5154 - accuracy:
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Epoch 2965/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5153 - accuracy:
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Epoch 2966/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5153 - accuracy:
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Epoch 2967/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5153 - accuracy:
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Epoch 2968/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5152 - accuracy:
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Epoch 2969/5000
1/1 [=====] - 0s 12ms/step - loss: 0.5152 - accuracy:
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Epoch 2970/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5152 - accuracy:
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Epoch 2971/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5151 - accuracy:
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Epoch 2972/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5151 - accuracy:
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Epoch 2973/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5151 - accuracy:
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Epoch 2974/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5150 - accuracy:
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Epoch 2975/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5150 - accuracy:
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Epoch 2976/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5150 - accuracy:
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Epoch 2977/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5149 - accuracy:
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Epoch 2978/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5149 - accuracy:
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Epoch 2979/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5149 - accuracy:

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Epoch 2980/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5148 - accuracy: 0.8636
Epoch 2981/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5148 - accuracy: 0.8636
Epoch 2982/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5148 - accuracy: 0.8636
Epoch 2983/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5147 - accuracy: 0.8636
Epoch 2984/5000
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Epoch 2985/5000
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Epoch 2986/5000
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Epoch 2987/5000
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Epoch 2988/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5146 - accuracy: 0.8636
Epoch 2989/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5145 - accuracy: 0.8636
Epoch 2990/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5145 - accuracy: 0.8636
Epoch 2991/5000
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Epoch 2992/5000
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Epoch 2993/5000
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Epoch 2994/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5144 - accuracy: 0.8636
Epoch 2995/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5143 - accuracy:

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Epoch 2996/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5143 - accuracy:
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Epoch 2997/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5143 - accuracy:
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Epoch 2998/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5142 - accuracy:
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Epoch 2999/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5142 - accuracy:
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Epoch 3000/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5142 - accuracy:
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Epoch 3001/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5141 - accuracy:
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Epoch 3002/5000
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Epoch 3003/5000
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Epoch 3004/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5140 - accuracy:
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Epoch 3005/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5140 - accuracy:
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Epoch 3006/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5140 - accuracy:
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Epoch 3007/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5139 - accuracy:
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Epoch 3008/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5139 - accuracy:
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Epoch 3009/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5139 - accuracy:
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Epoch 3010/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5138 - accuracy:
0.8636
Epoch 3011/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5138 - accuracy:

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0.8636
Epoch 3012/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5137 - accuracy:
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Epoch 3013/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5137 - accuracy:
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Epoch 3014/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5137 - accuracy:
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Epoch 3015/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5136 - accuracy:
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Epoch 3016/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5136 - accuracy:
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Epoch 3017/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5136 - accuracy:
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Epoch 3018/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5135 - accuracy:
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Epoch 3019/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5135 - accuracy:
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Epoch 3020/5000
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Epoch 3021/5000
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Epoch 3022/5000
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Epoch 3023/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5134 - accuracy:
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Epoch 3024/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5133 - accuracy:
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Epoch 3025/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5133 - accuracy:
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Epoch 3026/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5133 - accuracy:
0.8636
Epoch 3027/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5132 - accuracy:

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0.8636
Epoch 3028/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5132 - accuracy:
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Epoch 3029/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5132 - accuracy:
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Epoch 3030/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5131 - accuracy:
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Epoch 3031/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5131 - accuracy:
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Epoch 3032/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5131 - accuracy:
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Epoch 3033/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5130 - accuracy:
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Epoch 3034/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5130 - accuracy:
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Epoch 3035/5000
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Epoch 3036/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5129 - accuracy:
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Epoch 3037/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5129 - accuracy:
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Epoch 3038/5000
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Epoch 3039/5000
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Epoch 3040/5000
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Epoch 3041/5000
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Epoch 3042/5000
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Epoch 3043/5000
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Epoch 3044/5000
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Epoch 3045/5000
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Epoch 3046/5000
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Epoch 3047/5000
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Epoch 3048/5000
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Epoch 3049/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5125 - accuracy:
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Epoch 3050/5000
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Epoch 3051/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5125 - accuracy:
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Epoch 3052/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5124 - accuracy:
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Epoch 3053/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5124 - accuracy:
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Epoch 3054/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5124 - accuracy:
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Epoch 3055/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5123 - accuracy:
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Epoch 3056/5000
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Epoch 3057/5000
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Epoch 3058/5000
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Epoch 3059/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5122 - accuracy:

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Epoch 3060/5000
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Epoch 3061/5000
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Epoch 3062/5000
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Epoch 3063/5000
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Epoch 3064/5000
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Epoch 3065/5000
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Epoch 3066/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5120 - accuracy:
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Epoch 3067/5000
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Epoch 3068/5000
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Epoch 3069/5000
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Epoch 3070/5000
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Epoch 3071/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5118 - accuracy:
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Epoch 3072/5000
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Epoch 3073/5000
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Epoch 3074/5000
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Epoch 3075/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5117 - accuracy:

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Epoch 3076/5000
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Epoch 3077/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5116 - accuracy:
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Epoch 3078/5000
1/1 [=====] - 0s 12ms/step - loss: 0.5116 - accuracy:
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Epoch 3079/5000
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Epoch 3080/5000
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Epoch 3081/5000
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Epoch 3082/5000
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Epoch 3083/5000
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Epoch 3084/5000
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Epoch 3085/5000
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Epoch 3086/5000
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Epoch 3087/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5113 - accuracy:
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Epoch 3088/5000
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Epoch 3089/5000
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Epoch 3090/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5112 - accuracy:
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Epoch 3091/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5111 - accuracy:

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Epoch 3092/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5111 - accuracy:
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Epoch 3093/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5111 - accuracy:
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Epoch 3094/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5110 - accuracy:
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Epoch 3095/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5110 - accuracy:
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Epoch 3096/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5110 - accuracy:
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Epoch 3097/5000
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Epoch 3098/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5109 - accuracy:
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Epoch 3099/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5109 - accuracy:
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Epoch 3100/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5108 - accuracy:
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Epoch 3101/5000
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Epoch 3102/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5108 - accuracy:
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Epoch 3103/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5107 - accuracy:
0.8636
Epoch 3104/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5107 - accuracy:
0.8636
Epoch 3105/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5107 - accuracy:
0.8636
Epoch 3106/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5106 - accuracy:
0.8636
Epoch 3107/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5106 - accuracy:

0.8636
Epoch 3108/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5106 - accuracy:
0.8636
Epoch 3109/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5105 - accuracy:
0.8636
Epoch 3110/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5105 - accuracy:
0.8636
Epoch 3111/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5105 - accuracy:
0.8636
Epoch 3112/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5104 - accuracy:
0.8636
Epoch 3113/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5104 - accuracy:
0.8636
Epoch 3114/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5104 - accuracy:
0.8636
Epoch 3115/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5104 - accuracy:
0.8636
Epoch 3116/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5103 - accuracy:
0.8636
Epoch 3117/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5103 - accuracy:
0.8636
Epoch 3118/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5103 - accuracy:
0.8636
Epoch 3119/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5102 - accuracy:
0.8636
Epoch 3120/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5102 - accuracy:
0.8636
Epoch 3121/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5102 - accuracy:
0.8636
Epoch 3122/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5101 - accuracy:
0.8636
Epoch 3123/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5101 - accuracy:

0.8636
Epoch 3124/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5101 - accuracy:
0.8636
Epoch 3125/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5100 - accuracy:
0.8636
Epoch 3126/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5100 - accuracy:
0.8636
Epoch 3127/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5100 - accuracy:
0.8636
Epoch 3128/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5099 - accuracy:
0.8636
Epoch 3129/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5099 - accuracy:
0.8636
Epoch 3130/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5099 - accuracy:
0.8636
Epoch 3131/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5098 - accuracy:
0.8636
Epoch 3132/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5098 - accuracy:
0.8636
Epoch 3133/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5098 - accuracy:
0.8636
Epoch 3134/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5097 - accuracy:
0.8636
Epoch 3135/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5097 - accuracy:
0.8636
Epoch 3136/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5097 - accuracy:
0.8636
Epoch 3137/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5096 - accuracy:
0.8636
Epoch 3138/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5096 - accuracy:
0.8636
Epoch 3139/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5096 - accuracy:

0.8636
Epoch 3140/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5095 - accuracy: 0.8636
Epoch 3141/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5095 - accuracy: 0.8636
Epoch 3142/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5095 - accuracy: 0.8636
Epoch 3143/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5094 - accuracy: 0.8636
Epoch 3144/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5094 - accuracy: 0.8636
Epoch 3145/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5094 - accuracy: 0.8636
Epoch 3146/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5093 - accuracy: 0.8636
Epoch 3147/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5093 - accuracy: 0.8636
Epoch 3148/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5093 - accuracy: 0.8636
Epoch 3149/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5093 - accuracy: 0.8636
Epoch 3150/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5092 - accuracy: 0.8636
Epoch 3151/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5092 - accuracy: 0.8636
Epoch 3152/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5092 - accuracy: 0.8636
Epoch 3153/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5091 - accuracy: 0.8636
Epoch 3154/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5091 - accuracy: 0.8636
Epoch 3155/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5091 - accuracy:

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0.8636
Epoch 3156/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5090 - accuracy:
0.8636
Epoch 3157/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5090 - accuracy:
0.8636
Epoch 3158/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5090 - accuracy:
0.8636
Epoch 3159/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5089 - accuracy:
0.8636
Epoch 3160/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5089 - accuracy:
0.8636
Epoch 3161/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5089 - accuracy:
0.8636
Epoch 3162/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5088 - accuracy:
0.8636
Epoch 3163/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5088 - accuracy:
0.8636
Epoch 3164/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5088 - accuracy:
0.8636
Epoch 3165/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5087 - accuracy:
0.8636
Epoch 3166/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5087 - accuracy:
0.8636
Epoch 3167/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5087 - accuracy:
0.8636
Epoch 3168/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5086 - accuracy:
0.8636
Epoch 3169/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5086 - accuracy:
0.8636
Epoch 3170/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5086 - accuracy:
0.8636
Epoch 3171/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5085 - accuracy:

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0.8636
Epoch 3172/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5085 - accuracy:
0.8636
Epoch 3173/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5085 - accuracy:
0.8636
Epoch 3174/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5084 - accuracy:
0.8636
Epoch 3175/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5084 - accuracy:
0.8636
Epoch 3176/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5084 - accuracy:
0.8636
Epoch 3177/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5084 - accuracy:
0.8636
Epoch 3178/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5083 - accuracy:
0.8636
Epoch 3179/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5083 - accuracy:
0.8636
Epoch 3180/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5083 - accuracy:
0.8636
Epoch 3181/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5082 - accuracy:
0.8636
Epoch 3182/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5082 - accuracy:
0.8636
Epoch 3183/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5082 - accuracy:
0.8636
Epoch 3184/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5081 - accuracy:
0.8636
Epoch 3185/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5081 - accuracy:
0.8636
Epoch 3186/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5081 - accuracy:
0.8636
Epoch 3187/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5080 - accuracy:

0.8636
Epoch 3188/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5080 - accuracy:
0.8636
Epoch 3189/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5080 - accuracy:
0.8636
Epoch 3190/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5079 - accuracy:
0.8636
Epoch 3191/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5079 - accuracy:
0.8636
Epoch 3192/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5079 - accuracy:
0.8636
Epoch 3193/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5078 - accuracy:
0.8636
Epoch 3194/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5078 - accuracy:
0.8636
Epoch 3195/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5078 - accuracy:
0.8636
Epoch 3196/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5077 - accuracy:
0.8636
Epoch 3197/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5077 - accuracy:
0.8636
Epoch 3198/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5077 - accuracy:
0.8636
Epoch 3199/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5077 - accuracy:
0.8636
Epoch 3200/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5076 - accuracy:
0.8636
Epoch 3201/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5076 - accuracy:
0.8636
Epoch 3202/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5076 - accuracy:
0.8636
Epoch 3203/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5075 - accuracy:

0.8636
Epoch 3204/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5075 - accuracy:
0.8636
Epoch 3205/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5075 - accuracy:
0.8636
Epoch 3206/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5074 - accuracy:
0.8636
Epoch 3207/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5074 - accuracy:
0.8636
Epoch 3208/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5074 - accuracy:
0.8636
Epoch 3209/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5073 - accuracy:
0.8636
Epoch 3210/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5073 - accuracy:
0.8636
Epoch 3211/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5073 - accuracy:
0.8636
Epoch 3212/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5072 - accuracy:
0.8636
Epoch 3213/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5072 - accuracy:
0.8636
Epoch 3214/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5072 - accuracy:
0.8636
Epoch 3215/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5071 - accuracy:
0.8636
Epoch 3216/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5071 - accuracy:
0.8636
Epoch 3217/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5071 - accuracy:
0.8636
Epoch 3218/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5071 - accuracy:
0.8636
Epoch 3219/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5070 - accuracy:

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0.8636
Epoch 3220/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5070 - accuracy:
0.8636
Epoch 3221/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5070 - accuracy:
0.8636
Epoch 3222/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5069 - accuracy:
0.8636
Epoch 3223/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5069 - accuracy:
0.8636
Epoch 3224/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5069 - accuracy:
0.8636
Epoch 3225/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5068 - accuracy:
0.8636
Epoch 3226/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5068 - accuracy:
0.8636
Epoch 3227/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5068 - accuracy:
0.8636
Epoch 3228/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5067 - accuracy:
0.8636
Epoch 3229/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5067 - accuracy:
0.8636
Epoch 3230/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5067 - accuracy:
0.8636
Epoch 3231/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5066 - accuracy:
0.8636
Epoch 3232/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5066 - accuracy:
0.8636
Epoch 3233/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5066 - accuracy:
0.8636
Epoch 3234/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5065 - accuracy:
0.8636
Epoch 3235/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5065 - accuracy:

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0.8636
Epoch 3236/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5065 - accuracy:
0.8636
Epoch 3237/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5065 - accuracy:
0.8636
Epoch 3238/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5064 - accuracy:
0.8636
Epoch 3239/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5064 - accuracy:
0.8636
Epoch 3240/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5064 - accuracy:
0.8636
Epoch 3241/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5063 - accuracy:
0.8636
Epoch 3242/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5063 - accuracy:
0.8636
Epoch 3243/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5063 - accuracy:
0.8636
Epoch 3244/5000
1/1 [=====] - 0s 12ms/step - loss: 0.5062 - accuracy:
0.8636
Epoch 3245/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5062 - accuracy:
0.8636
Epoch 3246/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5062 - accuracy:
0.8636
Epoch 3247/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5061 - accuracy:
0.8636
Epoch 3248/5000
1/1 [=====] - 0s 12ms/step - loss: 0.5061 - accuracy:
0.8636
Epoch 3249/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5061 - accuracy:
0.9091
Epoch 3250/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5060 - accuracy:
0.9091
Epoch 3251/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5060 - accuracy:

```

0.9091
Epoch 3252/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5060 - accuracy: 0.9091
Epoch 3253/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5060 - accuracy: 0.9091
Epoch 3254/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5059 - accuracy: 0.9091
Epoch 3255/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5059 - accuracy: 0.9091
Epoch 3256/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5059 - accuracy: 0.9091
Epoch 3257/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5058 - accuracy: 0.9091
Epoch 3258/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5058 - accuracy: 0.9091
Epoch 3259/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5058 - accuracy: 0.9091
Epoch 3260/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5057 - accuracy: 0.9091
Epoch 3261/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5057 - accuracy: 0.9091
Epoch 3262/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5057 - accuracy: 0.9091
Epoch 3263/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5056 - accuracy: 0.9091
Epoch 3264/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5056 - accuracy: 0.9091
Epoch 3265/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5056 - accuracy: 0.9091
Epoch 3266/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5055 - accuracy: 0.9091
Epoch 3267/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5055 - accuracy:

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0.9091
Epoch 3268/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5055 - accuracy:
0.9091
Epoch 3269/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5055 - accuracy:
0.9091
Epoch 3270/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5054 - accuracy:
0.9091
Epoch 3271/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5054 - accuracy:
0.9091
Epoch 3272/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5054 - accuracy:
0.9091
Epoch 3273/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5053 - accuracy:
0.9091
Epoch 3274/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5053 - accuracy:
0.9091
Epoch 3275/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5053 - accuracy:
0.9091
Epoch 3276/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5052 - accuracy:
0.9091
Epoch 3277/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5052 - accuracy:
0.9091
Epoch 3278/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5052 - accuracy:
0.9091
Epoch 3279/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5051 - accuracy:
0.9091
Epoch 3280/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5051 - accuracy:
0.9091
Epoch 3281/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5051 - accuracy:
0.9091
Epoch 3282/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5050 - accuracy:
0.9091
Epoch 3283/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5050 - accuracy:

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0.9091
Epoch 3284/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5050 - accuracy:
0.9091
Epoch 3285/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5050 - accuracy:
0.9091
Epoch 3286/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5049 - accuracy:
0.9091
Epoch 3287/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5049 - accuracy:
0.9091
Epoch 3288/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5049 - accuracy:
0.9091
Epoch 3289/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5048 - accuracy:
0.9091
Epoch 3290/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5048 - accuracy:
0.9091
Epoch 3291/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5048 - accuracy:
0.9091
Epoch 3292/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5047 - accuracy:
0.9091
Epoch 3293/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5047 - accuracy:
0.9091
Epoch 3294/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5047 - accuracy:
0.9091
Epoch 3295/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5046 - accuracy:
0.9091
Epoch 3296/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5046 - accuracy:
0.9091
Epoch 3297/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5046 - accuracy:
0.9091
Epoch 3298/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5046 - accuracy:
0.9091
Epoch 3299/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5045 - accuracy:

```

0.9091
Epoch 3300/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5045 - accuracy:
0.9091
Epoch 3301/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5045 - accuracy:
0.9091
Epoch 3302/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5044 - accuracy:
0.9091
Epoch 3303/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5044 - accuracy:
0.9091
Epoch 3304/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5044 - accuracy:
0.9091
Epoch 3305/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5043 - accuracy:
0.9091
Epoch 3306/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5043 - accuracy:
0.9091
Epoch 3307/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5043 - accuracy:
0.9091
Epoch 3308/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5042 - accuracy:
0.9091
Epoch 3309/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5042 - accuracy:
0.9091
Epoch 3310/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5042 - accuracy:
0.9091
Epoch 3311/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5042 - accuracy:
0.9091
Epoch 3312/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5041 - accuracy:
0.9091
Epoch 3313/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5041 - accuracy:
0.9091
Epoch 3314/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5041 - accuracy:
0.9091
Epoch 3315/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5040 - accuracy:

0.9091
Epoch 3316/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5040 - accuracy:
0.9091
Epoch 3317/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5040 - accuracy:
0.9091
Epoch 3318/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5039 - accuracy:
0.9091
Epoch 3319/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5039 - accuracy:
0.9091
Epoch 3320/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5039 - accuracy:
0.9091
Epoch 3321/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5038 - accuracy:
0.9091
Epoch 3322/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5038 - accuracy:
0.9091
Epoch 3323/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5038 - accuracy:
0.9091
Epoch 3324/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5038 - accuracy:
0.9091
Epoch 3325/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5037 - accuracy:
0.9091
Epoch 3326/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5037 - accuracy:
0.9091
Epoch 3327/5000
1/1 [=====] - 0s 12ms/step - loss: 0.5037 - accuracy:
0.9091
Epoch 3328/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5036 - accuracy:
0.9091
Epoch 3329/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5036 - accuracy:
0.9091
Epoch 3330/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5036 - accuracy:
0.9091
Epoch 3331/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5035 - accuracy:

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0.9091
Epoch 3332/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5035 - accuracy:
0.9091
Epoch 3333/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5035 - accuracy:
0.9091
Epoch 3334/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5035 - accuracy:
0.9091
Epoch 3335/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5034 - accuracy:
0.9091
Epoch 3336/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5034 - accuracy:
0.9091
Epoch 3337/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5034 - accuracy:
0.9091
Epoch 3338/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5033 - accuracy:
0.9091
Epoch 3339/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5033 - accuracy:
0.9091
Epoch 3340/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5033 - accuracy:
0.9091
Epoch 3341/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5032 - accuracy:
0.9091
Epoch 3342/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5032 - accuracy:
0.9091
Epoch 3343/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5032 - accuracy:
0.9091
Epoch 3344/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5031 - accuracy:
0.9091
Epoch 3345/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5031 - accuracy:
0.9091
Epoch 3346/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5031 - accuracy:
0.9091
Epoch 3347/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5031 - accuracy:

```

0.9091
Epoch 3348/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5030 - accuracy:
0.9091
Epoch 3349/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5030 - accuracy:
0.9091
Epoch 3350/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5030 - accuracy:
0.9091
Epoch 3351/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5029 - accuracy:
0.9091
Epoch 3352/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5029 - accuracy:
0.9091
Epoch 3353/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5029 - accuracy:
0.9091
Epoch 3354/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5028 - accuracy:
0.9091
Epoch 3355/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5028 - accuracy:
0.9091
Epoch 3356/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5028 - accuracy:
0.9091
Epoch 3357/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5028 - accuracy:
0.9091
Epoch 3358/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5027 - accuracy:
0.9091
Epoch 3359/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5027 - accuracy:
0.9091
Epoch 3360/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5027 - accuracy:
0.9091
Epoch 3361/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5026 - accuracy:
0.9091
Epoch 3362/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5026 - accuracy:
0.9091
Epoch 3363/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5026 - accuracy:

0.9091
Epoch 3364/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5025 - accuracy:
0.9091
Epoch 3365/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5025 - accuracy:
0.9091
Epoch 3366/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5025 - accuracy:
0.9091
Epoch 3367/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5024 - accuracy:
0.9091
Epoch 3368/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5024 - accuracy:
0.9091
Epoch 3369/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5024 - accuracy:
0.9091
Epoch 3370/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5024 - accuracy:
0.9091
Epoch 3371/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5023 - accuracy:
0.9091
Epoch 3372/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5023 - accuracy:
0.9091
Epoch 3373/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5023 - accuracy:
0.9091
Epoch 3374/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5022 - accuracy:
0.9091
Epoch 3375/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5022 - accuracy:
0.9091
Epoch 3376/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5022 - accuracy:
0.9091
Epoch 3377/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5021 - accuracy:
0.9091
Epoch 3378/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5021 - accuracy:
0.9091
Epoch 3379/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5021 - accuracy:

0.9091
Epoch 3380/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5021 - accuracy:
0.9091
Epoch 3381/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5020 - accuracy:
0.9091
Epoch 3382/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5020 - accuracy:
0.9091
Epoch 3383/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5020 - accuracy:
0.9091
Epoch 3384/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5019 - accuracy:
0.9091
Epoch 3385/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5019 - accuracy:
0.9091
Epoch 3386/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5019 - accuracy:
0.9091
Epoch 3387/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5018 - accuracy:
0.9091
Epoch 3388/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5018 - accuracy:
0.9091
Epoch 3389/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5018 - accuracy:
0.9091
Epoch 3390/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5018 - accuracy:
0.9091
Epoch 3391/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5017 - accuracy:
0.9091
Epoch 3392/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5017 - accuracy:
0.9091
Epoch 3393/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5017 - accuracy:
0.9091
Epoch 3394/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5016 - accuracy:
0.9091
Epoch 3395/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5016 - accuracy:

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Epoch 3396/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5016 - accuracy:
0.9091
Epoch 3397/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5015 - accuracy:
0.9091
Epoch 3398/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5015 - accuracy:
0.9091
Epoch 3399/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5015 - accuracy:
0.9091
Epoch 3400/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5015 - accuracy:
0.9091
Epoch 3401/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5014 - accuracy:
0.9091
Epoch 3402/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5014 - accuracy:
0.9091
Epoch 3403/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5014 - accuracy:
0.9091
Epoch 3404/5000
1/1 [=====] - 0s 5ms/step - loss: 0.5013 - accuracy:
0.9091
Epoch 3405/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5013 - accuracy:
0.9091
Epoch 3406/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5013 - accuracy:
0.9091
Epoch 3407/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5012 - accuracy:
0.9091
Epoch 3408/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5012 - accuracy:
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Epoch 3409/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5012 - accuracy:
0.9091
Epoch 3410/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5012 - accuracy:
0.9091
Epoch 3411/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5011 - accuracy:

0.9091
Epoch 3412/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5011 - accuracy:
0.9091
Epoch 3413/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5011 - accuracy:
0.9091
Epoch 3414/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5010 - accuracy:
0.9091
Epoch 3415/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5010 - accuracy:
0.9091
Epoch 3416/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5010 - accuracy:
0.9091
Epoch 3417/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5009 - accuracy:
0.9091
Epoch 3418/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5009 - accuracy:
0.9091
Epoch 3419/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5009 - accuracy:
0.9091
Epoch 3420/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5009 - accuracy:
0.9091
Epoch 3421/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5008 - accuracy:
0.9091
Epoch 3422/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5008 - accuracy:
0.9091
Epoch 3423/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5008 - accuracy:
0.9091
Epoch 3424/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5007 - accuracy:
0.9091
Epoch 3425/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5007 - accuracy:
0.9091
Epoch 3426/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5007 - accuracy:
0.9091
Epoch 3427/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5006 - accuracy:

0.9091
Epoch 3428/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5006 - accuracy:
0.9091
Epoch 3429/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5006 - accuracy:
0.9091
Epoch 3430/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5006 - accuracy:
0.9091
Epoch 3431/5000
1/1 [=====] - 0s 6ms/step - loss: 0.5005 - accuracy:
0.9091
Epoch 3432/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5005 - accuracy:
0.9091
Epoch 3433/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5005 - accuracy:
0.9091
Epoch 3434/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5004 - accuracy:
0.9091
Epoch 3435/5000
1/1 [=====] - 0s 11ms/step - loss: 0.5004 - accuracy:
0.9091
Epoch 3436/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5004 - accuracy:
0.9091
Epoch 3437/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5004 - accuracy:
0.9091
Epoch 3438/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5003 - accuracy:
0.9091
Epoch 3439/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5003 - accuracy:
0.9091
Epoch 3440/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5003 - accuracy:
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Epoch 3441/5000
1/1 [=====] - 0s 10ms/step - loss: 0.5002 - accuracy:
0.9091
Epoch 3442/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5002 - accuracy:
0.9091
Epoch 3443/5000
1/1 [=====] - 0s 7ms/step - loss: 0.5002 - accuracy:

0.9091
Epoch 3444/5000
1/1 [=====] - 0s 8ms/step - loss: 0.5001 - accuracy:
0.9091
Epoch 3445/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5001 - accuracy:
0.9091
Epoch 3446/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5001 - accuracy:
0.9091
Epoch 3447/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5001 - accuracy:
0.9091
Epoch 3448/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5000 - accuracy:
0.9091
Epoch 3449/5000
1/1 [=====] - 0s 9ms/step - loss: 0.5000 - accuracy:
0.9091
Epoch 3450/5000
1/1 [=====] - 0s 16ms/step - loss: 0.5000 - accuracy:
0.9091
Epoch 3451/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4999 - accuracy:
0.9091
Epoch 3452/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4999 - accuracy:
0.9091
Epoch 3453/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4999 - accuracy:
0.9091
Epoch 3454/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4998 - accuracy:
0.9091
Epoch 3455/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4998 - accuracy:
0.9091
Epoch 3456/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4998 - accuracy:
0.9091
Epoch 3457/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4998 - accuracy:
0.9091
Epoch 3458/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4997 - accuracy:
0.9091
Epoch 3459/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4997 - accuracy:

0.9091
Epoch 3460/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4997 - accuracy:
0.9091
Epoch 3461/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4996 - accuracy:
0.9091
Epoch 3462/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4996 - accuracy:
0.9091
Epoch 3463/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4996 - accuracy:
0.9091
Epoch 3464/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4996 - accuracy:
0.9091
Epoch 3465/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4995 - accuracy:
0.9091
Epoch 3466/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4995 - accuracy:
0.9091
Epoch 3467/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4995 - accuracy:
0.9091
Epoch 3468/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4994 - accuracy:
0.9091
Epoch 3469/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4994 - accuracy:
0.9091
Epoch 3470/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4994 - accuracy:
0.9091
Epoch 3471/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4993 - accuracy:
0.9091
Epoch 3472/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4993 - accuracy:
0.9091
Epoch 3473/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4993 - accuracy:
0.9091
Epoch 3474/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4993 - accuracy:
0.9091
Epoch 3475/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4992 - accuracy:

0.9091
Epoch 3476/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4992 - accuracy:
0.9091
Epoch 3477/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4992 - accuracy:
0.9091
Epoch 3478/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4991 - accuracy:
0.9091
Epoch 3479/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4991 - accuracy:
0.9091
Epoch 3480/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4991 - accuracy:
0.9091
Epoch 3481/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4991 - accuracy:
0.9091
Epoch 3482/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4990 - accuracy:
0.9091
Epoch 3483/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4990 - accuracy:
0.9091
Epoch 3484/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4990 - accuracy:
0.9091
Epoch 3485/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4989 - accuracy:
0.9091
Epoch 3486/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4989 - accuracy:
0.9091
Epoch 3487/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4989 - accuracy:
0.9091
Epoch 3488/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4989 - accuracy:
0.9091
Epoch 3489/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4988 - accuracy:
0.9091
Epoch 3490/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4988 - accuracy:
0.9091
Epoch 3491/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4988 - accuracy:

0.9091
Epoch 3492/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4987 - accuracy:
0.9091
Epoch 3493/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4987 - accuracy:
0.9091
Epoch 3494/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4987 - accuracy:
0.9091
Epoch 3495/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4986 - accuracy:
0.9091
Epoch 3496/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4986 - accuracy:
0.9091
Epoch 3497/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4986 - accuracy:
0.9091
Epoch 3498/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4986 - accuracy:
0.9091
Epoch 3499/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4985 - accuracy:
0.9091
Epoch 3500/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4985 - accuracy:
0.9091
Epoch 3501/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4985 - accuracy:
0.9091
Epoch 3502/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4984 - accuracy:
0.9091
Epoch 3503/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4984 - accuracy:
0.9091
Epoch 3504/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4984 - accuracy:
0.9091
Epoch 3505/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4984 - accuracy:
0.9091
Epoch 3506/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4983 - accuracy:
0.9091
Epoch 3507/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4983 - accuracy:

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0.9091
Epoch 3508/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4983 - accuracy:
0.9091
Epoch 3509/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4982 - accuracy:
0.9091
Epoch 3510/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4982 - accuracy:
0.9091
Epoch 3511/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4982 - accuracy:
0.9091
Epoch 3512/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4982 - accuracy:
0.9091
Epoch 3513/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4981 - accuracy:
0.9091
Epoch 3514/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4981 - accuracy:
0.9091
Epoch 3515/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4981 - accuracy:
0.9091
Epoch 3516/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4980 - accuracy:
0.9091
Epoch 3517/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4980 - accuracy:
0.9091
Epoch 3518/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4980 - accuracy:
0.9091
Epoch 3519/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4980 - accuracy:
0.9091
Epoch 3520/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4979 - accuracy:
0.9091
Epoch 3521/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4979 - accuracy:
0.9091
Epoch 3522/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4979 - accuracy:
0.9091
Epoch 3523/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4978 - accuracy:

```

```

0.9091
Epoch 3524/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4978 - accuracy:
0.9091
Epoch 3525/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4978 - accuracy:
0.9091
Epoch 3526/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4977 - accuracy:
0.9091
Epoch 3527/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4977 - accuracy:
0.9091
Epoch 3528/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4977 - accuracy:
0.9091
Epoch 3529/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4977 - accuracy:
0.9091
Epoch 3530/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4976 - accuracy:
0.9091
Epoch 3531/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4976 - accuracy:
0.9091
Epoch 3532/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4976 - accuracy:
0.9091
Epoch 3533/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4975 - accuracy:
0.9091
Epoch 3534/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4975 - accuracy:
0.9091
Epoch 3535/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4975 - accuracy:
0.9091
Epoch 3536/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4975 - accuracy:
0.9091
Epoch 3537/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4974 - accuracy:
0.9091
Epoch 3538/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4974 - accuracy:
0.9091
Epoch 3539/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4974 - accuracy:

```

0.9091
Epoch 3540/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4973 - accuracy:
0.9091
Epoch 3541/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4973 - accuracy:
0.9091
Epoch 3542/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4973 - accuracy:
0.9091
Epoch 3543/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4973 - accuracy:
0.9091
Epoch 3544/5000
1/1 [=====] - 0s 13ms/step - loss: 0.4972 - accuracy:
0.9091
Epoch 3545/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4972 - accuracy:
0.9091
Epoch 3546/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4972 - accuracy:
0.9091
Epoch 3547/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4971 - accuracy:
0.9091
Epoch 3548/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4971 - accuracy:
0.9091
Epoch 3549/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4971 - accuracy:
0.9091
Epoch 3550/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4971 - accuracy:
0.9091
Epoch 3551/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4970 - accuracy:
0.9091
Epoch 3552/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4970 - accuracy:
0.9091
Epoch 3553/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4970 - accuracy:
0.9091
Epoch 3554/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4969 - accuracy:
0.9091
Epoch 3555/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4969 - accuracy:

0.9091
Epoch 3556/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4969 - accuracy:
0.9091
Epoch 3557/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4969 - accuracy:
0.9091
Epoch 3558/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4968 - accuracy:
0.9091
Epoch 3559/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4968 - accuracy:
0.9091
Epoch 3560/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4968 - accuracy:
0.9091
Epoch 3561/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4967 - accuracy:
0.9091
Epoch 3562/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4967 - accuracy:
0.9091
Epoch 3563/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4967 - accuracy:
0.9091
Epoch 3564/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4967 - accuracy:
0.9091
Epoch 3565/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4966 - accuracy:
0.9091
Epoch 3566/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4966 - accuracy:
0.9091
Epoch 3567/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4966 - accuracy:
0.9091
Epoch 3568/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4965 - accuracy:
0.9091
Epoch 3569/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4965 - accuracy:
0.9091
Epoch 3570/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4965 - accuracy:
0.9091
Epoch 3571/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4965 - accuracy:

0.9091
Epoch 3572/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4964 - accuracy:
0.9091
Epoch 3573/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4964 - accuracy:
0.9091
Epoch 3574/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4964 - accuracy:
0.9091
Epoch 3575/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4963 - accuracy:
0.9091
Epoch 3576/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4963 - accuracy:
0.9091
Epoch 3577/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4963 - accuracy:
0.9091
Epoch 3578/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4963 - accuracy:
0.9091
Epoch 3579/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4962 - accuracy:
0.9091
Epoch 3580/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4962 - accuracy:
0.9091
Epoch 3581/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4962 - accuracy:
0.9091
Epoch 3582/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4961 - accuracy:
0.9091
Epoch 3583/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4961 - accuracy:
0.9091
Epoch 3584/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4961 - accuracy:
0.9091
Epoch 3585/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4961 - accuracy:
0.9091
Epoch 3586/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4960 - accuracy:
0.9091
Epoch 3587/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4960 - accuracy:

```

0.9091
Epoch 3588/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4960 - accuracy:
0.9091
Epoch 3589/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4959 - accuracy:
0.9091
Epoch 3590/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4959 - accuracy:
0.9091
Epoch 3591/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4959 - accuracy:
0.9091
Epoch 3592/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4959 - accuracy:
0.9091
Epoch 3593/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4958 - accuracy:
0.9091
Epoch 3594/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4958 - accuracy:
0.9091
Epoch 3595/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4958 - accuracy:
0.9091
Epoch 3596/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4957 - accuracy:
0.9091
Epoch 3597/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4957 - accuracy:
0.9091
Epoch 3598/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4957 - accuracy:
0.9091
Epoch 3599/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4957 - accuracy:
0.9091
Epoch 3600/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4956 - accuracy:
0.9091
Epoch 3601/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4956 - accuracy:
0.9091
Epoch 3602/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4956 - accuracy:
0.9091
Epoch 3603/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4955 - accuracy:

```

0.9091
Epoch 3604/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4955 - accuracy:
0.9091
Epoch 3605/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4955 - accuracy:
0.9091
Epoch 3606/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4955 - accuracy:
0.9091
Epoch 3607/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4954 - accuracy:
0.9091
Epoch 3608/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4954 - accuracy:
0.9091
Epoch 3609/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4954 - accuracy:
0.9091
Epoch 3610/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4954 - accuracy:
0.9091
Epoch 3611/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4953 - accuracy:
0.9091
Epoch 3612/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4953 - accuracy:
0.9091
Epoch 3613/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4953 - accuracy:
0.9091
Epoch 3614/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4952 - accuracy:
0.9091
Epoch 3615/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4952 - accuracy:
0.9091
Epoch 3616/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4952 - accuracy:
0.9091
Epoch 3617/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4952 - accuracy:
0.9091
Epoch 3618/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4951 - accuracy:
0.9091
Epoch 3619/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4951 - accuracy:


```

0.9091
Epoch 3620/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4951 - accuracy:
0.9091
Epoch 3621/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4950 - accuracy:
0.9091
Epoch 3622/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4950 - accuracy:
0.9091
Epoch 3623/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4950 - accuracy:
0.9091
Epoch 3624/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4950 - accuracy:
0.9091
Epoch 3625/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4949 - accuracy:
0.9091
Epoch 3626/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4949 - accuracy:
0.9091
Epoch 3627/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4949 - accuracy:
0.9091
Epoch 3628/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4948 - accuracy:
0.9091
Epoch 3629/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4948 - accuracy:
0.9091
Epoch 3630/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4948 - accuracy:
0.9091
Epoch 3631/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4948 - accuracy:
0.9091
Epoch 3632/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4947 - accuracy:
0.9091
Epoch 3633/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4947 - accuracy:
0.9091
Epoch 3634/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4947 - accuracy:
0.9091
Epoch 3635/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4946 - accuracy:

```

0.9091
Epoch 3636/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4946 - accuracy:
0.9091
Epoch 3637/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4946 - accuracy:
0.9091
Epoch 3638/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4946 - accuracy:
0.9091
Epoch 3639/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4945 - accuracy:
0.9091
Epoch 3640/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4945 - accuracy:
0.9091
Epoch 3641/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4945 - accuracy:
0.9091
Epoch 3642/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4945 - accuracy:
0.9091
Epoch 3643/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4944 - accuracy:
0.9091
Epoch 3644/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4944 - accuracy:
0.9091
Epoch 3645/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4944 - accuracy:
0.9091
Epoch 3646/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4943 - accuracy:
0.9091
Epoch 3647/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4943 - accuracy:
0.9091
Epoch 3648/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4943 - accuracy:
0.9091
Epoch 3649/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4943 - accuracy:
0.9091
Epoch 3650/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4942 - accuracy:
0.9091
Epoch 3651/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4942 - accuracy:

```

0.9091
Epoch 3652/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4942 - accuracy:
0.9091
Epoch 3653/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4941 - accuracy:
0.9091
Epoch 3654/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4941 - accuracy:
0.9091
Epoch 3655/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4941 - accuracy:
0.9091
Epoch 3656/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4941 - accuracy:
0.9091
Epoch 3657/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4940 - accuracy:
0.9091
Epoch 3658/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4940 - accuracy:
0.9091
Epoch 3659/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4940 - accuracy:
0.9091
Epoch 3660/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4940 - accuracy:
0.9091
Epoch 3661/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4939 - accuracy:
0.9091
Epoch 3662/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4939 - accuracy:
0.9091
Epoch 3663/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4939 - accuracy:
0.9091
Epoch 3664/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4938 - accuracy:
0.9091
Epoch 3665/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4938 - accuracy:
0.9091
Epoch 3666/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4938 - accuracy:
0.9091
Epoch 3667/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4938 - accuracy:

```

0.9091
Epoch 3668/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4937 - accuracy:
0.9091
Epoch 3669/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4937 - accuracy:
0.9091
Epoch 3670/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4937 - accuracy:
0.9091
Epoch 3671/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4936 - accuracy:
0.9091
Epoch 3672/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4936 - accuracy:
0.9091
Epoch 3673/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4936 - accuracy:
0.9091
Epoch 3674/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4936 - accuracy:
0.9091
Epoch 3675/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4935 - accuracy:
0.9091
Epoch 3676/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4935 - accuracy:
0.9091
Epoch 3677/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4935 - accuracy:
0.9091
Epoch 3678/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4935 - accuracy:
0.9091
Epoch 3679/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4934 - accuracy:
0.9091
Epoch 3680/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4934 - accuracy:
0.9091
Epoch 3681/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4934 - accuracy:
0.9091
Epoch 3682/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4933 - accuracy:
0.9091
Epoch 3683/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4933 - accuracy:

0.9091
Epoch 3684/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4933 - accuracy:
0.9091
Epoch 3685/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4933 - accuracy:
0.9091
Epoch 3686/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4932 - accuracy:
0.9091
Epoch 3687/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4932 - accuracy:
0.9091
Epoch 3688/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4932 - accuracy:
0.9091
Epoch 3689/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4932 - accuracy:
0.9091
Epoch 3690/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4931 - accuracy:
0.9091
Epoch 3691/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4931 - accuracy:
0.9091
Epoch 3692/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4931 - accuracy:
0.9091
Epoch 3693/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4930 - accuracy:
0.9091
Epoch 3694/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4930 - accuracy:
0.9091
Epoch 3695/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4930 - accuracy:
0.9091
Epoch 3696/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4930 - accuracy:
0.9091
Epoch 3697/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4929 - accuracy:
0.9091
Epoch 3698/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4929 - accuracy:
0.9091
Epoch 3699/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4929 - accuracy:

```

0.9091
Epoch 3700/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4928 - accuracy:
0.9091
Epoch 3701/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4928 - accuracy:
0.9091
Epoch 3702/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4928 - accuracy:
0.9091
Epoch 3703/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4928 - accuracy:
0.9091
Epoch 3704/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4927 - accuracy:
0.9091
Epoch 3705/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4927 - accuracy:
0.9091
Epoch 3706/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4927 - accuracy:
0.9091
Epoch 3707/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4927 - accuracy:
0.9091
Epoch 3708/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4926 - accuracy:
0.9091
Epoch 3709/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4926 - accuracy:
0.9091
Epoch 3710/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4926 - accuracy:
0.9091
Epoch 3711/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4925 - accuracy:
0.9091
Epoch 3712/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4925 - accuracy:
0.9091
Epoch 3713/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4925 - accuracy:
0.9091
Epoch 3714/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4925 - accuracy:
0.9091
Epoch 3715/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4924 - accuracy:

```

```

0.9091
Epoch 3716/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4924 - accuracy:
0.9091
Epoch 3717/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4924 - accuracy:
0.9091
Epoch 3718/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4924 - accuracy:
0.9091
Epoch 3719/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4923 - accuracy:
0.9091
Epoch 3720/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4923 - accuracy:
0.9091
Epoch 3721/5000
1/1 [=====] - 0s 13ms/step - loss: 0.4923 - accuracy:
0.9091
Epoch 3722/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4922 - accuracy:
0.9091
Epoch 3723/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4922 - accuracy:
0.9091
Epoch 3724/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4922 - accuracy:
0.9091
Epoch 3725/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4922 - accuracy:
0.9091
Epoch 3726/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4921 - accuracy:
0.9091
Epoch 3727/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4921 - accuracy:
0.9091
Epoch 3728/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4921 - accuracy:
0.9091
Epoch 3729/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4921 - accuracy:
0.9091
Epoch 3730/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4920 - accuracy:
0.9091
Epoch 3731/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4920 - accuracy:

```

0.9091
Epoch 3732/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4920 - accuracy:
0.9091
Epoch 3733/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4919 - accuracy:
0.9091
Epoch 3734/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4919 - accuracy:
0.9091
Epoch 3735/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4919 - accuracy:
0.9091
Epoch 3736/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4919 - accuracy:
0.9091
Epoch 3737/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4918 - accuracy:
0.9091
Epoch 3738/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4918 - accuracy:
0.9091
Epoch 3739/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4918 - accuracy:
0.9091
Epoch 3740/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4918 - accuracy:
0.9091
Epoch 3741/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4917 - accuracy:
0.9091
Epoch 3742/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4917 - accuracy:
0.9091
Epoch 3743/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4917 - accuracy:
0.9091
Epoch 3744/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4916 - accuracy:
0.9091
Epoch 3745/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4916 - accuracy:
0.9091
Epoch 3746/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4916 - accuracy:
0.9091
Epoch 3747/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4916 - accuracy:

0.9091
Epoch 3748/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4915 - accuracy: 0.9091
Epoch 3749/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4915 - accuracy: 0.9091
Epoch 3750/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4915 - accuracy: 0.9091
Epoch 3751/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4915 - accuracy: 0.9091
Epoch 3752/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4914 - accuracy: 0.9091
Epoch 3753/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4914 - accuracy: 0.9091
Epoch 3754/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4914 - accuracy: 0.9091
Epoch 3755/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4913 - accuracy: 0.9091
Epoch 3756/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4913 - accuracy: 0.9091
Epoch 3757/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4913 - accuracy: 0.9091
Epoch 3758/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4913 - accuracy: 0.9091
Epoch 3759/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4912 - accuracy: 0.9091
Epoch 3760/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4912 - accuracy: 0.9091
Epoch 3761/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4912 - accuracy: 0.9091
Epoch 3762/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4912 - accuracy: 0.9091
Epoch 3763/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4911 - accuracy:

```

0.9091
Epoch 3764/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4911 - accuracy:
0.9091
Epoch 3765/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4911 - accuracy:
0.9091
Epoch 3766/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4911 - accuracy:
0.9091
Epoch 3767/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4910 - accuracy:
0.9091
Epoch 3768/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4910 - accuracy:
0.9091
Epoch 3769/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4910 - accuracy:
0.9091
Epoch 3770/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4909 - accuracy:
0.9091
Epoch 3771/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4909 - accuracy:
0.9091
Epoch 3772/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4909 - accuracy:
0.9091
Epoch 3773/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4909 - accuracy:
0.9091
Epoch 3774/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4908 - accuracy:
0.9091
Epoch 3775/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4908 - accuracy:
0.9091
Epoch 3776/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4908 - accuracy:
0.9091
Epoch 3777/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4908 - accuracy:
0.9091
Epoch 3778/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4907 - accuracy:
0.9091
Epoch 3779/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4907 - accuracy:

```

```

0.9091
Epoch 3780/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4907 - accuracy:
0.9091
Epoch 3781/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4906 - accuracy:
0.9091
Epoch 3782/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4906 - accuracy:
0.9091
Epoch 3783/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4906 - accuracy:
0.9091
Epoch 3784/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4906 - accuracy:
0.9091
Epoch 3785/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4905 - accuracy:
0.9091
Epoch 3786/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4905 - accuracy:
0.9091
Epoch 3787/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4905 - accuracy:
0.9091
Epoch 3788/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4905 - accuracy:
0.9091
Epoch 3789/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4904 - accuracy:
0.9091
Epoch 3790/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4904 - accuracy:
0.9091
Epoch 3791/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4904 - accuracy:
0.9091
Epoch 3792/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4904 - accuracy:
0.9091
Epoch 3793/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4903 - accuracy:
0.9091
Epoch 3794/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4903 - accuracy:
0.9091
Epoch 3795/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4903 - accuracy:

```

```

0.9091
Epoch 3796/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4902 - accuracy:
0.9091
Epoch 3797/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4902 - accuracy:
0.9091
Epoch 3798/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4902 - accuracy:
0.9091
Epoch 3799/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4902 - accuracy:
0.9091
Epoch 3800/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4901 - accuracy:
0.9091
Epoch 3801/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4901 - accuracy:
0.9091
Epoch 3802/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4901 - accuracy:
0.9091
Epoch 3803/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4901 - accuracy:
0.9091
Epoch 3804/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4900 - accuracy:
0.9091
Epoch 3805/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4900 - accuracy:
0.9091
Epoch 3806/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4900 - accuracy:
0.9091
Epoch 3807/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4900 - accuracy:
0.9091
Epoch 3808/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4899 - accuracy:
0.9091
Epoch 3809/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4899 - accuracy:
0.9091
Epoch 3810/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4899 - accuracy:
0.9091
Epoch 3811/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4898 - accuracy:

```

0.9091
Epoch 3812/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4898 - accuracy:
0.9091
Epoch 3813/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4898 - accuracy:
0.9091
Epoch 3814/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4898 - accuracy:
0.9091
Epoch 3815/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4897 - accuracy:
0.9091
Epoch 3816/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4897 - accuracy:
0.9091
Epoch 3817/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4897 - accuracy:
0.9091
Epoch 3818/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4897 - accuracy:
0.9091
Epoch 3819/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4896 - accuracy:
0.9091
Epoch 3820/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4896 - accuracy:
0.9091
Epoch 3821/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4896 - accuracy:
0.9091
Epoch 3822/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4896 - accuracy:
0.9091
Epoch 3823/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4895 - accuracy:
0.9091
Epoch 3824/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4895 - accuracy:
0.9091
Epoch 3825/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4895 - accuracy:
0.9091
Epoch 3826/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4894 - accuracy:
0.9091
Epoch 3827/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4894 - accuracy:

0.9091
Epoch 3828/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4894 - accuracy: 0.9091
Epoch 3829/5000
1/1 [=====] - 0s 13ms/step - loss: 0.4894 - accuracy: 0.9091
Epoch 3830/5000
1/1 [=====] - 0s 16ms/step - loss: 0.4893 - accuracy: 0.9091
Epoch 3831/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4893 - accuracy: 0.9091
Epoch 3832/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4893 - accuracy: 0.9091
Epoch 3833/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4893 - accuracy: 0.9091
Epoch 3834/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4892 - accuracy: 0.9091
Epoch 3835/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4892 - accuracy: 0.9091
Epoch 3836/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4892 - accuracy: 0.9091
Epoch 3837/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4892 - accuracy: 0.9091
Epoch 3838/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4891 - accuracy: 0.9091
Epoch 3839/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4891 - accuracy: 0.9091
Epoch 3840/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4891 - accuracy: 0.9091
Epoch 3841/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4891 - accuracy: 0.9091
Epoch 3842/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4890 - accuracy: 0.9091
Epoch 3843/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4890 - accuracy:

0.9091
Epoch 3844/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4890 - accuracy:
0.9091
Epoch 3845/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4889 - accuracy:
0.9091
Epoch 3846/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4889 - accuracy:
0.9091
Epoch 3847/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4889 - accuracy:
0.9091
Epoch 3848/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4889 - accuracy:
0.9091
Epoch 3849/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4888 - accuracy:
0.9091
Epoch 3850/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4888 - accuracy:
0.9091
Epoch 3851/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4888 - accuracy:
0.9091
Epoch 3852/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4888 - accuracy:
0.9091
Epoch 3853/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4887 - accuracy:
0.9091
Epoch 3854/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4887 - accuracy:
0.9091
Epoch 3855/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4887 - accuracy:
0.9091
Epoch 3856/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4887 - accuracy:
0.9091
Epoch 3857/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4886 - accuracy:
0.9091
Epoch 3858/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4886 - accuracy:
0.9091
Epoch 3859/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4886 - accuracy:

0.9091
Epoch 3860/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4886 - accuracy:
0.9091
Epoch 3861/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4885 - accuracy:
0.9091
Epoch 3862/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4885 - accuracy:
0.9091
Epoch 3863/5000
1/1 [=====] - 0s 13ms/step - loss: 0.4885 - accuracy:
0.9091
Epoch 3864/5000
1/1 [=====] - 0s 14ms/step - loss: 0.4884 - accuracy:
0.9091
Epoch 3865/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4884 - accuracy:
0.9091
Epoch 3866/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4884 - accuracy:
0.9091
Epoch 3867/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4884 - accuracy:
0.9091
Epoch 3868/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4883 - accuracy:
0.9091
Epoch 3869/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4883 - accuracy:
0.9091
Epoch 3870/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4883 - accuracy:
0.9091
Epoch 3871/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4883 - accuracy:
0.9091
Epoch 3872/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4882 - accuracy:
0.9091
Epoch 3873/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4882 - accuracy:
0.9091
Epoch 3874/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4882 - accuracy:
0.9091
Epoch 3875/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4882 - accuracy:


```

0.9091
Epoch 3876/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4881 - accuracy:
0.9091
Epoch 3877/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4881 - accuracy:
0.9091
Epoch 3878/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4881 - accuracy:
0.9091
Epoch 3879/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4881 - accuracy:
0.9091
Epoch 3880/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4880 - accuracy:
0.9091
Epoch 3881/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4880 - accuracy:
0.9091
Epoch 3882/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4880 - accuracy:
0.9091
Epoch 3883/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4880 - accuracy:
0.9091
Epoch 3884/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4879 - accuracy:
0.9091
Epoch 3885/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4879 - accuracy:
0.9091
Epoch 3886/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4879 - accuracy:
0.9091
Epoch 3887/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4878 - accuracy:
0.9091
Epoch 3888/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4878 - accuracy:
0.9091
Epoch 3889/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4878 - accuracy:
0.9091
Epoch 3890/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4878 - accuracy:
0.9091
Epoch 3891/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4877 - accuracy:

```

0.9091
Epoch 3892/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4877 - accuracy:
0.9091
Epoch 3893/5000
1/1 [=====] - 0s 13ms/step - loss: 0.4877 - accuracy:
0.9091
Epoch 3894/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4877 - accuracy:
0.9091
Epoch 3895/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4876 - accuracy:
0.9091
Epoch 3896/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4876 - accuracy:
0.9091
Epoch 3897/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4876 - accuracy:
0.9091
Epoch 3898/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4876 - accuracy:
0.9091
Epoch 3899/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4875 - accuracy:
0.9091
Epoch 3900/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4875 - accuracy:
0.9091
Epoch 3901/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4875 - accuracy:
0.9091
Epoch 3902/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4875 - accuracy:
0.9091
Epoch 3903/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4874 - accuracy:
0.9091
Epoch 3904/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4874 - accuracy:
0.9091
Epoch 3905/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4874 - accuracy:
0.9091
Epoch 3906/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4874 - accuracy:
0.9091
Epoch 3907/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4873 - accuracy:

```

0.9091
Epoch 3908/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4873 - accuracy:
0.9091
Epoch 3909/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4873 - accuracy:
0.9091
Epoch 3910/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4873 - accuracy:
0.9091
Epoch 3911/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4872 - accuracy:
0.9091
Epoch 3912/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4872 - accuracy:
0.9091
Epoch 3913/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4872 - accuracy:
0.9091
Epoch 3914/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4871 - accuracy:
0.9091
Epoch 3915/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4871 - accuracy:
0.9091
Epoch 3916/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4871 - accuracy:
0.9091
Epoch 3917/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4871 - accuracy:
0.9091
Epoch 3918/5000
1/1 [=====] - 0s 13ms/step - loss: 0.4870 - accuracy:
0.9091
Epoch 3919/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4870 - accuracy:
0.9091
Epoch 3920/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4870 - accuracy:
0.9091
Epoch 3921/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4870 - accuracy:
0.9091
Epoch 3922/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4869 - accuracy:
0.9091
Epoch 3923/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4869 - accuracy:

```

0.9091
Epoch 3924/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4869 - accuracy:
0.9091
Epoch 3925/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4869 - accuracy:
0.9091
Epoch 3926/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4868 - accuracy:
0.9091
Epoch 3927/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4868 - accuracy:
0.9091
Epoch 3928/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4868 - accuracy:
0.9091
Epoch 3929/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4868 - accuracy:
0.9091
Epoch 3930/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4867 - accuracy:
0.9091
Epoch 3931/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4867 - accuracy:
0.9091
Epoch 3932/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4867 - accuracy:
0.9091
Epoch 3933/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4867 - accuracy:
0.9091
Epoch 3934/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4866 - accuracy:
0.9091
Epoch 3935/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4866 - accuracy:
0.9091
Epoch 3936/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4866 - accuracy:
0.9091
Epoch 3937/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4866 - accuracy:
0.9091
Epoch 3938/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4865 - accuracy:
0.9091
Epoch 3939/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4865 - accuracy:

0.9091
Epoch 3940/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4865 - accuracy: 0.9091
Epoch 3941/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4865 - accuracy: 0.9091
Epoch 3942/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4864 - accuracy: 0.9091
Epoch 3943/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4864 - accuracy: 0.9091
Epoch 3944/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4864 - accuracy: 0.9091
Epoch 3945/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4864 - accuracy: 0.9091
Epoch 3946/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4863 - accuracy: 0.9091
Epoch 3947/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4863 - accuracy: 0.9091
Epoch 3948/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4863 - accuracy: 0.9091
Epoch 3949/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4862 - accuracy: 0.9091
Epoch 3950/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4862 - accuracy: 0.9091
Epoch 3951/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4862 - accuracy: 0.9091
Epoch 3952/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4862 - accuracy: 0.9091
Epoch 3953/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4861 - accuracy: 0.9091
Epoch 3954/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4861 - accuracy: 0.9091
Epoch 3955/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4861 - accuracy:

0.9091
Epoch 3956/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4861 - accuracy: 0.9091
Epoch 3957/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4860 - accuracy: 0.9091
Epoch 3958/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4860 - accuracy: 0.9091
Epoch 3959/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4860 - accuracy: 0.9091
Epoch 3960/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4860 - accuracy: 0.9091
Epoch 3961/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4859 - accuracy: 0.9091
Epoch 3962/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4859 - accuracy: 0.9091
Epoch 3963/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4859 - accuracy: 0.9091
Epoch 3964/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4859 - accuracy: 0.9091
Epoch 3965/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4858 - accuracy: 0.9091
Epoch 3966/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4858 - accuracy: 0.9091
Epoch 3967/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4858 - accuracy: 0.9091
Epoch 3968/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4858 - accuracy: 0.9091
Epoch 3969/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4857 - accuracy: 0.9091
Epoch 3970/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4857 - accuracy: 0.9091
Epoch 3971/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4857 - accuracy:

0.9091
Epoch 3972/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4857 - accuracy: 0.9091
Epoch 3973/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4856 - accuracy: 0.9091
Epoch 3974/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4856 - accuracy: 0.9091
Epoch 3975/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4856 - accuracy: 0.9091
Epoch 3976/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4856 - accuracy: 0.9091
Epoch 3977/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4855 - accuracy: 0.9091
Epoch 3978/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4855 - accuracy: 0.9091
Epoch 3979/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4855 - accuracy: 0.9091
Epoch 3980/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4855 - accuracy: 0.9091
Epoch 3981/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4854 - accuracy: 0.9091
Epoch 3982/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4854 - accuracy: 0.9091
Epoch 3983/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4854 - accuracy: 0.9091
Epoch 3984/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4854 - accuracy: 0.9091
Epoch 3985/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4853 - accuracy: 0.9091
Epoch 3986/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4853 - accuracy: 0.9091
Epoch 3987/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4853 - accuracy:

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0.9091
Epoch 3988/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4853 - accuracy:
0.9091
Epoch 3989/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4852 - accuracy:
0.9091
Epoch 3990/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4852 - accuracy:
0.9091
Epoch 3991/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4852 - accuracy:
0.9091
Epoch 3992/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4852 - accuracy:
0.9091
Epoch 3993/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4851 - accuracy:
0.9091
Epoch 3994/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4851 - accuracy:
0.9091
Epoch 3995/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4851 - accuracy:
0.9091
Epoch 3996/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4851 - accuracy:
0.9091
Epoch 3997/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4850 - accuracy:
0.9091
Epoch 3998/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4850 - accuracy:
0.9091
Epoch 3999/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4850 - accuracy:
0.9091
Epoch 4000/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4850 - accuracy:
0.9091
Epoch 4001/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4849 - accuracy:
0.9091
Epoch 4002/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4849 - accuracy:
0.9091
Epoch 4003/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4849 - accuracy:

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0.9091
Epoch 4004/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4849 - accuracy:
0.9091
Epoch 4005/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4848 - accuracy:
0.9091
Epoch 4006/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4848 - accuracy:
0.9091
Epoch 4007/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4848 - accuracy:
0.9091
Epoch 4008/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4848 - accuracy:
0.9091
Epoch 4009/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4847 - accuracy:
0.9091
Epoch 4010/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4847 - accuracy:
0.9091
Epoch 4011/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4847 - accuracy:
0.9091
Epoch 4012/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4847 - accuracy:
0.9091
Epoch 4013/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4846 - accuracy:
0.9091
Epoch 4014/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4846 - accuracy:
0.9091
Epoch 4015/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4846 - accuracy:
0.9091
Epoch 4016/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4846 - accuracy:
0.9091
Epoch 4017/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4845 - accuracy:
0.9091
Epoch 4018/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4845 - accuracy:
0.9091
Epoch 4019/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4845 - accuracy:

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0.9091
Epoch 4020/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4845 - accuracy:
0.9091
Epoch 4021/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4844 - accuracy:
0.9091
Epoch 4022/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4844 - accuracy:
0.9091
Epoch 4023/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4844 - accuracy:
0.9091
Epoch 4024/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4844 - accuracy:
0.9091
Epoch 4025/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4843 - accuracy:
0.9091
Epoch 4026/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4843 - accuracy:
0.9091
Epoch 4027/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4843 - accuracy:
0.9091
Epoch 4028/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4843 - accuracy:
0.9091
Epoch 4029/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4842 - accuracy:
0.9091
Epoch 4030/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4842 - accuracy:
0.9091
Epoch 4031/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4842 - accuracy:
0.9091
Epoch 4032/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4842 - accuracy:
0.9091
Epoch 4033/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4841 - accuracy:
0.9091
Epoch 4034/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4841 - accuracy:
0.9091
Epoch 4035/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4841 - accuracy:

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0.9091
Epoch 4036/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4841 - accuracy:
0.9091
Epoch 4037/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4840 - accuracy:
0.9091
Epoch 4038/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4840 - accuracy:
0.9091
Epoch 4039/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4840 - accuracy:
0.9091
Epoch 4040/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4840 - accuracy:
0.9091
Epoch 4041/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4839 - accuracy:
0.9091
Epoch 4042/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4839 - accuracy:
0.9091
Epoch 4043/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4839 - accuracy:
0.9091
Epoch 4044/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4839 - accuracy:
0.9091
Epoch 4045/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4838 - accuracy:
0.9091
Epoch 4046/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4838 - accuracy:
0.9091
Epoch 4047/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4838 - accuracy:
0.9091
Epoch 4048/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4838 - accuracy:
0.9091
Epoch 4049/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4837 - accuracy:
0.9091
Epoch 4050/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4837 - accuracy:
0.9091
Epoch 4051/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4837 - accuracy:

0.9091
Epoch 4052/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4837 - accuracy:
0.9091
Epoch 4053/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4836 - accuracy:
0.9091
Epoch 4054/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4836 - accuracy:
0.9091
Epoch 4055/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4836 - accuracy:
0.9091
Epoch 4056/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4836 - accuracy:
0.9091
Epoch 4057/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4835 - accuracy:
0.9091
Epoch 4058/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4835 - accuracy:
0.9091
Epoch 4059/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4835 - accuracy:
0.9091
Epoch 4060/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4835 - accuracy:
0.9091
Epoch 4061/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4834 - accuracy:
0.9091
Epoch 4062/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4834 - accuracy:
0.9091
Epoch 4063/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4834 - accuracy:
0.9091
Epoch 4064/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4834 - accuracy:
0.9091
Epoch 4065/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4833 - accuracy:
0.9091
Epoch 4066/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4833 - accuracy:
0.9091
Epoch 4067/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4833 - accuracy:

0.9091
Epoch 4068/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4833 - accuracy:
0.9091
Epoch 4069/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4832 - accuracy:
0.9091
Epoch 4070/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4832 - accuracy:
0.9091
Epoch 4071/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4832 - accuracy:
0.9091
Epoch 4072/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4832 - accuracy:
0.9091
Epoch 4073/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4831 - accuracy:
0.9091
Epoch 4074/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4831 - accuracy:
0.9091
Epoch 4075/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4831 - accuracy:
0.9091
Epoch 4076/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4831 - accuracy:
0.9091
Epoch 4077/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4830 - accuracy:
0.9091
Epoch 4078/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4830 - accuracy:
0.9091
Epoch 4079/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4830 - accuracy:
0.9091
Epoch 4080/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4830 - accuracy:
0.9091
Epoch 4081/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4829 - accuracy:
0.9091
Epoch 4082/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4829 - accuracy:
0.9091
Epoch 4083/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4829 - accuracy:

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0.9091
Epoch 4084/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4829 - accuracy:
0.9091
Epoch 4085/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4828 - accuracy:
0.9091
Epoch 4086/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4828 - accuracy:
0.9091
Epoch 4087/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4828 - accuracy:
0.9091
Epoch 4088/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4828 - accuracy:
0.9091
Epoch 4089/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4827 - accuracy:
0.9091
Epoch 4090/5000
1/1 [=====] - 0s 4ms/step - loss: 0.4827 - accuracy:
0.9091
Epoch 4091/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4827 - accuracy:
0.9091
Epoch 4092/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4827 - accuracy:
0.9091
Epoch 4093/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4826 - accuracy:
0.9091
Epoch 4094/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4826 - accuracy:
0.9091
Epoch 4095/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4826 - accuracy:
0.9091
Epoch 4096/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4826 - accuracy:
0.9091
Epoch 4097/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4825 - accuracy:
0.9091
Epoch 4098/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4825 - accuracy:
0.9091
Epoch 4099/5000
1/1 [=====] - 0s 4ms/step - loss: 0.4825 - accuracy:

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0.9091
Epoch 4100/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4825 - accuracy:
0.9091
Epoch 4101/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4824 - accuracy:
0.9091
Epoch 4102/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4824 - accuracy:
0.9091
Epoch 4103/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4824 - accuracy:
0.9091
Epoch 4104/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4824 - accuracy:
0.9091
Epoch 4105/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4824 - accuracy:
0.9091
Epoch 4106/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4823 - accuracy:
0.9091
Epoch 4107/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4823 - accuracy:
0.9091
Epoch 4108/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4823 - accuracy:
0.9091
Epoch 4109/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4823 - accuracy:
0.9091
Epoch 4110/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4822 - accuracy:
0.9091
Epoch 4111/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4822 - accuracy:
0.9091
Epoch 4112/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4822 - accuracy:
0.9091
Epoch 4113/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4822 - accuracy:
0.9091
Epoch 4114/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4821 - accuracy:
0.9091
Epoch 4115/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4821 - accuracy:

0.9091
Epoch 4116/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4821 - accuracy: 0.9091
Epoch 4117/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4821 - accuracy: 0.9091
Epoch 4118/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4820 - accuracy: 0.9091
Epoch 4119/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4820 - accuracy: 0.9091
Epoch 4120/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4820 - accuracy: 0.9091
Epoch 4121/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4820 - accuracy: 0.9091
Epoch 4122/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4819 - accuracy: 0.9091
Epoch 4123/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4819 - accuracy: 0.9091
Epoch 4124/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4819 - accuracy: 0.9091
Epoch 4125/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4819 - accuracy: 0.9091
Epoch 4126/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4818 - accuracy: 0.9091
Epoch 4127/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4818 - accuracy: 0.9091
Epoch 4128/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4818 - accuracy: 0.9091
Epoch 4129/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4818 - accuracy: 0.9091
Epoch 4130/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4817 - accuracy: 0.9091
Epoch 4131/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4817 - accuracy:

0.9091
Epoch 4132/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4817 - accuracy: 0.9091
Epoch 4133/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4817 - accuracy: 0.9091
Epoch 4134/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4816 - accuracy: 0.9091
Epoch 4135/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4816 - accuracy: 0.9091
Epoch 4136/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4816 - accuracy: 0.9091
Epoch 4137/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4816 - accuracy: 0.9091
Epoch 4138/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4815 - accuracy: 0.9091
Epoch 4139/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4815 - accuracy: 0.9091
Epoch 4140/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4815 - accuracy: 0.9091
Epoch 4141/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4815 - accuracy: 0.9091
Epoch 4142/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4815 - accuracy: 0.9091
Epoch 4143/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4814 - accuracy: 0.9091
Epoch 4144/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4814 - accuracy: 0.9091
Epoch 4145/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4814 - accuracy: 0.9091
Epoch 4146/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4814 - accuracy: 0.9091
Epoch 4147/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4813 - accuracy:

0.9091
Epoch 4148/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4813 - accuracy:
0.9091
Epoch 4149/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4813 - accuracy:
0.9091
Epoch 4150/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4813 - accuracy:
0.9091
Epoch 4151/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4812 - accuracy:
0.9091
Epoch 4152/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4812 - accuracy:
0.9091
Epoch 4153/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4812 - accuracy:
0.9091
Epoch 4154/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4812 - accuracy:
0.9091
Epoch 4155/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4811 - accuracy:
0.9091
Epoch 4156/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4811 - accuracy:
0.9091
Epoch 4157/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4811 - accuracy:
0.9091
Epoch 4158/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4811 - accuracy:
0.9091
Epoch 4159/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4810 - accuracy:
0.9091
Epoch 4160/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4810 - accuracy:
0.9091
Epoch 4161/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4810 - accuracy:
0.9091
Epoch 4162/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4810 - accuracy:
0.9091
Epoch 4163/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4809 - accuracy:

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0.9091
Epoch 4164/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4809 - accuracy:
0.9091
Epoch 4165/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4809 - accuracy:
0.9091
Epoch 4166/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4809 - accuracy:
0.9091
Epoch 4167/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4809 - accuracy:
0.9091
Epoch 4168/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4808 - accuracy:
0.9091
Epoch 4169/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4808 - accuracy:
0.9091
Epoch 4170/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4808 - accuracy:
0.9091
Epoch 4171/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4808 - accuracy:
0.9091
Epoch 4172/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4807 - accuracy:
0.9091
Epoch 4173/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4807 - accuracy:
0.9091
Epoch 4174/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4807 - accuracy:
0.9091
Epoch 4175/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4807 - accuracy:
0.9091
Epoch 4176/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4806 - accuracy:
0.9091
Epoch 4177/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4806 - accuracy:
0.9091
Epoch 4178/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4806 - accuracy:
0.9091
Epoch 4179/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4806 - accuracy:

```

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0.9091
Epoch 4180/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4805 - accuracy:
0.9091
Epoch 4181/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4805 - accuracy:
0.9091
Epoch 4182/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4805 - accuracy:
0.9091
Epoch 4183/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4805 - accuracy:
0.9091
Epoch 4184/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4804 - accuracy:
0.9091
Epoch 4185/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4804 - accuracy:
0.9091
Epoch 4186/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4804 - accuracy:
0.9091
Epoch 4187/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4804 - accuracy:
0.9091
Epoch 4188/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4803 - accuracy:
0.9091
Epoch 4189/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4803 - accuracy:
0.9091
Epoch 4190/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4803 - accuracy:
0.9091
Epoch 4191/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4803 - accuracy:
0.9091
Epoch 4192/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4803 - accuracy:
0.9091
Epoch 4193/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4802 - accuracy:
0.9091
Epoch 4194/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4802 - accuracy:
0.9091
Epoch 4195/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4802 - accuracy:

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0.9091
Epoch 4196/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4802 - accuracy:
0.9091
Epoch 4197/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4801 - accuracy:
0.9091
Epoch 4198/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4801 - accuracy:
0.9091
Epoch 4199/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4801 - accuracy:
0.9091
Epoch 4200/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4801 - accuracy:
0.9091
Epoch 4201/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4800 - accuracy:
0.9091
Epoch 4202/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4800 - accuracy:
0.9091
Epoch 4203/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4800 - accuracy:
0.9091
Epoch 4204/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4800 - accuracy:
0.9091
Epoch 4205/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4799 - accuracy:
0.9091
Epoch 4206/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4799 - accuracy:
0.9091
Epoch 4207/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4799 - accuracy:
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Epoch 4208/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4799 - accuracy:
0.9091
Epoch 4209/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4798 - accuracy:
0.9091
Epoch 4210/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4798 - accuracy:
0.9091
Epoch 4211/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4798 - accuracy:

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Epoch 4212/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4798 - accuracy:
0.9091
Epoch 4213/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4798 - accuracy:
0.9091
Epoch 4214/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4797 - accuracy:
0.9091
Epoch 4215/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4797 - accuracy:
0.9091
Epoch 4216/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4797 - accuracy:
0.9091
Epoch 4217/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4797 - accuracy:
0.9091
Epoch 4218/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4796 - accuracy:
0.9091
Epoch 4219/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4796 - accuracy:
0.9091
Epoch 4220/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4796 - accuracy:
0.9091
Epoch 4221/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4796 - accuracy:
0.9091
Epoch 4222/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4795 - accuracy:
0.9091
Epoch 4223/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4795 - accuracy:
0.9091
Epoch 4224/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4795 - accuracy:
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Epoch 4225/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4795 - accuracy:
0.9091
Epoch 4226/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4794 - accuracy:
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Epoch 4227/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4794 - accuracy:

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Epoch 4228/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4794 - accuracy:
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Epoch 4229/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4794 - accuracy:
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Epoch 4230/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4794 - accuracy:
0.9091
Epoch 4231/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4793 - accuracy:
0.9091
Epoch 4232/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4793 - accuracy:
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Epoch 4233/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4793 - accuracy:
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Epoch 4234/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4793 - accuracy:
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Epoch 4235/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4792 - accuracy:
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Epoch 4236/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4792 - accuracy:
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Epoch 4237/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4792 - accuracy:
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Epoch 4238/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4792 - accuracy:
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Epoch 4239/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4791 - accuracy:
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Epoch 4240/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4791 - accuracy:
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Epoch 4241/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4791 - accuracy:
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Epoch 4242/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4791 - accuracy:
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Epoch 4243/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4790 - accuracy:

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Epoch 4244/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4790 - accuracy:
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Epoch 4245/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4790 - accuracy:
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Epoch 4246/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4790 - accuracy:
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Epoch 4247/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4790 - accuracy:
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Epoch 4248/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4789 - accuracy:
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Epoch 4249/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4789 - accuracy:
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Epoch 4250/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4789 - accuracy:
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Epoch 4251/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4789 - accuracy:
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Epoch 4252/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4788 - accuracy:
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Epoch 4253/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4788 - accuracy:
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Epoch 4254/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4788 - accuracy:
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Epoch 4255/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4788 - accuracy:
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Epoch 4256/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4787 - accuracy:
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Epoch 4257/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4787 - accuracy:
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Epoch 4258/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4787 - accuracy:
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Epoch 4259/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4787 - accuracy:

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Epoch 4260/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4786 - accuracy:
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Epoch 4261/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4786 - accuracy:
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Epoch 4262/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4786 - accuracy:
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Epoch 4263/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4786 - accuracy:
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Epoch 4264/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4786 - accuracy:
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Epoch 4265/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4785 - accuracy:
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Epoch 4266/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4785 - accuracy:
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Epoch 4267/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4785 - accuracy:
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Epoch 4268/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4785 - accuracy:
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Epoch 4269/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4784 - accuracy:
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Epoch 4270/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4784 - accuracy:
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Epoch 4271/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4784 - accuracy:
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Epoch 4272/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4784 - accuracy:
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Epoch 4273/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4783 - accuracy:
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Epoch 4274/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4783 - accuracy:
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Epoch 4275/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4783 - accuracy:

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Epoch 4276/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4783 - accuracy:
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Epoch 4277/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4783 - accuracy:
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Epoch 4278/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4782 - accuracy:
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Epoch 4279/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4782 - accuracy:
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Epoch 4280/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4782 - accuracy:
0.9091
Epoch 4281/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4782 - accuracy:
0.9091
Epoch 4282/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4781 - accuracy:
0.9091
Epoch 4283/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4781 - accuracy:
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Epoch 4284/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4781 - accuracy:
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Epoch 4285/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4781 - accuracy:
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Epoch 4286/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4780 - accuracy:
0.9091
Epoch 4287/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4780 - accuracy:
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Epoch 4288/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4780 - accuracy:
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Epoch 4289/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4780 - accuracy:
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Epoch 4290/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4780 - accuracy:
0.9091
Epoch 4291/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4779 - accuracy:

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Epoch 4292/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4779 - accuracy:
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Epoch 4293/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4779 - accuracy:
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Epoch 4294/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4779 - accuracy:
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Epoch 4295/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4778 - accuracy:
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Epoch 4296/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4778 - accuracy:
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Epoch 4297/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4778 - accuracy:
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Epoch 4298/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4778 - accuracy:
0.9091
Epoch 4299/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4777 - accuracy:
0.9091
Epoch 4300/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4777 - accuracy:
0.9091
Epoch 4301/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4777 - accuracy:
0.9091
Epoch 4302/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4777 - accuracy:
0.9091
Epoch 4303/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4776 - accuracy:
0.9091
Epoch 4304/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4776 - accuracy:
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Epoch 4305/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4776 - accuracy:
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Epoch 4306/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4776 - accuracy:
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Epoch 4307/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4776 - accuracy:

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Epoch 4308/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4775 - accuracy:
0.9091
Epoch 4309/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4775 - accuracy:
0.9091
Epoch 4310/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4775 - accuracy:
0.9091
Epoch 4311/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4775 - accuracy:
0.9091
Epoch 4312/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4774 - accuracy:
0.9091
Epoch 4313/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4774 - accuracy:
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Epoch 4314/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4774 - accuracy:
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Epoch 4315/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4774 - accuracy:
0.9091
Epoch 4316/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4774 - accuracy:
0.9091
Epoch 4317/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4773 - accuracy:
0.9091
Epoch 4318/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4773 - accuracy:
0.9091
Epoch 4319/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4773 - accuracy:
0.9091
Epoch 4320/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4773 - accuracy:
0.9091
Epoch 4321/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4772 - accuracy:
0.9091
Epoch 4322/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4772 - accuracy:
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Epoch 4323/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4772 - accuracy:

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Epoch 4324/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4772 - accuracy:
0.9091
Epoch 4325/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4771 - accuracy:
0.9091
Epoch 4326/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4771 - accuracy:
0.9091
Epoch 4327/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4771 - accuracy:
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Epoch 4328/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4771 - accuracy:
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Epoch 4329/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4771 - accuracy:
0.9091
Epoch 4330/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4770 - accuracy:
0.9091
Epoch 4331/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4770 - accuracy:
0.9091
Epoch 4332/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4770 - accuracy:
0.9091
Epoch 4333/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4770 - accuracy:
0.9091
Epoch 4334/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4769 - accuracy:
0.9091
Epoch 4335/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4769 - accuracy:
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Epoch 4336/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4769 - accuracy:
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Epoch 4337/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4769 - accuracy:
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Epoch 4338/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4768 - accuracy:
0.9091
Epoch 4339/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4768 - accuracy:

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Epoch 4340/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4768 - accuracy:
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Epoch 4341/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4768 - accuracy:
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Epoch 4342/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4768 - accuracy:
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Epoch 4343/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4767 - accuracy:
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Epoch 4344/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4767 - accuracy:
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Epoch 4345/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4767 - accuracy:
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Epoch 4346/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4767 - accuracy:
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Epoch 4347/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4766 - accuracy:
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Epoch 4348/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4766 - accuracy:
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Epoch 4349/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4766 - accuracy:
0.9091
Epoch 4350/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4766 - accuracy:
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Epoch 4351/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4765 - accuracy:
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Epoch 4352/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4765 - accuracy:
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Epoch 4353/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4765 - accuracy:
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Epoch 4354/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4765 - accuracy:
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Epoch 4355/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4765 - accuracy:

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Epoch 4356/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4764 - accuracy:
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Epoch 4357/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4764 - accuracy:
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Epoch 4358/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4764 - accuracy:
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Epoch 4359/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4764 - accuracy:
0.9091
Epoch 4360/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4763 - accuracy:
0.9091
Epoch 4361/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4763 - accuracy:
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Epoch 4362/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4763 - accuracy:
0.9091
Epoch 4363/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4763 - accuracy:
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Epoch 4364/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4763 - accuracy:
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Epoch 4365/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4762 - accuracy:
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Epoch 4366/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4762 - accuracy:
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Epoch 4367/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4762 - accuracy:
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Epoch 4368/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4762 - accuracy:
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Epoch 4369/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4761 - accuracy:
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Epoch 4370/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4761 - accuracy:
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Epoch 4371/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4761 - accuracy:

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Epoch 4372/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4761 - accuracy:
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Epoch 4373/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4761 - accuracy:
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Epoch 4374/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4760 - accuracy:
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Epoch 4375/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4760 - accuracy:
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Epoch 4376/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4760 - accuracy:
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Epoch 4377/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4760 - accuracy:
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Epoch 4378/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4759 - accuracy:
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Epoch 4379/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4759 - accuracy:
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Epoch 4380/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4759 - accuracy:
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Epoch 4381/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4759 - accuracy:
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Epoch 4382/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4758 - accuracy:
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Epoch 4383/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4758 - accuracy:
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Epoch 4384/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4758 - accuracy:
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Epoch 4385/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4758 - accuracy:
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Epoch 4386/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4758 - accuracy:
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Epoch 4387/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4757 - accuracy:

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Epoch 4388/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4757 - accuracy:
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Epoch 4389/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4757 - accuracy:
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Epoch 4390/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4757 - accuracy:
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Epoch 4391/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4756 - accuracy:
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Epoch 4392/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4756 - accuracy:
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Epoch 4393/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4756 - accuracy:
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Epoch 4394/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4756 - accuracy:
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Epoch 4395/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4756 - accuracy:
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Epoch 4396/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4755 - accuracy:
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Epoch 4397/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4755 - accuracy:
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Epoch 4398/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4755 - accuracy:
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Epoch 4399/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4755 - accuracy:
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Epoch 4400/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4754 - accuracy:
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Epoch 4401/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4754 - accuracy:
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Epoch 4402/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4754 - accuracy:
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Epoch 4403/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4754 - accuracy:

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Epoch 4404/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4754 - accuracy:
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Epoch 4405/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4753 - accuracy:
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Epoch 4406/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4753 - accuracy:
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Epoch 4407/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4753 - accuracy:
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Epoch 4408/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4753 - accuracy:
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Epoch 4409/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4752 - accuracy:
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Epoch 4410/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4752 - accuracy:
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Epoch 4411/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4752 - accuracy:
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Epoch 4412/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4752 - accuracy:
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Epoch 4413/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4752 - accuracy:
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Epoch 4414/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4751 - accuracy:
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Epoch 4415/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4751 - accuracy:
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Epoch 4416/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4751 - accuracy:
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Epoch 4417/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4751 - accuracy:
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Epoch 4418/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4750 - accuracy:
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Epoch 4419/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4750 - accuracy:

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Epoch 4420/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4750 - accuracy:
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Epoch 4421/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4750 - accuracy:
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Epoch 4422/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4750 - accuracy:
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Epoch 4423/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4749 - accuracy:
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Epoch 4424/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4749 - accuracy:
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Epoch 4425/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4749 - accuracy:
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Epoch 4426/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4749 - accuracy:
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Epoch 4427/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4748 - accuracy:
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Epoch 4428/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4748 - accuracy:
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Epoch 4429/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4748 - accuracy:
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Epoch 4430/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4748 - accuracy:
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Epoch 4431/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4747 - accuracy:
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Epoch 4432/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4747 - accuracy:
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Epoch 4433/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4747 - accuracy:
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Epoch 4434/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4747 - accuracy:
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Epoch 4435/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4747 - accuracy:

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Epoch 4436/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4746 - accuracy:
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Epoch 4437/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4746 - accuracy:
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Epoch 4438/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4746 - accuracy:
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Epoch 4439/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4746 - accuracy:
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Epoch 4440/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4745 - accuracy:
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Epoch 4441/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4745 - accuracy:
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Epoch 4442/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4745 - accuracy:
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Epoch 4443/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4745 - accuracy:
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Epoch 4444/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4745 - accuracy:
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Epoch 4445/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4744 - accuracy:
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Epoch 4446/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4744 - accuracy:
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Epoch 4447/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4744 - accuracy:
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Epoch 4448/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4744 - accuracy:
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Epoch 4449/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4744 - accuracy:
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Epoch 4450/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4743 - accuracy:
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Epoch 4451/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4743 - accuracy:

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Epoch 4452/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4743 - accuracy:
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Epoch 4453/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4743 - accuracy:
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Epoch 4454/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4742 - accuracy:
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Epoch 4455/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4742 - accuracy:
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Epoch 4456/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4742 - accuracy:
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Epoch 4457/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4742 - accuracy:
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Epoch 4458/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4742 - accuracy:
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Epoch 4459/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4741 - accuracy:
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Epoch 4460/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4741 - accuracy:
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Epoch 4461/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4741 - accuracy:
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Epoch 4462/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4741 - accuracy:
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Epoch 4463/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4740 - accuracy:
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Epoch 4464/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4740 - accuracy:
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Epoch 4465/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4740 - accuracy:
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Epoch 4466/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4740 - accuracy:
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Epoch 4467/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4740 - accuracy:

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Epoch 4468/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4739 - accuracy:
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Epoch 4469/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4739 - accuracy:
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Epoch 4470/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4739 - accuracy:
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Epoch 4471/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4739 - accuracy:
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Epoch 4472/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4738 - accuracy:
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Epoch 4473/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4738 - accuracy:
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Epoch 4474/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4738 - accuracy:
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Epoch 4475/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4738 - accuracy:
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Epoch 4476/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4738 - accuracy:
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Epoch 4477/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4737 - accuracy:
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Epoch 4478/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4737 - accuracy:
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Epoch 4479/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4737 - accuracy:
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Epoch 4480/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4737 - accuracy:
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Epoch 4481/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4736 - accuracy:
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Epoch 4482/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4736 - accuracy:
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Epoch 4483/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4736 - accuracy:

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Epoch 4484/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4736 - accuracy:
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Epoch 4485/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4736 - accuracy:
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Epoch 4486/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4735 - accuracy:
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Epoch 4487/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4735 - accuracy:
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Epoch 4488/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4735 - accuracy:
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Epoch 4489/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4735 - accuracy:
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Epoch 4490/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4734 - accuracy:
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Epoch 4491/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4734 - accuracy:
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Epoch 4492/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4734 - accuracy:
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Epoch 4493/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4734 - accuracy:
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Epoch 4494/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4734 - accuracy:
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Epoch 4495/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4733 - accuracy:
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Epoch 4496/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4733 - accuracy:
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Epoch 4497/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4733 - accuracy:
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Epoch 4498/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4733 - accuracy:
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Epoch 4499/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4733 - accuracy:

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Epoch 4500/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4732 - accuracy:
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Epoch 4501/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4732 - accuracy:
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Epoch 4502/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4732 - accuracy:
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Epoch 4503/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4732 - accuracy:
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Epoch 4504/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4731 - accuracy:
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Epoch 4505/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4731 - accuracy:
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Epoch 4506/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4731 - accuracy:
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Epoch 4507/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4731 - accuracy:
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Epoch 4508/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4731 - accuracy:
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Epoch 4509/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4730 - accuracy:
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Epoch 4510/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4730 - accuracy:
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Epoch 4511/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4730 - accuracy:
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Epoch 4512/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4730 - accuracy:
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Epoch 4513/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4729 - accuracy:
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Epoch 4514/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4729 - accuracy:
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Epoch 4515/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4729 - accuracy:

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Epoch 4516/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4729 - accuracy:
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Epoch 4517/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4729 - accuracy:
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Epoch 4518/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4728 - accuracy:
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Epoch 4519/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4728 - accuracy:
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Epoch 4520/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4728 - accuracy:
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Epoch 4521/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4728 - accuracy:
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Epoch 4522/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4728 - accuracy:
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Epoch 4523/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4727 - accuracy:
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Epoch 4524/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4727 - accuracy:
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Epoch 4525/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4727 - accuracy:
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Epoch 4526/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4727 - accuracy:
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Epoch 4527/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4726 - accuracy:
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Epoch 4528/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4726 - accuracy:
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Epoch 4529/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4726 - accuracy:
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Epoch 4530/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4726 - accuracy:
0.9091
Epoch 4531/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4726 - accuracy:

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0.9091
Epoch 4532/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4725 - accuracy:
0.9091
Epoch 4533/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4725 - accuracy:
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Epoch 4534/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4725 - accuracy:
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Epoch 4535/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4725 - accuracy:
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Epoch 4536/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4724 - accuracy:
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Epoch 4537/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4724 - accuracy:
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Epoch 4538/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4724 - accuracy:
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Epoch 4539/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4724 - accuracy:
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Epoch 4540/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4724 - accuracy:
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Epoch 4541/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4723 - accuracy:
0.9091
Epoch 4542/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4723 - accuracy:
0.9091
Epoch 4543/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4723 - accuracy:
0.9091
Epoch 4544/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4723 - accuracy:
0.9091
Epoch 4545/5000
1/1 [=====] - 0s 15ms/step - loss: 0.4723 - accuracy:
0.9091
Epoch 4546/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4722 - accuracy:
0.9091
Epoch 4547/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4722 - accuracy:

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0.9091
Epoch 4548/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4722 - accuracy:
0.9091
Epoch 4549/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4722 - accuracy:
0.9091
Epoch 4550/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4721 - accuracy:
0.9091
Epoch 4551/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4721 - accuracy:
0.9091
Epoch 4552/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4721 - accuracy:
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Epoch 4553/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4721 - accuracy:
0.9091
Epoch 4554/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4721 - accuracy:
0.9091
Epoch 4555/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4720 - accuracy:
0.9091
Epoch 4556/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4720 - accuracy:
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Epoch 4557/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4720 - accuracy:
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Epoch 4558/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4720 - accuracy:
0.9091
Epoch 4559/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4720 - accuracy:
0.9091
Epoch 4560/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4719 - accuracy:
0.9091
Epoch 4561/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4719 - accuracy:
0.9091
Epoch 4562/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4719 - accuracy:
0.9091
Epoch 4563/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4719 - accuracy:

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0.9091
Epoch 4564/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4718 - accuracy:
0.9091
Epoch 4565/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4718 - accuracy:
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Epoch 4566/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4718 - accuracy:
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Epoch 4567/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4718 - accuracy:
0.9091
Epoch 4568/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4718 - accuracy:
0.9091
Epoch 4569/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4717 - accuracy:
0.9091
Epoch 4570/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4717 - accuracy:
0.9091
Epoch 4571/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4717 - accuracy:
0.9091
Epoch 4572/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4717 - accuracy:
0.9091
Epoch 4573/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4717 - accuracy:
0.9091
Epoch 4574/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4716 - accuracy:
0.9091
Epoch 4575/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4716 - accuracy:
0.9091
Epoch 4576/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4716 - accuracy:
0.9091
Epoch 4577/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4716 - accuracy:
0.9091
Epoch 4578/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4715 - accuracy:
0.9091
Epoch 4579/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4715 - accuracy:

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0.9091
Epoch 4580/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4715 - accuracy:
0.9091
Epoch 4581/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4715 - accuracy:
0.9091
Epoch 4582/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4715 - accuracy:
0.9091
Epoch 4583/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4714 - accuracy:
0.9091
Epoch 4584/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4714 - accuracy:
0.9091
Epoch 4585/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4714 - accuracy:
0.9091
Epoch 4586/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4714 - accuracy:
0.9091
Epoch 4587/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4714 - accuracy:
0.9091
Epoch 4588/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4713 - accuracy:
0.9091
Epoch 4589/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4713 - accuracy:
0.9091
Epoch 4590/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4713 - accuracy:
0.9091
Epoch 4591/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4713 - accuracy:
0.9091
Epoch 4592/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4713 - accuracy:
0.9091
Epoch 4593/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4712 - accuracy:
0.9091
Epoch 4594/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4712 - accuracy:
0.9091
Epoch 4595/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4712 - accuracy:

```

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0.9091
Epoch 4596/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4712 - accuracy:
0.9091
Epoch 4597/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4711 - accuracy:
0.9091
Epoch 4598/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4711 - accuracy:
0.9091
Epoch 4599/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4711 - accuracy:
0.9091
Epoch 4600/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4711 - accuracy:
0.9091
Epoch 4601/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4711 - accuracy:
0.9091
Epoch 4602/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4710 - accuracy:
0.9091
Epoch 4603/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4710 - accuracy:
0.9091
Epoch 4604/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4710 - accuracy:
0.9091
Epoch 4605/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4710 - accuracy:
0.9091
Epoch 4606/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4710 - accuracy:
0.9091
Epoch 4607/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4709 - accuracy:
0.9091
Epoch 4608/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4709 - accuracy:
0.9091
Epoch 4609/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4709 - accuracy:
0.9091
Epoch 4610/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4709 - accuracy:
0.9091
Epoch 4611/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4708 - accuracy:

```

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0.9091
Epoch 4612/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4708 - accuracy:
0.9091
Epoch 4613/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4708 - accuracy:
0.9091
Epoch 4614/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4708 - accuracy:
0.9091
Epoch 4615/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4708 - accuracy:
0.9091
Epoch 4616/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4707 - accuracy:
0.9091
Epoch 4617/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4707 - accuracy:
0.9091
Epoch 4618/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4707 - accuracy:
0.9091
Epoch 4619/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4707 - accuracy:
0.9091
Epoch 4620/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4707 - accuracy:
0.9091
Epoch 4621/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4706 - accuracy:
0.9091
Epoch 4622/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4706 - accuracy:
0.9091
Epoch 4623/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4706 - accuracy:
0.9091
Epoch 4624/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4706 - accuracy:
0.9091
Epoch 4625/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4706 - accuracy:
0.9091
Epoch 4626/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4705 - accuracy:
0.9091
Epoch 4627/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4705 - accuracy:

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0.9091
Epoch 4628/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4705 - accuracy:
0.9091
Epoch 4629/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4705 - accuracy:
0.9091
Epoch 4630/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4704 - accuracy:
0.9091
Epoch 4631/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4704 - accuracy:
0.9091
Epoch 4632/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4704 - accuracy:
0.9091
Epoch 4633/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4704 - accuracy:
0.9091
Epoch 4634/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4704 - accuracy:
0.9091
Epoch 4635/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4703 - accuracy:
0.9091
Epoch 4636/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4703 - accuracy:
0.9091
Epoch 4637/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4703 - accuracy:
0.9091
Epoch 4638/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4703 - accuracy:
0.9091
Epoch 4639/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4703 - accuracy:
0.9091
Epoch 4640/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4702 - accuracy:
0.9091
Epoch 4641/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4702 - accuracy:
0.9091
Epoch 4642/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4702 - accuracy:
0.9091
Epoch 4643/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4702 - accuracy:

0.9091
Epoch 4644/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4702 - accuracy:
0.9091
Epoch 4645/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4701 - accuracy:
0.9091
Epoch 4646/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4701 - accuracy:
0.9091
Epoch 4647/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4701 - accuracy:
0.9091
Epoch 4648/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4701 - accuracy:
0.9091
Epoch 4649/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4700 - accuracy:
0.9091
Epoch 4650/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4700 - accuracy:
0.9091
Epoch 4651/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4700 - accuracy:
0.9091
Epoch 4652/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4700 - accuracy:
0.9091
Epoch 4653/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4700 - accuracy:
0.9091
Epoch 4654/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4699 - accuracy:
0.9091
Epoch 4655/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4699 - accuracy:
0.9091
Epoch 4656/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4699 - accuracy:
0.9091
Epoch 4657/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4699 - accuracy:
0.9091
Epoch 4658/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4699 - accuracy:
0.9091
Epoch 4659/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4698 - accuracy:

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0.9091
Epoch 4660/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4698 - accuracy:
0.9091
Epoch 4661/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4698 - accuracy:
0.9091
Epoch 4662/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4698 - accuracy:
0.9091
Epoch 4663/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4698 - accuracy:
0.9091
Epoch 4664/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4697 - accuracy:
0.9091
Epoch 4665/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4697 - accuracy:
0.9091
Epoch 4666/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4697 - accuracy:
0.9091
Epoch 4667/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4697 - accuracy:
0.9091
Epoch 4668/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4697 - accuracy:
0.9091
Epoch 4669/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4696 - accuracy:
0.9091
Epoch 4670/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4696 - accuracy:
0.9091
Epoch 4671/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4696 - accuracy:
0.9091
Epoch 4672/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4696 - accuracy:
0.9091
Epoch 4673/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4695 - accuracy:
0.9091
Epoch 4674/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4695 - accuracy:
0.9091
Epoch 4675/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4695 - accuracy:

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0.9091
Epoch 4676/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4695 - accuracy:
0.9091
Epoch 4677/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4695 - accuracy:
0.9091
Epoch 4678/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4694 - accuracy:
0.9091
Epoch 4679/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4694 - accuracy:
0.9091
Epoch 4680/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4694 - accuracy:
0.9091
Epoch 4681/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4694 - accuracy:
0.9091
Epoch 4682/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4694 - accuracy:
0.9091
Epoch 4683/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4693 - accuracy:
0.9091
Epoch 4684/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4693 - accuracy:
0.9091
Epoch 4685/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4693 - accuracy:
0.9091
Epoch 4686/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4693 - accuracy:
0.9091
Epoch 4687/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4693 - accuracy:
0.9091
Epoch 4688/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4692 - accuracy:
0.9091
Epoch 4689/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4692 - accuracy:
0.9091
Epoch 4690/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4692 - accuracy:
0.9091
Epoch 4691/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4692 - accuracy:

0.9091
Epoch 4692/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4692 - accuracy:
0.9091
Epoch 4693/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4691 - accuracy:
0.9091
Epoch 4694/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4691 - accuracy:
0.9091
Epoch 4695/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4691 - accuracy:
0.9091
Epoch 4696/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4691 - accuracy:
0.9091
Epoch 4697/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4691 - accuracy:
0.9091
Epoch 4698/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4690 - accuracy:
0.9091
Epoch 4699/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4690 - accuracy:
0.9091
Epoch 4700/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4690 - accuracy:
0.9091
Epoch 4701/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4690 - accuracy:
0.9091
Epoch 4702/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4690 - accuracy:
0.9091
Epoch 4703/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4689 - accuracy:
0.9091
Epoch 4704/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4689 - accuracy:
0.9091
Epoch 4705/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4689 - accuracy:
0.9091
Epoch 4706/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4689 - accuracy:
0.9091
Epoch 4707/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4688 - accuracy:

0.9091
Epoch 4708/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4688 - accuracy:
0.9091
Epoch 4709/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4688 - accuracy:
0.9091
Epoch 4710/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4688 - accuracy:
0.9091
Epoch 4711/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4688 - accuracy:
0.9091
Epoch 4712/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4687 - accuracy:
0.9091
Epoch 4713/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4687 - accuracy:
0.9091
Epoch 4714/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4687 - accuracy:
0.9091
Epoch 4715/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4687 - accuracy:
0.9091
Epoch 4716/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4687 - accuracy:
0.9091
Epoch 4717/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4686 - accuracy:
0.9091
Epoch 4718/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4686 - accuracy:
0.9091
Epoch 4719/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4686 - accuracy:
0.9091
Epoch 4720/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4686 - accuracy:
0.9091
Epoch 4721/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4686 - accuracy:
0.9091
Epoch 4722/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4685 - accuracy:
0.9091
Epoch 4723/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4685 - accuracy:

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0.9091
Epoch 4724/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4685 - accuracy:
0.9091
Epoch 4725/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4685 - accuracy:
0.9091
Epoch 4726/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4685 - accuracy:
0.9091
Epoch 4727/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4684 - accuracy:
0.9091
Epoch 4728/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4684 - accuracy:
0.9091
Epoch 4729/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4684 - accuracy:
0.9091
Epoch 4730/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4684 - accuracy:
0.9091
Epoch 4731/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4684 - accuracy:
0.9091
Epoch 4732/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4683 - accuracy:
0.9091
Epoch 4733/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4683 - accuracy:
0.9091
Epoch 4734/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4683 - accuracy:
0.9091
Epoch 4735/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4683 - accuracy:
0.9091
Epoch 4736/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4683 - accuracy:
0.9091
Epoch 4737/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4682 - accuracy:
0.9091
Epoch 4738/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4682 - accuracy:
0.9091
Epoch 4739/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4682 - accuracy:

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0.9091
Epoch 4740/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4682 - accuracy:
0.9091
Epoch 4741/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4682 - accuracy:
0.9091
Epoch 4742/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4681 - accuracy:
0.9091
Epoch 4743/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4681 - accuracy:
0.9091
Epoch 4744/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4681 - accuracy:
0.9091
Epoch 4745/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4681 - accuracy:
0.9091
Epoch 4746/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4681 - accuracy:
0.9091
Epoch 4747/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4680 - accuracy:
0.9091
Epoch 4748/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4680 - accuracy:
0.9091
Epoch 4749/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4680 - accuracy:
0.9091
Epoch 4750/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4680 - accuracy:
0.9091
Epoch 4751/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4679 - accuracy:
0.9091
Epoch 4752/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4679 - accuracy:
0.9091
Epoch 4753/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4679 - accuracy:
0.9091
Epoch 4754/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4679 - accuracy:
0.9091
Epoch 4755/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4679 - accuracy:

```

0.9091
Epoch 4756/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4678 - accuracy:
0.9091
Epoch 4757/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4678 - accuracy:
0.9091
Epoch 4758/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4678 - accuracy:
0.9091
Epoch 4759/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4678 - accuracy:
0.9091
Epoch 4760/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4678 - accuracy:
0.9091
Epoch 4761/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4677 - accuracy:
0.9091
Epoch 4762/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4677 - accuracy:
0.9091
Epoch 4763/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4677 - accuracy:
0.9091
Epoch 4764/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4677 - accuracy:
0.9091
Epoch 4765/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4677 - accuracy:
0.9091
Epoch 4766/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4676 - accuracy:
0.9091
Epoch 4767/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4676 - accuracy:
0.9091
Epoch 4768/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4676 - accuracy:
0.9091
Epoch 4769/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4676 - accuracy:
0.9091
Epoch 4770/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4676 - accuracy:
0.9091
Epoch 4771/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4675 - accuracy:

0.9091
Epoch 4772/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4675 - accuracy: 0.9091
Epoch 4773/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4675 - accuracy: 0.9091
Epoch 4774/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4675 - accuracy: 0.9091
Epoch 4775/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4675 - accuracy: 0.9091
Epoch 4776/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4674 - accuracy: 0.9091
Epoch 4777/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4674 - accuracy: 0.9091
Epoch 4778/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4674 - accuracy: 0.9091
Epoch 4779/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4674 - accuracy: 0.9091
Epoch 4780/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4674 - accuracy: 0.9091
Epoch 4781/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4673 - accuracy: 0.9091
Epoch 4782/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4673 - accuracy: 0.9091
Epoch 4783/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4673 - accuracy: 0.9091
Epoch 4784/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4673 - accuracy: 0.9091
Epoch 4785/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4673 - accuracy: 0.9091
Epoch 4786/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4672 - accuracy: 0.9091
Epoch 4787/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4672 - accuracy:

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0.9091
Epoch 4788/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4672 - accuracy:
0.9091
Epoch 4789/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4672 - accuracy:
0.9091
Epoch 4790/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4672 - accuracy:
0.9091
Epoch 4791/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4671 - accuracy:
0.9091
Epoch 4792/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4671 - accuracy:
0.9091
Epoch 4793/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4671 - accuracy:
0.9091
Epoch 4794/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4671 - accuracy:
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Epoch 4795/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4671 - accuracy:
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Epoch 4796/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4670 - accuracy:
0.9091
Epoch 4797/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4670 - accuracy:
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Epoch 4798/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4670 - accuracy:
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Epoch 4799/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4670 - accuracy:
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Epoch 4800/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4670 - accuracy:
0.9091
Epoch 4801/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4669 - accuracy:
0.9091
Epoch 4802/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4669 - accuracy:
0.9091
Epoch 4803/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4669 - accuracy:

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0.9091
Epoch 4804/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4669 - accuracy:
0.9091
Epoch 4805/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4669 - accuracy:
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Epoch 4806/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4668 - accuracy:
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Epoch 4807/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4668 - accuracy:
0.9091
Epoch 4808/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4668 - accuracy:
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Epoch 4809/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4668 - accuracy:
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Epoch 4810/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4668 - accuracy:
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Epoch 4811/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4667 - accuracy:
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Epoch 4812/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4667 - accuracy:
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Epoch 4813/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4667 - accuracy:
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Epoch 4814/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4667 - accuracy:
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Epoch 4815/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4667 - accuracy:
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Epoch 4816/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4666 - accuracy:
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Epoch 4817/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4666 - accuracy:
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Epoch 4818/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4666 - accuracy:
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Epoch 4819/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4666 - accuracy:

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Epoch 4820/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4666 - accuracy:
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Epoch 4821/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4665 - accuracy:
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Epoch 4822/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4665 - accuracy:
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Epoch 4823/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4665 - accuracy:
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Epoch 4824/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4665 - accuracy:
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Epoch 4825/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4665 - accuracy:
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Epoch 4826/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4664 - accuracy:
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Epoch 4827/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4664 - accuracy:
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Epoch 4828/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4664 - accuracy:
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Epoch 4829/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4664 - accuracy:
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Epoch 4830/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4664 - accuracy:
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Epoch 4831/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4663 - accuracy:
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Epoch 4832/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4663 - accuracy:
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Epoch 4833/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4663 - accuracy:
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Epoch 4834/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4663 - accuracy:
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Epoch 4835/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4663 - accuracy:

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Epoch 4836/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4662 - accuracy:
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Epoch 4837/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4662 - accuracy:
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Epoch 4838/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4662 - accuracy:
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Epoch 4839/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4662 - accuracy:
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Epoch 4840/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4662 - accuracy:
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Epoch 4841/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4661 - accuracy:
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Epoch 4842/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4661 - accuracy:
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Epoch 4843/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4661 - accuracy:
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Epoch 4844/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4661 - accuracy:
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Epoch 4845/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4661 - accuracy:
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Epoch 4846/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4660 - accuracy:
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Epoch 4847/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4660 - accuracy:
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Epoch 4848/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4660 - accuracy:
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Epoch 4849/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4660 - accuracy:
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Epoch 4850/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4660 - accuracy:
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Epoch 4851/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4659 - accuracy:

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Epoch 4852/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4659 - accuracy:
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Epoch 4853/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4659 - accuracy:
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Epoch 4854/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4659 - accuracy:
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Epoch 4855/5000
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Epoch 4856/5000
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Epoch 4857/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4658 - accuracy:
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Epoch 4858/5000
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Epoch 4859/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4658 - accuracy:
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Epoch 4860/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4658 - accuracy:
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Epoch 4861/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4658 - accuracy:
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Epoch 4862/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4657 - accuracy:
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Epoch 4863/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4657 - accuracy:
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Epoch 4864/5000
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Epoch 4865/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4657 - accuracy:
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Epoch 4866/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4657 - accuracy:
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Epoch 4867/5000
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Epoch 4868/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4656 - accuracy:
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Epoch 4869/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4656 - accuracy:
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Epoch 4870/5000
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Epoch 4871/5000
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Epoch 4872/5000
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Epoch 4873/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4655 - accuracy:
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Epoch 4874/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4655 - accuracy:
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Epoch 4875/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4655 - accuracy:
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Epoch 4876/5000
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Epoch 4877/5000
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Epoch 4878/5000
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Epoch 4879/5000
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Epoch 4880/5000
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Epoch 4881/5000
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Epoch 4882/5000
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Epoch 4883/5000
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Epoch 4884/5000
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Epoch 4885/5000
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Epoch 4886/5000
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Epoch 4887/5000
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Epoch 4888/5000
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Epoch 4889/5000
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Epoch 4890/5000
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Epoch 4891/5000
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Epoch 4892/5000
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Epoch 4893/5000
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Epoch 4894/5000
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Epoch 4895/5000
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Epoch 4896/5000
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Epoch 4897/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4650 - accuracy:
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Epoch 4898/5000
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Epoch 4899/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4650 - accuracy:

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Epoch 4900/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4650 - accuracy:
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Epoch 4901/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4650 - accuracy:
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Epoch 4902/5000
1/1 [=====] - 0s 12ms/step - loss: 0.4650 - accuracy:
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Epoch 4903/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4649 - accuracy:
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Epoch 4904/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4649 - accuracy:
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Epoch 4905/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4649 - accuracy:
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Epoch 4906/5000
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Epoch 4907/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4649 - accuracy:
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Epoch 4908/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4648 - accuracy:
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Epoch 4909/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4648 - accuracy:
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Epoch 4910/5000
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Epoch 4911/5000
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Epoch 4912/5000
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Epoch 4913/5000
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Epoch 4914/5000
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Epoch 4915/5000
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Epoch 4916/5000
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Epoch 4917/5000
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Epoch 4918/5000
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Epoch 4919/5000
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Epoch 4920/5000
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Epoch 4921/5000
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Epoch 4922/5000
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Epoch 4923/5000
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Epoch 4924/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4645 - accuracy:
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Epoch 4925/5000
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Epoch 4926/5000
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Epoch 4927/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4645 - accuracy:
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Epoch 4928/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4644 - accuracy:
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Epoch 4929/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4644 - accuracy:
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Epoch 4930/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4644 - accuracy:
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Epoch 4931/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4644 - accuracy:

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Epoch 4932/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4644 - accuracy:
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Epoch 4933/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4644 - accuracy:
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Epoch 4934/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4643 - accuracy:
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Epoch 4935/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4643 - accuracy:
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Epoch 4936/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4643 - accuracy:
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Epoch 4937/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4643 - accuracy:
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Epoch 4938/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4643 - accuracy:
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Epoch 4939/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4642 - accuracy:
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Epoch 4940/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4642 - accuracy:
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Epoch 4941/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4642 - accuracy:
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Epoch 4942/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4642 - accuracy:
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Epoch 4943/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4642 - accuracy:
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Epoch 4944/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4641 - accuracy:
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Epoch 4945/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4641 - accuracy:
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Epoch 4946/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4641 - accuracy:
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Epoch 4947/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4641 - accuracy:

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0.9091
Epoch 4948/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4641 - accuracy:
0.9091
Epoch 4949/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4640 - accuracy:
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Epoch 4950/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4640 - accuracy:
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Epoch 4951/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4640 - accuracy:
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Epoch 4952/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4640 - accuracy:
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Epoch 4953/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4640 - accuracy:
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Epoch 4954/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4639 - accuracy:
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Epoch 4955/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4639 - accuracy:
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Epoch 4956/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4639 - accuracy:
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Epoch 4957/5000
1/1 [=====] - 0s 11ms/step - loss: 0.4639 - accuracy:
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Epoch 4958/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4639 - accuracy:
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Epoch 4959/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4639 - accuracy:
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Epoch 4960/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4638 - accuracy:
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Epoch 4961/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4638 - accuracy:
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Epoch 4962/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4638 - accuracy:
0.9091
Epoch 4963/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4638 - accuracy:

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Epoch 4964/5000
1/1 [=====] - 0s 10ms/step - loss: 0.4638 - accuracy:
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Epoch 4965/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4637 - accuracy:
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Epoch 4966/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4637 - accuracy:
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Epoch 4967/5000
1/1 [=====] - 0s 9ms/step - loss: 0.4637 - accuracy:
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Epoch 4968/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4637 - accuracy:
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Epoch 4969/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4637 - accuracy:
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Epoch 4970/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4636 - accuracy:
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Epoch 4971/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4636 - accuracy:
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Epoch 4972/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4636 - accuracy:
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Epoch 4973/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4636 - accuracy:
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Epoch 4974/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4636 - accuracy:
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Epoch 4975/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4635 - accuracy:
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Epoch 4976/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4635 - accuracy:
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Epoch 4977/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4635 - accuracy:
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Epoch 4978/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4635 - accuracy:
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Epoch 4979/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4635 - accuracy:

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Epoch 4980/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4635 - accuracy:
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Epoch 4981/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4634 - accuracy:
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Epoch 4982/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4634 - accuracy:
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Epoch 4983/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4634 - accuracy:
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Epoch 4984/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4634 - accuracy:
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Epoch 4985/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4634 - accuracy:
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Epoch 4986/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4633 - accuracy:
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Epoch 4987/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4633 - accuracy:
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Epoch 4988/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4633 - accuracy:
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Epoch 4989/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4633 - accuracy:
0.9091
Epoch 4990/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4633 - accuracy:
0.9091
Epoch 4991/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4632 - accuracy:
0.9091
Epoch 4992/5000
1/1 [=====] - 0s 8ms/step - loss: 0.4632 - accuracy:
0.9091
Epoch 4993/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4632 - accuracy:
0.9091
Epoch 4994/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4632 - accuracy:
0.9091
Epoch 4995/5000
1/1 [=====] - 0s 7ms/step - loss: 0.4632 - accuracy:

```

0.9091
Epoch 4996/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4631 - accuracy:
0.9091
Epoch 4997/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4631 - accuracy:
0.9091
Epoch 4998/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4631 - accuracy:
0.9091
Epoch 4999/5000
1/1 [=====] - 0s 5ms/step - loss: 0.4631 - accuracy:
0.9091
Epoch 5000/5000
1/1 [=====] - 0s 6ms/step - loss: 0.4631 - accuracy:
0.9091

```

```
[9]: <keras.src.callbacks.History at 0x78ba0bf87130>
```

```
[10]: model.evaluate(x_test_Scaled,y_test)
```

```

1/1 [=====] - 0s 105ms/step - loss: 0.3550 - accuracy:
1.0000

```

```
[10]: [0.3549776077270508, 1.0]
```

5 Prediction of the model

value greater then 0.5 show that person will buy the insurance and vice versa.

```
[11]: model.predict(x_test_Scaled)
```

```
1/1 [=====] - 0s 52ms/step
```

```
[11]: array([[0.7054848 ],
            [0.3556957 ],
            [0.16827832],
            [0.47801185],
            [0.7260696 ],
            [0.8294983 ]], dtype=float32)
```

```
[12]: x_test_Scaled
```

```
[12]:
```

	age	affordability
2	0.47	1
10	0.18	1
21	0.26	0

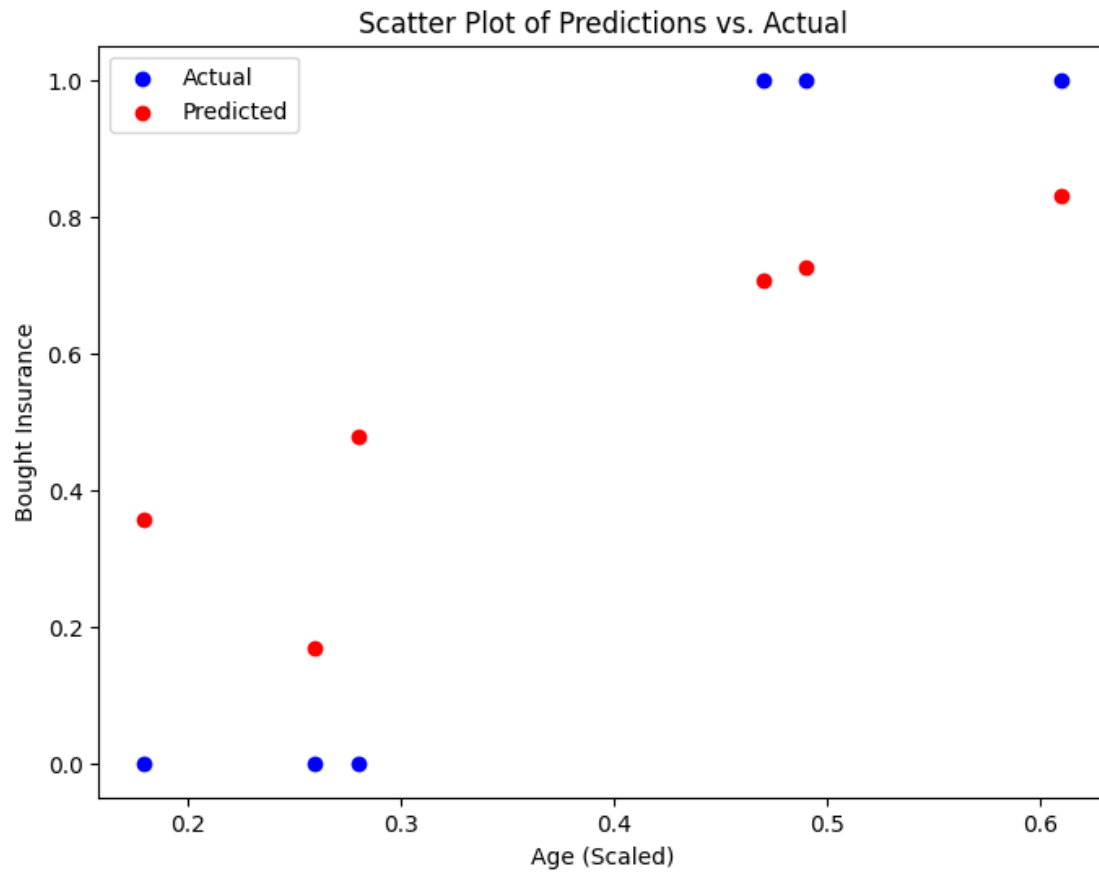
11	0.28	1
14	0.49	1
9	0.61	1

```
[13]: model.get_weights()
```

```
[13]: [array([[5.060863 ],  
        [1.4086521]], dtype=float32),  
      array([-2.913703], dtype=float32)]
```

```
[14]: import matplotlib.pyplot as plt  
  
# Assuming you have trained your model and made predictions  
predictions = model.predict(x_test_Scaled)  
  
plt.figure(figsize=(8, 6))  
plt.scatter(x_test_Scaled['age'], y_test, color='blue', label='Actual')  
plt.scatter(x_test_Scaled['age'], predictions, color='red', label='Predicted')  
plt.xlabel('Age (Scaled)')  
plt.ylabel('Bought Insurance')  
plt.title('Scatter Plot of Predictions vs. Actual')  
plt.legend()  
plt.show()
```

```
1/1 [=====] - 0s 15ms/step
```

[]: