

Applying Machine Learning

In this assignment, you will explore techniques to evaluate and improve your machine learning models.

1 - Packages

You will need the following packages during this assignment.

- [numpy](#) is the fundamental package for scientific computing Python.
- [matplotlib](#) is a popular library to plot graphs in Python.
- [scikitlearn](#) is a basic library for data mining
- [tensorflow](#) a popular platform for machine learning.

First, let's try a different method to install a package - run the cell below to install the scikitlearn package. You only need to run this cell once.

```
In [1]: !pip install scikit-learn
```

```
Requirement already satisfied: scikit-learn in c:\users\matro\anaconda3\envs\my_tf_env\lib\site-packages (1.3.2)
Requirement already satisfied: numpy<2.0,>=1.17.3 in c:\users\matro\anaconda3\envs\my_tf_env\lib\site-packages (from scikit-learn) (1.26.0)
Requirement already satisfied: scipy>=1.5.0 in c:\users\matro\anaconda3\envs\my_tf_env\lib\site-packages (from scikit-learn) (1.11.3)
Requirement already satisfied: joblib>=1.1.1 in c:\users\matro\anaconda3\envs\my_tf_env\lib\site-packages (from scikit-learn) (1.3.2)
Requirement already satisfied: threadpoolctl>=2.0.0 in c:\users\matro\anaconda3\envs\my_tf_env\lib\site-packages (from scikit-learn) (3.2.0)
```

Let's import all the packages that you will need during this assignment.

```
In [2]: import numpy as np
import matplotlib.pyplot as plt
from sklearn.linear_model import LinearRegression, Ridge
from sklearn.preprocessing import StandardScaler, PolynomialFeatures
from sklearn.model_selection import train_test_split
from sklearn.metrics import mean_squared_error
import tensorflow as tf
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Dense
from tensorflow.keras.activations import relu, linear
from tensorflow.keras.losses import SparseCategoricalCrossentropy
from tensorflow.keras.optimizers import Adam

from hw8_utils import *
```

2 - Evaluating a Learning Algorithm (Polynomial Regression)

Let's say you have created a machine learning model and you find it *fits* your training data very well. You're done? Not quite. The goal of creating the model was to be able to predict values for **new** examples.

How can you test your model's performance on new data before deploying it?

The answer has two parts:

- Split your original data set into "Training" and "Test" sets.
 - Use the training data to fit the parameters of the model
 - Use the test data to evaluate the model on *new* data
- Develop an error function to evaluate your model.

2.1 Splitting your data set

Lectures advised reserving 20-40% of your data set for testing. Let's use an `sklearn` function `train_test_split` to perform the split. Double-check the shapes after running the following cell.

```
In [3]: # Generate some data
X,y,x_ideal,y_ideal = gen_data(18, 2, 0.7)
print("X.shape", X.shape, "y.shape", y.shape)

#split the data using sklearn routine
X_train, X_test, y_train, y_test = train_test_split(X,y,test_size=0.33, random_state=1)
print("X_train.shape", X_train.shape, "y_train.shape", y_train.shape)
print("X_test.shape", X_test.shape, "y_test.shape", y_test.shape)

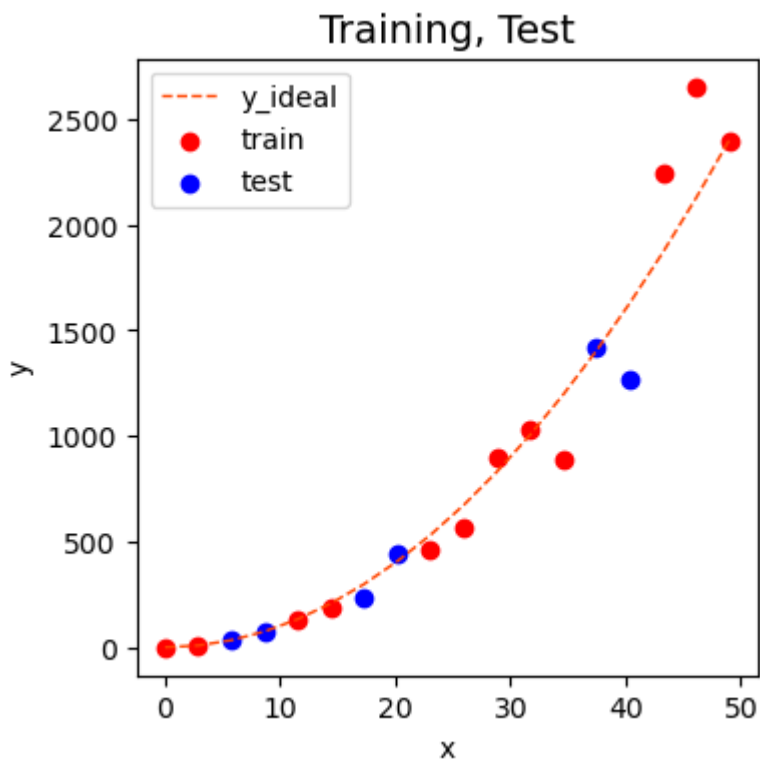
X.shape (18,) y.shape (18,)
X_train.shape (12,) y_train.shape (12,)
X_test.shape (6,) y_test.shape (6,)
```

2.1.1 Plot Train, Test sets

You can see below the data points that will be part of training (in red) are intermixed with those that the model is not trained on (test). This particular data set is a quadratic function with noise added. The "ideal" curve is shown for reference.

```
In [4]: fig, ax = plt.subplots(1,1,figsize=(4,4))
ax.plot(x_ideal, y_ideal, "--", color = "orangered", label="y_ideal", lw=1)
ax.set_title("Training, Test",fontsize = 14)
ax.set_xlabel("x")
ax.set_ylabel("y")

ax.scatter(X_train, y_train, color = "red", label="train")
ax.scatter(X_test, y_test, color = "blue", label="test")
ax.legend(loc='upper left')
plt.show()
```



2.2 Error calculation for model evaluation, linear regression

When *evaluating* a linear regression model, you average the squared error difference of the predicted values and the target values.

$$J_{\text{test}}(\mathbf{w}, b) = \frac{1}{2m_{\text{test}}} \sum_{i=0}^{m_{\text{test}}-1} (f_{\mathbf{w},b}(\mathbf{x}_{\text{test}}^{(i)}) - y_{\text{test}}^{(i)})^2 \quad (1)$$

Exercise 1

Below, create a function to evaluate the error on a data set for a linear regression model.

```
In [5]: def eval_mse(y, yhat):
        """
        Calculate the mean squared error on a data set.
        Args:
            y      : (ndarray Shape (m,) or (m,1)) target value of each example
            yhat   : (ndarray Shape (m,) or (m,1)) predicted value of each example
        Returns:
            err: (scalar)
        """
        m = len(y)
        err = 0.0
        for i in range(m):
            ### START CODE HERE ###
            err += (yhat[i] - y[i]) ** 2

        err /= 2*m
```

```
### END CODE HERE ###
```

```
return(err)
```

```
In [6]: y_hat = np.array([2.4, 4.2])
y_tmp = np.array([2.3, 4.1])
err = eval_mse(y_hat, y_tmp)

print(f"Error = {err}")
```

```
Error = 0.0050000000000000305
```

Expected Output

```
Error = 0.0050000000000000305
```

2.3 Compare performance on training and test data

Let's build a high degree polynomial model to minimize training error. This will use the linear_regression functions from `sklearn`. The code is in the imported utility file if you would like to see the details. The steps below are:

- create and fit the model. ('fit' is another name for training or running gradient descent).
- compute the error on the training data.
- compute the error on the test data.

```
In [7]: # create a model in sklearn, train on training data
degree = 10
lmodel = lin_model(degree)
lmodel.fit(X_train, y_train)

# predict on training data, find training error
yhat = lmodel.predict(X_train)
err_train = lmodel.mse(y_train, yhat)

# predict on test data, find error
yhat = lmodel.predict(X_test)
err_test = lmodel.mse(y_test, yhat)
```

The computed error on the training set is substantially less than that of the test set.

```
In [8]: print(f"training err {err_train:0.2f}, test err {err_test:0.2f}")

training err 58.01, test err 171215.01
```

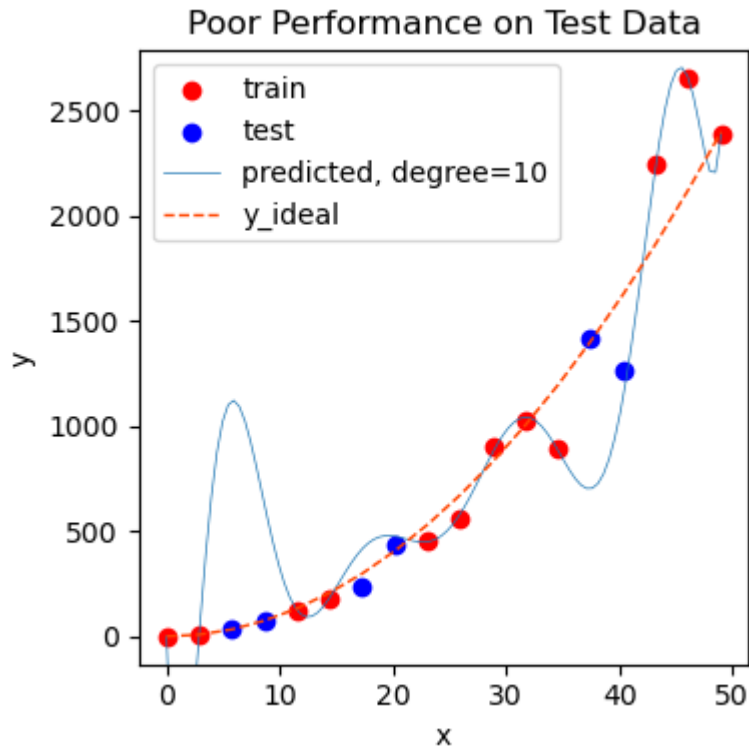
The following plot shows why this is. The model fits the training data very well. To do so, it has created a complex function. The test data was not part of the training and the model does a poor job of predicting on this data.

This model would be described as 1) is overfitting, 2) has high variance 3) 'generalizes' poorly.

```
In [9]: # plot predictions over data range
x = np.linspace(0, int(X.max()), 100) # predict values for plot
```

```
y_pred = lmodel.predict(x).reshape(-1,1)

plt_train_test(X_train, y_train, X_test, y_test, x, y_pred, x_ideal, y_ideal, degree)
```



The test set error shows this model will not work well on new data. If you use the test error to guide improvements in the model, then the model will perform well on the test data... but the test data was meant to represent *new* data. You need yet another set of data to test new data performance.

The proposal made during lecture is to separate data into three groups. The distribution of training, cross-validation and test sets shown in the below table is a typical distribution, but can be varied depending on the amount of data available.

data	% of total	Description
training	60	Data used to tune model parameters w and b in training or fitting
cross-validation	20	Data used to tune other model parameters like degree of polynomial, regularization or the architecture of a neural network.
test	20	Data used to test the model after tuning to gauge performance on new data

Let's generate three data sets below. We'll once again use `train_test_split` from `sklearn` but will call it twice to get three splits:

```
In [10]: # Generate data
X,y, x_ideal,y_ideal = gen_data(40, 5, 0.7)
print("X.shape", X.shape, "y.shape", y.shape)

#split the data using sklearn routine
X_train, X_, y_train, y_ = train_test_split(X,y,test_size=0.40, random_state=1)
```

```
X_cv, X_test, y_cv, y_test = train_test_split(X,y,test_size=0.50, random_state=1)
print("X_train.shape", X_train.shape, "y_train.shape", y_train.shape)
print("X_cv.shape", X_cv.shape, "y_cv.shape", y_cv.shape)
print("X_test.shape", X_test.shape, "y_test.shape", y_test.shape)
```

```
X.shape (40,) y.shape (40,)
X_train.shape (24,) y_train.shape (24,)
X_cv.shape (8,) y_cv.shape (8,)
X_test.shape (8,) y_test.shape (8,)
```

3 - Bias and Variance

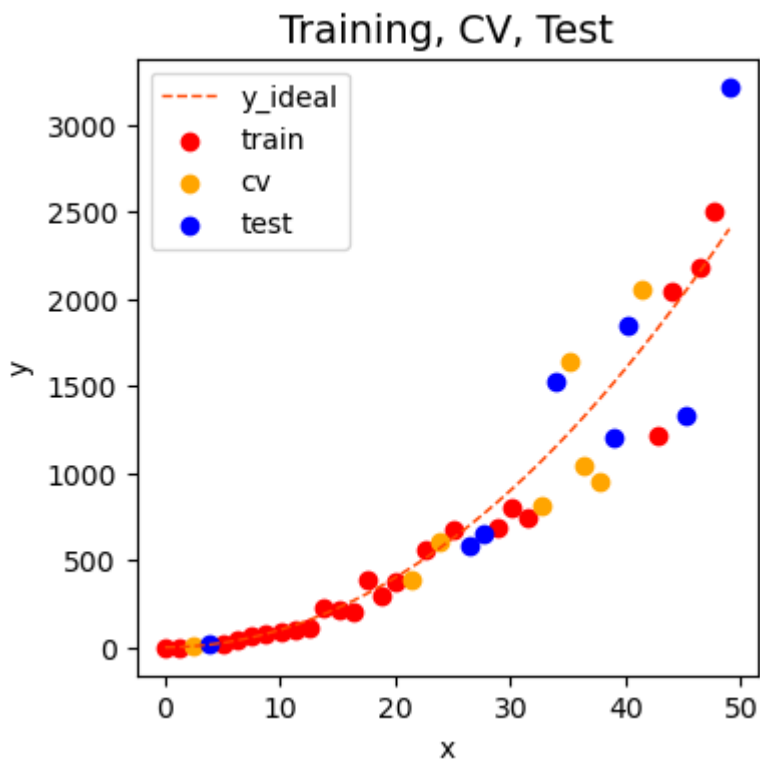
Above, it was clear the degree of the polynomial model was too high. How can you choose a good value? It turns out the training and cross-validation performance can provide guidance. By trying a range of degree values, the training and cross-validation performance can be evaluated. As the degree becomes too large, the cross-validation performance will start to degrade relative to the training performance. Let's try this on our example.

3.1 Plot Train, Cross-Validation, Test

You can see below the datapoints that will be part of training (in red) are intermixed with those that the model is not trained on (test and cv).

```
In [11]: fig, ax = plt.subplots(1,1,figsize=(4,4))
ax.plot(x_ideal, y_ideal, "--", color = "orangered", label="y_ideal", lw=1)
ax.set_title("Training, CV, Test",fontsize = 14)
ax.set_xlabel("x")
ax.set_ylabel("y")

ax.scatter(X_train, y_train, color = "red", label="train")
ax.scatter(X_cv, y_cv, color = "orange", label="cv")
ax.scatter(X_test, y_test, color = "blue", label="test")
ax.legend(loc='upper left')
plt.show()
```



3.2 Finding the optimal degree

In our lecture we learned that by increasing the *degree* of the polynomial, we could *create* overfitting. Let's use this knowledge here to test our ability to tell the difference between overfitting and underfitting.

Let's train the model repeatedly, increasing the degree of the polynomial each iteration. Here, we're going to use the [scikit-learn](#) linear regression model for speed and simplicity.

```
In [12]: max_degree = 9
err_train = np.zeros(max_degree)
err_cv = np.zeros(max_degree)
x = np.linspace(0, int(X.max()), 100)
y_pred = np.zeros((100, max_degree)) #columns are lines to plot

for degree in range(max_degree):
    lmodel = lin_model(degree+1)
    lmodel.fit(X_train, y_train)
    yhat = lmodel.predict(X_train)
    err_train[degree] = lmodel.mse(y_train, yhat)
    yhat = lmodel.predict(X_cv)
    err_cv[degree] = lmodel.mse(y_cv, yhat)
    y_pred[:, degree] = lmodel.predict(x)

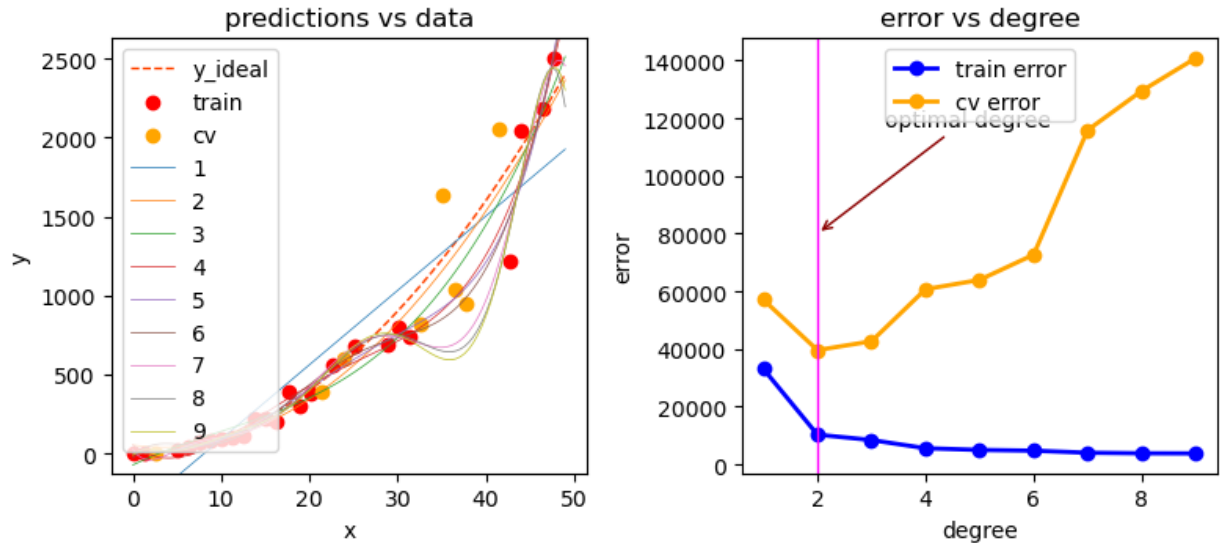
optimal_degree = np.argmin(err_cv)+1
```

Let's plot the result:

```
In [13]: plt.close("all")
plt_optimal_degree(X_train, y_train, X_cv, y_cv, x, y_pred, x_ideal, y_ideal,
```

```
err_train, err_cv, optimal_degree, max_degree)
```

Find Optimal Degree



The plot above demonstrates that separating data into two groups, data the model is trained on and data the model has not been trained on, can be used to determine if the model is underfitting or overfitting. In our example, we created a variety of models varying from underfitting to overfitting by increasing the degree of the polynomial used.

- On the left plot, the solid lines represent the predictions from these models. A polynomial model with degree 1 produces a straight line that intersects very few data points, while the maximum degree hews very closely to every data point.
- on the right:
 - the error on the trained data (blue) decreases as the model complexity increases as expected
 - the error of the cross-validation data decreases initially as the model starts to conform to the data, but then increases as the model starts to over-fit on the training data (fails to *generalize*).

It's worth noting that the curves in these examples are not as smooth as one might draw for a lecture. It's clear the specific data points assigned to each group can change your results significantly. The general trend is what is important.

3.3 Tuning Regularization.

In previous assignments, you have utilized *regularization* to reduce overfitting. Similar to degree, one can use the same methodology to tune the regularization parameter λ .

Let's demonstrate this by starting with a high degree polynomial and varying the regularization parameter.

```
In [14]: lambda_range = np.array([0.0, 1e-6, 1e-5, 1e-4, 1e-3, 1e-2, 1e-1, 1, 10, 100])
num_steps = len(lambda_range)
degree = 10
```



```

err_train = np.zeros(num_steps)
err_cv = np.zeros(num_steps)
x = np.linspace(0, int(X.max()), 100)
y_pred = np.zeros((100, num_steps)) #columns are lines to plot

for i in range(num_steps):
    lambda_ = lambda_range[i]
    lmodel = lin_model(degree, regularization=True, lambda_=lambda_)
    lmodel.fit(X_train, y_train)
    yhat = lmodel.predict(X_train)
    err_train[i] = lmodel.mse(y_train, yhat)
    yhat = lmodel.predict(X_cv)
    err_cv[i] = lmodel.mse(y_cv, yhat)
    y_pred[:, i] = lmodel.predict(x)

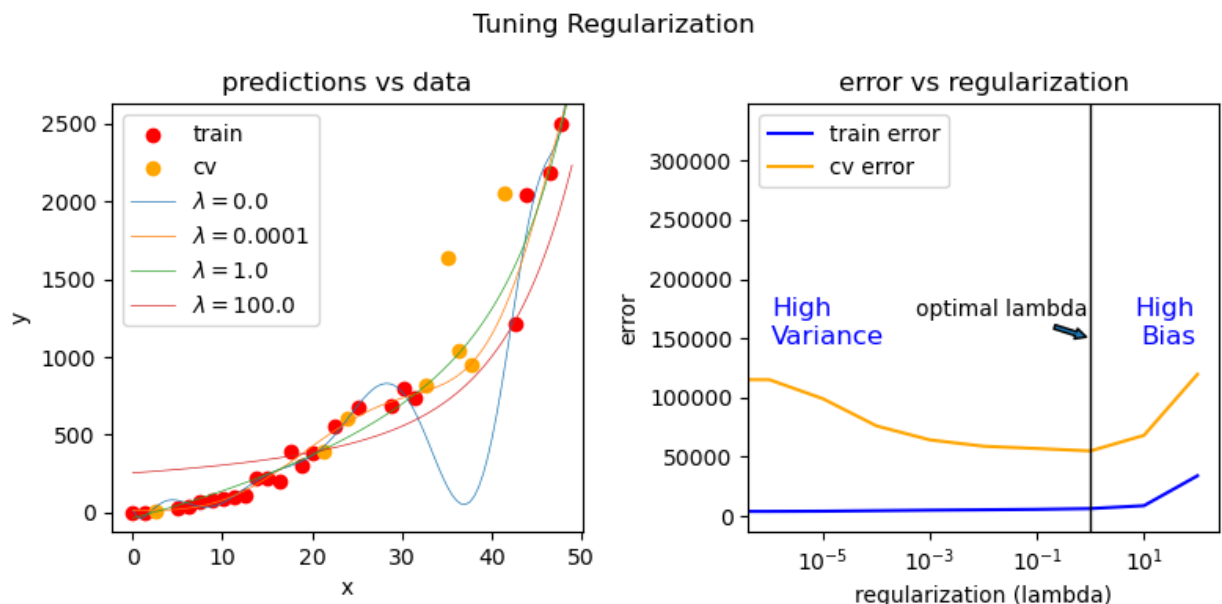
optimal_reg_idx = np.argmin(err_cv)

```

```

In [15]: plt.close("all")
plt_tune_regularization(X_train, y_train, X_cv, y_cv, x, y_pred, err_train, err_cv, op

```



Above, the plots show that as regularization increases, the model moves from a high variance (overfitting) model to a high bias (underfitting) model. The vertical line in the right plot shows the optimal value of λ . In this example, the polynomial degree was set to 10.

3.4 Getting more data: Increasing Training Set Size (m)

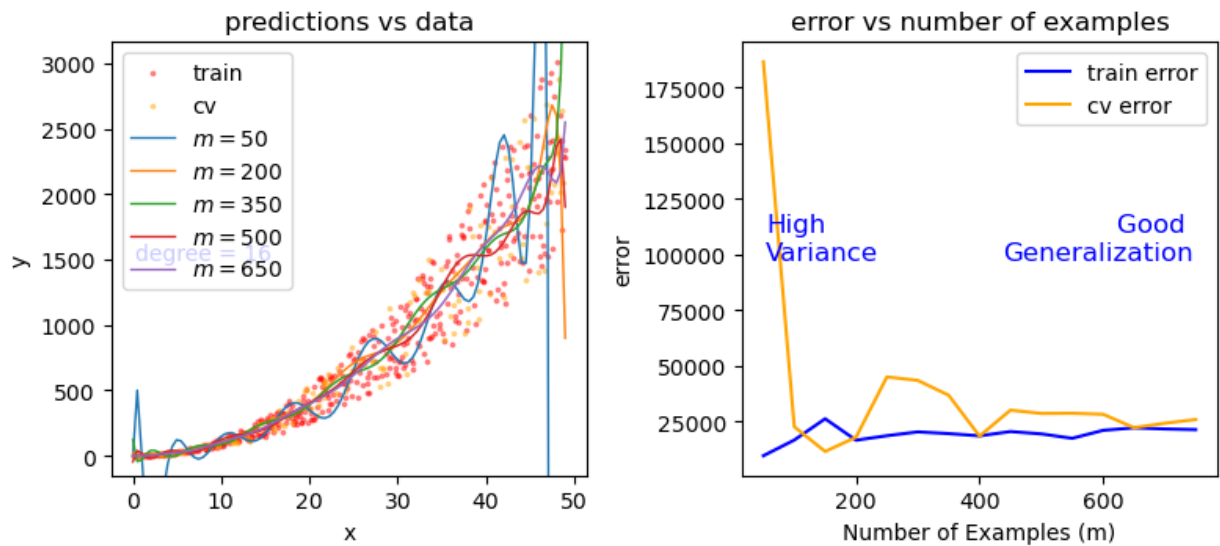
When a model is overfitting (high variance), collecting additional data can improve performance. Let's try that here.

```

In [16]: X_train, y_train, X_cv, y_cv, x, y_pred, err_train, err_cv, m_range, degree = tune_m()
plt_tune_m(X_train, y_train, X_cv, y_cv, x, y_pred, err_train, err_cv, m_range, degree

```

Tuning number of examples



The above plots show that when a model has high variance and is overfitting, adding more examples improves performance. Note the curves on the left plot. The final curve with the highest value of m is a smooth curve that is in the center of the data. On the right, as the number of examples increases, the performance of the training set and cross-validation set converge to similar values. Note that the curves are not as smooth as one might see in a lecture. That is to be expected. The trend remains clear: more data improves generalization.

Note that adding more examples when the model has high bias (underfitting) does not improve performance.

4 - Evaluating a Learning Algorithm (Neural Network)

Above, you tuned aspects of a polynomial regression model. Here, you will work with a neural network model. Let's start by creating a classification data set.

4.1 Data Set

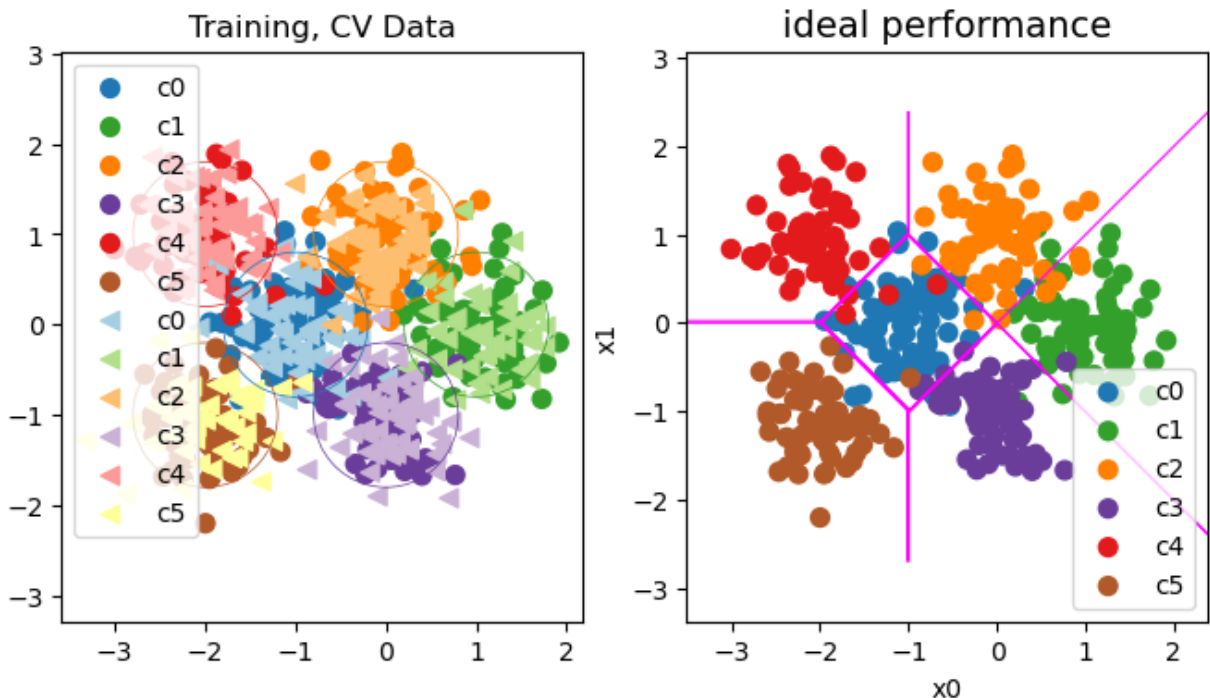
Run the cell below to generate a data set and split it into training, cross-validation (CV) and test sets. In this example, we're increasing the percentage of cross-validation data points for emphasis.

```
In [17]: # Generate and split data set
X, y, centers, classes, std = gen_blobs()

# split the data. Large CV population for demonstration
X_train, X_, y_train, y_ = train_test_split(X, y, test_size=0.50, random_state=1)
X_cv, X_test, y_cv, y_test = train_test_split(X_, y_, test_size=0.20, random_state=1)
print("X_train.shape:", X_train.shape, "X_cv.shape:", X_cv.shape, "X_test.shape:", X_test.shape)

X_train.shape: (400, 2) X_cv.shape: (320, 2) X_test.shape: (80, 2)
```

```
In [18]: plt_train_eq_dist(X_train, y_train, classes, X_cv, y_cv, centers, std)
```



Above, you can see the data on the left. There are six clusters identified by color. Both training points (dots) and cross-validation points (triangles) are shown. The interesting points are those that fall in ambiguous locations where either cluster might consider them members. What would you expect a neural network model to do? What would be an example of overfitting? underfitting?

On the right is an example of an 'ideal' model, or a model one might create knowing the source of the data. The lines represent 'equal distance' boundaries where the distance between center points is equal. It's worth noting that this model would "misclassify" roughly 8% of the total data set.

4.2 Evaluating categorical model by calculating classification error

The evaluation function for categorical models used here is simply the fraction of incorrect predictions:

$$J_{cv} = \frac{1}{m} \sum_{i=0}^{m-1} \begin{cases} 1, & \text{if } \hat{y}^{(i)} \neq y^{(i)} \\ 0, & \text{otherwise} \end{cases}$$

Exercise 2

Below, complete the routine to calculate classification error. Note, in this lab, target values are the index of the category and are not [one-hot encoded](#).

```
In [19]: def eval_cat_err(y, yhat):
        """
        Calculate the categorization error
        Args:
            y      : (ndarray Shape (m,) or (m,1)) target value of each example
            yhat   : (ndarray Shape (m,) or (m,1)) predicted value of each example
        Returns:|
            cerr: (scalar)
        """
        m = len(y)
        incorrect = 0
        for i in range(m):
            ### START CODE HERE ###
            if y[i] != yhat[i]:
                incorrect += 1

        cerr = incorrect / m

        ### END CODE HERE ###

        return(cerr)
```

```
In [20]: y_hat = np.array([1, 2, 0])
        y_tmp = np.array([1, 2, 3])
        print(f"categorization error {np.squeeze(eval_cat_err(y_hat, y_tmp)):0.3f}, expected:0.333")
        y_hat = np.array([[1], [2], [0], [3]])
        y_tmp = np.array([[1], [2], [1], [3]])
        print(f"categorization error {np.squeeze(eval_cat_err(y_hat, y_tmp)):0.3f}, expected:0.250")

        categorization error 0.333, expected:0.333
        categorization error 0.250, expected:0.250
```

Expected Output

```
categorization error 0.333, expected:0.333
categorization error 0.250, expected:0.250
```

5 - Model Complexity

Below, you will build two models. A complex model and a simple model. You will evaluate the models to determine if they are likely to overfit or underfit.

5.1 Complex model

Exercise 3

Below, compose a three-layer model:

- Dense layer with 120 units, relu activation
 - Dense layer with 40 units, relu activation
 - Dense layer with 6 units and a linear activation (not softmax)
- Compile using

- loss with `SparseCategoricalCrossentropy` , remember to use `from_logits=True`
- Adam optimizer with learning rate of 0.01.

```
In [21]: tf.random.set_seed(1234)
model = Sequential(
    [
        ### START CODE HERE ###
        Dense(units = 120, activation = 'relu'),
        Dense(units = 40, activation = 'relu'),
        Dense(units = 6, activation = 'linear'),
        ### END CODE HERE ###
    ], name="Complex"
)
model.compile(
    ### START CODE HERE ###
    loss = SparseCategoricalCrossentropy(from_logits = True),
    optimizer = Adam(learning_rate = 0.01)
    ### END CODE HERE ###
)
```

```
In [22]: model.fit(
    X_train, y_train,
    epochs=1000
)
```

Epoch 1/1000
13/13 [=====] - 1s 2ms/step - loss: 1.1576
Epoch 2/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4210
Epoch 3/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3162
Epoch 4/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2870
Epoch 5/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2731
Epoch 6/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3017
Epoch 7/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2546
Epoch 8/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2289
Epoch 9/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2387
Epoch 10/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1987
Epoch 11/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2135
Epoch 12/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2043
Epoch 13/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2406
Epoch 14/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2221
Epoch 15/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2154
Epoch 16/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1996
Epoch 17/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2098
Epoch 18/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2054
Epoch 19/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2164
Epoch 20/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2037
Epoch 21/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2286
Epoch 22/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2506
Epoch 23/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2147
Epoch 24/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2029
Epoch 25/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2103
Epoch 26/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1956
Epoch 27/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2007
Epoch 28/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2020
Epoch 29/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2256
Epoch 30/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2285

Epoch 31/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1900
Epoch 32/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1912
Epoch 33/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1880
Epoch 34/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2101
Epoch 35/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1940
Epoch 36/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1828
Epoch 37/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1840
Epoch 38/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1765
Epoch 39/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1990
Epoch 40/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1859
Epoch 41/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2098
Epoch 42/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2100
Epoch 43/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1910
Epoch 44/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2049
Epoch 45/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2181
Epoch 46/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1852
Epoch 47/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1867
Epoch 48/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1786
Epoch 49/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1717
Epoch 50/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1785
Epoch 51/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1984
Epoch 52/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1887
Epoch 53/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1975
Epoch 54/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1729
Epoch 55/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1891
Epoch 56/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1896
Epoch 57/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1985
Epoch 58/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1931
Epoch 59/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1806
Epoch 60/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1936

Epoch 61/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1940
Epoch 62/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1692
Epoch 63/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1675
Epoch 64/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2087
Epoch 65/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1968
Epoch 66/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1854
Epoch 67/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1917
Epoch 68/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2350
Epoch 69/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1987
Epoch 70/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1619
Epoch 71/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1876
Epoch 72/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1628
Epoch 73/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1726
Epoch 74/1000
13/13 [=====] - 0s 4ms/step - loss: 0.1692
Epoch 75/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1578
Epoch 76/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1566
Epoch 77/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1655
Epoch 78/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1649
Epoch 79/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1622
Epoch 80/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1818
Epoch 81/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1880
Epoch 82/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1793
Epoch 83/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1581
Epoch 84/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1655
Epoch 85/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1701
Epoch 86/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1584
Epoch 87/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1552
Epoch 88/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1663
Epoch 89/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1640
Epoch 90/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1538

Epoch 91/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1537
Epoch 92/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1501
Epoch 93/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1483
Epoch 94/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1554
Epoch 95/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1693
Epoch 96/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1664
Epoch 97/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1646
Epoch 98/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1808
Epoch 99/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1834
Epoch 100/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1554
Epoch 101/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1570
Epoch 102/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1494
Epoch 103/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1864
Epoch 104/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1601
Epoch 105/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1441
Epoch 106/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1359
Epoch 107/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1525
Epoch 108/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1424
Epoch 109/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1448
Epoch 110/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1355
Epoch 111/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1432
Epoch 112/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1562
Epoch 113/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1666
Epoch 114/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1408
Epoch 115/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1347
Epoch 116/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1403
Epoch 117/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1395
Epoch 118/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1357
Epoch 119/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1486
Epoch 120/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1325

Epoch 121/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1405
Epoch 122/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1523
Epoch 123/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1520
Epoch 124/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1304
Epoch 125/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1286
Epoch 126/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1424
Epoch 127/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1337
Epoch 128/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1393
Epoch 129/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1227
Epoch 130/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1276
Epoch 131/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1507
Epoch 132/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1915
Epoch 133/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1441
Epoch 134/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1313
Epoch 135/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1346
Epoch 136/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1326
Epoch 137/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1161
Epoch 138/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1124
Epoch 139/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1315
Epoch 140/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1269
Epoch 141/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1107
Epoch 142/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1127
Epoch 143/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1263
Epoch 144/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1251
Epoch 145/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1362
Epoch 146/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1264
Epoch 147/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1220
Epoch 148/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1471
Epoch 149/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1385
Epoch 150/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1387

Epoch 151/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1119
Epoch 152/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1185
Epoch 153/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1321
Epoch 154/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1280
Epoch 155/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1100
Epoch 156/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1173
Epoch 157/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1343
Epoch 158/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1144
Epoch 159/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1115
Epoch 160/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1117
Epoch 161/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1136
Epoch 162/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1109
Epoch 163/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1149
Epoch 164/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1321
Epoch 165/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1215
Epoch 166/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1207
Epoch 167/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1171
Epoch 168/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1475
Epoch 169/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1416
Epoch 170/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1718
Epoch 171/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1584
Epoch 172/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1287
Epoch 173/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1187
Epoch 174/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1087
Epoch 175/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0984
Epoch 176/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1004
Epoch 177/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1004
Epoch 178/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1090
Epoch 179/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1062
Epoch 180/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1005

Epoch 181/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1147
Epoch 182/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1084
Epoch 183/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1225
Epoch 184/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1107
Epoch 185/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0993
Epoch 186/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0877
Epoch 187/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0892
Epoch 188/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0968
Epoch 189/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1021
Epoch 190/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0959
Epoch 191/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0979
Epoch 192/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0978
Epoch 193/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0881
Epoch 194/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1022
Epoch 195/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1073
Epoch 196/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1004
Epoch 197/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1016
Epoch 198/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1068
Epoch 199/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1121
Epoch 200/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1275
Epoch 201/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0985
Epoch 202/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1038
Epoch 203/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1027
Epoch 204/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1141
Epoch 205/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1042
Epoch 206/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0898
Epoch 207/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0869
Epoch 208/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0904
Epoch 209/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0874
Epoch 210/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0831

Epoch 211/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0898
Epoch 212/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0801
Epoch 213/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0820
Epoch 214/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0946
Epoch 215/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0901
Epoch 216/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0792
Epoch 217/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0876
Epoch 218/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1052
Epoch 219/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1052
Epoch 220/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0940
Epoch 221/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0993
Epoch 222/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1055
Epoch 223/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1033
Epoch 224/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0980
Epoch 225/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0934
Epoch 226/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0914
Epoch 227/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0965
Epoch 228/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1037
Epoch 229/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0945
Epoch 230/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1128
Epoch 231/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1536
Epoch 232/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1271
Epoch 233/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1260
Epoch 234/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1079
Epoch 235/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1403
Epoch 236/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0846
Epoch 237/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1030
Epoch 238/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1075
Epoch 239/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0995
Epoch 240/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0911

Epoch 241/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0809
Epoch 242/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0827
Epoch 243/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0731
Epoch 244/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0819
Epoch 245/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0856
Epoch 246/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1244
Epoch 247/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1963
Epoch 248/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1522
Epoch 249/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1052
Epoch 250/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0920
Epoch 251/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0842
Epoch 252/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0763
Epoch 253/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0767
Epoch 254/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0751
Epoch 255/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0760
Epoch 256/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0758
Epoch 257/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0797
Epoch 258/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0783
Epoch 259/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0714
Epoch 260/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0753
Epoch 261/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0876
Epoch 262/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0919
Epoch 263/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0795
Epoch 264/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0649
Epoch 265/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0739
Epoch 266/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0772
Epoch 267/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0627
Epoch 268/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0656
Epoch 269/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0663
Epoch 270/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0660

Epoch 271/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0664
Epoch 272/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0758
Epoch 273/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0864
Epoch 274/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1209
Epoch 275/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1095
Epoch 276/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0802
Epoch 277/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0934
Epoch 278/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1095
Epoch 279/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1017
Epoch 280/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1047
Epoch 281/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0676
Epoch 282/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0710
Epoch 283/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0788
Epoch 284/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0581
Epoch 285/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0622
Epoch 286/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0688
Epoch 287/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0827
Epoch 288/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0876
Epoch 289/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0734
Epoch 290/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0725
Epoch 291/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0709
Epoch 292/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0662
Epoch 293/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0721
Epoch 294/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0648
Epoch 295/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0703
Epoch 296/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0746
Epoch 297/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0560
Epoch 298/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0532
Epoch 299/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0575
Epoch 300/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0544

Epoch 301/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0527
Epoch 302/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0610
Epoch 303/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0896
Epoch 304/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0684
Epoch 305/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1091
Epoch 306/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0879
Epoch 307/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0752
Epoch 308/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0686
Epoch 309/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0668
Epoch 310/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0731
Epoch 311/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0785
Epoch 312/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0622
Epoch 313/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0574
Epoch 314/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0719
Epoch 315/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0967
Epoch 316/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0786
Epoch 317/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0793
Epoch 318/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0881
Epoch 319/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0693
Epoch 320/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0698
Epoch 321/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0609
Epoch 322/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0722
Epoch 323/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1011
Epoch 324/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1130
Epoch 325/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0915
Epoch 326/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0625
Epoch 327/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0571
Epoch 328/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0564
Epoch 329/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0513
Epoch 330/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0461

Epoch 331/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0457
Epoch 332/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0469
Epoch 333/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0568
Epoch 334/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0543
Epoch 335/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0810
Epoch 336/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1075
Epoch 337/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1001
Epoch 338/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0897
Epoch 339/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1029
Epoch 340/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0905
Epoch 341/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1016
Epoch 342/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0843
Epoch 343/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1029
Epoch 344/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0730
Epoch 345/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0623
Epoch 346/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0593
Epoch 347/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0488
Epoch 348/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0488
Epoch 349/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0468
Epoch 350/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0521
Epoch 351/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0549
Epoch 352/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0741
Epoch 353/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0769
Epoch 354/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0712
Epoch 355/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0511
Epoch 356/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0465
Epoch 357/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0465
Epoch 358/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0630
Epoch 359/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0640
Epoch 360/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0672

Epoch 361/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0590
Epoch 362/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0613
Epoch 363/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0505
Epoch 364/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0637
Epoch 365/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0596
Epoch 366/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0618
Epoch 367/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0509
Epoch 368/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0619
Epoch 369/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0742
Epoch 370/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0547
Epoch 371/1000
13/13 [=====] - 0s 5ms/step - loss: 0.0651
Epoch 372/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0636
Epoch 373/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0622
Epoch 374/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0550
Epoch 375/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0548
Epoch 376/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0528
Epoch 377/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0491
Epoch 378/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0528
Epoch 379/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0581
Epoch 380/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0557
Epoch 381/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0471
Epoch 382/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0552
Epoch 383/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0498
Epoch 384/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0410
Epoch 385/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0444
Epoch 386/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0415
Epoch 387/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0423
Epoch 388/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0472
Epoch 389/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0556
Epoch 390/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0491

Epoch 391/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0376
Epoch 392/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0437
Epoch 393/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0440
Epoch 394/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0374
Epoch 395/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0499
Epoch 396/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0453
Epoch 397/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0540
Epoch 398/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0699
Epoch 399/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1023
Epoch 400/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0947
Epoch 401/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1404
Epoch 402/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1628
Epoch 403/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1078
Epoch 404/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0944
Epoch 405/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0916
Epoch 406/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0873
Epoch 407/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0649
Epoch 408/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0807
Epoch 409/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0633
Epoch 410/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0549
Epoch 411/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0602
Epoch 412/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0668
Epoch 413/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0486
Epoch 414/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0533
Epoch 415/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0463
Epoch 416/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0432
Epoch 417/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0438
Epoch 418/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0421
Epoch 419/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0454
Epoch 420/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0458

Epoch 421/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0453
Epoch 422/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0430
Epoch 423/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0379
Epoch 424/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0311
Epoch 425/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0312
Epoch 426/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0359
Epoch 427/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0288
Epoch 428/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0377
Epoch 429/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0352
Epoch 430/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0336
Epoch 431/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0399
Epoch 432/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0454
Epoch 433/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0657
Epoch 434/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0571
Epoch 435/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0539
Epoch 436/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0621
Epoch 437/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0552
Epoch 438/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0502
Epoch 439/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0792
Epoch 440/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0725
Epoch 441/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0549
Epoch 442/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0447
Epoch 443/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0364
Epoch 444/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0404
Epoch 445/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0343
Epoch 446/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0331
Epoch 447/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0343
Epoch 448/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0322
Epoch 449/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0305
Epoch 450/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0347

Epoch 451/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0630
Epoch 452/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0349
Epoch 453/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0569
Epoch 454/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0422
Epoch 455/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0391
Epoch 456/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0757
Epoch 457/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0760
Epoch 458/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0822
Epoch 459/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1250
Epoch 460/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0832
Epoch 461/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0731
Epoch 462/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0774
Epoch 463/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0743
Epoch 464/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0450
Epoch 465/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0600
Epoch 466/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0587
Epoch 467/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0507
Epoch 468/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0391
Epoch 469/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0335
Epoch 470/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0321
Epoch 471/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0314
Epoch 472/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0272
Epoch 473/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0283
Epoch 474/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0314
Epoch 475/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0492
Epoch 476/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0490
Epoch 477/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0433
Epoch 478/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0333
Epoch 479/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0381
Epoch 480/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0532

Epoch 481/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0877
Epoch 482/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0524
Epoch 483/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0414
Epoch 484/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0523
Epoch 485/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0356
Epoch 486/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0373
Epoch 487/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0310
Epoch 488/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0251
Epoch 489/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0273
Epoch 490/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0286
Epoch 491/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0242
Epoch 492/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0235
Epoch 493/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0281
Epoch 494/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0256
Epoch 495/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0266
Epoch 496/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0254
Epoch 497/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0283
Epoch 498/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0254
Epoch 499/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0292
Epoch 500/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0268
Epoch 501/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0354
Epoch 502/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0423
Epoch 503/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0573
Epoch 504/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0580
Epoch 505/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0854
Epoch 506/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0538
Epoch 507/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0774
Epoch 508/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0825
Epoch 509/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0535
Epoch 510/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0504

Epoch 511/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0449
Epoch 512/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0412
Epoch 513/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0428
Epoch 514/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0503
Epoch 515/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0921
Epoch 516/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1107
Epoch 517/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0721
Epoch 518/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0591
Epoch 519/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0756
Epoch 520/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0577
Epoch 521/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0700
Epoch 522/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0575
Epoch 523/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1201
Epoch 524/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1004
Epoch 525/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0786
Epoch 526/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1211
Epoch 527/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0592
Epoch 528/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0493
Epoch 529/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0718
Epoch 530/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0771
Epoch 531/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0567
Epoch 532/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0552
Epoch 533/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0745
Epoch 534/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0641
Epoch 535/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0572
Epoch 536/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0427
Epoch 537/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0437
Epoch 538/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0339
Epoch 539/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0289
Epoch 540/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0304

Epoch 541/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0328
Epoch 542/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0318
Epoch 543/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0317
Epoch 544/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0311
Epoch 545/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0324
Epoch 546/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0273
Epoch 547/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0278
Epoch 548/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0322
Epoch 549/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0224
Epoch 550/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0248
Epoch 551/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0302
Epoch 552/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0340
Epoch 553/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0338
Epoch 554/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0284
Epoch 555/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0267
Epoch 556/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0268
Epoch 557/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0229
Epoch 558/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0251
Epoch 559/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0255
Epoch 560/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0286
Epoch 561/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0271
Epoch 562/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0231
Epoch 563/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0205
Epoch 564/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0199
Epoch 565/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0227
Epoch 566/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0249
Epoch 567/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0237
Epoch 568/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0256
Epoch 569/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0271
Epoch 570/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0301

Epoch 571/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0396
Epoch 572/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0408
Epoch 573/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0365
Epoch 574/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0328
Epoch 575/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0408
Epoch 576/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0331
Epoch 577/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0292
Epoch 578/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0443
Epoch 579/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0280
Epoch 580/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0287
Epoch 581/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0374
Epoch 582/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0348
Epoch 583/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0362
Epoch 584/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0262
Epoch 585/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0475
Epoch 586/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0454
Epoch 587/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0516
Epoch 588/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0613
Epoch 589/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0800
Epoch 590/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1121
Epoch 591/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1035
Epoch 592/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1466
Epoch 593/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1441
Epoch 594/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0722
Epoch 595/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0689
Epoch 596/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1022
Epoch 597/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1296
Epoch 598/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1287
Epoch 599/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1496
Epoch 600/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0858

Epoch 601/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0667
Epoch 602/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0771
Epoch 603/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0506
Epoch 604/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0451
Epoch 605/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0344
Epoch 606/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0360
Epoch 607/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0370
Epoch 608/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0317
Epoch 609/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0317
Epoch 610/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0317
Epoch 611/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0294
Epoch 612/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0283
Epoch 613/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0272
Epoch 614/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0297
Epoch 615/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0325
Epoch 616/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0333
Epoch 617/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0299
Epoch 618/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0385
Epoch 619/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0363
Epoch 620/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0358
Epoch 621/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0374
Epoch 622/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0351
Epoch 623/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0297
Epoch 624/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0294
Epoch 625/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0353
Epoch 626/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0273
Epoch 627/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0281
Epoch 628/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0248
Epoch 629/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0278
Epoch 630/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0256

Epoch 631/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0248
Epoch 632/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0243
Epoch 633/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0227
Epoch 634/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0248
Epoch 635/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0232
Epoch 636/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0227
Epoch 637/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0220
Epoch 638/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0210
Epoch 639/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0337
Epoch 640/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0475
Epoch 641/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0437
Epoch 642/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0465
Epoch 643/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0489
Epoch 644/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0736
Epoch 645/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0799
Epoch 646/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0604
Epoch 647/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0460
Epoch 648/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0518
Epoch 649/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0390
Epoch 650/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0319
Epoch 651/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0309
Epoch 652/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0262
Epoch 653/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0251
Epoch 654/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0268
Epoch 655/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0280
Epoch 656/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0281
Epoch 657/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0237
Epoch 658/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0278
Epoch 659/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0250
Epoch 660/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0288

Epoch 661/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0295
Epoch 662/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0383
Epoch 663/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0409
Epoch 664/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0269
Epoch 665/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0226
Epoch 666/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0221
Epoch 667/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0374
Epoch 668/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0415
Epoch 669/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0467
Epoch 670/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0620
Epoch 671/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0535
Epoch 672/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0912
Epoch 673/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0783
Epoch 674/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0801
Epoch 675/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0812
Epoch 676/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0795
Epoch 677/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0687
Epoch 678/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0423
Epoch 679/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0485
Epoch 680/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0424
Epoch 681/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0386
Epoch 682/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0354
Epoch 683/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0385
Epoch 684/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0315
Epoch 685/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0323
Epoch 686/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0295
Epoch 687/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0303
Epoch 688/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0282
Epoch 689/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0279
Epoch 690/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0260

Epoch 691/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0291
Epoch 692/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0270
Epoch 693/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0287
Epoch 694/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0251
Epoch 695/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0283
Epoch 696/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0297
Epoch 697/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0242
Epoch 698/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0291
Epoch 699/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0310
Epoch 700/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0283
Epoch 701/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0328
Epoch 702/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0328
Epoch 703/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0273
Epoch 704/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0315
Epoch 705/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0302
Epoch 706/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0300
Epoch 707/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0281
Epoch 708/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0246
Epoch 709/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0280
Epoch 710/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0274
Epoch 711/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0301
Epoch 712/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0318
Epoch 713/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0306
Epoch 714/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0254
Epoch 715/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0265
Epoch 716/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0295
Epoch 717/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0244
Epoch 718/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0260
Epoch 719/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0267
Epoch 720/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0263

Epoch 721/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0266
Epoch 722/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0248
Epoch 723/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0243
Epoch 724/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0258
Epoch 725/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0248
Epoch 726/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0238
Epoch 727/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0240
Epoch 728/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0269
Epoch 729/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0258
Epoch 730/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0428
Epoch 731/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0498
Epoch 732/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0346
Epoch 733/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0249
Epoch 734/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0251
Epoch 735/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0227
Epoch 736/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0281
Epoch 737/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0239
Epoch 738/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0280
Epoch 739/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0270
Epoch 740/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0276
Epoch 741/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0271
Epoch 742/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0248
Epoch 743/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0226
Epoch 744/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0225
Epoch 745/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0201
Epoch 746/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0221
Epoch 747/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0241
Epoch 748/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0214
Epoch 749/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0230
Epoch 750/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0218

Epoch 751/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0217
Epoch 752/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0199
Epoch 753/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0234
Epoch 754/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0219
Epoch 755/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0241
Epoch 756/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0325
Epoch 757/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0370
Epoch 758/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0507
Epoch 759/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0725
Epoch 760/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1017
Epoch 761/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1155
Epoch 762/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1479
Epoch 763/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2299
Epoch 764/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3076
Epoch 765/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2425
Epoch 766/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1936
Epoch 767/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1117
Epoch 768/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0790
Epoch 769/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0873
Epoch 770/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0606
Epoch 771/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0441
Epoch 772/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0414
Epoch 773/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0408
Epoch 774/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0405
Epoch 775/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0368
Epoch 776/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0392
Epoch 777/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0481
Epoch 778/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0753
Epoch 779/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0562
Epoch 780/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0541

Epoch 781/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0368
Epoch 782/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0344
Epoch 783/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0316
Epoch 784/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0334
Epoch 785/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0316
Epoch 786/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0334
Epoch 787/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0298
Epoch 788/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0279
Epoch 789/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0291
Epoch 790/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0290
Epoch 791/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0282
Epoch 792/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0281
Epoch 793/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0261
Epoch 794/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0258
Epoch 795/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0248
Epoch 796/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0273
Epoch 797/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0244
Epoch 798/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0257
Epoch 799/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0244
Epoch 800/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0250
Epoch 801/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0259
Epoch 802/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0236
Epoch 803/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0237
Epoch 804/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0266
Epoch 805/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0245
Epoch 806/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0241
Epoch 807/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0238
Epoch 808/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0231
Epoch 809/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0204
Epoch 810/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0208

Epoch 811/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0232
Epoch 812/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0224
Epoch 813/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0268
Epoch 814/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0239
Epoch 815/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0225
Epoch 816/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0243
Epoch 817/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0278
Epoch 818/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0288
Epoch 819/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0264
Epoch 820/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0272
Epoch 821/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0237
Epoch 822/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0268
Epoch 823/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0234
Epoch 824/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0217
Epoch 825/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0315
Epoch 826/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0342
Epoch 827/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0328
Epoch 828/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0649
Epoch 829/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0425
Epoch 830/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0916
Epoch 831/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0727
Epoch 832/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0513
Epoch 833/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0434
Epoch 834/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0436
Epoch 835/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0502
Epoch 836/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0333
Epoch 837/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0315
Epoch 838/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0244
Epoch 839/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0236
Epoch 840/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0226

Epoch 841/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0249
Epoch 842/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0232
Epoch 843/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0210
Epoch 844/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0230
Epoch 845/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0258
Epoch 846/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0299
Epoch 847/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0238
Epoch 848/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0207
Epoch 849/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0214
Epoch 850/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0212
Epoch 851/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0218
Epoch 852/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0230
Epoch 853/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0228
Epoch 854/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0181
Epoch 855/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0237
Epoch 856/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0194
Epoch 857/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0266
Epoch 858/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0455
Epoch 859/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0274
Epoch 860/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0222
Epoch 861/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0208
Epoch 862/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0185
Epoch 863/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0190
Epoch 864/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0164
Epoch 865/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0174
Epoch 866/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0222
Epoch 867/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0194
Epoch 868/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0207
Epoch 869/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0200
Epoch 870/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0284

Epoch 871/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0262
Epoch 872/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0188
Epoch 873/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0170
Epoch 874/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0182
Epoch 875/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0297
Epoch 876/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0391
Epoch 877/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0489
Epoch 878/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0510
Epoch 879/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0450
Epoch 880/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0388
Epoch 881/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0612
Epoch 882/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1433
Epoch 883/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2339
Epoch 884/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2655
Epoch 885/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1311
Epoch 886/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1424
Epoch 887/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1365
Epoch 888/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1652
Epoch 889/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1400
Epoch 890/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1073
Epoch 891/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1615
Epoch 892/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1495
Epoch 893/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0716
Epoch 894/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0866
Epoch 895/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0490
Epoch 896/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0413
Epoch 897/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0375
Epoch 898/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0313
Epoch 899/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0298
Epoch 900/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0269

Epoch 901/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0251
Epoch 902/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0248
Epoch 903/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0246
Epoch 904/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0262
Epoch 905/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0250
Epoch 906/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0263
Epoch 907/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0232
Epoch 908/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0220
Epoch 909/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0224
Epoch 910/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0238
Epoch 911/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0212
Epoch 912/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0228
Epoch 913/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0188
Epoch 914/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0227
Epoch 915/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0216
Epoch 916/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0207
Epoch 917/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0194
Epoch 918/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0201
Epoch 919/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0187
Epoch 920/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0167
Epoch 921/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0200
Epoch 922/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0185
Epoch 923/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0215
Epoch 924/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0210
Epoch 925/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0199
Epoch 926/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0235
Epoch 927/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0154
Epoch 928/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0175
Epoch 929/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0191
Epoch 930/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0173

Epoch 931/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0161
Epoch 932/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0163
Epoch 933/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0150
Epoch 934/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0141
Epoch 935/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0136
Epoch 936/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0156
Epoch 937/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0176
Epoch 938/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0144
Epoch 939/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0170
Epoch 940/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0219
Epoch 941/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0236
Epoch 942/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0245
Epoch 943/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0212
Epoch 944/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0218
Epoch 945/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0148
Epoch 946/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0155
Epoch 947/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0165
Epoch 948/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0137
Epoch 949/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0141
Epoch 950/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0134
Epoch 951/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0146
Epoch 952/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0165
Epoch 953/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0227
Epoch 954/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0199
Epoch 955/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0173
Epoch 956/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0168
Epoch 957/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0153
Epoch 958/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0187
Epoch 959/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0150
Epoch 960/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0168

Epoch 961/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0205
Epoch 962/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0170
Epoch 963/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0261
Epoch 964/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0567
Epoch 965/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0847
Epoch 966/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0648
Epoch 967/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0580
Epoch 968/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0629
Epoch 969/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0341
Epoch 970/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0887
Epoch 971/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1532
Epoch 972/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0942
Epoch 973/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0812
Epoch 974/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0954
Epoch 975/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0976
Epoch 976/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2145
Epoch 977/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 978/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0893
Epoch 979/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0963
Epoch 980/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0622
Epoch 981/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0895
Epoch 982/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0427
Epoch 983/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0405
Epoch 984/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0374
Epoch 985/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0341
Epoch 986/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0331
Epoch 987/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0314
Epoch 988/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0315
Epoch 989/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0298
Epoch 990/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0302

```

Epoch 991/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0295
Epoch 992/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0272
Epoch 993/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0258
Epoch 994/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0249
Epoch 995/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0273
Epoch 996/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0275
Epoch 997/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0273
Epoch 998/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0258
Epoch 999/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0225
Epoch 1000/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0244
<keras.callbacks.History at 0x232577731f0>

```

Out[22]:

In [23]: `model.summary()`

Model: "Complex"

Layer (type)	Output Shape	Param #
=====		
dense (Dense)	(None, 120)	360
dense_1 (Dense)	(None, 40)	4840
dense_2 (Dense)	(None, 6)	246
=====		
Total params: 5,446		
Trainable params: 5,446		
Non-trainable params: 0		
=====		

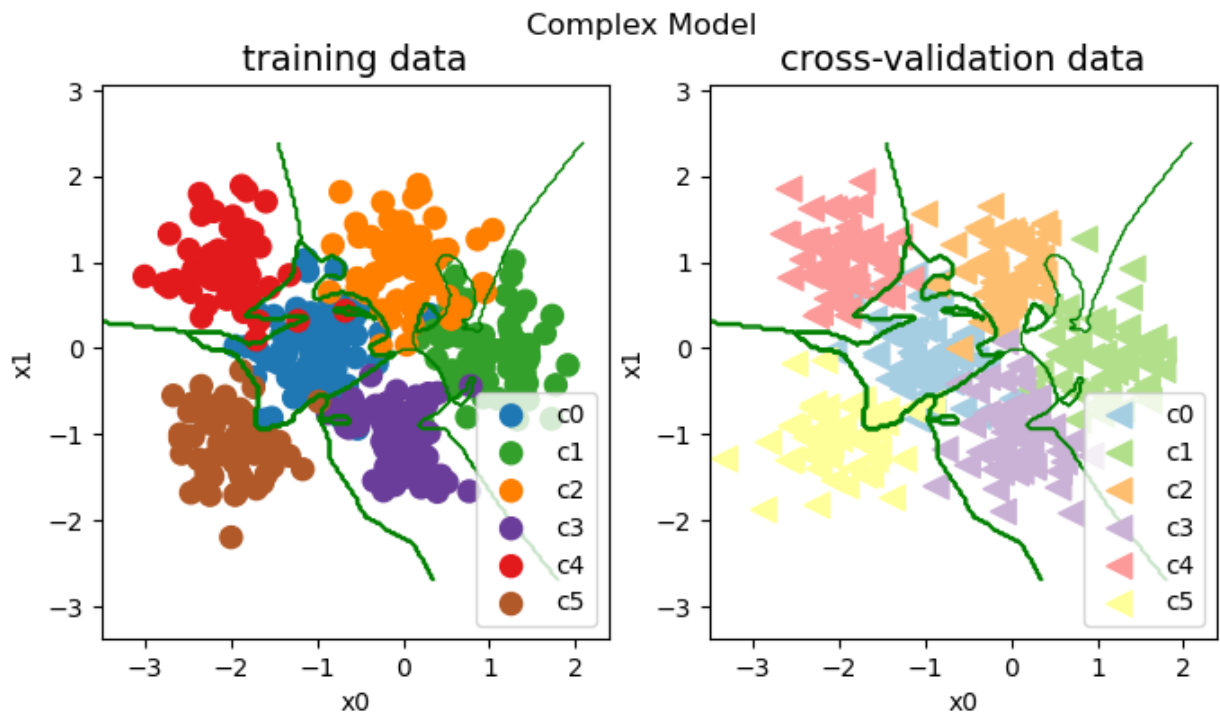
► [Click for hints](#)

In [25]: `#make a model for plotting routines to call`
`model_predict = lambda X1: np.argmax(tf.nn.softmax(model.predict(X1)).numpy(),axis=1)`
`plt_nn(model_predict,X_train,y_train, classes, X_cv, y_cv, suptitle="Complex Model")`

```

1082/1082 [=====] - 2s 1ms/step
1082/1082 [=====] - 1s 1ms/step

```



This model has worked very hard to capture outliers of each category. As a result, it has miscategorized some of the cross-validation data. Let's calculate the classification error.

```
In [26]: training_cerr_complex = eval_cat_err(y_train, model_predict(X_train))
cv_cerr_complex = eval_cat_err(y_cv, model_predict(X_cv))
print(f"categorization error, training, complex model: {training_cerr_complex:0.3f}")
print(f"categorization error, cv, complex model: {cv_cerr_complex:0.3f}")

13/13 [=====] - 0s 1ms/step
10/10 [=====] - 0s 2ms/step
categorization error, training, complex model: 0.010
categorization error, cv, complex model: 0.113
```

5.1 Simple model

Now, let's try a simple model

Exercise 4

Below, compose a two-layer model:

- Dense layer with 6 units, relu activation
- Dense layer with 6 units and a linear activation. Compile using
- loss with `SparseCategoricalCrossentropy`, remember to use `from_logits=True`
- Adam optimizer with learning rate of 0.01.

```
In [27]: tf.random.set_seed(1234)
model_s = Sequential(
    [
        ### START CODE HERE ###
        Dense(units = 6, activation = 'relu'),
```



```
        Dense(units = 6, activation = 'linear')
        ### END CODE HERE ###
    ], name = "Simple"
)
model_s.compile(
    ### START CODE HERE ###
    loss = SparseCategoricalCrossentropy(from_logits = True),
    optimizer = Adam(learning_rate = 0.01)
    ### START CODE HERE ###
)
```

```
In [28]: model_s.fit(
          X_train,y_train,
          epochs=1000
          )
```

Epoch 1/1000
13/13 [=====] - 0s 2ms/step - loss: 1.7284
Epoch 2/1000
13/13 [=====] - 0s 2ms/step - loss: 1.5024
Epoch 3/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3111
Epoch 4/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1274
Epoch 5/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9749
Epoch 6/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8513
Epoch 7/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7640
Epoch 8/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6933
Epoch 9/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6416
Epoch 10/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6012
Epoch 11/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5654
Epoch 12/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5390
Epoch 13/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5121
Epoch 14/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4874
Epoch 15/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4645
Epoch 16/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4446
Epoch 17/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4276
Epoch 18/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4099
Epoch 19/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3938
Epoch 20/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3813
Epoch 21/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3663
Epoch 22/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3542
Epoch 23/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3450
Epoch 24/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3331
Epoch 25/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3265
Epoch 26/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3172
Epoch 27/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3059
Epoch 28/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3003
Epoch 29/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2963
Epoch 30/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2821

Epoch 31/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2768
Epoch 32/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2707
Epoch 33/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2666
Epoch 34/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2617
Epoch 35/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2547
Epoch 36/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2510
Epoch 37/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2440
Epoch 38/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2407
Epoch 39/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2400
Epoch 40/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2361
Epoch 41/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2328
Epoch 42/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2323
Epoch 43/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2282
Epoch 44/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2279
Epoch 45/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2288
Epoch 46/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2243
Epoch 47/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2220
Epoch 48/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2181
Epoch 49/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2188
Epoch 50/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2193
Epoch 51/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2173
Epoch 52/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2145
Epoch 53/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2142
Epoch 54/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2141
Epoch 55/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2124
Epoch 56/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2132
Epoch 57/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2123
Epoch 58/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2089
Epoch 59/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2131
Epoch 60/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2108

Epoch 61/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2091
Epoch 62/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2091
Epoch 63/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2114
Epoch 64/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2096
Epoch 65/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2118
Epoch 66/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2096
Epoch 67/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2095
Epoch 68/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2088
Epoch 69/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2080
Epoch 70/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2069
Epoch 71/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2067
Epoch 72/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2067
Epoch 73/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2063
Epoch 74/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2062
Epoch 75/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2036
Epoch 76/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2032
Epoch 77/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2058
Epoch 78/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2025
Epoch 79/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2053
Epoch 80/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2070
Epoch 81/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2012
Epoch 82/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2039
Epoch 83/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2036
Epoch 84/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2053
Epoch 85/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2041
Epoch 86/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2064
Epoch 87/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2028
Epoch 88/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2025
Epoch 89/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2013
Epoch 90/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2023

Epoch 91/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2007
Epoch 92/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2019
Epoch 93/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2018
Epoch 94/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2037
Epoch 95/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2035
Epoch 96/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2041
Epoch 97/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2018
Epoch 98/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2073
Epoch 99/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2012
Epoch 100/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2037
Epoch 101/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2042
Epoch 102/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2061
Epoch 103/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2051
Epoch 104/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2011
Epoch 105/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1996
Epoch 106/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2002
Epoch 107/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1989
Epoch 108/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1991
Epoch 109/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2007
Epoch 110/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2002
Epoch 111/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1991
Epoch 112/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2011
Epoch 113/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1982
Epoch 114/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2026
Epoch 115/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1969
Epoch 116/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2056
Epoch 117/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1980
Epoch 118/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2002
Epoch 119/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1982
Epoch 120/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2002

Epoch 121/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1992
Epoch 122/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2014
Epoch 123/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2007
Epoch 124/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1992
Epoch 125/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1999
Epoch 126/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2008
Epoch 127/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1980
Epoch 128/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1988
Epoch 129/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1969
Epoch 130/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2015
Epoch 131/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1968
Epoch 132/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1966
Epoch 133/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1973
Epoch 134/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1980
Epoch 135/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2005
Epoch 136/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1965
Epoch 137/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1965
Epoch 138/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1990
Epoch 139/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1982
Epoch 140/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1959
Epoch 141/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1975
Epoch 142/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1969
Epoch 143/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1989
Epoch 144/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1995
Epoch 145/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1969
Epoch 146/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1973
Epoch 147/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1964
Epoch 148/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1943
Epoch 149/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1966
Epoch 150/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1960

Epoch 151/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1964
Epoch 152/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1992
Epoch 153/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2001
Epoch 154/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1969
Epoch 155/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1960
Epoch 156/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1944
Epoch 157/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1959
Epoch 158/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1950
Epoch 159/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1940
Epoch 160/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1948
Epoch 161/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1972
Epoch 162/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1977
Epoch 163/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1983
Epoch 164/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1952
Epoch 165/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1960
Epoch 166/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1931
Epoch 167/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1970
Epoch 168/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1987
Epoch 169/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1956
Epoch 170/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1955
Epoch 171/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1950
Epoch 172/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1928
Epoch 173/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1980
Epoch 174/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1946
Epoch 175/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1913
Epoch 176/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1928
Epoch 177/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1963
Epoch 178/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1976
Epoch 179/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1929
Epoch 180/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1927

Epoch 181/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1950
Epoch 182/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1929
Epoch 183/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1927
Epoch 184/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1931
Epoch 185/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1935
Epoch 186/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1924
Epoch 187/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1919
Epoch 188/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1940
Epoch 189/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1968
Epoch 190/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1949
Epoch 191/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1935
Epoch 192/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1913
Epoch 193/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1967
Epoch 194/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1916
Epoch 195/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1927
Epoch 196/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1917
Epoch 197/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1925
Epoch 198/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1934
Epoch 199/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1966
Epoch 200/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1934
Epoch 201/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1918
Epoch 202/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1912
Epoch 203/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1910
Epoch 204/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1921
Epoch 205/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1906
Epoch 206/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1939
Epoch 207/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1908
Epoch 208/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1943
Epoch 209/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1895
Epoch 210/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1927

Epoch 211/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1919
Epoch 212/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1917
Epoch 213/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1914
Epoch 214/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1960
Epoch 215/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1915
Epoch 216/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1932
Epoch 217/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1903
Epoch 218/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1951
Epoch 219/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1912
Epoch 220/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1911
Epoch 221/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1903
Epoch 222/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1912
Epoch 223/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1965
Epoch 224/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1940
Epoch 225/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1926
Epoch 226/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1904
Epoch 227/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1888
Epoch 228/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1923
Epoch 229/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1940
Epoch 230/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1905
Epoch 231/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1910
Epoch 232/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1935
Epoch 233/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1903
Epoch 234/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1934
Epoch 235/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1901
Epoch 236/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1897
Epoch 237/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1940
Epoch 238/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1958
Epoch 239/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1922
Epoch 240/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1901

Epoch 241/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1915
Epoch 242/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1966
Epoch 243/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1941
Epoch 244/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1960
Epoch 245/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1877
Epoch 246/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1914
Epoch 247/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1901
Epoch 248/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1889
Epoch 249/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1923
Epoch 250/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1890
Epoch 251/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1904
Epoch 252/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1894
Epoch 253/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1903
Epoch 254/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1913
Epoch 255/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1891
Epoch 256/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1905
Epoch 257/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1908
Epoch 258/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1905
Epoch 259/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1861
Epoch 260/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1928
Epoch 261/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1900
Epoch 262/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1894
Epoch 263/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1898
Epoch 264/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1902
Epoch 265/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1902
Epoch 266/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1884
Epoch 267/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1907
Epoch 268/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1884
Epoch 269/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1889
Epoch 270/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1899

Epoch 271/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1876
Epoch 272/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1950
Epoch 273/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1949
Epoch 274/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1897
Epoch 275/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1908
Epoch 276/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1866
Epoch 277/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1905
Epoch 278/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1860
Epoch 279/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1921
Epoch 280/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1882
Epoch 281/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1870
Epoch 282/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1889
Epoch 283/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1895
Epoch 284/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1898
Epoch 285/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1887
Epoch 286/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1906
Epoch 287/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1908
Epoch 288/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1928
Epoch 289/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1879
Epoch 290/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1887
Epoch 291/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1884
Epoch 292/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1872
Epoch 293/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1890
Epoch 294/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1864
Epoch 295/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1941
Epoch 296/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1874
Epoch 297/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1905
Epoch 298/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1887
Epoch 299/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1885
Epoch 300/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1890

Epoch 301/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1882
Epoch 302/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1945
Epoch 303/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1874
Epoch 304/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1934
Epoch 305/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1915
Epoch 306/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1871
Epoch 307/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1890
Epoch 308/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1899
Epoch 309/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1891
Epoch 310/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1890
Epoch 311/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1872
Epoch 312/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1917
Epoch 313/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1869
Epoch 314/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1889
Epoch 315/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1876
Epoch 316/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1861
Epoch 317/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1877
Epoch 318/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1879
Epoch 319/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1880
Epoch 320/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1895
Epoch 321/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1867
Epoch 322/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1905
Epoch 323/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1879
Epoch 324/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1891
Epoch 325/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1876
Epoch 326/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1861
Epoch 327/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1877
Epoch 328/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1908
Epoch 329/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1871
Epoch 330/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1885

Epoch 331/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1878
Epoch 332/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1884
Epoch 333/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1865
Epoch 334/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1896
Epoch 335/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1903
Epoch 336/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1863
Epoch 337/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1885
Epoch 338/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1877
Epoch 339/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1869
Epoch 340/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1881
Epoch 341/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1880
Epoch 342/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1861
Epoch 343/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1859
Epoch 344/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1866
Epoch 345/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1891
Epoch 346/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1866
Epoch 347/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1880
Epoch 348/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1889
Epoch 349/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1877
Epoch 350/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1859
Epoch 351/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1872
Epoch 352/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1938
Epoch 353/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1887
Epoch 354/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1867
Epoch 355/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1895
Epoch 356/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1855
Epoch 357/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1859
Epoch 358/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1857
Epoch 359/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1869
Epoch 360/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1885

Epoch 361/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1873
Epoch 362/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1886
Epoch 363/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1892
Epoch 364/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1886
Epoch 365/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1900
Epoch 366/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1858
Epoch 367/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1855
Epoch 368/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1868
Epoch 369/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1877
Epoch 370/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1858
Epoch 371/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1860
Epoch 372/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1865
Epoch 373/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1849
Epoch 374/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1846
Epoch 375/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1844
Epoch 376/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1846
Epoch 377/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1859
Epoch 378/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1852
Epoch 379/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1869
Epoch 380/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1857
Epoch 381/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1886
Epoch 382/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1879
Epoch 383/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1886
Epoch 384/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1839
Epoch 385/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1877
Epoch 386/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1867
Epoch 387/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1854
Epoch 388/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1892
Epoch 389/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1891
Epoch 390/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1873

Epoch 391/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1844
Epoch 392/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1853
Epoch 393/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1848
Epoch 394/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1842
Epoch 395/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1838
Epoch 396/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1876
Epoch 397/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1895
Epoch 398/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1865
Epoch 399/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1857
Epoch 400/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1864
Epoch 401/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1855
Epoch 402/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1850
Epoch 403/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1850
Epoch 404/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1855
Epoch 405/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1829
Epoch 406/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1837
Epoch 407/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1864
Epoch 408/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1867
Epoch 409/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1840
Epoch 410/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1880
Epoch 411/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1871
Epoch 412/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1859
Epoch 413/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1855
Epoch 414/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1831
Epoch 415/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1846
Epoch 416/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1855
Epoch 417/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1841
Epoch 418/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1839
Epoch 419/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1847
Epoch 420/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1856

Epoch 421/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1838
Epoch 422/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1845
Epoch 423/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1858
Epoch 424/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1837
Epoch 425/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1864
Epoch 426/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1871
Epoch 427/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1827
Epoch 428/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1837
Epoch 429/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1828
Epoch 430/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1858
Epoch 431/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1840
Epoch 432/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1840
Epoch 433/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1865
Epoch 434/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1855
Epoch 435/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1845
Epoch 436/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1857
Epoch 437/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1840
Epoch 438/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1847
Epoch 439/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1832
Epoch 440/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1822
Epoch 441/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1845
Epoch 442/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1854
Epoch 443/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1835
Epoch 444/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1841
Epoch 445/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1825
Epoch 446/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1834
Epoch 447/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1843
Epoch 448/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1822
Epoch 449/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1801
Epoch 450/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1821

Epoch 451/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1833
Epoch 452/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1831
Epoch 453/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1817
Epoch 454/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1810
Epoch 455/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1811
Epoch 456/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1810
Epoch 457/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1827
Epoch 458/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1808
Epoch 459/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1816
Epoch 460/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1819
Epoch 461/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1813
Epoch 462/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1801
Epoch 463/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1814
Epoch 464/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 465/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1813
Epoch 466/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1793
Epoch 467/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1827
Epoch 468/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1798
Epoch 469/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1800
Epoch 470/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 471/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1845
Epoch 472/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1783
Epoch 473/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1806
Epoch 474/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1835
Epoch 475/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1813
Epoch 476/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1810
Epoch 477/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1823
Epoch 478/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1805
Epoch 479/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1803
Epoch 480/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1790

Epoch 481/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1803
Epoch 482/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1811
Epoch 483/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1827
Epoch 484/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1800
Epoch 485/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1831
Epoch 486/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1794
Epoch 487/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1797
Epoch 488/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1807
Epoch 489/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1790
Epoch 490/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1824
Epoch 491/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1816
Epoch 492/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1793
Epoch 493/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 494/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1789
Epoch 495/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1786
Epoch 496/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1842
Epoch 497/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1790
Epoch 498/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1789
Epoch 499/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1793
Epoch 500/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1777
Epoch 501/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1809
Epoch 502/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1780
Epoch 503/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1794
Epoch 504/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1772
Epoch 505/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1798
Epoch 506/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1796
Epoch 507/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1778
Epoch 508/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1765
Epoch 509/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1781
Epoch 510/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1785

Epoch 511/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1816
Epoch 512/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1775
Epoch 513/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1801
Epoch 514/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1805
Epoch 515/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1755
Epoch 516/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1779
Epoch 517/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1764
Epoch 518/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1773
Epoch 519/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1780
Epoch 520/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1789
Epoch 521/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1800
Epoch 522/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1760
Epoch 523/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1778
Epoch 524/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1764
Epoch 525/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1762
Epoch 526/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1765
Epoch 527/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1784
Epoch 528/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1814
Epoch 529/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1801
Epoch 530/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1754
Epoch 531/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1768
Epoch 532/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1785
Epoch 533/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1780
Epoch 534/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1769
Epoch 535/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1769
Epoch 536/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1757
Epoch 537/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1762
Epoch 538/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1762
Epoch 539/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1770
Epoch 540/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1809

Epoch 541/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1782
Epoch 542/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1765
Epoch 543/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1776
Epoch 544/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1790
Epoch 545/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1763
Epoch 546/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1839
Epoch 547/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1782
Epoch 548/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1770
Epoch 549/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1748
Epoch 550/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1757
Epoch 551/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1741
Epoch 552/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1750
Epoch 553/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1748
Epoch 554/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1758
Epoch 555/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1757
Epoch 556/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1753
Epoch 557/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1761
Epoch 558/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1789
Epoch 559/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1824
Epoch 560/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1778
Epoch 561/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1811
Epoch 562/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1732
Epoch 563/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1769
Epoch 564/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1748
Epoch 565/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1751
Epoch 566/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1773
Epoch 567/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1774
Epoch 568/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1748
Epoch 569/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1746
Epoch 570/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1769

Epoch 571/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1815
Epoch 572/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1758
Epoch 573/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1744
Epoch 574/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1741
Epoch 575/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1742
Epoch 576/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1748
Epoch 577/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1759
Epoch 578/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1757
Epoch 579/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1734
Epoch 580/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1768
Epoch 581/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1746
Epoch 582/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1742
Epoch 583/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1740
Epoch 584/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1753
Epoch 585/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1730
Epoch 586/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1754
Epoch 587/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1741
Epoch 588/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1740
Epoch 589/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1726
Epoch 590/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1759
Epoch 591/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1771
Epoch 592/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1759
Epoch 593/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1754
Epoch 594/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1731
Epoch 595/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1759
Epoch 596/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1747
Epoch 597/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1746
Epoch 598/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1742
Epoch 599/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1724
Epoch 600/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1775

Epoch 601/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1746
Epoch 602/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1753
Epoch 603/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1727
Epoch 604/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1741
Epoch 605/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1758
Epoch 606/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1743
Epoch 607/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1758
Epoch 608/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1762
Epoch 609/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1751
Epoch 610/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1728
Epoch 611/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1739
Epoch 612/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1719
Epoch 613/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1763
Epoch 614/1000
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Epoch 615/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1735
Epoch 616/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1726
Epoch 617/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1748
Epoch 618/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1791
Epoch 619/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1730
Epoch 620/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1761
Epoch 621/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1742
Epoch 622/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1727
Epoch 623/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1763
Epoch 624/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1728
Epoch 625/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1761
Epoch 626/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1725
Epoch 627/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1758
Epoch 628/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1716
Epoch 629/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1754
Epoch 630/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1764

Epoch 631/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1712
Epoch 632/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1775
Epoch 633/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1738
Epoch 634/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1763
Epoch 635/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1714
Epoch 636/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1739
Epoch 637/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1722
Epoch 638/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1716
Epoch 639/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1740
Epoch 640/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1723
Epoch 641/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1733
Epoch 642/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1716
Epoch 643/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1721
Epoch 644/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1731
Epoch 645/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1724
Epoch 646/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1750
Epoch 647/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1739
Epoch 648/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1728
Epoch 649/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1742
Epoch 650/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1725
Epoch 651/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1712
Epoch 652/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1707
Epoch 653/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1728
Epoch 654/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1723
Epoch 655/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1706
Epoch 656/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1704
Epoch 657/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1706
Epoch 658/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1747
Epoch 659/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1707
Epoch 660/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1709

Epoch 661/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1714
Epoch 662/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1745
Epoch 663/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1724
Epoch 664/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1711
Epoch 665/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1716
Epoch 666/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1729
Epoch 667/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1701
Epoch 668/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1717
Epoch 669/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1739
Epoch 670/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1721
Epoch 671/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1717
Epoch 672/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1728
Epoch 673/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1726
Epoch 674/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1738
Epoch 675/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1719
Epoch 676/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1722
Epoch 677/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1719
Epoch 678/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1734
Epoch 679/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1850
Epoch 680/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1717
Epoch 681/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1715
Epoch 682/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1732
Epoch 683/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1786
Epoch 684/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1685
Epoch 685/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1739
Epoch 686/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1714
Epoch 687/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1717
Epoch 688/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1725
Epoch 689/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1711
Epoch 690/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1707

Epoch 691/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1729
Epoch 692/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1719
Epoch 693/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1716
Epoch 694/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1703
Epoch 695/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1710
Epoch 696/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1702
Epoch 697/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1728
Epoch 698/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1722
Epoch 699/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1707
Epoch 700/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1728
Epoch 701/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1714
Epoch 702/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1704
Epoch 703/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1700
Epoch 704/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1696
Epoch 705/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1730
Epoch 706/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1742
Epoch 707/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1690
Epoch 708/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1738
Epoch 709/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1740
Epoch 710/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1745
Epoch 711/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1752
Epoch 712/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1711
Epoch 713/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1716
Epoch 714/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1712
Epoch 715/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1709
Epoch 716/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1727
Epoch 717/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1688
Epoch 718/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1724
Epoch 719/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1698
Epoch 720/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1709

Epoch 721/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1698
Epoch 722/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1726
Epoch 723/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1695
Epoch 724/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1725
Epoch 725/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1759
Epoch 726/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1731
Epoch 727/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1721
Epoch 728/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1717
Epoch 729/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1694
Epoch 730/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1767
Epoch 731/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1751
Epoch 732/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1751
Epoch 733/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1704
Epoch 734/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1713
Epoch 735/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1700
Epoch 736/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1720
Epoch 737/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1694
Epoch 738/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1724
Epoch 739/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1746
Epoch 740/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1724
Epoch 741/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1703
Epoch 742/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1694
Epoch 743/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1719
Epoch 744/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1716
Epoch 745/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1718
Epoch 746/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1702
Epoch 747/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1720
Epoch 748/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1698
Epoch 749/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1715
Epoch 750/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1697

Epoch 751/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1703
Epoch 752/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1698
Epoch 753/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1719
Epoch 754/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1701
Epoch 755/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1721
Epoch 756/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1778
Epoch 757/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1766
Epoch 758/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1686
Epoch 759/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1703
Epoch 760/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1702
Epoch 761/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1687
Epoch 762/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1699
Epoch 763/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1710
Epoch 764/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1719
Epoch 765/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1707
Epoch 766/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1743
Epoch 767/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1718
Epoch 768/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1714
Epoch 769/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1710
Epoch 770/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1706
Epoch 771/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1697
Epoch 772/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1694
Epoch 773/1000
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Epoch 774/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1723
Epoch 775/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1702
Epoch 776/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1683
Epoch 777/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1694
Epoch 778/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1703
Epoch 779/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1712
Epoch 780/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1728

Epoch 781/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1704
Epoch 782/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1696
Epoch 783/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1698
Epoch 784/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1688
Epoch 785/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1697
Epoch 786/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1734
Epoch 787/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1726
Epoch 788/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1677
Epoch 789/1000
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Epoch 794/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1784
Epoch 795/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1653
Epoch 796/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1759
Epoch 797/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1671
Epoch 798/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1722
Epoch 799/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1684
Epoch 800/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1669
Epoch 801/1000
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Epoch 802/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1684
Epoch 803/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1692
Epoch 804/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1711
Epoch 805/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1683
Epoch 806/1000
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Epoch 808/1000
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Epoch 811/1000
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Epoch 814/1000
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Epoch 815/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1697
Epoch 816/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1708
Epoch 817/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1720
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Epoch 834/1000
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Epoch 835/1000
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Epoch 841/1000
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Epoch 844/1000
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Epoch 845/1000
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Epoch 846/1000
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Epoch 848/1000
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Epoch 850/1000
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Epoch 851/1000
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Epoch 853/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1705
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Epoch 871/1000
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Epoch 872/1000
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Epoch 873/1000
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Epoch 874/1000
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Epoch 875/1000
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Epoch 876/1000
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Epoch 877/1000
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Epoch 880/1000
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Epoch 881/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1701
Epoch 882/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1736
Epoch 883/1000
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Epoch 884/1000
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Epoch 885/1000
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Epoch 886/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1664
Epoch 887/1000
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Epoch 888/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1701
Epoch 889/1000
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Epoch 890/1000
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Epoch 900/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1671

Epoch 901/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1673
Epoch 902/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1673
Epoch 903/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1666
Epoch 904/1000
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Epoch 907/1000
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Epoch 908/1000
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Epoch 910/1000
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Epoch 911/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1664
Epoch 912/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1660
Epoch 913/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1686
Epoch 914/1000
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Epoch 920/1000
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Epoch 921/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1648
Epoch 922/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1687
Epoch 923/1000
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Epoch 924/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1659
Epoch 925/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1681
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Epoch 927/1000
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Epoch 928/1000
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Epoch 929/1000
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Epoch 930/1000
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Epoch 931/1000
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Epoch 951/1000
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Epoch 953/1000
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Epoch 957/1000
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Epoch 958/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1685
Epoch 959/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1644
Epoch 960/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1678

Epoch 961/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1663
Epoch 962/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1668
Epoch 963/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1755
Epoch 964/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1643
Epoch 965/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1712
Epoch 966/1000
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Epoch 967/1000
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Epoch 968/1000
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Epoch 969/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1685
Epoch 970/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1665
Epoch 971/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1651
Epoch 972/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1663
Epoch 973/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1652
Epoch 974/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1671
Epoch 975/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1658
Epoch 976/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1685
Epoch 977/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1695
Epoch 978/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1655
Epoch 979/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1660
Epoch 980/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1661
Epoch 981/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1654
Epoch 982/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1660
Epoch 983/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1684
Epoch 984/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1654
Epoch 985/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1649
Epoch 986/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1681
Epoch 987/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1655
Epoch 988/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1700
Epoch 989/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1678
Epoch 990/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1649

```

Epoch 991/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1690
Epoch 992/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1671
Epoch 993/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1655
Epoch 994/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1653
Epoch 995/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1705
Epoch 996/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1683
Epoch 997/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1696
Epoch 998/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1708
Epoch 999/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1672
Epoch 1000/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1646
<keras.callbacks.History at 0x2325b582be0>

```

Out[28]:

In [29]: `model_s.summary()`

Model: "Simple"

Layer (type)	Output Shape	Param #
=====		
dense_3 (Dense)	(None, 6)	18
dense_4 (Dense)	(None, 6)	42
=====		
Total params: 60		
Trainable params: 60		
Non-trainable params: 0		

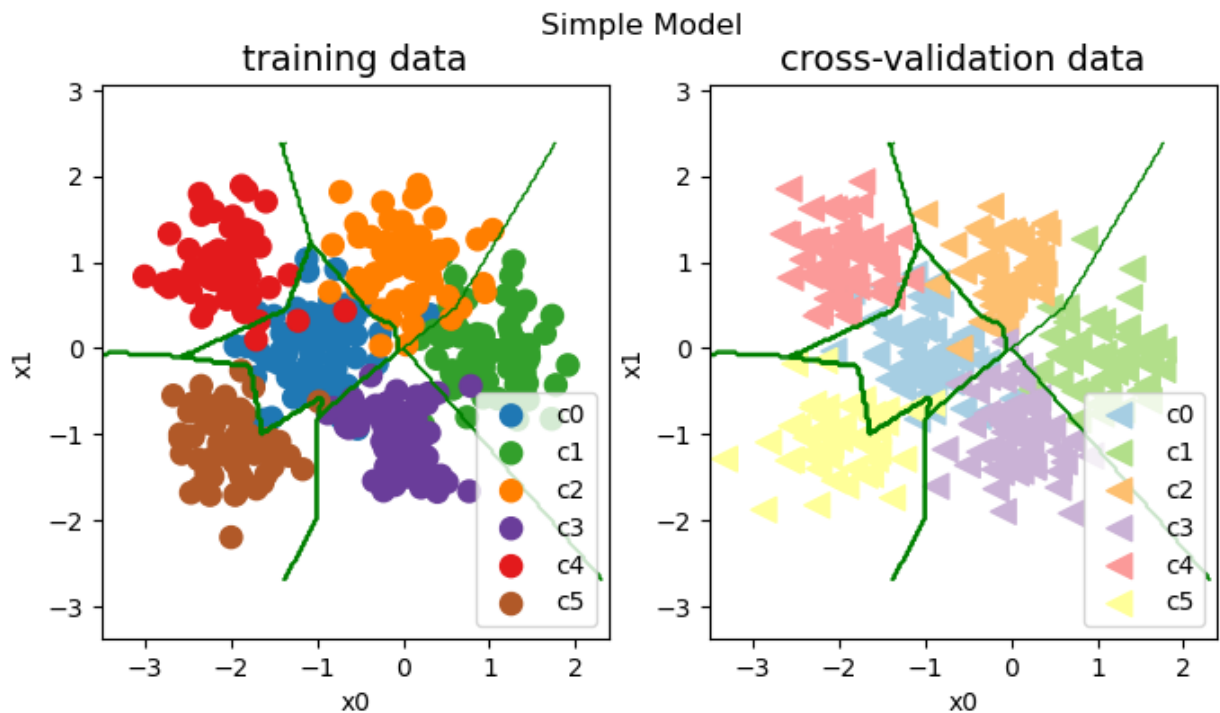
► [Click for hints](#)

```

In [30]: #make a model for plotting routines to call
model_predict_s = lambda X1: np.argmax(tf.nn.softmax(model_s.predict(X1)).numpy(),axis=1)
plt_nn(model_predict_s,X_train,y_train, classes, X_cv, y_cv, suptitle="Simple Model")

1082/1082 [=====] - 1s 1ms/step
1082/1082 [=====] - 1s 1ms/step

```



This simple models does pretty well. Let's calculate the classification error.

```
In [31]: training_cerr_simple = eval_cat_err(y_train, model_predict_s(X_train))
cv_cerr_simple = eval_cat_err(y_cv, model_predict_s(X_cv))
print(f"category error, training, simple model, {training_cerr_simple:0.3f}, complex model: 0.010")
print(f"category error, cv, simple model, {cv_cerr_simple:0.3f}, complex model: 0.113")

13/13 [=====] - 0s 1ms/step
10/10 [=====] - 0s 1ms/step
category error, training, simple model, 0.050, complex model: 0.010
category error, cv, simple model, 0.084, complex model: 0.113
```

Our simple model has a little higher classification error on training data but does better on cross-validation data than the more complex model.

6 - Regularization

As in the case of polynomial regression, one can apply regularization to moderate the impact of a more complex model. Let's try this below.

Exercise 5

Reconstruct your complex model, but this time include regularization. Below, compose a three-layer model:

- Dense layer with 120 units, relu activation,
`kernel_regularizer=tf.keras.regularizers.l2(0.1)`
- Dense layer with 40 units, relu activation,
`kernel_regularizer=tf.keras.regularizers.l2(0.1)`

- Dense layer with 6 units and a linear activation. Compile using
- loss with `SparseCategoricalCrossentropy`, remember to use `from_logits=True`
- Adam optimizer with learning rate of 0.01.

```
In [32]: tf.random.set_seed(1234)
model_r = Sequential(
    [
        ### START CODE HERE ###
        Dense(units = 120, activation = 'relu', kernel_regularizer = tf.keras.regularizers.l2(0.01)),
        Dense(units = 40, activation = 'relu', kernel_regularizer = tf.keras.regularizers.l2(0.01)),
        Dense(units = 6, activation = 'linear')
        ### START CODE HERE ###
    ], name= None
)
model_r.compile(
    ### START CODE HERE ###
    loss = SparseCategoricalCrossentropy(from_logits = True),
    optimizer = Adam(learning_rate = 0.01)
    ### START CODE HERE ###
)
```

```
In [33]: model_r.fit(
    X_train, y_train,
    epochs=1000
)
```

Epoch 1/1000
13/13 [=====] - 1s 2ms/step - loss: 4.4616
Epoch 2/1000
13/13 [=====] - 0s 2ms/step - loss: 1.6740
Epoch 3/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3035
Epoch 4/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0555
Epoch 5/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9645
Epoch 6/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9340
Epoch 7/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9235
Epoch 8/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8751
Epoch 9/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8091
Epoch 10/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7645
Epoch 11/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7549
Epoch 12/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7491
Epoch 13/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7314
Epoch 14/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7390
Epoch 15/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7007
Epoch 16/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6908
Epoch 17/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7032
Epoch 18/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6966
Epoch 19/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6753
Epoch 20/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6632
Epoch 21/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6487
Epoch 22/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6529
Epoch 23/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6407
Epoch 24/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6311
Epoch 25/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6670
Epoch 26/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7798
Epoch 27/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6498
Epoch 28/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6097
Epoch 29/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5994
Epoch 30/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6186

Epoch 31/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6173
Epoch 32/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6148
Epoch 33/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6204
Epoch 34/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6360
Epoch 35/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6244
Epoch 36/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6012
Epoch 37/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5821
Epoch 38/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5662
Epoch 39/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5655
Epoch 40/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5696
Epoch 41/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5848
Epoch 42/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5563
Epoch 43/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5764
Epoch 44/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5868
Epoch 45/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5839
Epoch 46/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5668
Epoch 47/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5317
Epoch 48/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5720
Epoch 49/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5532
Epoch 50/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5294
Epoch 51/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5388
Epoch 52/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5294
Epoch 53/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5326
Epoch 54/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5159
Epoch 55/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5615
Epoch 56/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5155
Epoch 57/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5182
Epoch 58/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5112
Epoch 59/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5344
Epoch 60/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5456

Epoch 61/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5694
Epoch 62/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5428
Epoch 63/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5195
Epoch 64/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5336
Epoch 65/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5122
Epoch 66/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5062
Epoch 67/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5068
Epoch 68/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5082
Epoch 69/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5044
Epoch 70/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5014
Epoch 71/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4963
Epoch 72/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4905
Epoch 73/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4944
Epoch 74/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5092
Epoch 75/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5081
Epoch 76/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5074
Epoch 77/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5038
Epoch 78/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5203
Epoch 79/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5416
Epoch 80/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5112
Epoch 81/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5250
Epoch 82/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4899
Epoch 83/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4850
Epoch 84/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4693
Epoch 85/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4858
Epoch 86/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4843
Epoch 87/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5132
Epoch 88/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4846
Epoch 89/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4794
Epoch 90/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4691

Epoch 91/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4760
Epoch 92/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4714
Epoch 93/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4604
Epoch 94/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4618
Epoch 95/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4688
Epoch 96/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4579
Epoch 97/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4701
Epoch 98/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4683
Epoch 99/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4981
Epoch 100/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4930
Epoch 101/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4804
Epoch 102/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4693
Epoch 103/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4684
Epoch 104/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4611
Epoch 105/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5042
Epoch 106/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4585
Epoch 107/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4609
Epoch 108/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4738
Epoch 109/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4575
Epoch 110/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4558
Epoch 111/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4567
Epoch 112/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4528
Epoch 113/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4453
Epoch 114/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4413
Epoch 115/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4392
Epoch 116/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4480
Epoch 117/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4727
Epoch 118/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4588
Epoch 119/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4667
Epoch 120/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4694

Epoch 121/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4940
Epoch 122/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4662
Epoch 123/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4502
Epoch 124/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4454
Epoch 125/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4322
Epoch 126/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4388
Epoch 127/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4477
Epoch 128/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4387
Epoch 129/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4432
Epoch 130/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4406
Epoch 131/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4563
Epoch 132/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4338
Epoch 133/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4257
Epoch 134/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4472
Epoch 135/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4428
Epoch 136/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4472
Epoch 137/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4313
Epoch 138/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4494
Epoch 139/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4513
Epoch 140/1000
13/13 [=====] - 0s 3ms/step - loss: 0.4582
Epoch 141/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4321
Epoch 142/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4223
Epoch 143/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4365
Epoch 144/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4419
Epoch 145/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4272
Epoch 146/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4248
Epoch 147/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4600
Epoch 148/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4386
Epoch 149/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4234
Epoch 150/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4229

Epoch 151/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4189
Epoch 152/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4193
Epoch 153/1000
13/13 [=====] - 0s 5ms/step - loss: 0.4397
Epoch 154/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4250
Epoch 155/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4313
Epoch 156/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4322
Epoch 157/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4280
Epoch 158/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4225
Epoch 159/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4090
Epoch 160/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4297
Epoch 161/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4430
Epoch 162/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4282
Epoch 163/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4152
Epoch 164/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4282
Epoch 165/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4417
Epoch 166/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4550
Epoch 167/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4780
Epoch 168/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4514
Epoch 169/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4316
Epoch 170/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4372
Epoch 171/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4277
Epoch 172/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4221
Epoch 173/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4397
Epoch 174/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4456
Epoch 175/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4244
Epoch 176/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4391
Epoch 177/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4273
Epoch 178/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4126
Epoch 179/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4190
Epoch 180/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4124

Epoch 181/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4332
Epoch 182/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4232
Epoch 183/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4076
Epoch 184/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4014
Epoch 185/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4050
Epoch 186/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4083
Epoch 187/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4146
Epoch 188/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4154
Epoch 189/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3987
Epoch 190/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3985
Epoch 191/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4110
Epoch 192/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4148
Epoch 193/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4144
Epoch 194/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4164
Epoch 195/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4012
Epoch 196/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3957
Epoch 197/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4229
Epoch 198/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3987
Epoch 199/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4059
Epoch 200/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4060
Epoch 201/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4235
Epoch 202/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3970
Epoch 203/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3954
Epoch 204/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4080
Epoch 205/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4477
Epoch 206/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4250
Epoch 207/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4097
Epoch 208/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4137
Epoch 209/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4356
Epoch 210/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4114

Epoch 211/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4207
Epoch 212/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4121
Epoch 213/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4058
Epoch 214/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4048
Epoch 215/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3936
Epoch 216/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4085
Epoch 217/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3962
Epoch 218/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4198
Epoch 219/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3982
Epoch 220/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4013
Epoch 221/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3877
Epoch 222/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4092
Epoch 223/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4031
Epoch 224/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4382
Epoch 225/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4319
Epoch 226/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4146
Epoch 227/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4254
Epoch 228/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3878
Epoch 229/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4008
Epoch 230/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4072
Epoch 231/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4027
Epoch 232/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4097
Epoch 233/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3908
Epoch 234/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3905
Epoch 235/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3883
Epoch 236/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3943
Epoch 237/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3916
Epoch 238/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4178
Epoch 239/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4101
Epoch 240/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3886

Epoch 241/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3912
Epoch 242/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3878
Epoch 243/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3885
Epoch 244/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3987
Epoch 245/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3971
Epoch 246/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4000
Epoch 247/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3815
Epoch 248/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3887
Epoch 249/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3968
Epoch 250/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3920
Epoch 251/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4141
Epoch 252/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3997
Epoch 253/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3927
Epoch 254/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4078
Epoch 255/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4090
Epoch 256/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3857
Epoch 257/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4079
Epoch 258/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3889
Epoch 259/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3926
Epoch 260/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3838
Epoch 261/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4023
Epoch 262/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4615
Epoch 263/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4274
Epoch 264/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3924
Epoch 265/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3989
Epoch 266/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4281
Epoch 267/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4457
Epoch 268/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4200
Epoch 269/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3845
Epoch 270/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3836

Epoch 271/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3860
Epoch 272/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3873
Epoch 273/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4046
Epoch 274/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3771
Epoch 275/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3906
Epoch 276/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3862
Epoch 277/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3806
Epoch 278/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3814
Epoch 279/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4003
Epoch 280/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3925
Epoch 281/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3754
Epoch 282/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3784
Epoch 283/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3900
Epoch 284/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3877
Epoch 285/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4173
Epoch 286/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3929
Epoch 287/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3891
Epoch 288/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3878
Epoch 289/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3750
Epoch 290/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3901
Epoch 291/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3919
Epoch 292/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3688
Epoch 293/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3782
Epoch 294/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4016
Epoch 295/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4034
Epoch 296/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3771
Epoch 297/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3818
Epoch 298/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3992
Epoch 299/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3966
Epoch 300/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4302

Epoch 301/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4039
Epoch 302/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3938
Epoch 303/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3828
Epoch 304/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3796
Epoch 305/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3802
Epoch 306/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3893
Epoch 307/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3915
Epoch 308/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3980
Epoch 309/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3852
Epoch 310/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3735
Epoch 311/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3679
Epoch 312/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3711
Epoch 313/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3865
Epoch 314/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3829
Epoch 315/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3811
Epoch 316/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3806
Epoch 317/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3771
Epoch 318/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3761
Epoch 319/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3809
Epoch 320/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3791
Epoch 321/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3897
Epoch 322/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3857
Epoch 323/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3974
Epoch 324/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4036
Epoch 325/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3953
Epoch 326/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3840
Epoch 327/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3772
Epoch 328/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3914
Epoch 329/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3769
Epoch 330/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3648

Epoch 331/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3669
Epoch 332/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3698
Epoch 333/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4110
Epoch 334/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3947
Epoch 335/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3907
Epoch 336/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3938
Epoch 337/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4022
Epoch 338/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3754
Epoch 339/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3669
Epoch 340/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3854
Epoch 341/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3786
Epoch 342/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3721
Epoch 343/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3691
Epoch 344/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3639
Epoch 345/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3618
Epoch 346/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3637
Epoch 347/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3881
Epoch 348/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4173
Epoch 349/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3756
Epoch 350/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4061
Epoch 351/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3672
Epoch 352/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3881
Epoch 353/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3767
Epoch 354/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3659
Epoch 355/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3713
Epoch 356/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3648
Epoch 357/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3825
Epoch 358/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3971
Epoch 359/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3911
Epoch 360/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3893

Epoch 361/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4120
Epoch 362/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4568
Epoch 363/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4051
Epoch 364/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3700
Epoch 365/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3674
Epoch 366/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3631
Epoch 367/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3695
Epoch 368/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3905
Epoch 369/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3946
Epoch 370/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3740
Epoch 371/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3597
Epoch 372/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3599
Epoch 373/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3789
Epoch 374/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3535
Epoch 375/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3791
Epoch 376/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3785
Epoch 377/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3602
Epoch 378/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3768
Epoch 379/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3817
Epoch 380/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3827
Epoch 381/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4130
Epoch 382/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3704
Epoch 383/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3765
Epoch 384/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3643
Epoch 385/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3685
Epoch 386/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3560
Epoch 387/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3811
Epoch 388/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3798
Epoch 389/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3687
Epoch 390/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3537

Epoch 391/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3630
Epoch 392/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3760
Epoch 393/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3566
Epoch 394/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3594
Epoch 395/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3850
Epoch 396/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3774
Epoch 397/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3901
Epoch 398/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3774
Epoch 399/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3739
Epoch 400/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3744
Epoch 401/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3606
Epoch 402/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3612
Epoch 403/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3569
Epoch 404/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3609
Epoch 405/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3534
Epoch 406/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3574
Epoch 407/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3661
Epoch 408/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3623
Epoch 409/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3819
Epoch 410/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3821
Epoch 411/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3950
Epoch 412/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3792
Epoch 413/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3575
Epoch 414/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3556
Epoch 415/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3698
Epoch 416/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3793
Epoch 417/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3852
Epoch 418/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3600
Epoch 419/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3665
Epoch 420/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3498

Epoch 421/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3843
Epoch 422/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3945
Epoch 423/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3732
Epoch 424/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3719
Epoch 425/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3654
Epoch 426/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3632
Epoch 427/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3629
Epoch 428/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3716
Epoch 429/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3641
Epoch 430/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3596
Epoch 431/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3484
Epoch 432/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3569
Epoch 433/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3858
Epoch 434/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4053
Epoch 435/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4111
Epoch 436/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4000
Epoch 437/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3811
Epoch 438/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3853
Epoch 439/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3526
Epoch 440/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3483
Epoch 441/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3583
Epoch 442/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3769
Epoch 443/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3736
Epoch 444/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3663
Epoch 445/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3690
Epoch 446/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3554
Epoch 447/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3720
Epoch 448/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3613
Epoch 449/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3530
Epoch 450/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3528

Epoch 451/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3491
Epoch 452/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3662
Epoch 453/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3747
Epoch 454/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3699
Epoch 455/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3721
Epoch 456/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3544
Epoch 457/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3500
Epoch 458/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3813
Epoch 459/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3661
Epoch 460/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3620
Epoch 461/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3631
Epoch 462/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3508
Epoch 463/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3552
Epoch 464/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3720
Epoch 465/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3559
Epoch 466/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3734
Epoch 467/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3712
Epoch 468/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3991
Epoch 469/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4046
Epoch 470/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3486
Epoch 471/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3716
Epoch 472/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4196
Epoch 473/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4076
Epoch 474/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3939
Epoch 475/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3728
Epoch 476/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3613
Epoch 477/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3827
Epoch 478/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3623
Epoch 479/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3527
Epoch 480/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3588

Epoch 481/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3505
Epoch 482/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3720
Epoch 483/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3699
Epoch 484/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3699
Epoch 485/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3718
Epoch 486/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3548
Epoch 487/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3445
Epoch 488/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3525
Epoch 489/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3386
Epoch 490/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3522
Epoch 491/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3659
Epoch 492/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3644
Epoch 493/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3480
Epoch 494/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3515
Epoch 495/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3481
Epoch 496/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3728
Epoch 497/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3945
Epoch 498/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3473
Epoch 499/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3415
Epoch 500/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3630
Epoch 501/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3566
Epoch 502/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3648
Epoch 503/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3892
Epoch 504/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3660
Epoch 505/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3601
Epoch 506/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3728
Epoch 507/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3590
Epoch 508/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3387
Epoch 509/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3464
Epoch 510/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3428

Epoch 511/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3478
Epoch 512/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3604
Epoch 513/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3472
Epoch 514/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3424
Epoch 515/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3499
Epoch 516/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3534
Epoch 517/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3641
Epoch 518/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3646
Epoch 519/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3686
Epoch 520/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3597
Epoch 521/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3433
Epoch 522/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3623
Epoch 523/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3672
Epoch 524/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3362
Epoch 525/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3527
Epoch 526/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3575
Epoch 527/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3398
Epoch 528/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3469
Epoch 529/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3753
Epoch 530/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3641
Epoch 531/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3657
Epoch 532/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3473
Epoch 533/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3382
Epoch 534/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3632
Epoch 535/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3670
Epoch 536/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3443
Epoch 537/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3965
Epoch 538/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3583
Epoch 539/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3570
Epoch 540/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3873

Epoch 541/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3890
Epoch 542/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3714
Epoch 543/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3663
Epoch 544/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3557
Epoch 545/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3513
Epoch 546/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3588
Epoch 547/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3792
Epoch 548/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3662
Epoch 549/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3379
Epoch 550/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3414
Epoch 551/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3425
Epoch 552/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3446
Epoch 553/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3342
Epoch 554/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3486
Epoch 555/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3852
Epoch 556/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3842
Epoch 557/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3699
Epoch 558/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3479
Epoch 559/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3693
Epoch 560/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3464
Epoch 561/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3369
Epoch 562/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3499
Epoch 563/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3465
Epoch 564/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3555
Epoch 565/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3398
Epoch 566/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3538
Epoch 567/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3457
Epoch 568/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3532
Epoch 569/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3422
Epoch 570/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3353

Epoch 571/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3639
Epoch 572/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3487
Epoch 573/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3524
Epoch 574/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3650
Epoch 575/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3375
Epoch 576/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3325
Epoch 577/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3518
Epoch 578/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4175
Epoch 579/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3577
Epoch 580/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3378
Epoch 581/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3599
Epoch 582/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3475
Epoch 583/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3512
Epoch 584/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3737
Epoch 585/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3836
Epoch 586/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3538
Epoch 587/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3466
Epoch 588/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3319
Epoch 589/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3277
Epoch 590/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3293
Epoch 591/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3465
Epoch 592/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3450
Epoch 593/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3374
Epoch 594/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3363
Epoch 595/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4141
Epoch 596/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3921
Epoch 597/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3492
Epoch 598/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3404
Epoch 599/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3348
Epoch 600/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3516

Epoch 601/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3313
Epoch 602/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3433
Epoch 603/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3532
Epoch 604/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3483
Epoch 605/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3569
Epoch 606/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3710
Epoch 607/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3663
Epoch 608/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3518
Epoch 609/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3454
Epoch 610/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3611
Epoch 611/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3474
Epoch 612/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3661
Epoch 613/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3573
Epoch 614/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3486
Epoch 615/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3544
Epoch 616/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3375
Epoch 617/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3232
Epoch 618/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3686
Epoch 619/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4061
Epoch 620/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3825
Epoch 621/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3481
Epoch 622/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3529
Epoch 623/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3383
Epoch 624/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3292
Epoch 625/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3257
Epoch 626/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3391
Epoch 627/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3543
Epoch 628/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3703
Epoch 629/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3726
Epoch 630/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3699

Epoch 631/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3632
Epoch 632/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3655
Epoch 633/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3652
Epoch 634/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3449
Epoch 635/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3556
Epoch 636/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3641
Epoch 637/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3577
Epoch 638/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3494
Epoch 639/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3419
Epoch 640/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3442
Epoch 641/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3314
Epoch 642/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3467
Epoch 643/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3665
Epoch 644/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3379
Epoch 645/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3520
Epoch 646/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3550
Epoch 647/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3549
Epoch 648/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3568
Epoch 649/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3493
Epoch 650/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3396
Epoch 651/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3368
Epoch 652/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3269
Epoch 653/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3427
Epoch 654/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3547
Epoch 655/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3407
Epoch 656/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3328
Epoch 657/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3405
Epoch 658/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3420
Epoch 659/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3428
Epoch 660/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3666

Epoch 661/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3343
Epoch 662/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3476
Epoch 663/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3823
Epoch 664/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3502
Epoch 665/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3505
Epoch 666/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3501
Epoch 667/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3268
Epoch 668/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3239
Epoch 669/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3462
Epoch 670/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3353
Epoch 671/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3409
Epoch 672/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3796
Epoch 673/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4049
Epoch 674/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3964
Epoch 675/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3403
Epoch 676/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3345
Epoch 677/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3293
Epoch 678/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3254
Epoch 679/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3369
Epoch 680/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3406
Epoch 681/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3529
Epoch 682/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3323
Epoch 683/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3323
Epoch 684/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3386
Epoch 685/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3418
Epoch 686/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3389
Epoch 687/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3414
Epoch 688/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3280
Epoch 689/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3891
Epoch 690/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3614

Epoch 691/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3441
Epoch 692/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3480
Epoch 693/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3421
Epoch 694/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3461
Epoch 695/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3376
Epoch 696/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3302
Epoch 697/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3263
Epoch 698/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3422
Epoch 699/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3360
Epoch 700/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3438
Epoch 701/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3403
Epoch 702/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3223
Epoch 703/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3247
Epoch 704/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3481
Epoch 705/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3413
Epoch 706/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3436
Epoch 707/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3425
Epoch 708/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3396
Epoch 709/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3691
Epoch 710/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3562
Epoch 711/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3393
Epoch 712/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3806
Epoch 713/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3605
Epoch 714/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3371
Epoch 715/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3226
Epoch 716/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3210
Epoch 717/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3422
Epoch 718/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3608
Epoch 719/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4081
Epoch 720/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3864

Epoch 721/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3748
Epoch 722/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3535
Epoch 723/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3598
Epoch 724/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3374
Epoch 725/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3505
Epoch 726/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3425
Epoch 727/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3392
Epoch 728/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3485
Epoch 729/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3359
Epoch 730/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3389
Epoch 731/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3402
Epoch 732/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3427
Epoch 733/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3278
Epoch 734/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3366
Epoch 735/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3273
Epoch 736/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3374
Epoch 737/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3405
Epoch 738/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3594
Epoch 739/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3529
Epoch 740/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3394
Epoch 741/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3394
Epoch 742/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3744
Epoch 743/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3338
Epoch 744/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3254
Epoch 745/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3211
Epoch 746/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3258
Epoch 747/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3245
Epoch 748/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3471
Epoch 749/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3714
Epoch 750/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3480

Epoch 751/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3522
Epoch 752/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4055
Epoch 753/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3969
Epoch 754/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3433
Epoch 755/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3379
Epoch 756/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3428
Epoch 757/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3564
Epoch 758/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3566
Epoch 759/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3279
Epoch 760/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3404
Epoch 761/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3477
Epoch 762/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3337
Epoch 763/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3250
Epoch 764/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3448
Epoch 765/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3346
Epoch 766/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3412
Epoch 767/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3341
Epoch 768/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3521
Epoch 769/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3373
Epoch 770/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3232
Epoch 771/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3378
Epoch 772/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3369
Epoch 773/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3670
Epoch 774/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3700
Epoch 775/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3346
Epoch 776/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3685
Epoch 777/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3613
Epoch 778/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3232
Epoch 779/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3270
Epoch 780/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3374

Epoch 781/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3375
Epoch 782/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3235
Epoch 783/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3246
Epoch 784/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3234
Epoch 785/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3241
Epoch 786/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3358
Epoch 787/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3336
Epoch 788/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3273
Epoch 789/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3321
Epoch 790/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3349
Epoch 791/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3758
Epoch 792/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3628
Epoch 793/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3534
Epoch 794/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3553
Epoch 795/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3478
Epoch 796/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3660
Epoch 797/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3180
Epoch 798/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3624
Epoch 799/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3602
Epoch 800/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3389
Epoch 801/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3281
Epoch 802/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3248
Epoch 803/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3208
Epoch 804/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3235
Epoch 805/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3479
Epoch 806/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3446
Epoch 807/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3342
Epoch 808/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3510
Epoch 809/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3603
Epoch 810/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3361

Epoch 811/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3277
Epoch 812/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3151
Epoch 813/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3233
Epoch 814/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3328
Epoch 815/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3297
Epoch 816/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3356
Epoch 817/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3559
Epoch 818/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3523
Epoch 819/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3280
Epoch 820/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3582
Epoch 821/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3846
Epoch 822/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3438
Epoch 823/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3456
Epoch 824/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3413
Epoch 825/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3388
Epoch 826/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3252
Epoch 827/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3164
Epoch 828/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3326
Epoch 829/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3620
Epoch 830/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4227
Epoch 831/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3422
Epoch 832/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3513
Epoch 833/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3419
Epoch 834/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3470
Epoch 835/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3161
Epoch 836/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3234
Epoch 837/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3261
Epoch 838/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3402
Epoch 839/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3218
Epoch 840/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3619

Epoch 841/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3423
Epoch 842/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3540
Epoch 843/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3430
Epoch 844/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3231
Epoch 845/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3209
Epoch 846/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3200
Epoch 847/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3394
Epoch 848/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3386
Epoch 849/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3127
Epoch 850/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3309
Epoch 851/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3269
Epoch 852/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3421
Epoch 853/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3560
Epoch 854/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3315
Epoch 855/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3330
Epoch 856/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3277
Epoch 857/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3403
Epoch 858/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3644
Epoch 859/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3669
Epoch 860/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3380
Epoch 861/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3583
Epoch 862/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3218
Epoch 863/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3145
Epoch 864/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3633
Epoch 865/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3829
Epoch 866/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3835
Epoch 867/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3321
Epoch 868/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3333
Epoch 869/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3380
Epoch 870/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3560

Epoch 871/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3658
Epoch 872/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3359
Epoch 873/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3288
Epoch 874/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3364
Epoch 875/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3379
Epoch 876/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3437
Epoch 877/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3509
Epoch 878/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3684
Epoch 879/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3535
Epoch 880/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3306
Epoch 881/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3480
Epoch 882/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3546
Epoch 883/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4088
Epoch 884/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3378
Epoch 885/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3526
Epoch 886/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3351
Epoch 887/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3243
Epoch 888/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3350
Epoch 889/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3253
Epoch 890/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3637
Epoch 891/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3231
Epoch 892/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3252
Epoch 893/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3351
Epoch 894/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3378
Epoch 895/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3811
Epoch 896/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3436
Epoch 897/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3295
Epoch 898/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3399
Epoch 899/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3806
Epoch 900/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3612

Epoch 901/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3533
Epoch 902/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3416
Epoch 903/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3319
Epoch 904/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3189
Epoch 905/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3259
Epoch 906/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3422
Epoch 907/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3478
Epoch 908/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3543
Epoch 909/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3938
Epoch 910/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3547
Epoch 911/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3274
Epoch 912/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3287
Epoch 913/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3169
Epoch 914/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3489
Epoch 915/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3407
Epoch 916/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3454
Epoch 917/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3373
Epoch 918/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3376
Epoch 919/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3635
Epoch 920/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3660
Epoch 921/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3481
Epoch 922/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3475
Epoch 923/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3174
Epoch 924/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3459
Epoch 925/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3313
Epoch 926/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3221
Epoch 927/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3345
Epoch 928/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3245
Epoch 929/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3383
Epoch 930/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3863

Epoch 931/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4079
Epoch 932/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3570
Epoch 933/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3363
Epoch 934/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3743
Epoch 935/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3354
Epoch 936/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3241
Epoch 937/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3300
Epoch 938/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3436
Epoch 939/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3383
Epoch 940/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3318
Epoch 941/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3094
Epoch 942/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3125
Epoch 943/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3323
Epoch 944/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3368
Epoch 945/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3511
Epoch 946/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3129
Epoch 947/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3245
Epoch 948/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3250
Epoch 949/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3179
Epoch 950/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3108
Epoch 951/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3055
Epoch 952/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3436
Epoch 953/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3393
Epoch 954/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3637
Epoch 955/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3173
Epoch 956/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3291
Epoch 957/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3186
Epoch 958/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3278
Epoch 959/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3149
Epoch 960/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3137

Epoch 961/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3200
Epoch 962/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3122
Epoch 963/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3375
Epoch 964/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3165
Epoch 965/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3174
Epoch 966/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3326
Epoch 967/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3230
Epoch 968/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3295
Epoch 969/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3780
Epoch 970/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3810
Epoch 971/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3525
Epoch 972/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3209
Epoch 973/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3209
Epoch 974/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3165
Epoch 975/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3381
Epoch 976/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3266
Epoch 977/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3336
Epoch 978/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3130
Epoch 979/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3156
Epoch 980/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3318
Epoch 981/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3197
Epoch 982/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3210
Epoch 983/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3105
Epoch 984/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3239
Epoch 985/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3411
Epoch 986/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3412
Epoch 987/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3448
Epoch 988/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3150
Epoch 989/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3302
Epoch 990/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3337

```

Epoch 991/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3317
Epoch 992/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3455
Epoch 993/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3246
Epoch 994/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3236
Epoch 995/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3511
Epoch 996/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3587
Epoch 997/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3838
Epoch 998/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3268
Epoch 999/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3528
Epoch 1000/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3511
Out[33]: <keras.callbacks.History at 0x2325cfb6fa0>

```

```
In [34]: model_r.summary()
```

Model: "sequential"

Layer (type)	Output Shape	Param #
=====		
dense_5 (Dense)	(None, 120)	360
dense_6 (Dense)	(None, 40)	4840
dense_7 (Dense)	(None, 6)	246
=====		
Total params: 5,446		
Trainable params: 5,446		
Non-trainable params: 0		

► [Click for hints](#)

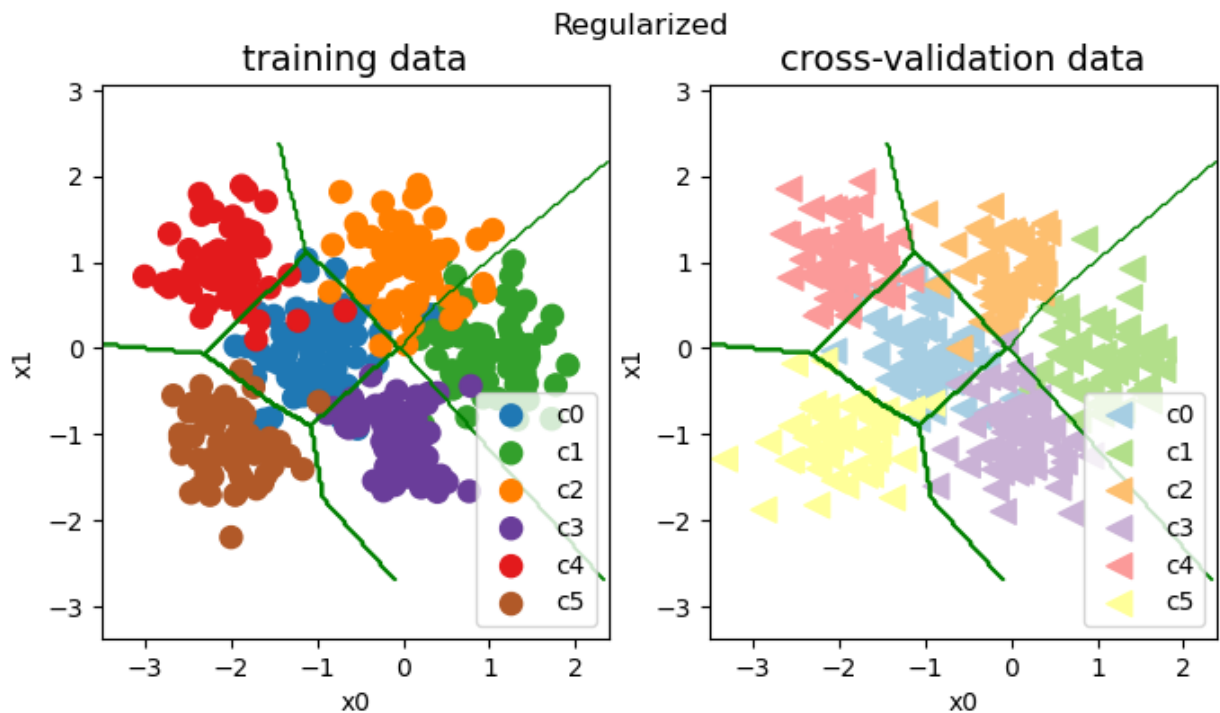
```

In [35]: #make a model for plotting routines to call
model_predict_r = lambda X1: np.argmax(tf.nn.softmax(model_r.predict(X1)).numpy(),axis=-1)

plt_nn(model_predict_r, X_train,y_train, classes, X_cv, y_cv, suptitle="Regularized")

1082/1082 [=====] - 1s 1ms/step
1082/1082 [=====] - 2s 1ms/step

```



The results look very similar to the 'ideal' model. Let's check classification error.

```
In [36]: training_cerr_reg = eval_cat_err(y_train, model_predict_r(X_train))
cv_cerr_reg = eval_cat_err(y_cv, model_predict_r(X_cv))
test_cerr_reg = eval_cat_err(y_test, model_predict_r(X_test))
print(f"categorization error, training, regularized: {training_cerr_reg:0.3f}, simple
print(f"categorization error, cv,          regularized: {cv_cerr_reg:0.3f}, simple model,

13/13 [=====] - 0s 1ms/step
10/10 [=====] - 0s 2ms/step
3/3 [=====] - 0s 2ms/step
categorization error, training, regularized: 0.068, simple model, 0.050, complex mode
l: 0.010
categorization error, cv,          regularized: 0.062, simple model, 0.084, complex mode
l: 0.113
```

The regularized model is a bit better than the simple model in both the training set and the cross validation set.

7 - Iterate to find optimal regularization value

As you did in linear regression, you can try many regularization values. This code takes several minutes to run.

```
In [37]: tf.random.set_seed(1234)
lambdas = [0.0, 0.001, 0.01, 0.05, 0.1, 0.2, 0.3]
models=[None] * len(lambdas)
for i in range(len(lambdas)):
    lambda_ = lambdas[i]
    models[i] = Sequential(
        [
            ### START CODE HERE ###
            Dense(units = 120, activation = 'relu', kernel_regularizer = tf.keras.regulari
```



```

        Dense(units = 40, activation = 'relu', kernel_regularizer = tf.keras.regulariz
        Dense(units = 6, activation = 'linear')
        ### START CODE HERE ###
    ]
)
models[i].compile(
    ### START CODE HERE ###
    loss = SparseCategoricalCrossentropy(from_logits = True),
    optimizer = Adam(learning_rate = 0.01)
    ### START CODE HERE ###
)

models[i].fit(
    X_train,y_train,
    epochs=1000
)
print(f"Finished lambda = {lambda_}")

```

Epoch 1/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0988
Epoch 2/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4214
Epoch 3/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3163
Epoch 4/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2850
Epoch 5/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2599
Epoch 6/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2806
Epoch 7/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2485
Epoch 8/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2331
Epoch 9/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2397
Epoch 10/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2107
Epoch 11/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2177
Epoch 12/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2068
Epoch 13/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2396
Epoch 14/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2288
Epoch 15/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2182
Epoch 16/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2057
Epoch 17/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2026
Epoch 18/1000
13/13 [=====] - 0s 3ms/step - loss: 0.2012
Epoch 19/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2114
Epoch 20/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2025
Epoch 21/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2173
Epoch 22/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2449
Epoch 23/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2087
Epoch 24/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1983
Epoch 25/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2117
Epoch 26/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1983
Epoch 27/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1908
Epoch 28/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1987
Epoch 29/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2135
Epoch 30/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2381

Epoch 31/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1910
Epoch 32/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1928
Epoch 33/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1861
Epoch 34/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2128
Epoch 35/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1976
Epoch 36/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1785
Epoch 37/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1777
Epoch 38/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1693
Epoch 39/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1942
Epoch 40/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1895
Epoch 41/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2136
Epoch 42/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1986
Epoch 43/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1921
Epoch 44/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2065
Epoch 45/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2260
Epoch 46/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1788
Epoch 47/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1847
Epoch 48/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1791
Epoch 49/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1793
Epoch 50/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1787
Epoch 51/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2010
Epoch 52/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1854
Epoch 53/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1967
Epoch 54/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1730
Epoch 55/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1736
Epoch 56/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1769
Epoch 57/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1910
Epoch 58/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1878
Epoch 59/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1784
Epoch 60/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1848

Epoch 61/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1850
Epoch 62/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1677
Epoch 63/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1603
Epoch 64/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2009
Epoch 65/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2009
Epoch 66/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1847
Epoch 67/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1867
Epoch 68/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2242
Epoch 69/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1869
Epoch 70/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1666
Epoch 71/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1886
Epoch 72/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1761
Epoch 73/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1663
Epoch 74/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1737
Epoch 75/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1611
Epoch 76/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1533
Epoch 77/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1613
Epoch 78/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1535
Epoch 79/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1550
Epoch 80/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1742
Epoch 81/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1800
Epoch 82/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1704
Epoch 83/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1653
Epoch 84/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1670
Epoch 85/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1802
Epoch 86/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1596
Epoch 87/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1598
Epoch 88/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1637
Epoch 89/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1508
Epoch 90/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1493

Epoch 91/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1440
Epoch 92/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1439
Epoch 93/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1385
Epoch 94/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1458
Epoch 95/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1542
Epoch 96/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1646
Epoch 97/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1736
Epoch 98/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1834
Epoch 99/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1663
Epoch 100/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1551
Epoch 101/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1574
Epoch 102/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1599
Epoch 103/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1847
Epoch 104/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1631
Epoch 105/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1497
Epoch 106/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1503
Epoch 107/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1663
Epoch 108/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1475
Epoch 109/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1412
Epoch 110/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1352
Epoch 111/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1460
Epoch 112/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1529
Epoch 113/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1515
Epoch 114/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1381
Epoch 115/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1299
Epoch 116/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1430
Epoch 117/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1405
Epoch 118/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1332
Epoch 119/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1338
Epoch 120/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1451

Epoch 121/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1361
Epoch 122/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1460
Epoch 123/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1425
Epoch 124/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1287
Epoch 125/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1226
Epoch 126/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1388
Epoch 127/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1276
Epoch 128/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1236
Epoch 129/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1301
Epoch 130/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1256
Epoch 131/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1292
Epoch 132/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1295
Epoch 133/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1354
Epoch 134/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1235
Epoch 135/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1260
Epoch 136/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1240
Epoch 137/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1217
Epoch 138/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1355
Epoch 139/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1322
Epoch 140/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1297
Epoch 141/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1459
Epoch 142/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1183
Epoch 143/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1186
Epoch 144/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1236
Epoch 145/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1270
Epoch 146/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1359
Epoch 147/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1304
Epoch 148/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1365
Epoch 149/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1267
Epoch 150/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1170

Epoch 151/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1146
Epoch 152/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1111
Epoch 153/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1401
Epoch 154/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1178
Epoch 155/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1159
Epoch 156/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1272
Epoch 157/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1359
Epoch 158/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1311
Epoch 159/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1208
Epoch 160/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1201
Epoch 161/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1063
Epoch 162/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1125
Epoch 163/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1147
Epoch 164/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1327
Epoch 165/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1304
Epoch 166/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1348
Epoch 167/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1453
Epoch 168/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1273
Epoch 169/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1298
Epoch 170/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1710
Epoch 171/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1296
Epoch 172/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1195
Epoch 173/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1216
Epoch 174/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1288
Epoch 175/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1013
Epoch 176/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1142
Epoch 177/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1074
Epoch 178/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1023
Epoch 179/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1197
Epoch 180/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1076

Epoch 181/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1212
Epoch 182/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1243
Epoch 183/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1468
Epoch 184/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1464
Epoch 185/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1204
Epoch 186/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1124
Epoch 187/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1014
Epoch 188/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1057
Epoch 189/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1016
Epoch 190/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1042
Epoch 191/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1057
Epoch 192/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1036
Epoch 193/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0952
Epoch 194/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0909
Epoch 195/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0998
Epoch 196/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1063
Epoch 197/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1229
Epoch 198/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1046
Epoch 199/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1078
Epoch 200/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1102
Epoch 201/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1015
Epoch 202/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0981
Epoch 203/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1066
Epoch 204/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1126
Epoch 205/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0995
Epoch 206/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1043
Epoch 207/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1076
Epoch 208/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1145
Epoch 209/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1049
Epoch 210/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1183

Epoch 211/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1295
Epoch 212/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1051
Epoch 213/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1151
Epoch 214/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1113
Epoch 215/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0857
Epoch 216/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0858
Epoch 217/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0982
Epoch 218/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1082
Epoch 219/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1168
Epoch 220/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1063
Epoch 221/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0995
Epoch 222/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1051
Epoch 223/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1026
Epoch 224/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0989
Epoch 225/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1084
Epoch 226/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0993
Epoch 227/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1054
Epoch 228/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1059
Epoch 229/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0852
Epoch 230/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0897
Epoch 231/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1068
Epoch 232/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0987
Epoch 233/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1006
Epoch 234/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1112
Epoch 235/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1419
Epoch 236/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0999
Epoch 237/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1083
Epoch 238/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1036
Epoch 239/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1017
Epoch 240/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0863

Epoch 241/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0932
Epoch 242/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1002
Epoch 243/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1039
Epoch 244/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0905
Epoch 245/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0890
Epoch 246/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1042
Epoch 247/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1081
Epoch 248/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0968
Epoch 249/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0902
Epoch 250/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0817
Epoch 251/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0800
Epoch 252/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0692
Epoch 253/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0794
Epoch 254/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0739
Epoch 255/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0891
Epoch 256/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0761
Epoch 257/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0790
Epoch 258/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0863
Epoch 259/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0866
Epoch 260/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0991
Epoch 261/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0936
Epoch 262/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0876
Epoch 263/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0789
Epoch 264/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0986
Epoch 265/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0927
Epoch 266/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1245
Epoch 267/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1222
Epoch 268/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1027
Epoch 269/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1008
Epoch 270/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0854

Epoch 271/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0717
Epoch 272/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0952
Epoch 273/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0910
Epoch 274/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0874
Epoch 275/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0826
Epoch 276/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0749
Epoch 277/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0883
Epoch 278/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0882
Epoch 279/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0849
Epoch 280/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0786
Epoch 281/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0720
Epoch 282/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0752
Epoch 283/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0728
Epoch 284/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0811
Epoch 285/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0903
Epoch 286/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1297
Epoch 287/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1257
Epoch 288/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1202
Epoch 289/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0844
Epoch 290/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0757
Epoch 291/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0770
Epoch 292/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0806
Epoch 293/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0754
Epoch 294/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0706
Epoch 295/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0828
Epoch 296/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0851
Epoch 297/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0662
Epoch 298/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0765
Epoch 299/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0765
Epoch 300/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0816

Epoch 301/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0691
Epoch 302/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0879
Epoch 303/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0938
Epoch 304/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0852
Epoch 305/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0904
Epoch 306/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0702
Epoch 307/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0793
Epoch 308/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0726
Epoch 309/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1021
Epoch 310/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0773
Epoch 311/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0747
Epoch 312/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0774
Epoch 313/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0726
Epoch 314/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0689
Epoch 315/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0630
Epoch 316/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0673
Epoch 317/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0743
Epoch 318/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0733
Epoch 319/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0747
Epoch 320/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0611
Epoch 321/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0745
Epoch 322/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1096
Epoch 323/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1009
Epoch 324/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0967
Epoch 325/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0662
Epoch 326/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0581
Epoch 327/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0599
Epoch 328/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0660
Epoch 329/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0610
Epoch 330/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0585

Epoch 331/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0597
Epoch 332/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0689
Epoch 333/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0609
Epoch 334/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0663
Epoch 335/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0790
Epoch 336/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0636
Epoch 337/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0602
Epoch 338/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0589
Epoch 339/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0591
Epoch 340/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0547
Epoch 341/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0623
Epoch 342/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0623
Epoch 343/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0536
Epoch 344/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0524
Epoch 345/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0559
Epoch 346/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0524
Epoch 347/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0554
Epoch 348/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0594
Epoch 349/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0555
Epoch 350/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0685
Epoch 351/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0896
Epoch 352/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0857
Epoch 353/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1300
Epoch 354/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1969
Epoch 355/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1539
Epoch 356/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2169
Epoch 357/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1491
Epoch 358/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1810
Epoch 359/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1716
Epoch 360/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1178

Epoch 361/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1523
Epoch 362/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1404
Epoch 363/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0886
Epoch 364/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0929
Epoch 365/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0821
Epoch 366/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0749
Epoch 367/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0696
Epoch 368/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0722
Epoch 369/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0703
Epoch 370/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0681
Epoch 371/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0637
Epoch 372/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0635
Epoch 373/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0658
Epoch 374/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0609
Epoch 375/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0634
Epoch 376/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0609
Epoch 377/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0589
Epoch 378/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0589
Epoch 379/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0574
Epoch 380/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0634
Epoch 381/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0641
Epoch 382/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0875
Epoch 383/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1002
Epoch 384/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0866
Epoch 385/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0649
Epoch 386/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0606
Epoch 387/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0602
Epoch 388/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0594
Epoch 389/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0630
Epoch 390/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0635

Epoch 391/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0555
Epoch 392/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0570
Epoch 393/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0575
Epoch 394/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0560
Epoch 395/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0626
Epoch 396/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0612
Epoch 397/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0574
Epoch 398/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0618
Epoch 399/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0515
Epoch 400/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0544
Epoch 401/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0643
Epoch 402/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0564
Epoch 403/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0541
Epoch 404/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0516
Epoch 405/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0468
Epoch 406/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0502
Epoch 407/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0524
Epoch 408/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0470
Epoch 409/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0500
Epoch 410/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0560
Epoch 411/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0533
Epoch 412/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0589
Epoch 413/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0585
Epoch 414/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0645
Epoch 415/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0666
Epoch 416/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0785
Epoch 417/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1487
Epoch 418/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0810
Epoch 419/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0807
Epoch 420/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0644

Epoch 421/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0729
Epoch 422/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0636
Epoch 423/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0614
Epoch 424/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0639
Epoch 425/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0551
Epoch 426/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0596
Epoch 427/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0538
Epoch 428/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0619
Epoch 429/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0521
Epoch 430/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0687
Epoch 431/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0734
Epoch 432/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0657
Epoch 433/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0781
Epoch 434/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0941
Epoch 435/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1034
Epoch 436/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1029
Epoch 437/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1007
Epoch 438/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0908
Epoch 439/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1491
Epoch 440/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0870
Epoch 441/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1057
Epoch 442/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0600
Epoch 443/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0661
Epoch 444/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0611
Epoch 445/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0580
Epoch 446/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0536
Epoch 447/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0544
Epoch 448/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0548
Epoch 449/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0538
Epoch 450/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0536

Epoch 451/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0691
Epoch 452/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0534
Epoch 453/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0820
Epoch 454/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0544
Epoch 455/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0857
Epoch 456/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0689
Epoch 457/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0814
Epoch 458/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0681
Epoch 459/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0544
Epoch 460/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0493
Epoch 461/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0638
Epoch 462/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0601
Epoch 463/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0522
Epoch 464/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0534
Epoch 465/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0518
Epoch 466/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0546
Epoch 467/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0651
Epoch 468/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0809
Epoch 469/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0572
Epoch 470/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0536
Epoch 471/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0561
Epoch 472/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0455
Epoch 473/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0476
Epoch 474/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0457
Epoch 475/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0430
Epoch 476/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0385
Epoch 477/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0423
Epoch 478/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0392
Epoch 479/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0384
Epoch 480/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0449

Epoch 481/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0432
Epoch 482/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0442
Epoch 483/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0446
Epoch 484/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0380
Epoch 485/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0408
Epoch 486/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0395
Epoch 487/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0421
Epoch 488/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0359
Epoch 489/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0424
Epoch 490/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0452
Epoch 491/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0384
Epoch 492/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0355
Epoch 493/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0471
Epoch 494/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0525
Epoch 495/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0738
Epoch 496/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0561
Epoch 497/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0497
Epoch 498/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0585
Epoch 499/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0682
Epoch 500/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0528
Epoch 501/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0548
Epoch 502/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0519
Epoch 503/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0539
Epoch 504/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0494
Epoch 505/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0499
Epoch 506/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0515
Epoch 507/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0519
Epoch 508/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0493
Epoch 509/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0417
Epoch 510/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0427

Epoch 511/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0375
Epoch 512/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0477
Epoch 513/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0419
Epoch 514/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0413
Epoch 515/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0368
Epoch 516/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0396
Epoch 517/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0381
Epoch 518/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0483
Epoch 519/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0603
Epoch 520/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0522
Epoch 521/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1328
Epoch 522/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0785
Epoch 523/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2504
Epoch 524/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2568
Epoch 525/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2917
Epoch 526/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1572
Epoch 527/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1052
Epoch 528/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1062
Epoch 529/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1547
Epoch 530/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1037
Epoch 531/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0691
Epoch 532/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0788
Epoch 533/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0684
Epoch 534/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0674
Epoch 535/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0955
Epoch 536/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0838
Epoch 537/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0739
Epoch 538/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0631
Epoch 539/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0553
Epoch 540/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0638

Epoch 541/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0635
Epoch 542/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0514
Epoch 543/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0613
Epoch 544/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0730
Epoch 545/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0982
Epoch 546/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0859
Epoch 547/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0723
Epoch 548/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0584
Epoch 549/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0859
Epoch 550/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0531
Epoch 551/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0553
Epoch 552/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0688
Epoch 553/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0553
Epoch 554/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0586
Epoch 555/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0574
Epoch 556/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0488
Epoch 557/1000
13/13 [=====] - 0s 5ms/step - loss: 0.0460
Epoch 558/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0471
Epoch 559/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0539
Epoch 560/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0524
Epoch 561/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0525
Epoch 562/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0497
Epoch 563/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0620
Epoch 564/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0419
Epoch 565/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0401
Epoch 566/1000
13/13 [=====] - 0s 6ms/step - loss: 0.0397
Epoch 567/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0414
Epoch 568/1000
13/13 [=====] - 0s 5ms/step - loss: 0.0490
Epoch 569/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0422
Epoch 570/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0408

Epoch 571/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0421
Epoch 572/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0413
Epoch 573/1000
13/13 [=====] - 0s 8ms/step - loss: 0.0355
Epoch 574/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0364
Epoch 575/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0411
Epoch 576/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0489
Epoch 577/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0374
Epoch 578/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0416
Epoch 579/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0401
Epoch 580/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0401
Epoch 581/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0427
Epoch 582/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0454
Epoch 583/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0541
Epoch 584/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0599
Epoch 585/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0786
Epoch 586/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0891
Epoch 587/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0800
Epoch 588/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0858
Epoch 589/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0942
Epoch 590/1000
13/13 [=====] - 0s 4ms/step - loss: 0.1162
Epoch 591/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1306
Epoch 592/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1188
Epoch 593/1000
13/13 [=====] - 0s 7ms/step - loss: 0.0883
Epoch 594/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0720
Epoch 595/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0572
Epoch 596/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0591
Epoch 597/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0548
Epoch 598/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0491
Epoch 599/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0484
Epoch 600/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0548

Epoch 601/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0470
Epoch 602/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0459
Epoch 603/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0457
Epoch 604/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0425
Epoch 605/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0534
Epoch 606/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0441
Epoch 607/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0568
Epoch 608/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0573
Epoch 609/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0663
Epoch 610/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0605
Epoch 611/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0568
Epoch 612/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0529
Epoch 613/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0544
Epoch 614/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0454
Epoch 615/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0671
Epoch 616/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0861
Epoch 617/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1191
Epoch 618/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0950
Epoch 619/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0594
Epoch 620/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0562
Epoch 621/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0718
Epoch 622/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0781
Epoch 623/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0845
Epoch 624/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0882
Epoch 625/1000
13/13 [=====] - 0s 4ms/step - loss: 0.1041
Epoch 626/1000
13/13 [=====] - 0s 8ms/step - loss: 0.0716
Epoch 627/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0651
Epoch 628/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0593
Epoch 629/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0634
Epoch 630/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0529

Epoch 631/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0441
Epoch 632/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0481
Epoch 633/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0542
Epoch 634/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0420
Epoch 635/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0388
Epoch 636/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0392
Epoch 637/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0369
Epoch 638/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0365
Epoch 639/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0359
Epoch 640/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0374
Epoch 641/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0427
Epoch 642/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0419
Epoch 643/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0407
Epoch 644/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0374
Epoch 645/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0430
Epoch 646/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0480
Epoch 647/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0421
Epoch 648/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0430
Epoch 649/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0526
Epoch 650/1000
13/13 [=====] - 0s 5ms/step - loss: 0.0455
Epoch 651/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0522
Epoch 652/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0415
Epoch 653/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0351
Epoch 654/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0360
Epoch 655/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0337
Epoch 656/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0351
Epoch 657/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0368
Epoch 658/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0430
Epoch 659/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0410
Epoch 660/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0599

Epoch 661/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0965
Epoch 662/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1099
Epoch 663/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0671
Epoch 664/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0844
Epoch 665/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0592
Epoch 666/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0634
Epoch 667/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0936
Epoch 668/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1041
Epoch 669/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0974
Epoch 670/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1112
Epoch 671/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0731
Epoch 672/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0793
Epoch 673/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0643
Epoch 674/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0634
Epoch 675/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1176
Epoch 676/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0817
Epoch 677/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0837
Epoch 678/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1085
Epoch 679/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0799
Epoch 680/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1137
Epoch 681/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0769
Epoch 682/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1005
Epoch 683/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1307
Epoch 684/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0778
Epoch 685/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0962
Epoch 686/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1315
Epoch 687/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0921
Epoch 688/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0905
Epoch 689/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0528
Epoch 690/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0621

Epoch 691/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0408
Epoch 692/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0385
Epoch 693/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0385
Epoch 694/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0371
Epoch 695/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0381
Epoch 696/1000
13/13 [=====] - 0s 5ms/step - loss: 0.0362
Epoch 697/1000
13/13 [=====] - 0s 4ms/step - loss: 0.0401
Epoch 698/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0386
Epoch 699/1000
13/13 [=====] - 0s 6ms/step - loss: 0.0447
Epoch 700/1000
13/13 [=====] - 0s 3ms/step - loss: 0.0395
Epoch 701/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0418
Epoch 702/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0347
Epoch 703/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0341
Epoch 704/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0380
Epoch 705/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0330
Epoch 706/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0298
Epoch 707/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0315
Epoch 708/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0294
Epoch 709/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0321
Epoch 710/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0298
Epoch 711/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0268
Epoch 712/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0279
Epoch 713/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0297
Epoch 714/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0262
Epoch 715/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0278
Epoch 716/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0278
Epoch 717/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0250
Epoch 718/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0265
Epoch 719/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0255
Epoch 720/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0282

Epoch 721/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0275
Epoch 722/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0262
Epoch 723/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0267
Epoch 724/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0283
Epoch 725/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0261
Epoch 726/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0281
Epoch 727/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0283
Epoch 728/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0374
Epoch 729/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0301
Epoch 730/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0369
Epoch 731/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0448
Epoch 732/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0417
Epoch 733/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0495
Epoch 734/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0822
Epoch 735/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0380
Epoch 736/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0384
Epoch 737/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0326
Epoch 738/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0332
Epoch 739/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0350
Epoch 740/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0340
Epoch 741/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0337
Epoch 742/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0310
Epoch 743/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0302
Epoch 744/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0295
Epoch 745/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0291
Epoch 746/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0292
Epoch 747/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0287
Epoch 748/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0278
Epoch 749/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0278
Epoch 750/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0304

Epoch 751/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0317
Epoch 752/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0294
Epoch 753/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0294
Epoch 754/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0282
Epoch 755/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0285
Epoch 756/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0359
Epoch 757/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0334
Epoch 758/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0253
Epoch 759/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0396
Epoch 760/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0339
Epoch 761/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0319
Epoch 762/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0303
Epoch 763/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0307
Epoch 764/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0312
Epoch 765/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0309
Epoch 766/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0311
Epoch 767/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0302
Epoch 768/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0281
Epoch 769/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0337
Epoch 770/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0323
Epoch 771/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0276
Epoch 772/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0256
Epoch 773/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0273
Epoch 774/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0288
Epoch 775/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0266
Epoch 776/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0252
Epoch 777/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0275
Epoch 778/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0261
Epoch 779/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0298
Epoch 780/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0297

Epoch 781/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0298
Epoch 782/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0303
Epoch 783/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0318
Epoch 784/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0366
Epoch 785/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0286
Epoch 786/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0376
Epoch 787/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0346
Epoch 788/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0314
Epoch 789/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0389
Epoch 790/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0432
Epoch 791/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1166
Epoch 792/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3569
Epoch 793/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3108
Epoch 794/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3290
Epoch 795/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1888
Epoch 796/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0993
Epoch 797/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1359
Epoch 798/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0998
Epoch 799/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0631
Epoch 800/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0570
Epoch 801/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0675
Epoch 802/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0548
Epoch 803/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0564
Epoch 804/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0539
Epoch 805/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0483
Epoch 806/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0637
Epoch 807/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0412
Epoch 808/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0424
Epoch 809/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0416
Epoch 810/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0537

Epoch 811/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0318
Epoch 812/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0751
Epoch 813/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0536
Epoch 814/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0401
Epoch 815/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0355
Epoch 816/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0361
Epoch 817/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0369
Epoch 818/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0281
Epoch 819/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0284
Epoch 820/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0286
Epoch 821/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0287
Epoch 822/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0282
Epoch 823/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0265
Epoch 824/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0277
Epoch 825/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0283
Epoch 826/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0295
Epoch 827/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0298
Epoch 828/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0284
Epoch 829/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0334
Epoch 830/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0290
Epoch 831/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0315
Epoch 832/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0277
Epoch 833/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0254
Epoch 834/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0268
Epoch 835/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0233
Epoch 836/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0257
Epoch 837/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0255
Epoch 838/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0272
Epoch 839/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0265
Epoch 840/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0278

Epoch 841/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0255
Epoch 842/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0258
Epoch 843/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0239
Epoch 844/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0281
Epoch 845/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0263
Epoch 846/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0306
Epoch 847/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0263
Epoch 848/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0271
Epoch 849/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0291
Epoch 850/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0280
Epoch 851/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0249
Epoch 852/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0310
Epoch 853/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0263
Epoch 854/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0224
Epoch 855/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0299
Epoch 856/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0430
Epoch 857/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1065
Epoch 858/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1164
Epoch 859/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0900
Epoch 860/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0515
Epoch 861/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0764
Epoch 862/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0678
Epoch 863/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0516
Epoch 864/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0393
Epoch 865/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0441
Epoch 866/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0371
Epoch 867/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0339
Epoch 868/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0324
Epoch 869/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0324
Epoch 870/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0430

Epoch 871/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0307
Epoch 872/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0287
Epoch 873/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0233
Epoch 874/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0198
Epoch 875/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0213
Epoch 876/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0226
Epoch 877/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0213
Epoch 878/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0237
Epoch 879/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0234
Epoch 880/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0224
Epoch 881/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0247
Epoch 882/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0313
Epoch 883/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0308
Epoch 884/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0324
Epoch 885/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0320
Epoch 886/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0403
Epoch 887/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0232
Epoch 888/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0196
Epoch 889/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0251
Epoch 890/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0204
Epoch 891/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0241
Epoch 892/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0217
Epoch 893/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0195
Epoch 894/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0187
Epoch 895/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0170
Epoch 896/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0205
Epoch 897/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0207
Epoch 898/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0198
Epoch 899/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0211
Epoch 900/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0198

Epoch 901/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0184
Epoch 902/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0198
Epoch 903/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0212
Epoch 904/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0229
Epoch 905/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0276
Epoch 906/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0359
Epoch 907/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0776
Epoch 908/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0865
Epoch 909/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0781
Epoch 910/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1278
Epoch 911/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0555
Epoch 912/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0406
Epoch 913/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0575
Epoch 914/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0693
Epoch 915/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1180
Epoch 916/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1063
Epoch 917/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0846
Epoch 918/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0903
Epoch 919/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0664
Epoch 920/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0394
Epoch 921/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0339
Epoch 922/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0377
Epoch 923/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0415
Epoch 924/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0500
Epoch 925/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0454
Epoch 926/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0540
Epoch 927/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0266
Epoch 928/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0399
Epoch 929/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0396
Epoch 930/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0695

Epoch 931/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0530
Epoch 932/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0383
Epoch 933/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0398
Epoch 934/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0731
Epoch 935/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0604
Epoch 936/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0226
Epoch 937/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0218
Epoch 938/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0188
Epoch 939/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0201
Epoch 940/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0217
Epoch 941/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0204
Epoch 942/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0220
Epoch 943/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0232
Epoch 944/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0234
Epoch 945/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0247
Epoch 946/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0228
Epoch 947/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0236
Epoch 948/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0185
Epoch 949/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0204
Epoch 950/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0182
Epoch 951/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0198
Epoch 952/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0200
Epoch 953/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0245
Epoch 954/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0218
Epoch 955/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0192
Epoch 956/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0173
Epoch 957/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0170
Epoch 958/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0165
Epoch 959/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0183
Epoch 960/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0154

Epoch 961/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0161
Epoch 962/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0164
Epoch 963/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0183
Epoch 964/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0171
Epoch 965/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0252
Epoch 966/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0225
Epoch 967/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0264
Epoch 968/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0200
Epoch 969/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0170
Epoch 970/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0174
Epoch 971/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0178
Epoch 972/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0163
Epoch 973/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0197
Epoch 974/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0663
Epoch 975/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0544
Epoch 976/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1140
Epoch 977/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0702
Epoch 978/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0345
Epoch 979/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0271
Epoch 980/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0344
Epoch 981/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0273
Epoch 982/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0246
Epoch 983/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0235
Epoch 984/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0210
Epoch 985/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0191
Epoch 986/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0183
Epoch 987/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0173
Epoch 988/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0184
Epoch 989/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0169
Epoch 990/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0192

```
Epoch 991/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0177
Epoch 992/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0194
Epoch 993/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0175
Epoch 994/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0178
Epoch 995/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0159
Epoch 996/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0157
Epoch 997/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0164
Epoch 998/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0171
Epoch 999/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0153
Epoch 1000/1000
13/13 [=====] - 0s 2ms/step - loss: 0.0172
Finished lambda = 0.0
Epoch 1/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2295
Epoch 2/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4789
Epoch 3/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4009
Epoch 4/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3674
Epoch 5/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3509
Epoch 6/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3738
Epoch 7/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3296
Epoch 8/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3001
Epoch 9/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3011
Epoch 10/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2735
Epoch 11/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2773
Epoch 12/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2688
Epoch 13/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3051
Epoch 14/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2840
Epoch 15/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2977
Epoch 16/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2679
Epoch 17/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2695
Epoch 18/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2595
Epoch 19/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2712
Epoch 20/1000
```

13/13 [=====] - 0s 2ms/step - loss: 0.2573
Epoch 21/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2677
Epoch 22/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2811
Epoch 23/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2755
Epoch 24/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2534
Epoch 25/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2760
Epoch 26/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2539
Epoch 27/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2535
Epoch 28/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2543
Epoch 29/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2638
Epoch 30/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2785
Epoch 31/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2544
Epoch 32/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2539
Epoch 33/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2463
Epoch 34/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2705
Epoch 35/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2635
Epoch 36/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2431
Epoch 37/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2483
Epoch 38/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2318
Epoch 39/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2393
Epoch 40/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2358
Epoch 41/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2651
Epoch 42/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2662
Epoch 43/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2464
Epoch 44/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2521
Epoch 45/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2725
Epoch 46/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2395
Epoch 47/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2317
Epoch 48/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2343
Epoch 49/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2307
Epoch 50/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2264
Epoch 51/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2504
Epoch 52/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2411
Epoch 53/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2492
Epoch 54/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2269
Epoch 55/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2757
Epoch 56/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2497
Epoch 57/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2608
Epoch 58/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2457
Epoch 59/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2492
Epoch 60/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2657
Epoch 61/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2486
Epoch 62/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2281
Epoch 63/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2261
Epoch 64/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2631
Epoch 65/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2570
Epoch 66/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2529
Epoch 67/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2704
Epoch 68/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2896
Epoch 69/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2460
Epoch 70/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2430
Epoch 71/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2607
Epoch 72/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2399
Epoch 73/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2445
Epoch 74/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2461
Epoch 75/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2412
Epoch 76/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2304
Epoch 77/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2380
Epoch 78/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2318
Epoch 79/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2381
Epoch 80/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2395
Epoch 81/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2433
Epoch 82/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2491
Epoch 83/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2395
Epoch 84/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2345
Epoch 85/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2554
Epoch 86/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2279
Epoch 87/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2278
Epoch 88/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2322
Epoch 89/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2263
Epoch 90/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2242
Epoch 91/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2185
Epoch 92/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2186
Epoch 93/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2192
Epoch 94/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2186
Epoch 95/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2430
Epoch 96/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2446
Epoch 97/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2413
Epoch 98/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2528
Epoch 99/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2442
Epoch 100/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2202
Epoch 101/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2372
Epoch 102/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2328
Epoch 103/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2550
Epoch 104/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2359
Epoch 105/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2279
Epoch 106/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2264
Epoch 107/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2346
Epoch 108/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2193
Epoch 109/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2212
Epoch 110/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2297
Epoch 111/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2260
Epoch 112/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2410
Epoch 113/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2263
Epoch 114/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2193
Epoch 115/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2139
Epoch 116/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2277
Epoch 117/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2177
Epoch 118/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2150
Epoch 119/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2189
Epoch 120/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2112
Epoch 121/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2232
Epoch 122/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2309
Epoch 123/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2177
Epoch 124/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2121
Epoch 125/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2082
Epoch 126/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2344
Epoch 127/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2195
Epoch 128/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2165
Epoch 129/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2189
Epoch 130/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2202
Epoch 131/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2230
Epoch 132/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2118
Epoch 133/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2065
Epoch 134/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2077
Epoch 135/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2103
Epoch 136/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2109
Epoch 137/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2190
Epoch 138/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2188
Epoch 139/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2141
Epoch 140/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2161
Epoch 141/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2118
Epoch 142/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2058
Epoch 143/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2113
Epoch 144/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2161
Epoch 145/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2200
Epoch 146/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2138
Epoch 147/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2109
Epoch 148/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2153
Epoch 149/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2078
Epoch 150/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2075
Epoch 151/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2122
Epoch 152/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2104
Epoch 153/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2134
Epoch 154/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2097
Epoch 155/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2156
Epoch 156/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2155
Epoch 157/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2228
Epoch 158/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2174
Epoch 159/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1999
Epoch 160/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2019
Epoch 161/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2012
Epoch 162/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2066
Epoch 163/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2193
Epoch 164/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2173
Epoch 165/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2140
Epoch 166/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2022
Epoch 167/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2112
Epoch 168/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2172
Epoch 169/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2094
Epoch 170/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2233
Epoch 171/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2075
Epoch 172/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2014
Epoch 173/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2144
Epoch 174/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2080
Epoch 175/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2028
Epoch 176/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2076
Epoch 177/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2094
Epoch 178/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2204
Epoch 179/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2211
Epoch 180/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2091
Epoch 181/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2271
Epoch 182/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2109
Epoch 183/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2070
Epoch 184/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2078
Epoch 185/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2048
Epoch 186/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2077
Epoch 187/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2011
Epoch 188/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2025
Epoch 189/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2036
Epoch 190/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2085
Epoch 191/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2168
Epoch 192/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2129
Epoch 193/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2147
Epoch 194/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2048
Epoch 195/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1969
Epoch 196/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1954
Epoch 197/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2090
Epoch 198/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2074
Epoch 199/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2214
Epoch 200/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2100
Epoch 201/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2077
Epoch 202/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2000
Epoch 203/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1985
Epoch 204/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2219
Epoch 205/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2054
Epoch 206/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2017
Epoch 207/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2132
Epoch 208/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2121
Epoch 209/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2024
Epoch 210/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2049
Epoch 211/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2094
Epoch 212/1000
13/13 [=====] - 0s 4ms/step - loss: 0.2092
Epoch 213/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2041
Epoch 214/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2211
Epoch 215/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2129
Epoch 216/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2201
Epoch 217/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2200
Epoch 218/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2060
Epoch 219/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2052
Epoch 220/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2128
Epoch 221/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2022
Epoch 222/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1992
Epoch 223/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2080
Epoch 224/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2094
Epoch 225/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1969
Epoch 226/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1947
Epoch 227/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1891
Epoch 228/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1918
Epoch 229/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1975
Epoch 230/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2094
Epoch 231/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2267
Epoch 232/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2101
Epoch 233/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1973
Epoch 234/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1963
Epoch 235/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2046
Epoch 236/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1948
Epoch 237/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1964
Epoch 238/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2192
Epoch 239/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2109
Epoch 240/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2028
Epoch 241/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1973
Epoch 242/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2113
Epoch 243/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2109
Epoch 244/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2035
Epoch 245/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2030
Epoch 246/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2026
Epoch 247/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1943
Epoch 248/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1878
Epoch 249/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1978
Epoch 250/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1988
Epoch 251/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1904
Epoch 252/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1877
Epoch 253/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1987
Epoch 254/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2047
Epoch 255/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2012
Epoch 256/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1950
Epoch 257/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2075
Epoch 258/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1995
Epoch 259/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1864
Epoch 260/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1961
Epoch 261/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2012
Epoch 262/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1949
Epoch 263/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1955
Epoch 264/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1892
Epoch 265/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1924
Epoch 266/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1928
Epoch 267/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1956
Epoch 268/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1924
Epoch 269/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1890
Epoch 270/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1938
Epoch 271/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1919
Epoch 272/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1945
Epoch 273/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2028
Epoch 274/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1912
Epoch 275/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1990
Epoch 276/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1897
Epoch 277/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1886
Epoch 278/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1880
Epoch 279/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1980
Epoch 280/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1981
Epoch 281/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1937
Epoch 282/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1868
Epoch 283/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1941
Epoch 284/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1870
Epoch 285/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1887
Epoch 286/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1954
Epoch 287/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1970
Epoch 288/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2156
Epoch 289/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2005
Epoch 290/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2016
Epoch 291/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1947
Epoch 292/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1860
Epoch 293/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1892
Epoch 294/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1930
Epoch 295/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1981
Epoch 296/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1961
Epoch 297/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1915
Epoch 298/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1980
Epoch 299/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1854
Epoch 300/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1972
Epoch 301/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1951
Epoch 302/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2031
Epoch 303/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2073
Epoch 304/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1907
Epoch 305/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1940
Epoch 306/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1879
Epoch 307/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1910
Epoch 308/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1888
Epoch 309/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1890
Epoch 310/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1878
Epoch 311/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1836
Epoch 312/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1866
Epoch 313/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1913
Epoch 314/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1811
Epoch 315/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1899
Epoch 316/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1862
Epoch 317/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1846
Epoch 318/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1942
Epoch 319/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1958
Epoch 320/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1886
Epoch 321/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1846
Epoch 322/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1919
Epoch 323/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2048
Epoch 324/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1838
Epoch 325/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1866
Epoch 326/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1800
Epoch 327/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1932
Epoch 328/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1973
Epoch 329/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1871
Epoch 330/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1865
Epoch 331/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1912
Epoch 332/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1940
Epoch 333/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1949
Epoch 334/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2094
Epoch 335/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2017
Epoch 336/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1923
Epoch 337/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1850
Epoch 338/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1823
Epoch 339/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1903
Epoch 340/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1850
Epoch 341/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1837
Epoch 342/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1865
Epoch 343/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1798
Epoch 344/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1799
Epoch 345/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1980
Epoch 346/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1929
Epoch 347/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1883
Epoch 348/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1867
Epoch 349/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1806
Epoch 350/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1765
Epoch 351/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1816
Epoch 352/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1910
Epoch 353/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1958
Epoch 354/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1937
Epoch 355/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1942
Epoch 356/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1834
Epoch 357/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1790
Epoch 358/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1869
Epoch 359/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1801
Epoch 360/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1960
Epoch 361/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1911
Epoch 362/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2067
Epoch 363/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1868
Epoch 364/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1920
Epoch 365/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1913
Epoch 366/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1877
Epoch 367/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1826
Epoch 368/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1750
Epoch 369/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1845
Epoch 370/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1830
Epoch 371/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1764
Epoch 372/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1795
Epoch 373/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1857
Epoch 374/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1810
Epoch 375/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1863
Epoch 376/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1801
Epoch 377/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1809
Epoch 378/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1833
Epoch 379/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1901
Epoch 380/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1837
Epoch 381/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1859
Epoch 382/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1887
Epoch 383/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1959
Epoch 384/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1915
Epoch 385/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1827
Epoch 386/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 387/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 388/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1835
Epoch 389/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1917
Epoch 390/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1933
Epoch 391/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1904
Epoch 392/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1768
Epoch 393/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1792
Epoch 394/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1763
Epoch 395/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1824
Epoch 396/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1852
Epoch 397/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1912
Epoch 398/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1857
Epoch 399/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1786
Epoch 400/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1771
Epoch 401/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 402/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1771
Epoch 403/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1756
Epoch 404/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1783
Epoch 405/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1685
Epoch 406/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1743
Epoch 407/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 408/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1842
Epoch 409/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1780
Epoch 410/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1782
Epoch 411/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1892
Epoch 412/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1840
Epoch 413/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1916
Epoch 414/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1790
Epoch 415/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1770
Epoch 416/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1839
Epoch 417/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1879
Epoch 418/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1777
Epoch 419/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1736
Epoch 420/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1736
Epoch 421/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1795
Epoch 422/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1730
Epoch 423/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1827
Epoch 424/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1832
Epoch 425/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1762
Epoch 426/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1820
Epoch 427/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1718
Epoch 428/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1774
Epoch 429/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1697
Epoch 430/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1788
Epoch 431/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1780
Epoch 432/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1744
Epoch 433/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1800
Epoch 434/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1749
Epoch 435/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1837
Epoch 436/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1966
Epoch 437/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1772
Epoch 438/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1794
Epoch 439/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1757
Epoch 440/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1747
Epoch 441/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1694
Epoch 442/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1761
Epoch 443/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1842
Epoch 444/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1746
Epoch 445/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1862
Epoch 446/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1961
Epoch 447/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1840
Epoch 448/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1748
Epoch 449/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1747
Epoch 450/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1795
Epoch 451/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1800
Epoch 452/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1706
Epoch 453/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1766
Epoch 454/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1791
Epoch 455/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1754
Epoch 456/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1708
Epoch 457/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1791
Epoch 458/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1759
Epoch 459/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1783
Epoch 460/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1709
Epoch 461/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1743
Epoch 462/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1727
Epoch 463/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1769
Epoch 464/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1774
Epoch 465/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1722
Epoch 466/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1739
Epoch 467/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1809
Epoch 468/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1746
Epoch 469/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1726
Epoch 470/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1758
Epoch 471/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1869
Epoch 472/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1743
Epoch 473/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1753
Epoch 474/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1769
Epoch 475/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1942
Epoch 476/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1794
Epoch 477/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1867
Epoch 478/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1973
Epoch 479/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1787
Epoch 480/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1829
Epoch 481/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1750
Epoch 482/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1739
Epoch 483/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1765
Epoch 484/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1831
Epoch 485/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1810
Epoch 486/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1740
Epoch 487/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1763
Epoch 488/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1708
Epoch 489/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1717
Epoch 490/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1854
Epoch 491/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1759
Epoch 492/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1788
Epoch 493/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1775
Epoch 494/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1793
Epoch 495/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1746
Epoch 496/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1826
Epoch 497/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1679
Epoch 498/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1702
Epoch 499/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1695
Epoch 500/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1702
Epoch 501/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1723
Epoch 502/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1752
Epoch 503/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1832
Epoch 504/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1689
Epoch 505/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1695
Epoch 506/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1759
Epoch 507/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1751
Epoch 508/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1640
Epoch 509/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1790
Epoch 510/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1759
Epoch 511/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1765
Epoch 512/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1743
Epoch 513/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1746
Epoch 514/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1730
Epoch 515/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1654
Epoch 516/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1674
Epoch 517/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1675
Epoch 518/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1668
Epoch 519/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1848
Epoch 520/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1713
Epoch 521/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1883
Epoch 522/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1769
Epoch 523/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1775
Epoch 524/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1726
Epoch 525/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1711
Epoch 526/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1697
Epoch 527/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1773
Epoch 528/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1816
Epoch 529/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1830
Epoch 530/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1717
Epoch 531/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1678
Epoch 532/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1646
Epoch 533/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1714
Epoch 534/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1780
Epoch 535/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1748
Epoch 536/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1708
Epoch 537/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1713
Epoch 538/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1628
Epoch 539/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1654
Epoch 540/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1696
Epoch 541/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1745
Epoch 542/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1689
Epoch 543/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1690
Epoch 544/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1644
Epoch 545/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1678
Epoch 546/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1687
Epoch 547/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1683
Epoch 548/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1693
Epoch 549/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1776
Epoch 550/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1833
Epoch 551/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1872
Epoch 552/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1892
Epoch 553/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1786
Epoch 554/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1751
Epoch 555/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1743
Epoch 556/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1900
Epoch 557/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1782
Epoch 558/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1732
Epoch 559/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1781
Epoch 560/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1749
Epoch 561/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1771
Epoch 562/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1739
Epoch 563/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1748
Epoch 564/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1678
Epoch 565/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1690
Epoch 566/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1772
Epoch 567/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1736
Epoch 568/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1749
Epoch 569/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1689
Epoch 570/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1712
Epoch 571/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1707
Epoch 572/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1700
Epoch 573/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1672
Epoch 574/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1645
Epoch 575/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1639
Epoch 576/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1650
Epoch 577/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1682
Epoch 578/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1734
Epoch 579/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1712
Epoch 580/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1795
Epoch 581/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1693
Epoch 582/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1562
Epoch 583/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1700
Epoch 584/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1743
Epoch 585/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1660
Epoch 586/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1710
Epoch 587/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1690
Epoch 588/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1659
Epoch 589/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1710
Epoch 590/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1659
Epoch 591/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 592/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1838
Epoch 593/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1670
Epoch 594/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1642
Epoch 595/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1709
Epoch 596/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1623
Epoch 597/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1608
Epoch 598/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1706
Epoch 599/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1666
Epoch 600/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1689
Epoch 601/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1596
Epoch 602/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1661
Epoch 603/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1649
Epoch 604/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1620
Epoch 605/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1717
Epoch 606/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1672
Epoch 607/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1717
Epoch 608/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1770
Epoch 609/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1708
Epoch 610/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1701
Epoch 611/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1766
Epoch 612/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1715
Epoch 613/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1782
Epoch 614/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1690
Epoch 615/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1700
Epoch 616/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1630
Epoch 617/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1636
Epoch 618/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1742
Epoch 619/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 620/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1886
Epoch 621/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1987
Epoch 622/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1822
Epoch 623/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1990
Epoch 624/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1914
Epoch 625/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1704
Epoch 626/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1728
Epoch 627/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1734
Epoch 628/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1631
Epoch 629/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1652
Epoch 630/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1647
Epoch 631/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1638
Epoch 632/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1651
Epoch 633/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1613
Epoch 634/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1613
Epoch 635/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1654
Epoch 636/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1658
Epoch 637/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1706
Epoch 638/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1620
Epoch 639/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1617
Epoch 640/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1648
Epoch 641/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1643
Epoch 642/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1625
Epoch 643/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1602
Epoch 644/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1613
Epoch 645/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1718
Epoch 646/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1694
Epoch 647/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1652
Epoch 648/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1672
Epoch 649/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1686
Epoch 650/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1771
Epoch 651/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1683
Epoch 652/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1630
Epoch 653/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1644
Epoch 654/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1692
Epoch 655/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1634
Epoch 656/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1590
Epoch 657/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1629
Epoch 658/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1654
Epoch 659/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1620
Epoch 660/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1710
Epoch 661/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1667
Epoch 662/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1674
Epoch 663/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1585
Epoch 664/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1660
Epoch 665/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1574
Epoch 666/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1611
Epoch 667/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1630
Epoch 668/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1637
Epoch 669/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1636
Epoch 670/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1644
Epoch 671/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1602
Epoch 672/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1707
Epoch 673/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1616
Epoch 674/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1730
Epoch 675/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1719
Epoch 676/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1620
Epoch 677/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1614
Epoch 678/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1618
Epoch 679/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1778
Epoch 680/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1812
Epoch 681/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1946
Epoch 682/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1780
Epoch 683/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1783
Epoch 684/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1763
Epoch 685/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1767
Epoch 686/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1771
Epoch 687/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1710
Epoch 688/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1687
Epoch 689/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1617
Epoch 690/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1619
Epoch 691/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1648
Epoch 692/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1598
Epoch 693/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1629
Epoch 694/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1606
Epoch 695/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1638
Epoch 696/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1628
Epoch 697/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1675
Epoch 698/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1652
Epoch 699/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1653
Epoch 700/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1628
Epoch 701/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1621
Epoch 702/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1665
Epoch 703/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1597
Epoch 704/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1640
Epoch 705/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1618
Epoch 706/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1571
Epoch 707/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1656
Epoch 708/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1658
Epoch 709/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1773
Epoch 710/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1752
Epoch 711/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1660
Epoch 712/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1647
Epoch 713/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1576
Epoch 714/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1584
Epoch 715/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1723
Epoch 716/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1642
Epoch 717/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1672
Epoch 718/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1696
Epoch 719/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1833
Epoch 720/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1665
Epoch 721/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1682
Epoch 722/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1604
Epoch 723/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1623
Epoch 724/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1604
Epoch 725/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1708
Epoch 726/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1594
Epoch 727/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1668
Epoch 728/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1614
Epoch 729/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1636
Epoch 730/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1693
Epoch 731/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1811
Epoch 732/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1744
Epoch 733/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1661
Epoch 734/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1649
Epoch 735/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1668
Epoch 736/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1665
Epoch 737/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1605
Epoch 738/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1641
Epoch 739/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1693
Epoch 740/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1635
Epoch 741/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1665
Epoch 742/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1581
Epoch 743/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1569
Epoch 744/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1558
Epoch 745/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1616
Epoch 746/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1622
Epoch 747/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1705
Epoch 748/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1718
Epoch 749/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1627
Epoch 750/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1727
Epoch 751/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1633
Epoch 752/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1651
Epoch 753/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1590
Epoch 754/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1739
Epoch 755/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1665
Epoch 756/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1630
Epoch 757/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1651
Epoch 758/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1571
Epoch 759/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1574
Epoch 760/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1605
Epoch 761/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1613
Epoch 762/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1577
Epoch 763/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1641
Epoch 764/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1981
Epoch 765/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1636
Epoch 766/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1642
Epoch 767/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1642
Epoch 768/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1660
Epoch 769/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1614
Epoch 770/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1613
Epoch 771/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1637
Epoch 772/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1587
Epoch 773/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1663
Epoch 774/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1737
Epoch 775/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1735
Epoch 776/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1565
Epoch 777/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1666
Epoch 778/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1654
Epoch 779/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1694
Epoch 780/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1597
Epoch 781/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1546
Epoch 782/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1585
Epoch 783/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1621
Epoch 784/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1659
Epoch 785/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1703
Epoch 786/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1777
Epoch 787/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1715
Epoch 788/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1644
Epoch 789/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1500
Epoch 790/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1613
Epoch 791/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1611
Epoch 792/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1635
Epoch 793/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1583
Epoch 794/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1587
Epoch 795/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1560
Epoch 796/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1597
Epoch 797/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1698
Epoch 798/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1612
Epoch 799/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1590
Epoch 800/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1512
Epoch 801/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1673
Epoch 802/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1571
Epoch 803/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1591
Epoch 804/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1646
Epoch 805/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1587
Epoch 806/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1581
Epoch 807/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1673
Epoch 808/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1587
Epoch 809/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1615
Epoch 810/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1839
Epoch 811/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1680
Epoch 812/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1776
Epoch 813/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1821
Epoch 814/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1664
Epoch 815/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1617
Epoch 816/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1555
Epoch 817/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1568
Epoch 818/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1583
Epoch 819/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1674
Epoch 820/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1561
Epoch 821/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1623
Epoch 822/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1620
Epoch 823/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1718
Epoch 824/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1800
Epoch 825/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1692
Epoch 826/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1634
Epoch 827/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1627
Epoch 828/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1598
Epoch 829/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1626
Epoch 830/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1598
Epoch 831/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1613
Epoch 832/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1539
Epoch 833/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1659
Epoch 834/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1600
Epoch 835/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1538
Epoch 836/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1625
Epoch 837/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1624
Epoch 838/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1520
Epoch 839/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1604
Epoch 840/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1583
Epoch 841/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1590
Epoch 842/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1636
Epoch 843/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1637
Epoch 844/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1529
Epoch 845/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1569
Epoch 846/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1662
Epoch 847/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1576
Epoch 848/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1623
Epoch 849/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1553
Epoch 850/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1553
Epoch 851/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1607
Epoch 852/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1708
Epoch 853/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1599
Epoch 854/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1505
Epoch 855/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1653
Epoch 856/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1633
Epoch 857/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1596
Epoch 858/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1642
Epoch 859/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1622
Epoch 860/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1550
Epoch 861/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1591
Epoch 862/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1622
Epoch 863/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1596
Epoch 864/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1651
Epoch 865/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1614
Epoch 866/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1608
Epoch 867/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1548
Epoch 868/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1593
Epoch 869/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1571
Epoch 870/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1653
Epoch 871/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1634
Epoch 872/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1503
Epoch 873/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1548
Epoch 874/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1555
Epoch 875/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1627
Epoch 876/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1552
Epoch 877/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1578
Epoch 878/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1593
Epoch 879/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1675
Epoch 880/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1569
Epoch 881/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1648
Epoch 882/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1696
Epoch 883/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1674
Epoch 884/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1527
Epoch 885/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1603
Epoch 886/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1610
Epoch 887/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1609
Epoch 888/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1570
Epoch 889/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1559
Epoch 890/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1539
Epoch 891/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1513
Epoch 892/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1598
Epoch 893/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1615
Epoch 894/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1626
Epoch 895/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1633
Epoch 896/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1582
Epoch 897/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1700
Epoch 898/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1631
Epoch 899/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1660
Epoch 900/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1552
Epoch 901/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1580
Epoch 902/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1529
Epoch 903/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1624
Epoch 904/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1556
Epoch 905/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1647
Epoch 906/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1604
Epoch 907/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1689
Epoch 908/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1660
Epoch 909/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1578
Epoch 910/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1629
Epoch 911/1000
13/13 [=====] - 0s 3ms/step - loss: 0.1648
Epoch 912/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1533
Epoch 913/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1588
Epoch 914/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1533
Epoch 915/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1640
Epoch 916/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1619
Epoch 917/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1593
Epoch 918/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1575
Epoch 919/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1548
Epoch 920/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1552
Epoch 921/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1584
Epoch 922/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1575
Epoch 923/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1577
Epoch 924/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1537
Epoch 925/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1557
Epoch 926/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1507
Epoch 927/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1527
Epoch 928/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1549
Epoch 929/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1530
Epoch 930/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1555
Epoch 931/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1660
Epoch 932/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1575
Epoch 933/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1597
Epoch 934/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1568
Epoch 935/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1569
Epoch 936/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1531
Epoch 937/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1580
Epoch 938/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1649
Epoch 939/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1546
Epoch 940/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1653
Epoch 941/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1593
Epoch 942/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1477
Epoch 943/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1561
Epoch 944/1000
13/13 [=====] - 0s 4ms/step - loss: 0.1569
Epoch 945/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1548
Epoch 946/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1510
Epoch 947/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1585
Epoch 948/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1645
Epoch 949/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1528
Epoch 950/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1513
Epoch 951/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1561
Epoch 952/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1635
Epoch 953/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1679
Epoch 954/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1689
Epoch 955/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1643
Epoch 956/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1679
Epoch 957/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1526
Epoch 958/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1584
Epoch 959/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1548
Epoch 960/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1528
Epoch 961/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1516
Epoch 962/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1508
Epoch 963/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1588
Epoch 964/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1559
Epoch 965/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1651
Epoch 966/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1559
Epoch 967/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1693
Epoch 968/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1745
Epoch 969/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1691
Epoch 970/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1716
Epoch 971/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1561
Epoch 972/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1502
Epoch 973/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1595
Epoch 974/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1542
Epoch 975/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1568
Epoch 976/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1520
Epoch 977/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1589
Epoch 978/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1586
Epoch 979/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1558
Epoch 980/1000

13/13 [=====] - 0s 2ms/step - loss: 0.1505
Epoch 981/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1531
Epoch 982/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1506
Epoch 983/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1551
Epoch 984/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1501
Epoch 985/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1552
Epoch 986/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1499
Epoch 987/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1479
Epoch 988/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1604
Epoch 989/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1556
Epoch 990/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1571
Epoch 991/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1588
Epoch 992/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1532
Epoch 993/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1504
Epoch 994/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1476
Epoch 995/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1604
Epoch 996/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1601
Epoch 997/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1670
Epoch 998/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1770
Epoch 999/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1679
Epoch 1000/1000
13/13 [=====] - 0s 2ms/step - loss: 0.1556
Finished lambda = 0.001
Epoch 1/1000
13/13 [=====] - 0s 2ms/step - loss: 1.6711
Epoch 2/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8107
Epoch 3/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6333
Epoch 4/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5477
Epoch 5/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5154
Epoch 6/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4858
Epoch 7/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4921
Epoch 8/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4704
Epoch 9/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4566

Epoch 10/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4176
Epoch 11/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4125
Epoch 12/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4233
Epoch 13/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4476
Epoch 14/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4626
Epoch 15/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4468
Epoch 16/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4190
Epoch 17/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3912
Epoch 18/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3629
Epoch 19/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3816
Epoch 20/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3742
Epoch 21/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3671
Epoch 22/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3783
Epoch 23/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3669
Epoch 24/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3622
Epoch 25/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4497
Epoch 26/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4162
Epoch 27/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4081
Epoch 28/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3689
Epoch 29/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3439
Epoch 30/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3615
Epoch 31/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3519
Epoch 32/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3506
Epoch 33/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3434
Epoch 34/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3508
Epoch 35/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3550
Epoch 36/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3496
Epoch 37/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3418
Epoch 38/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3289
Epoch 39/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3409

Epoch 40/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3177
Epoch 41/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3473
Epoch 42/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3617
Epoch 43/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3659
Epoch 44/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3438
Epoch 45/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3416
Epoch 46/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3276
Epoch 47/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3377
Epoch 48/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3426
Epoch 49/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3272
Epoch 50/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3205
Epoch 51/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3137
Epoch 52/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3234
Epoch 53/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3302
Epoch 54/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3075
Epoch 55/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3621
Epoch 56/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3437
Epoch 57/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3252
Epoch 58/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3052
Epoch 59/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3300
Epoch 60/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3626
Epoch 61/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3755
Epoch 62/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3316
Epoch 63/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3219
Epoch 64/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3473
Epoch 65/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3492
Epoch 66/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3304
Epoch 67/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3495
Epoch 68/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3547
Epoch 69/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3261

Epoch 70/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3257
Epoch 71/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3228
Epoch 72/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2971
Epoch 73/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3062
Epoch 74/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3095
Epoch 75/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3268
Epoch 76/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3197
Epoch 77/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3211
Epoch 78/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3170
Epoch 79/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3063
Epoch 80/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3024
Epoch 81/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3129
Epoch 82/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3211
Epoch 83/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2915
Epoch 84/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2973
Epoch 85/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3256
Epoch 86/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3029
Epoch 87/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3175
Epoch 88/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3044
Epoch 89/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3130
Epoch 90/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2828
Epoch 91/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3148
Epoch 92/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2908
Epoch 93/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2830
Epoch 94/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2962
Epoch 95/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3042
Epoch 96/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2848
Epoch 97/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2938
Epoch 98/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3069
Epoch 99/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3314

Epoch 100/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2944
Epoch 101/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3207
Epoch 102/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2908
Epoch 103/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3296
Epoch 104/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3018
Epoch 105/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3068
Epoch 106/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2826
Epoch 107/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3362
Epoch 108/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2743
Epoch 109/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2849
Epoch 110/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2813
Epoch 111/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2789
Epoch 112/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2911
Epoch 113/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2821
Epoch 114/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2848
Epoch 115/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2854
Epoch 116/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3001
Epoch 117/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2790
Epoch 118/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2761
Epoch 119/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2970
Epoch 120/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3108
Epoch 121/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3068
Epoch 122/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3005
Epoch 123/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2876
Epoch 124/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2779
Epoch 125/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2721
Epoch 126/1000
13/13 [=====] - 0s 3ms/step - loss: 0.2842
Epoch 127/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3036
Epoch 128/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2970
Epoch 129/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2969

Epoch 130/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2866
Epoch 131/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2965
Epoch 132/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2699
Epoch 133/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2827
Epoch 134/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3069
Epoch 135/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2907
Epoch 136/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2773
Epoch 137/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2793
Epoch 138/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2947
Epoch 139/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3122
Epoch 140/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3054
Epoch 141/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2861
Epoch 142/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2691
Epoch 143/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2790
Epoch 144/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2991
Epoch 145/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2810
Epoch 146/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2756
Epoch 147/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2807
Epoch 148/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2673
Epoch 149/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2745
Epoch 150/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2859
Epoch 151/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2865
Epoch 152/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2711
Epoch 153/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2788
Epoch 154/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2733
Epoch 155/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2728
Epoch 156/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2817
Epoch 157/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2804
Epoch 158/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2851
Epoch 159/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2689

Epoch 160/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2720
Epoch 161/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2676
Epoch 162/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2759
Epoch 163/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2749
Epoch 164/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2920
Epoch 165/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2825
Epoch 166/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2830
Epoch 167/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2790
Epoch 168/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2831
Epoch 169/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2858
Epoch 170/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2814
Epoch 171/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2716
Epoch 172/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2627
Epoch 173/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2818
Epoch 174/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2998
Epoch 175/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2824
Epoch 176/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2695
Epoch 177/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2642
Epoch 178/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2826
Epoch 179/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2828
Epoch 180/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2658
Epoch 181/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2961
Epoch 182/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2722
Epoch 183/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2613
Epoch 184/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2834
Epoch 185/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2744
Epoch 186/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2827
Epoch 187/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2752
Epoch 188/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2668
Epoch 189/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2610

Epoch 190/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2648
Epoch 191/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2792
Epoch 192/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2695
Epoch 193/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2830
Epoch 194/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2818
Epoch 195/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2713
Epoch 196/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2621
Epoch 197/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2765
Epoch 198/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2806
Epoch 199/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2861
Epoch 200/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2706
Epoch 201/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2805
Epoch 202/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2608
Epoch 203/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2674
Epoch 204/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3107
Epoch 205/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2742
Epoch 206/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2557
Epoch 207/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2735
Epoch 208/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2675
Epoch 209/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2640
Epoch 210/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2623
Epoch 211/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2657
Epoch 212/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2691
Epoch 213/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2743
Epoch 214/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2644
Epoch 215/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2640
Epoch 216/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2696
Epoch 217/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2712
Epoch 218/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2749
Epoch 219/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2676

Epoch 220/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2577
Epoch 221/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2601
Epoch 222/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2664
Epoch 223/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2581
Epoch 224/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2750
Epoch 225/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2625
Epoch 226/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2683
Epoch 227/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2578
Epoch 228/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2498
Epoch 229/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2597
Epoch 230/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2633
Epoch 231/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2897
Epoch 232/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2692
Epoch 233/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2667
Epoch 234/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2523
Epoch 235/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2646
Epoch 236/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2606
Epoch 237/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2575
Epoch 238/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2909
Epoch 239/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2757
Epoch 240/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2635
Epoch 241/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2564
Epoch 242/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2793
Epoch 243/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2783
Epoch 244/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2911
Epoch 245/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2673
Epoch 246/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2669
Epoch 247/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2528
Epoch 248/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2594
Epoch 249/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2597

Epoch 250/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2581
Epoch 251/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2713
Epoch 252/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2507
Epoch 253/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2580
Epoch 254/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2617
Epoch 255/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2719
Epoch 256/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2630
Epoch 257/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2745
Epoch 258/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2627
Epoch 259/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2479
Epoch 260/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2612
Epoch 261/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2731
Epoch 262/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2596
Epoch 263/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2550
Epoch 264/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2521
Epoch 265/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2614
Epoch 266/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2654
Epoch 267/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2603
Epoch 268/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2552
Epoch 269/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2522
Epoch 270/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2615
Epoch 271/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2559
Epoch 272/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2570
Epoch 273/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2723
Epoch 274/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2572
Epoch 275/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2803
Epoch 276/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2568
Epoch 277/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2575
Epoch 278/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2554
Epoch 279/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2677

Epoch 280/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2574
Epoch 281/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2601
Epoch 282/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2529
Epoch 283/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2590
Epoch 284/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2631
Epoch 285/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2565
Epoch 286/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2520
Epoch 287/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2525
Epoch 288/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2629
Epoch 289/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2618
Epoch 290/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2665
Epoch 291/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2532
Epoch 292/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2449
Epoch 293/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2561
Epoch 294/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2614
Epoch 295/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2688
Epoch 296/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2650
Epoch 297/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2595
Epoch 298/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2670
Epoch 299/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2462
Epoch 300/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2728
Epoch 301/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2495
Epoch 302/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2672
Epoch 303/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2695
Epoch 304/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2773
Epoch 305/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2948
Epoch 306/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2820
Epoch 307/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2833
Epoch 308/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2601
Epoch 309/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2586

Epoch 310/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2599
Epoch 311/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2539
Epoch 312/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2518
Epoch 313/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2720
Epoch 314/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2588
Epoch 315/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2556
Epoch 316/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2494
Epoch 317/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2552
Epoch 318/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2536
Epoch 319/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2652
Epoch 320/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2549
Epoch 321/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2565
Epoch 322/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2423
Epoch 323/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2649
Epoch 324/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2657
Epoch 325/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2636
Epoch 326/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2513
Epoch 327/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2584
Epoch 328/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2634
Epoch 329/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2613
Epoch 330/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2556
Epoch 331/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2500
Epoch 332/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2721
Epoch 333/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2519
Epoch 334/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2609
Epoch 335/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2591
Epoch 336/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2703
Epoch 337/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2585
Epoch 338/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2537
Epoch 339/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2502

Epoch 340/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2667
Epoch 341/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2593
Epoch 342/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2522
Epoch 343/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2468
Epoch 344/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2442
Epoch 345/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2550
Epoch 346/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2687
Epoch 347/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2420
Epoch 348/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2506
Epoch 349/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2436
Epoch 350/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2630
Epoch 351/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2442
Epoch 352/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2591
Epoch 353/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2718
Epoch 354/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2612
Epoch 355/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2655
Epoch 356/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2586
Epoch 357/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2421
Epoch 358/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2618
Epoch 359/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2487
Epoch 360/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2698
Epoch 361/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2536
Epoch 362/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2712
Epoch 363/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2687
Epoch 364/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2518
Epoch 365/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2550
Epoch 366/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2617
Epoch 367/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2640
Epoch 368/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2472
Epoch 369/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2463

Epoch 370/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2497
Epoch 371/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2546
Epoch 372/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2416
Epoch 373/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2601
Epoch 374/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2360
Epoch 375/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2532
Epoch 376/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2464
Epoch 377/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2425
Epoch 378/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2612
Epoch 379/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2479
Epoch 380/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2537
Epoch 381/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2520
Epoch 382/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2496
Epoch 383/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2714
Epoch 384/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2595
Epoch 385/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2530
Epoch 386/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2462
Epoch 387/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2472
Epoch 388/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2585
Epoch 389/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2582
Epoch 390/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2453
Epoch 391/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2542
Epoch 392/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2525
Epoch 393/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2380
Epoch 394/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2412
Epoch 395/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2415
Epoch 396/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2505
Epoch 397/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2541
Epoch 398/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2647
Epoch 399/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2473

Epoch 400/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2531
Epoch 401/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2496
Epoch 402/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2499
Epoch 403/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2457
Epoch 404/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2544
Epoch 405/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2478
Epoch 406/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2425
Epoch 407/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2371
Epoch 408/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2578
Epoch 409/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2401
Epoch 410/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2371
Epoch 411/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2618
Epoch 412/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2590
Epoch 413/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2456
Epoch 414/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2469
Epoch 415/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2547
Epoch 416/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2518
Epoch 417/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2480
Epoch 418/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2488
Epoch 419/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2493
Epoch 420/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2481
Epoch 421/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2493
Epoch 422/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2407
Epoch 423/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2398
Epoch 424/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2487
Epoch 425/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2397
Epoch 426/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2444
Epoch 427/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2399
Epoch 428/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2479
Epoch 429/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2350

Epoch 430/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2369
Epoch 431/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2401
Epoch 432/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2467
Epoch 433/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2490
Epoch 434/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2486
Epoch 435/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2507
Epoch 436/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2647
Epoch 437/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2619
Epoch 438/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2484
Epoch 439/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2409
Epoch 440/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2413
Epoch 441/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2477
Epoch 442/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2445
Epoch 443/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2579
Epoch 444/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2411
Epoch 445/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2593
Epoch 446/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2700
Epoch 447/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2865
Epoch 448/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2468
Epoch 449/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2349
Epoch 450/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2433
Epoch 451/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2453
Epoch 452/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2354
Epoch 453/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2413
Epoch 454/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2401
Epoch 455/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2367
Epoch 456/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2422
Epoch 457/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2363
Epoch 458/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2487
Epoch 459/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2386

Epoch 460/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2408
Epoch 461/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2632
Epoch 462/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2373
Epoch 463/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2373
Epoch 464/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2423
Epoch 465/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2480
Epoch 466/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2434
Epoch 467/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2446
Epoch 468/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2424
Epoch 469/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2335
Epoch 470/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2393
Epoch 471/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2529
Epoch 472/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2604
Epoch 473/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2442
Epoch 474/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2524
Epoch 475/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2690
Epoch 476/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2491
Epoch 477/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2530
Epoch 478/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2468
Epoch 479/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2548
Epoch 480/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2446
Epoch 481/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2412
Epoch 482/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2475
Epoch 483/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2411
Epoch 484/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2560
Epoch 485/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2353
Epoch 486/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2456
Epoch 487/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2497
Epoch 488/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2525
Epoch 489/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2402

Epoch 490/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2604
Epoch 491/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2471
Epoch 492/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2436
Epoch 493/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2424
Epoch 494/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2505
Epoch 495/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2411
Epoch 496/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2642
Epoch 497/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2508
Epoch 498/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2390
Epoch 499/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2434
Epoch 500/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2594
Epoch 501/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2476
Epoch 502/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2494
Epoch 503/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2643
Epoch 504/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2440
Epoch 505/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2458
Epoch 506/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2520
Epoch 507/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2454
Epoch 508/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2373
Epoch 509/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2506
Epoch 510/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2427
Epoch 511/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2429
Epoch 512/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2746
Epoch 513/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2648
Epoch 514/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2547
Epoch 515/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2590
Epoch 516/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2445
Epoch 517/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2279
Epoch 518/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2404
Epoch 519/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2471

Epoch 520/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2403
Epoch 521/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2498
Epoch 522/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2570
Epoch 523/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2422
Epoch 524/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2367
Epoch 525/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2409
Epoch 526/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2372
Epoch 527/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2443
Epoch 528/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2514
Epoch 529/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2631
Epoch 530/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2560
Epoch 531/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2420
Epoch 532/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2337
Epoch 533/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2343
Epoch 534/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2458
Epoch 535/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2371
Epoch 536/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2478
Epoch 537/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2549
Epoch 538/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2316
Epoch 539/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2304
Epoch 540/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2376
Epoch 541/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2630
Epoch 542/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2496
Epoch 543/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2488
Epoch 544/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2407
Epoch 545/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2359
Epoch 546/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2522
Epoch 547/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2488
Epoch 548/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2398
Epoch 549/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2365

Epoch 550/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2435
Epoch 551/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2478
Epoch 552/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2512
Epoch 553/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2347
Epoch 554/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2417
Epoch 555/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2406
Epoch 556/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2291
Epoch 557/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2305
Epoch 558/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2353
Epoch 559/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2454
Epoch 560/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2474
Epoch 561/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2350
Epoch 562/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2531
Epoch 563/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2324
Epoch 564/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2438
Epoch 565/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2364
Epoch 566/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2430
Epoch 567/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2646
Epoch 568/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2452
Epoch 569/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2384
Epoch 570/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2298
Epoch 571/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2446
Epoch 572/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2405
Epoch 573/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2542
Epoch 574/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2341
Epoch 575/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2298
Epoch 576/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2291
Epoch 577/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2397
Epoch 578/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2523
Epoch 579/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2321

Epoch 580/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2297
Epoch 581/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2485
Epoch 582/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2503
Epoch 583/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2282
Epoch 584/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2449
Epoch 585/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2316
Epoch 586/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2305
Epoch 587/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2367
Epoch 588/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2317
Epoch 589/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2274
Epoch 590/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2358
Epoch 591/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2540
Epoch 592/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2511
Epoch 593/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2430
Epoch 594/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2292
Epoch 595/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2599
Epoch 596/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2470
Epoch 597/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2389
Epoch 598/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2400
Epoch 599/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2466
Epoch 600/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2429
Epoch 601/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2338
Epoch 602/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2500
Epoch 603/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2625
Epoch 604/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2495
Epoch 605/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2427
Epoch 606/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2464
Epoch 607/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2317
Epoch 608/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2501
Epoch 609/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2322

Epoch 610/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2505
Epoch 611/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2556
Epoch 612/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2464
Epoch 613/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2412
Epoch 614/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2423
Epoch 615/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2367
Epoch 616/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2363
Epoch 617/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2303
Epoch 618/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2366
Epoch 619/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2311
Epoch 620/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2328
Epoch 621/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2457
Epoch 622/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2274
Epoch 623/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2448
Epoch 624/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2413
Epoch 625/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2360
Epoch 626/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2478
Epoch 627/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2301
Epoch 628/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2376
Epoch 629/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2345
Epoch 630/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2357
Epoch 631/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2551
Epoch 632/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2416
Epoch 633/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2438
Epoch 634/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2348
Epoch 635/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2441
Epoch 636/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2473
Epoch 637/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2456
Epoch 638/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2418
Epoch 639/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2303

Epoch 640/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2324
Epoch 641/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2278
Epoch 642/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2385
Epoch 643/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2343
Epoch 644/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2324
Epoch 645/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2458
Epoch 646/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2300
Epoch 647/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2293
Epoch 648/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2260
Epoch 649/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2397
Epoch 650/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2549
Epoch 651/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2341
Epoch 652/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2243
Epoch 653/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2236
Epoch 654/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2463
Epoch 655/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2314
Epoch 656/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2341
Epoch 657/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2298
Epoch 658/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2335
Epoch 659/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2357
Epoch 660/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2421
Epoch 661/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2226
Epoch 662/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2426
Epoch 663/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2356
Epoch 664/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2519
Epoch 665/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2336
Epoch 666/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2388
Epoch 667/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2318
Epoch 668/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2288
Epoch 669/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2329

Epoch 670/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2264
Epoch 671/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2397
Epoch 672/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2563
Epoch 673/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2274
Epoch 674/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2424
Epoch 675/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2445
Epoch 676/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2263
Epoch 677/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2312
Epoch 678/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2295
Epoch 679/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2403
Epoch 680/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2449
Epoch 681/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2446
Epoch 682/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2316
Epoch 683/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2335
Epoch 684/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2252
Epoch 685/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2477
Epoch 686/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2505
Epoch 687/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2481
Epoch 688/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2359
Epoch 689/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2362
Epoch 690/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2324
Epoch 691/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2365
Epoch 692/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2303
Epoch 693/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2288
Epoch 694/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2339
Epoch 695/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2400
Epoch 696/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2333
Epoch 697/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2338
Epoch 698/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2376
Epoch 699/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2291

Epoch 700/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2400
Epoch 701/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2337
Epoch 702/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2233
Epoch 703/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2324
Epoch 704/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2376
Epoch 705/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2317
Epoch 706/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2303
Epoch 707/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2266
Epoch 708/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2520
Epoch 709/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2476
Epoch 710/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2408
Epoch 711/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2384
Epoch 712/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2636
Epoch 713/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2376
Epoch 714/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2331
Epoch 715/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2290
Epoch 716/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2338
Epoch 717/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2402
Epoch 718/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2326
Epoch 719/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2405
Epoch 720/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2362
Epoch 721/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2331
Epoch 722/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2266
Epoch 723/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2355
Epoch 724/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2320
Epoch 725/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2459
Epoch 726/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2288
Epoch 727/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2538
Epoch 728/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2687
Epoch 729/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2396

Epoch 730/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2387
Epoch 731/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2550
Epoch 732/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2452
Epoch 733/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2531
Epoch 734/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2360
Epoch 735/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2470
Epoch 736/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2310
Epoch 737/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2282
Epoch 738/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2379
Epoch 739/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2538
Epoch 740/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2428
Epoch 741/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2367
Epoch 742/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2311
Epoch 743/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2279
Epoch 744/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2312
Epoch 745/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2446
Epoch 746/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2375
Epoch 747/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2353
Epoch 748/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2429
Epoch 749/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2356
Epoch 750/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2440
Epoch 751/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2329
Epoch 752/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2425
Epoch 753/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2248
Epoch 754/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2372
Epoch 755/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2273
Epoch 756/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2430
Epoch 757/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2384
Epoch 758/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2317
Epoch 759/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2292

Epoch 760/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2402
Epoch 761/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2322
Epoch 762/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2335
Epoch 763/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2359
Epoch 764/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2584
Epoch 765/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2364
Epoch 766/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2343
Epoch 767/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2361
Epoch 768/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2343
Epoch 769/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2234
Epoch 770/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2242
Epoch 771/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2405
Epoch 772/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2221
Epoch 773/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2396
Epoch 774/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2460
Epoch 775/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2445
Epoch 776/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2351
Epoch 777/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2331
Epoch 778/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2239
Epoch 779/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2492
Epoch 780/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2450
Epoch 781/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2377
Epoch 782/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2227
Epoch 783/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2395
Epoch 784/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2294
Epoch 785/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2273
Epoch 786/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2526
Epoch 787/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2628
Epoch 788/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2266
Epoch 789/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2292

Epoch 790/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2313
Epoch 791/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2254
Epoch 792/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2342
Epoch 793/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2256
Epoch 794/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2392
Epoch 795/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2295
Epoch 796/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2450
Epoch 797/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2409
Epoch 798/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2347
Epoch 799/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2299
Epoch 800/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2207
Epoch 801/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2246
Epoch 802/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2226
Epoch 803/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2228
Epoch 804/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2296
Epoch 805/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2276
Epoch 806/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2285
Epoch 807/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2412
Epoch 808/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2432
Epoch 809/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2389
Epoch 810/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2326
Epoch 811/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2316
Epoch 812/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2210
Epoch 813/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2292
Epoch 814/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2286
Epoch 815/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2214
Epoch 816/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2255
Epoch 817/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2399
Epoch 818/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2388
Epoch 819/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2523

Epoch 820/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2668
Epoch 821/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2318
Epoch 822/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2305
Epoch 823/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2387
Epoch 824/1000
13/13 [=====] - 0s 3ms/step - loss: 0.2378
Epoch 825/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2321
Epoch 826/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2273
Epoch 827/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2291
Epoch 828/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2539
Epoch 829/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2434
Epoch 830/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2345
Epoch 831/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2287
Epoch 832/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2378
Epoch 833/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2403
Epoch 834/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2388
Epoch 835/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2418
Epoch 836/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2228
Epoch 837/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2274
Epoch 838/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2266
Epoch 839/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2354
Epoch 840/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2242
Epoch 841/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2376
Epoch 842/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2373
Epoch 843/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2311
Epoch 844/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2204
Epoch 845/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2255
Epoch 846/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2242
Epoch 847/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2400
Epoch 848/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2267
Epoch 849/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2289

Epoch 850/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2218
Epoch 851/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2318
Epoch 852/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2534
Epoch 853/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2455
Epoch 854/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2472
Epoch 855/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2421
Epoch 856/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2265
Epoch 857/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2330
Epoch 858/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2262
Epoch 859/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2296
Epoch 860/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2313
Epoch 861/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2382
Epoch 862/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2274
Epoch 863/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2249
Epoch 864/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2495
Epoch 865/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2265
Epoch 866/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2354
Epoch 867/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2420
Epoch 868/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2213
Epoch 869/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2379
Epoch 870/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2487
Epoch 871/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2312
Epoch 872/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2223
Epoch 873/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2160
Epoch 874/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2222
Epoch 875/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2228
Epoch 876/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2309
Epoch 877/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2342
Epoch 878/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2335
Epoch 879/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2294

Epoch 880/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2253
Epoch 881/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2487
Epoch 882/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2352
Epoch 883/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2558
Epoch 884/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2403
Epoch 885/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2379
Epoch 886/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2259
Epoch 887/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2228
Epoch 888/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2266
Epoch 889/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2235
Epoch 890/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2370
Epoch 891/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2307
Epoch 892/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2268
Epoch 893/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2412
Epoch 894/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2396
Epoch 895/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2505
Epoch 896/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2476
Epoch 897/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2512
Epoch 898/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2364
Epoch 899/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2529
Epoch 900/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2360
Epoch 901/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2340
Epoch 902/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2400
Epoch 903/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2339
Epoch 904/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2312
Epoch 905/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2316
Epoch 906/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2471
Epoch 907/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2298
Epoch 908/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2234
Epoch 909/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2264

Epoch 910/1000
13/13 [=====] - 0s 3ms/step - loss: 0.2246
Epoch 911/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2252
Epoch 912/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2199
Epoch 913/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2222
Epoch 914/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2286
Epoch 915/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2251
Epoch 916/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2272
Epoch 917/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2240
Epoch 918/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2212
Epoch 919/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2328
Epoch 920/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2317
Epoch 921/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2311
Epoch 922/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2266
Epoch 923/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2284
Epoch 924/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2261
Epoch 925/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2252
Epoch 926/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2313
Epoch 927/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2289
Epoch 928/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2234
Epoch 929/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2269
Epoch 930/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2290
Epoch 931/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2454
Epoch 932/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2371
Epoch 933/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2297
Epoch 934/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2368
Epoch 935/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2296
Epoch 936/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2177
Epoch 937/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2244
Epoch 938/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2399
Epoch 939/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2331

Epoch 940/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2319
Epoch 941/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2208
Epoch 942/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2208
Epoch 943/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2285
Epoch 944/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2335
Epoch 945/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2279
Epoch 946/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2263
Epoch 947/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2358
Epoch 948/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2318
Epoch 949/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2181
Epoch 950/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2184
Epoch 951/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2267
Epoch 952/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2466
Epoch 953/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2358
Epoch 954/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2336
Epoch 955/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2286
Epoch 956/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2265
Epoch 957/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2387
Epoch 958/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2430
Epoch 959/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2176
Epoch 960/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2230
Epoch 961/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2239
Epoch 962/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2248
Epoch 963/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2364
Epoch 964/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2426
Epoch 965/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2358
Epoch 966/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2386
Epoch 967/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2352
Epoch 968/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2371
Epoch 969/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2223

Epoch 970/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2198
Epoch 971/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2228
Epoch 972/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2244
Epoch 973/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2198
Epoch 974/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2198
Epoch 975/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2247
Epoch 976/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2329
Epoch 977/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2329
Epoch 978/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2345
Epoch 979/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2237
Epoch 980/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2222
Epoch 981/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2198
Epoch 982/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2241
Epoch 983/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2277
Epoch 984/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2200
Epoch 985/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2253
Epoch 986/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2307
Epoch 987/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2212
Epoch 988/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2268
Epoch 989/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2349
Epoch 990/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2485
Epoch 991/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2231
Epoch 992/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2355
Epoch 993/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2359
Epoch 994/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2362
Epoch 995/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2303
Epoch 996/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2368
Epoch 997/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2418
Epoch 998/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2498
Epoch 999/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2430

Epoch 1000/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2372
Finished lambda = 0.01
Epoch 1/1000
13/13 [=====] - 0s 2ms/step - loss: 2.9648
Epoch 2/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2614
Epoch 3/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9828
Epoch 4/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8604
Epoch 5/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7973
Epoch 6/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7587
Epoch 7/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7156
Epoch 8/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6811
Epoch 9/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6350
Epoch 10/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6070
Epoch 11/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5990
Epoch 12/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6123
Epoch 13/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6377
Epoch 14/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6297
Epoch 15/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5767
Epoch 16/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6095
Epoch 17/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5599
Epoch 18/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5690
Epoch 19/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5448
Epoch 20/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5140
Epoch 21/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5332
Epoch 22/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5176
Epoch 23/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5221
Epoch 24/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5169
Epoch 25/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5585
Epoch 26/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6405
Epoch 27/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5230
Epoch 28/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4967
Epoch 29/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4769
Epoch 30/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4991
Epoch 31/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4959
Epoch 32/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5108
Epoch 33/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4950
Epoch 34/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5301
Epoch 35/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5041
Epoch 36/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4960
Epoch 37/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4672
Epoch 38/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4598
Epoch 39/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4662
Epoch 40/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4558
Epoch 41/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4771
Epoch 42/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4721
Epoch 43/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4789
Epoch 44/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4758
Epoch 45/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4798
Epoch 46/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4513
Epoch 47/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4293
Epoch 48/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4800
Epoch 49/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4645
Epoch 50/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4306
Epoch 51/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4455
Epoch 52/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4329
Epoch 53/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4459
Epoch 54/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4260
Epoch 55/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4554
Epoch 56/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4193
Epoch 57/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4357
Epoch 58/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4263
Epoch 59/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4455
Epoch 60/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4804
Epoch 61/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4592
Epoch 62/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4473
Epoch 63/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4180
Epoch 64/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4414
Epoch 65/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4252
Epoch 66/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4244
Epoch 67/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4255
Epoch 68/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4350
Epoch 69/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4198
Epoch 70/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4259
Epoch 71/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4150
Epoch 72/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4013
Epoch 73/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4157
Epoch 74/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4376
Epoch 75/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4199
Epoch 76/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4141
Epoch 77/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4026
Epoch 78/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4242
Epoch 79/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4453
Epoch 80/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4155
Epoch 81/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4307
Epoch 82/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4048
Epoch 83/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3942
Epoch 84/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3816
Epoch 85/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4103
Epoch 86/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4026
Epoch 87/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4281
Epoch 88/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4047
Epoch 89/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3955
Epoch 90/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3813
Epoch 91/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4069
Epoch 92/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3957
Epoch 93/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3851
Epoch 94/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3756
Epoch 95/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3901
Epoch 96/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3721
Epoch 97/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3870
Epoch 98/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3876
Epoch 99/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4196
Epoch 100/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4038
Epoch 101/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4041
Epoch 102/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3881
Epoch 103/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4005
Epoch 104/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3862
Epoch 105/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4156
Epoch 106/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3668
Epoch 107/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3958
Epoch 108/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4180
Epoch 109/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3930
Epoch 110/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3832
Epoch 111/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3810
Epoch 112/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3797
Epoch 113/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3739
Epoch 114/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3683
Epoch 115/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3650
Epoch 116/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3741
Epoch 117/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3894
Epoch 118/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3792
Epoch 119/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3923
Epoch 120/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4093
Epoch 121/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4479
Epoch 122/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3980
Epoch 123/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3906
Epoch 124/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3786
Epoch 125/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3632
Epoch 126/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3649
Epoch 127/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3822
Epoch 128/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3689
Epoch 129/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3772
Epoch 130/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3728
Epoch 131/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3839
Epoch 132/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3608
Epoch 133/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3584
Epoch 134/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3731
Epoch 135/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3753
Epoch 136/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3815
Epoch 137/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3653
Epoch 138/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3826
Epoch 139/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3927
Epoch 140/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3907
Epoch 141/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3607
Epoch 142/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3509
Epoch 143/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3645
Epoch 144/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3727
Epoch 145/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3612
Epoch 146/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3583
Epoch 147/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3877
Epoch 148/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3674
Epoch 149/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3580
Epoch 150/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3581
Epoch 151/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3556
Epoch 152/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3542
Epoch 153/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3805
Epoch 154/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3594
Epoch 155/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3637
Epoch 156/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3681
Epoch 157/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3584
Epoch 158/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3581
Epoch 159/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3442
Epoch 160/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3631
Epoch 161/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3705
Epoch 162/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3578
Epoch 163/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3530
Epoch 164/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3657
Epoch 165/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3917
Epoch 166/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4124
Epoch 167/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4335
Epoch 168/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3902
Epoch 169/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3748
Epoch 170/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3888
Epoch 171/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3650
Epoch 172/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3525
Epoch 173/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3774
Epoch 174/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3881
Epoch 175/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3713
Epoch 176/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3866
Epoch 177/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3669
Epoch 178/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3464
Epoch 179/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3540
Epoch 180/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3483
Epoch 181/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3747
Epoch 182/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3633
Epoch 183/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3481
Epoch 184/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3396
Epoch 185/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3415
Epoch 186/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3473
Epoch 187/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3570
Epoch 188/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3558
Epoch 189/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3397
Epoch 190/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3407
Epoch 191/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3531
Epoch 192/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3563
Epoch 193/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3622
Epoch 194/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3613
Epoch 195/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3409
Epoch 196/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3414
Epoch 197/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3725
Epoch 198/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3431
Epoch 199/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3484
Epoch 200/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3514
Epoch 201/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3621
Epoch 202/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3368
Epoch 203/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3352
Epoch 204/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3486
Epoch 205/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3973
Epoch 206/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3666
Epoch 207/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3593
Epoch 208/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3548
Epoch 209/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3708
Epoch 210/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3466
Epoch 211/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3575
Epoch 212/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3567
Epoch 213/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3519
Epoch 214/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3468
Epoch 215/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3360
Epoch 216/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3534
Epoch 217/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3415
Epoch 218/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3612
Epoch 219/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3388
Epoch 220/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3400
Epoch 221/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3303
Epoch 222/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3446
Epoch 223/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3431
Epoch 224/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3815
Epoch 225/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3706
Epoch 226/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3466
Epoch 227/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3517
Epoch 228/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3280
Epoch 229/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3463
Epoch 230/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3482
Epoch 231/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3490
Epoch 232/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3529
Epoch 233/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3339
Epoch 234/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3369
Epoch 235/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3336
Epoch 236/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3385
Epoch 237/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3337
Epoch 238/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3671
Epoch 239/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3535
Epoch 240/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3300
Epoch 241/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3338
Epoch 242/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3317
Epoch 243/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3324
Epoch 244/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3460
Epoch 245/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3430
Epoch 246/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3401
Epoch 247/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3280
Epoch 248/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3389
Epoch 249/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3487
Epoch 250/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3413
Epoch 251/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3691
Epoch 252/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3475
Epoch 253/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3387
Epoch 254/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3538
Epoch 255/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3522
Epoch 256/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3365
Epoch 257/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3503
Epoch 258/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3398
Epoch 259/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3385
Epoch 260/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3345
Epoch 261/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3504
Epoch 262/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3925
Epoch 263/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3540
Epoch 264/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3296
Epoch 265/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3410
Epoch 266/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3759
Epoch 267/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3994
Epoch 268/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3597
Epoch 269/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3306
Epoch 270/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3443
Epoch 271/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3280
Epoch 272/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3317
Epoch 273/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3424
Epoch 274/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3199
Epoch 275/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3407
Epoch 276/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3316
Epoch 277/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3243
Epoch 278/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3255
Epoch 279/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3396
Epoch 280/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3392
Epoch 281/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3236
Epoch 282/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3287
Epoch 283/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3329
Epoch 284/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3394
Epoch 285/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3663
Epoch 286/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3357
Epoch 287/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3491
Epoch 288/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3452
Epoch 289/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3326
Epoch 290/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3551
Epoch 291/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3381
Epoch 292/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3250
Epoch 293/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3358
Epoch 294/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3526
Epoch 295/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3442
Epoch 296/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3281
Epoch 297/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3214
Epoch 298/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3421
Epoch 299/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3389
Epoch 300/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3827
Epoch 301/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3410
Epoch 302/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3302
Epoch 303/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3229
Epoch 304/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3259
Epoch 305/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3362
Epoch 306/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3322
Epoch 307/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3341
Epoch 308/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3391
Epoch 309/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3199
Epoch 310/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3267
Epoch 311/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3115
Epoch 312/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3149
Epoch 313/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3402
Epoch 314/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3307
Epoch 315/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3327
Epoch 316/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3462
Epoch 317/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3257
Epoch 318/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3225
Epoch 319/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3302
Epoch 320/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3191
Epoch 321/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3229
Epoch 322/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3181
Epoch 323/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3371
Epoch 324/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3415
Epoch 325/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3441
Epoch 326/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3209
Epoch 327/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3160
Epoch 328/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3339
Epoch 329/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3237
Epoch 330/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3101
Epoch 331/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3124
Epoch 332/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3183
Epoch 333/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3521
Epoch 334/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3356
Epoch 335/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3281
Epoch 336/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3320
Epoch 337/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3422
Epoch 338/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3161
Epoch 339/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3137
Epoch 340/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3321
Epoch 341/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3265
Epoch 342/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3354
Epoch 343/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3237
Epoch 344/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3190
Epoch 345/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3174
Epoch 346/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3270
Epoch 347/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3325
Epoch 348/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3377
Epoch 349/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3074
Epoch 350/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3330
Epoch 351/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3148
Epoch 352/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3387
Epoch 353/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3256
Epoch 354/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3206
Epoch 355/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3280
Epoch 356/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3129
Epoch 357/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3308
Epoch 358/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3465
Epoch 359/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3235
Epoch 360/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3287
Epoch 361/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3474
Epoch 362/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3974
Epoch 363/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3586
Epoch 364/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3245
Epoch 365/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3226
Epoch 366/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3157
Epoch 367/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3272
Epoch 368/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3535
Epoch 369/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3681
Epoch 370/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3328
Epoch 371/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3174
Epoch 372/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3164
Epoch 373/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3339
Epoch 374/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3099
Epoch 375/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3339
Epoch 376/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3198
Epoch 377/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3090
Epoch 378/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3238
Epoch 379/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3204
Epoch 380/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3190
Epoch 381/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3319
Epoch 382/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3126
Epoch 383/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3264
Epoch 384/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3226
Epoch 385/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3207
Epoch 386/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3086
Epoch 387/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3274
Epoch 388/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3342
Epoch 389/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3192
Epoch 390/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3057
Epoch 391/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3230
Epoch 392/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3347
Epoch 393/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3061
Epoch 394/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3094
Epoch 395/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3340
Epoch 396/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3196
Epoch 397/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3443
Epoch 398/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3212
Epoch 399/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3121
Epoch 400/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3164
Epoch 401/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3126
Epoch 402/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3105
Epoch 403/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3093
Epoch 404/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3147
Epoch 405/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3113
Epoch 406/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3135
Epoch 407/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3148
Epoch 408/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3122
Epoch 409/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3318
Epoch 410/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3176
Epoch 411/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3446
Epoch 412/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3332
Epoch 413/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3067
Epoch 414/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3146
Epoch 415/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3184
Epoch 416/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3415
Epoch 417/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3348
Epoch 418/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3056
Epoch 419/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3148
Epoch 420/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3015
Epoch 421/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3533
Epoch 422/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3485
Epoch 423/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3228
Epoch 424/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3161
Epoch 425/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3236
Epoch 426/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3148
Epoch 427/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3136
Epoch 428/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3150
Epoch 429/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3139
Epoch 430/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3034
Epoch 431/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3031
Epoch 432/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3075
Epoch 433/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3375
Epoch 434/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3590
Epoch 435/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3401
Epoch 436/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3458
Epoch 437/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3389
Epoch 438/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3326
Epoch 439/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3090
Epoch 440/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3051
Epoch 441/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3127
Epoch 442/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3220
Epoch 443/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3178
Epoch 444/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3085
Epoch 445/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3207
Epoch 446/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3114
Epoch 447/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3403
Epoch 448/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3290
Epoch 449/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3079
Epoch 450/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3056
Epoch 451/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3066
Epoch 452/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3271
Epoch 453/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3225
Epoch 454/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3107
Epoch 455/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3075
Epoch 456/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3045
Epoch 457/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2977
Epoch 458/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3251
Epoch 459/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3159
Epoch 460/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3209
Epoch 461/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3241
Epoch 462/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3176
Epoch 463/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3148
Epoch 464/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3199
Epoch 465/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3295
Epoch 466/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3430
Epoch 467/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3483
Epoch 468/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3557
Epoch 469/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3067
Epoch 470/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3123
Epoch 471/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3176
Epoch 472/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3263
Epoch 473/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3158
Epoch 474/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3259
Epoch 475/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3182
Epoch 476/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3121
Epoch 477/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3476
Epoch 478/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3195
Epoch 479/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3054
Epoch 480/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3146
Epoch 481/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3025
Epoch 482/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3221
Epoch 483/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3116
Epoch 484/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3166
Epoch 485/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3118
Epoch 486/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3047
Epoch 487/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2994
Epoch 488/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3184
Epoch 489/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3017
Epoch 490/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3160
Epoch 491/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3294
Epoch 492/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3118
Epoch 493/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3021
Epoch 494/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3122
Epoch 495/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3019
Epoch 496/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3258
Epoch 497/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3266
Epoch 498/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2990
Epoch 499/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3032
Epoch 500/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3293
Epoch 501/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3239
Epoch 502/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3200
Epoch 503/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3343
Epoch 504/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3134
Epoch 505/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3029
Epoch 506/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3153
Epoch 507/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3081
Epoch 508/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2943
Epoch 509/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3017
Epoch 510/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2982
Epoch 511/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3030
Epoch 512/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3224
Epoch 513/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3012
Epoch 514/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3087
Epoch 515/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3003
Epoch 516/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3066
Epoch 517/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3063
Epoch 518/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3164
Epoch 519/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3226
Epoch 520/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2992
Epoch 521/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3003
Epoch 522/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3195
Epoch 523/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3183
Epoch 524/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3071
Epoch 525/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3222
Epoch 526/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3090
Epoch 527/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3117
Epoch 528/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3149
Epoch 529/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3458
Epoch 530/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3218
Epoch 531/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3280
Epoch 532/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3112
Epoch 533/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2994
Epoch 534/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3310
Epoch 535/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3245
Epoch 536/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3109
Epoch 537/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3631
Epoch 538/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3230
Epoch 539/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2965
Epoch 540/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3116
Epoch 541/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3267
Epoch 542/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3320
Epoch 543/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3257
Epoch 544/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3119
Epoch 545/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3060
Epoch 546/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3151
Epoch 547/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3327
Epoch 548/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3075
Epoch 549/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2909
Epoch 550/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3023
Epoch 551/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2958
Epoch 552/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3071
Epoch 553/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2907
Epoch 554/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3091
Epoch 555/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3515
Epoch 556/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3437
Epoch 557/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3253
Epoch 558/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3059
Epoch 559/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3179
Epoch 560/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3096
Epoch 561/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2926
Epoch 562/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3056
Epoch 563/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3171
Epoch 564/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3225
Epoch 565/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3059
Epoch 566/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3053
Epoch 567/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3130
Epoch 568/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3031
Epoch 569/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3024
Epoch 570/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2994
Epoch 571/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3189
Epoch 572/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3000
Epoch 573/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3033
Epoch 574/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3083
Epoch 575/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2911
Epoch 576/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2909
Epoch 577/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3146
Epoch 578/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3498
Epoch 579/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2970
Epoch 580/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3045
Epoch 581/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3225
Epoch 582/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3047
Epoch 583/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3125
Epoch 584/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3085
Epoch 585/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3204
Epoch 586/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3009
Epoch 587/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2979
Epoch 588/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2920
Epoch 589/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2873
Epoch 590/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2907
Epoch 591/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3085
Epoch 592/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3056
Epoch 593/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2945
Epoch 594/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2965
Epoch 595/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3979
Epoch 596/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3813
Epoch 597/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3403
Epoch 598/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3165
Epoch 599/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3154
Epoch 600/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3157
Epoch 601/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2955
Epoch 602/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2948
Epoch 603/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3251
Epoch 604/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3200
Epoch 605/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3327
Epoch 606/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3222
Epoch 607/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2980
Epoch 608/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3029
Epoch 609/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3167
Epoch 610/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3182
Epoch 611/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3200
Epoch 612/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3522
Epoch 613/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3298
Epoch 614/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3186
Epoch 615/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3210
Epoch 616/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2987
Epoch 617/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2913
Epoch 618/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3187
Epoch 619/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3070
Epoch 620/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3061
Epoch 621/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3127
Epoch 622/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3112
Epoch 623/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3061
Epoch 624/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2941
Epoch 625/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2856
Epoch 626/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3034
Epoch 627/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3115
Epoch 628/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3174
Epoch 629/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3108
Epoch 630/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3016
Epoch 631/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3046
Epoch 632/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3237
Epoch 633/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3328
Epoch 634/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3035
Epoch 635/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3288
Epoch 636/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3122
Epoch 637/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3065
Epoch 638/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2972
Epoch 639/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2962
Epoch 640/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2942
Epoch 641/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2909
Epoch 642/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3110
Epoch 643/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3239
Epoch 644/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2923
Epoch 645/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3113
Epoch 646/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3257
Epoch 647/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3331
Epoch 648/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3098
Epoch 649/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3092
Epoch 650/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2997
Epoch 651/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3021
Epoch 652/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2870
Epoch 653/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3104
Epoch 654/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3148
Epoch 655/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2945
Epoch 656/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2896
Epoch 657/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3043
Epoch 658/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3087
Epoch 659/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3191
Epoch 660/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3253
Epoch 661/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3002
Epoch 662/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3138
Epoch 663/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3267
Epoch 664/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3097
Epoch 665/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3029
Epoch 666/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3019
Epoch 667/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2904
Epoch 668/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2898
Epoch 669/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3200
Epoch 670/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3089
Epoch 671/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3088
Epoch 672/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3293
Epoch 673/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3316
Epoch 674/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3076
Epoch 675/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3014
Epoch 676/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2878
Epoch 677/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2889
Epoch 678/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2872
Epoch 679/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2971
Epoch 680/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3065
Epoch 681/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3186
Epoch 682/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2967
Epoch 683/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2970
Epoch 684/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3007
Epoch 685/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2993
Epoch 686/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2916
Epoch 687/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3158
Epoch 688/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3057
Epoch 689/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3707
Epoch 690/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3108
Epoch 691/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3054
Epoch 692/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2933
Epoch 693/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2986
Epoch 694/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3030
Epoch 695/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2951
Epoch 696/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2977
Epoch 697/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2930
Epoch 698/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3095
Epoch 699/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2967
Epoch 700/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3047
Epoch 701/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2887
Epoch 702/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2873
Epoch 703/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2923
Epoch 704/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3095
Epoch 705/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3008
Epoch 706/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2920
Epoch 707/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2985
Epoch 708/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3080
Epoch 709/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3209
Epoch 710/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3277
Epoch 711/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2926
Epoch 712/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3190
Epoch 713/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3133
Epoch 714/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2898
Epoch 715/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2798
Epoch 716/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2897
Epoch 717/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3063
Epoch 718/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3171
Epoch 719/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3259
Epoch 720/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3239
Epoch 721/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3012
Epoch 722/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2922
Epoch 723/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2984
Epoch 724/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2861
Epoch 725/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3006
Epoch 726/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3010
Epoch 727/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3023
Epoch 728/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3100
Epoch 729/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2971
Epoch 730/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3008
Epoch 731/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3007
Epoch 732/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2875
Epoch 733/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2969
Epoch 734/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3221
Epoch 735/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3143
Epoch 736/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3140
Epoch 737/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3255
Epoch 738/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2923
Epoch 739/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3041
Epoch 740/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3074
Epoch 741/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3227
Epoch 742/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3542
Epoch 743/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2995
Epoch 744/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2932
Epoch 745/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2966
Epoch 746/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2971
Epoch 747/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2887
Epoch 748/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3113
Epoch 749/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3213
Epoch 750/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2966
Epoch 751/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3067
Epoch 752/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3232
Epoch 753/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3008
Epoch 754/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2888
Epoch 755/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2910
Epoch 756/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3083
Epoch 757/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3152
Epoch 758/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3031
Epoch 759/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2867
Epoch 760/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3112
Epoch 761/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3158
Epoch 762/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2946
Epoch 763/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2818
Epoch 764/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3097
Epoch 765/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2938
Epoch 766/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3012
Epoch 767/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2974
Epoch 768/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3101
Epoch 769/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2862
Epoch 770/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2829
Epoch 771/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2965
Epoch 772/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2947
Epoch 773/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3265
Epoch 774/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3102
Epoch 775/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3021
Epoch 776/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3576
Epoch 777/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3349
Epoch 778/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2973
Epoch 779/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2988
Epoch 780/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3134
Epoch 781/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2950
Epoch 782/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2843
Epoch 783/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2898
Epoch 784/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2895
Epoch 785/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2843
Epoch 786/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2994
Epoch 787/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3013
Epoch 788/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3091
Epoch 789/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3068
Epoch 790/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2979
Epoch 791/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3387
Epoch 792/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3168
Epoch 793/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3233
Epoch 794/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3243
Epoch 795/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2913
Epoch 796/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3213
Epoch 797/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2906
Epoch 798/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3407
Epoch 799/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3278
Epoch 800/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2868
Epoch 801/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2808
Epoch 802/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2870
Epoch 803/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2872
Epoch 804/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2825
Epoch 805/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3020
Epoch 806/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3075
Epoch 807/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2975
Epoch 808/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3332
Epoch 809/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3193
Epoch 810/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2991
Epoch 811/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3015
Epoch 812/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2799
Epoch 813/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2856
Epoch 814/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3030
Epoch 815/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2888
Epoch 816/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2948
Epoch 817/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3095
Epoch 818/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3000
Epoch 819/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3123
Epoch 820/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3362
Epoch 821/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3384
Epoch 822/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3010
Epoch 823/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2960
Epoch 824/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2950
Epoch 825/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3072
Epoch 826/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2966
Epoch 827/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2850
Epoch 828/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3019
Epoch 829/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3306
Epoch 830/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3807
Epoch 831/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3085
Epoch 832/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3209
Epoch 833/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3252
Epoch 834/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2935
Epoch 835/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2952
Epoch 836/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2847
Epoch 837/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2986
Epoch 838/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3008
Epoch 839/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2929
Epoch 840/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3025
Epoch 841/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2850
Epoch 842/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3069
Epoch 843/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3028
Epoch 844/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2863
Epoch 845/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2838
Epoch 846/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2834
Epoch 847/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3034
Epoch 848/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3077
Epoch 849/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2754
Epoch 850/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2930
Epoch 851/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2905
Epoch 852/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3095
Epoch 853/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3134
Epoch 854/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2945
Epoch 855/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2889
Epoch 856/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2848
Epoch 857/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3017
Epoch 858/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3057
Epoch 859/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3120
Epoch 860/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2957
Epoch 861/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3018
Epoch 862/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2845
Epoch 863/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2792
Epoch 864/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3221
Epoch 865/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3236
Epoch 866/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3452
Epoch 867/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2986
Epoch 868/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3175
Epoch 869/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3100
Epoch 870/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3201
Epoch 871/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2944
Epoch 872/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2884
Epoch 873/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2795
Epoch 874/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2890
Epoch 875/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2978
Epoch 876/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2995
Epoch 877/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3072
Epoch 878/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3241
Epoch 879/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3179
Epoch 880/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3071
Epoch 881/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3256
Epoch 882/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3162
Epoch 883/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3437
Epoch 884/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2959
Epoch 885/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3158
Epoch 886/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2973
Epoch 887/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2811
Epoch 888/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3019
Epoch 889/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3036
Epoch 890/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3279
Epoch 891/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3128
Epoch 892/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3112
Epoch 893/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3277
Epoch 894/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3341
Epoch 895/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3298
Epoch 896/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3093
Epoch 897/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3129
Epoch 898/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3144
Epoch 899/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3501
Epoch 900/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3155
Epoch 901/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2865
Epoch 902/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3011
Epoch 903/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2885
Epoch 904/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2823
Epoch 905/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2831
Epoch 906/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3049
Epoch 907/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3064
Epoch 908/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2897
Epoch 909/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3055
Epoch 910/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2976
Epoch 911/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2908
Epoch 912/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2860
Epoch 913/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2807
Epoch 914/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3124
Epoch 915/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2930
Epoch 916/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2999
Epoch 917/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2983
Epoch 918/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2962
Epoch 919/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3271
Epoch 920/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3139
Epoch 921/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3090
Epoch 922/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3153
Epoch 923/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2916
Epoch 924/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3090
Epoch 925/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2927
Epoch 926/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2878
Epoch 927/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3046
Epoch 928/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2971
Epoch 929/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3097
Epoch 930/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3231
Epoch 931/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3101
Epoch 932/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2982
Epoch 933/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2984
Epoch 934/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3373
Epoch 935/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2964
Epoch 936/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2905
Epoch 937/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2887
Epoch 938/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3109
Epoch 939/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2909
Epoch 940/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2888
Epoch 941/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2763
Epoch 942/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2769
Epoch 943/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3013
Epoch 944/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3174
Epoch 945/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3175
Epoch 946/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2852
Epoch 947/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2914
Epoch 948/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2929
Epoch 949/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2832
Epoch 950/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2838
Epoch 951/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2781
Epoch 952/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3293
Epoch 953/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3046
Epoch 954/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3120
Epoch 955/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2916
Epoch 956/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3033
Epoch 957/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2867
Epoch 958/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2994
Epoch 959/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2823
Epoch 960/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2824
Epoch 961/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2895
Epoch 962/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2831
Epoch 963/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3042
Epoch 964/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2905
Epoch 965/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2817
Epoch 966/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3013
Epoch 967/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2910
Epoch 968/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3035
Epoch 969/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3095
Epoch 970/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3125
Epoch 971/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2868
Epoch 972/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2857
Epoch 973/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2878
Epoch 974/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2821
Epoch 975/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2956
Epoch 976/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2980
Epoch 977/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2950
Epoch 978/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2774
Epoch 979/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2800
Epoch 980/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2905
Epoch 981/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2758
Epoch 982/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2833
Epoch 983/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2770
Epoch 984/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2870
Epoch 985/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2990
Epoch 986/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2951
Epoch 987/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2737
Epoch 988/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2857
Epoch 989/1000

13/13 [=====] - 0s 2ms/step - loss: 0.2907
Epoch 990/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2988
Epoch 991/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2977
Epoch 992/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3215
Epoch 993/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3021
Epoch 994/1000
13/13 [=====] - 0s 2ms/step - loss: 0.2978
Epoch 995/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3399
Epoch 996/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3438
Epoch 997/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3370
Epoch 998/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3066
Epoch 999/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3537
Epoch 1000/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3117
Finished lambda = 0.05
Epoch 1/1000
13/13 [=====] - 0s 2ms/step - loss: 4.4219
Epoch 2/1000
13/13 [=====] - 0s 2ms/step - loss: 1.6769
Epoch 3/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3021
Epoch 4/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0594
Epoch 5/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9863
Epoch 6/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9571
Epoch 7/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9299
Epoch 8/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8791
Epoch 9/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8035
Epoch 10/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7615
Epoch 11/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7517
Epoch 12/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7485
Epoch 13/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7524
Epoch 14/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7513
Epoch 15/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7103
Epoch 16/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7160
Epoch 17/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7027
Epoch 18/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6958

Epoch 19/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6856
Epoch 20/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6670
Epoch 21/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6549
Epoch 22/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6661
Epoch 23/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6484
Epoch 24/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6381
Epoch 25/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6682
Epoch 26/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7882
Epoch 27/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6621
Epoch 28/1000
13/13 [=====] - 0s 3ms/step - loss: 0.6208
Epoch 29/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6074
Epoch 30/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6298
Epoch 31/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6228
Epoch 32/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6293
Epoch 33/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6244
Epoch 34/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6662
Epoch 35/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6518
Epoch 36/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6141
Epoch 37/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5869
Epoch 38/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5712
Epoch 39/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5706
Epoch 40/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5713
Epoch 41/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5833
Epoch 42/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5520
Epoch 43/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5762
Epoch 44/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5839
Epoch 45/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5805
Epoch 46/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5795
Epoch 47/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5398
Epoch 48/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5717

Epoch 49/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5489
Epoch 50/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5296
Epoch 51/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5416
Epoch 52/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5271
Epoch 53/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5332
Epoch 54/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5153
Epoch 55/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5677
Epoch 56/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5127
Epoch 57/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5167
Epoch 58/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5121
Epoch 59/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5355
Epoch 60/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5427
Epoch 61/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5566
Epoch 62/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5376
Epoch 63/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5174
Epoch 64/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5293
Epoch 65/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5148
Epoch 66/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5055
Epoch 67/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5041
Epoch 68/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5053
Epoch 69/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5068
Epoch 70/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5044
Epoch 71/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4987
Epoch 72/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4915
Epoch 73/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4952
Epoch 74/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5088
Epoch 75/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5015
Epoch 76/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5028
Epoch 77/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4983
Epoch 78/1000
13/13 [=====] - 0s 3ms/step - loss: 0.5208

Epoch 79/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5384
Epoch 80/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5107
Epoch 81/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5202
Epoch 82/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4888
Epoch 83/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4786
Epoch 84/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4660
Epoch 85/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4752
Epoch 86/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4729
Epoch 87/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4961
Epoch 88/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4810
Epoch 89/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4744
Epoch 90/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4667
Epoch 91/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4717
Epoch 92/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4690
Epoch 93/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4562
Epoch 94/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4578
Epoch 95/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4657
Epoch 96/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4528
Epoch 97/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4671
Epoch 98/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4645
Epoch 99/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4874
Epoch 100/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4890
Epoch 101/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4774
Epoch 102/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4638
Epoch 103/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4660
Epoch 104/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4584
Epoch 105/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4993
Epoch 106/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4503
Epoch 107/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4569
Epoch 108/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4679

Epoch 109/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4548
Epoch 110/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4536
Epoch 111/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4530
Epoch 112/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4465
Epoch 113/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4409
Epoch 114/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4380
Epoch 115/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4353
Epoch 116/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4444
Epoch 117/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4676
Epoch 118/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4548
Epoch 119/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4564
Epoch 120/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4656
Epoch 121/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4976
Epoch 122/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4632
Epoch 123/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4475
Epoch 124/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4400
Epoch 125/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4298
Epoch 126/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4368
Epoch 127/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4437
Epoch 128/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4329
Epoch 129/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4395
Epoch 130/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4350
Epoch 131/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4545
Epoch 132/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4311
Epoch 133/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4234
Epoch 134/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4469
Epoch 135/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4458
Epoch 136/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4480
Epoch 137/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4269
Epoch 138/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4447

Epoch 139/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4484
Epoch 140/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4564
Epoch 141/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4278
Epoch 142/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4188
Epoch 143/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4350
Epoch 144/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4393
Epoch 145/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4244
Epoch 146/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4211
Epoch 147/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4578
Epoch 148/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4352
Epoch 149/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4229
Epoch 150/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4191
Epoch 151/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4188
Epoch 152/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4163
Epoch 153/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4387
Epoch 154/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4234
Epoch 155/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4258
Epoch 156/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4298
Epoch 157/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4207
Epoch 158/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4190
Epoch 159/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4066
Epoch 160/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4313
Epoch 161/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4396
Epoch 162/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4258
Epoch 163/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4140
Epoch 164/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4264
Epoch 165/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4476
Epoch 166/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4568
Epoch 167/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4741
Epoch 168/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4414

Epoch 169/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4232
Epoch 170/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4344
Epoch 171/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4231
Epoch 172/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4199
Epoch 173/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4372
Epoch 174/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4445
Epoch 175/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4221
Epoch 176/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4396
Epoch 177/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4243
Epoch 178/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4113
Epoch 179/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4211
Epoch 180/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4104
Epoch 181/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4285
Epoch 182/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4194
Epoch 183/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4083
Epoch 184/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4008
Epoch 185/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4051
Epoch 186/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4090
Epoch 187/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4137
Epoch 188/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4156
Epoch 189/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3985
Epoch 190/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3975
Epoch 191/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4113
Epoch 192/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4123
Epoch 193/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4133
Epoch 194/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4169
Epoch 195/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4028
Epoch 196/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3957
Epoch 197/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4171
Epoch 198/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3976

Epoch 199/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4065
Epoch 200/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4047
Epoch 201/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4242
Epoch 202/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3972
Epoch 203/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3973
Epoch 204/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4103
Epoch 205/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4501
Epoch 206/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4292
Epoch 207/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4075
Epoch 208/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4128
Epoch 209/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4344
Epoch 210/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4132
Epoch 211/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4266
Epoch 212/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4159
Epoch 213/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4082
Epoch 214/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4061
Epoch 215/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3959
Epoch 216/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4088
Epoch 217/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3943
Epoch 218/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4143
Epoch 219/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3961
Epoch 220/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4011
Epoch 221/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3877
Epoch 222/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4093
Epoch 223/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4041
Epoch 224/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4349
Epoch 225/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4286
Epoch 226/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4133
Epoch 227/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4258
Epoch 228/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3872

Epoch 229/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4010
Epoch 230/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4080
Epoch 231/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3999
Epoch 232/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4129
Epoch 233/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3916
Epoch 234/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3862
Epoch 235/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3894
Epoch 236/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3957
Epoch 237/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3936
Epoch 238/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4217
Epoch 239/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4112
Epoch 240/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3903
Epoch 241/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3931
Epoch 242/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3882
Epoch 243/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3867
Epoch 244/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4005
Epoch 245/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4000
Epoch 246/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4086
Epoch 247/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3828
Epoch 248/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3933
Epoch 249/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4011
Epoch 250/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3936
Epoch 251/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4100
Epoch 252/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4001
Epoch 253/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3920
Epoch 254/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4081
Epoch 255/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4044
Epoch 256/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3823
Epoch 257/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4035
Epoch 258/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3874

Epoch 259/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3927
Epoch 260/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3871
Epoch 261/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4015
Epoch 262/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4692
Epoch 263/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4315
Epoch 264/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3949
Epoch 265/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4051
Epoch 266/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4290
Epoch 267/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4362
Epoch 268/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4182
Epoch 269/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3838
Epoch 270/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3818
Epoch 271/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3859
Epoch 272/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3896
Epoch 273/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4047
Epoch 274/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3783
Epoch 275/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3927
Epoch 276/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3905
Epoch 277/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3848
Epoch 278/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3801
Epoch 279/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4031
Epoch 280/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3934
Epoch 281/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3768
Epoch 282/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3805
Epoch 283/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3882
Epoch 284/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3864
Epoch 285/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4133
Epoch 286/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3968
Epoch 287/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3918
Epoch 288/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3894

Epoch 289/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3789
Epoch 290/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3934
Epoch 291/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3937
Epoch 292/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3709
Epoch 293/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3797
Epoch 294/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4046
Epoch 295/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4066
Epoch 296/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3776
Epoch 297/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3854
Epoch 298/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3909
Epoch 299/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3937
Epoch 300/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4246
Epoch 301/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3935
Epoch 302/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3903
Epoch 303/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3892
Epoch 304/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3795
Epoch 305/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3809
Epoch 306/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3878
Epoch 307/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3897
Epoch 308/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3906
Epoch 309/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3874
Epoch 310/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3706
Epoch 311/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3703
Epoch 312/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3740
Epoch 313/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3869
Epoch 314/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3847
Epoch 315/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3841
Epoch 316/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3775
Epoch 317/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3819
Epoch 318/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3752

Epoch 319/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3804
Epoch 320/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3815
Epoch 321/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3910
Epoch 322/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3885
Epoch 323/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4017
Epoch 324/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4101
Epoch 325/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3970
Epoch 326/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3851
Epoch 327/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3797
Epoch 328/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3941
Epoch 329/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3780
Epoch 330/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3667
Epoch 331/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3710
Epoch 332/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3727
Epoch 333/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4139
Epoch 334/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3953
Epoch 335/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3967
Epoch 336/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4070
Epoch 337/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4117
Epoch 338/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3781
Epoch 339/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3733
Epoch 340/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3881
Epoch 341/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3801
Epoch 342/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3772
Epoch 343/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3726
Epoch 344/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3667
Epoch 345/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3648
Epoch 346/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3662
Epoch 347/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3900
Epoch 348/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4215

Epoch 349/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3795
Epoch 350/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4008
Epoch 351/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3711
Epoch 352/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3945
Epoch 353/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3758
Epoch 354/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3681
Epoch 355/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3757
Epoch 356/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3686
Epoch 357/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3825
Epoch 358/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3997
Epoch 359/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3947
Epoch 360/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3976
Epoch 361/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4177
Epoch 362/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4679
Epoch 363/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4069
Epoch 364/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3726
Epoch 365/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3672
Epoch 366/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3627
Epoch 367/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3693
Epoch 368/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3925
Epoch 369/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3967
Epoch 370/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3725
Epoch 371/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3621
Epoch 372/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3599
Epoch 373/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3807
Epoch 374/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3569
Epoch 375/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3797
Epoch 376/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3777
Epoch 377/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3615
Epoch 378/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3758

Epoch 379/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3849
Epoch 380/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3809
Epoch 381/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4058
Epoch 382/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3720
Epoch 383/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3754
Epoch 384/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3627
Epoch 385/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3700
Epoch 386/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3589
Epoch 387/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3784
Epoch 388/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3720
Epoch 389/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3729
Epoch 390/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3587
Epoch 391/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3679
Epoch 392/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3796
Epoch 393/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3598
Epoch 394/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3637
Epoch 395/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3920
Epoch 396/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3824
Epoch 397/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3909
Epoch 398/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3806
Epoch 399/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3793
Epoch 400/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3737
Epoch 401/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3584
Epoch 402/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3610
Epoch 403/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3616
Epoch 404/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3640
Epoch 405/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3544
Epoch 406/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3592
Epoch 407/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3715
Epoch 408/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3686

Epoch 409/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3795
Epoch 410/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3860
Epoch 411/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3935
Epoch 412/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3796
Epoch 413/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3676
Epoch 414/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3572
Epoch 415/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3728
Epoch 416/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3842
Epoch 417/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3900
Epoch 418/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3674
Epoch 419/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3710
Epoch 420/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3533
Epoch 421/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3826
Epoch 422/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3919
Epoch 423/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3724
Epoch 424/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3747
Epoch 425/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3646
Epoch 426/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3630
Epoch 427/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3650
Epoch 428/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3738
Epoch 429/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3730
Epoch 430/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3692
Epoch 431/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3538
Epoch 432/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3614
Epoch 433/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3912
Epoch 434/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4044
Epoch 435/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4127
Epoch 436/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3985
Epoch 437/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3844
Epoch 438/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3835

Epoch 439/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3496
Epoch 440/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3472
Epoch 441/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3611
Epoch 442/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3819
Epoch 443/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3732
Epoch 444/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3673
Epoch 445/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3746
Epoch 446/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3602
Epoch 447/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3693
Epoch 448/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3599
Epoch 449/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3542
Epoch 450/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3559
Epoch 451/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3508
Epoch 452/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3637
Epoch 453/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3788
Epoch 454/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3728
Epoch 455/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3729
Epoch 456/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3605
Epoch 457/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3559
Epoch 458/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3837
Epoch 459/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3695
Epoch 460/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3614
Epoch 461/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3630
Epoch 462/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3489
Epoch 463/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3550
Epoch 464/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3655
Epoch 465/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3442
Epoch 466/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3820
Epoch 467/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3686
Epoch 468/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4017

Epoch 469/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4080
Epoch 470/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3421
Epoch 471/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3622
Epoch 472/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4026
Epoch 473/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4003
Epoch 474/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3942
Epoch 475/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3644
Epoch 476/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3539
Epoch 477/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3776
Epoch 478/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3640
Epoch 479/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3656
Epoch 480/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3688
Epoch 481/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3540
Epoch 482/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3741
Epoch 483/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3794
Epoch 484/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3738
Epoch 485/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3882
Epoch 486/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3572
Epoch 487/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3440
Epoch 488/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3521
Epoch 489/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3379
Epoch 490/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3551
Epoch 491/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3710
Epoch 492/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3722
Epoch 493/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3510
Epoch 494/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3525
Epoch 495/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3513
Epoch 496/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3730
Epoch 497/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3959
Epoch 498/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3465

Epoch 499/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3435
Epoch 500/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3642
Epoch 501/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3541
Epoch 502/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3556
Epoch 503/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3885
Epoch 504/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3679
Epoch 505/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3638
Epoch 506/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3775
Epoch 507/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3527
Epoch 508/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3369
Epoch 509/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3508
Epoch 510/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3458
Epoch 511/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3474
Epoch 512/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3603
Epoch 513/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3480
Epoch 514/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3452
Epoch 515/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3561
Epoch 516/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3581
Epoch 517/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3617
Epoch 518/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3601
Epoch 519/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3624
Epoch 520/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3669
Epoch 521/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3484
Epoch 522/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3618
Epoch 523/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3758
Epoch 524/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3383
Epoch 525/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3488
Epoch 526/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3523
Epoch 527/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3393
Epoch 528/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3448

Epoch 529/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3766
Epoch 530/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3636
Epoch 531/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3723
Epoch 532/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3401
Epoch 533/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3360
Epoch 534/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3616
Epoch 535/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3636
Epoch 536/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3388
Epoch 537/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4003
Epoch 538/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3564
Epoch 539/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3598
Epoch 540/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3966
Epoch 541/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4112
Epoch 542/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3789
Epoch 543/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3739
Epoch 544/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3591
Epoch 545/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3506
Epoch 546/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3618
Epoch 547/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3708
Epoch 548/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3668
Epoch 549/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3427
Epoch 550/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3380
Epoch 551/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3450
Epoch 552/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3436
Epoch 553/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3377
Epoch 554/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3489
Epoch 555/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3841
Epoch 556/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3852
Epoch 557/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3636
Epoch 558/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3484

Epoch 559/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3792
Epoch 560/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3496
Epoch 561/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3432
Epoch 562/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3508
Epoch 563/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3525
Epoch 564/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3610
Epoch 565/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3444
Epoch 566/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3615
Epoch 567/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3407
Epoch 568/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3446
Epoch 569/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3470
Epoch 570/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3368
Epoch 571/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3667
Epoch 572/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3502
Epoch 573/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3441
Epoch 574/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3588
Epoch 575/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3453
Epoch 576/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3381
Epoch 577/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3536
Epoch 578/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4134
Epoch 579/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3504
Epoch 580/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3366
Epoch 581/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3669
Epoch 582/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3566
Epoch 583/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3534
Epoch 584/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3758
Epoch 585/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3923
Epoch 586/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3625
Epoch 587/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3497
Epoch 588/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3381

Epoch 589/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3323
Epoch 590/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3344
Epoch 591/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3471
Epoch 592/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3424
Epoch 593/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3416
Epoch 594/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3430
Epoch 595/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4231
Epoch 596/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3953
Epoch 597/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3520
Epoch 598/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3417
Epoch 599/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3352
Epoch 600/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3480
Epoch 601/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3323
Epoch 602/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3441
Epoch 603/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3526
Epoch 604/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3433
Epoch 605/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3486
Epoch 606/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3682
Epoch 607/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3638
Epoch 608/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3529
Epoch 609/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3529
Epoch 610/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3601
Epoch 611/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3515
Epoch 612/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3641
Epoch 613/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3572
Epoch 614/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3442
Epoch 615/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3545
Epoch 616/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3488
Epoch 617/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3289
Epoch 618/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3641

Epoch 619/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3887
Epoch 620/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3834
Epoch 621/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3481
Epoch 622/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3506
Epoch 623/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3411
Epoch 624/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3302
Epoch 625/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3288
Epoch 626/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3396
Epoch 627/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3507
Epoch 628/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3626
Epoch 629/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3720
Epoch 630/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3747
Epoch 631/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3665
Epoch 632/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3689
Epoch 633/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3647
Epoch 634/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3490
Epoch 635/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3500
Epoch 636/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3622
Epoch 637/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3564
Epoch 638/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3533
Epoch 639/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3421
Epoch 640/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3480
Epoch 641/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3359
Epoch 642/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3514
Epoch 643/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3654
Epoch 644/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3461
Epoch 645/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3651
Epoch 646/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3610
Epoch 647/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3501
Epoch 648/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3604

Epoch 649/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3541
Epoch 650/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3446
Epoch 651/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3372
Epoch 652/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3311
Epoch 653/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3453
Epoch 654/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3588
Epoch 655/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3428
Epoch 656/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3318
Epoch 657/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3429
Epoch 658/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3431
Epoch 659/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3488
Epoch 660/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3649
Epoch 661/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3362
Epoch 662/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3473
Epoch 663/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3825
Epoch 664/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3552
Epoch 665/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3530
Epoch 666/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3509
Epoch 667/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3343
Epoch 668/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3274
Epoch 669/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3505
Epoch 670/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3370
Epoch 671/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3478
Epoch 672/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3799
Epoch 673/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4030
Epoch 674/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4042
Epoch 675/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3447
Epoch 676/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3380
Epoch 677/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3326
Epoch 678/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3292

Epoch 679/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3421
Epoch 680/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3379
Epoch 681/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3526
Epoch 682/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3364
Epoch 683/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3344
Epoch 684/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3387
Epoch 685/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3438
Epoch 686/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3440
Epoch 687/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3426
Epoch 688/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3301
Epoch 689/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3922
Epoch 690/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3782
Epoch 691/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3451
Epoch 692/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3513
Epoch 693/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3381
Epoch 694/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3429
Epoch 695/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3357
Epoch 696/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3369
Epoch 697/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3324
Epoch 698/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3494
Epoch 699/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3434
Epoch 700/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3456
Epoch 701/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3416
Epoch 702/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3248
Epoch 703/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3235
Epoch 704/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3525
Epoch 705/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3490
Epoch 706/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3521
Epoch 707/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3459
Epoch 708/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3385

Epoch 709/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3611
Epoch 710/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3591
Epoch 711/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3346
Epoch 712/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3798
Epoch 713/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3535
Epoch 714/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3444
Epoch 715/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3266
Epoch 716/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3356
Epoch 717/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3527
Epoch 718/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3723
Epoch 719/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4232
Epoch 720/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4009
Epoch 721/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3743
Epoch 722/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3494
Epoch 723/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3615
Epoch 724/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3451
Epoch 725/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3456
Epoch 726/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3479
Epoch 727/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3395
Epoch 728/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3466
Epoch 729/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3426
Epoch 730/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3492
Epoch 731/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3459
Epoch 732/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3495
Epoch 733/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3313
Epoch 734/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3398
Epoch 735/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3308
Epoch 736/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3362
Epoch 737/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3365
Epoch 738/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3607

Epoch 739/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3588
Epoch 740/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3451
Epoch 741/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3454
Epoch 742/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3743
Epoch 743/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3425
Epoch 744/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3378
Epoch 745/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3293
Epoch 746/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3289
Epoch 747/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3242
Epoch 748/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3403
Epoch 749/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3801
Epoch 750/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3487
Epoch 751/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3597
Epoch 752/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4092
Epoch 753/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3992
Epoch 754/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3516
Epoch 755/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3423
Epoch 756/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3452
Epoch 757/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3569
Epoch 758/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3659
Epoch 759/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3392
Epoch 760/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3461
Epoch 761/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3587
Epoch 762/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3456
Epoch 763/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3294
Epoch 764/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3491
Epoch 765/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3410
Epoch 766/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3403
Epoch 767/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3372
Epoch 768/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3587

Epoch 769/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3414
Epoch 770/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3293
Epoch 771/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3473
Epoch 772/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3464
Epoch 773/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3774
Epoch 774/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3696
Epoch 775/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3308
Epoch 776/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3790
Epoch 777/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3663
Epoch 778/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3240
Epoch 779/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3313
Epoch 780/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3439
Epoch 781/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3402
Epoch 782/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3244
Epoch 783/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3284
Epoch 784/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3259
Epoch 785/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3273
Epoch 786/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3396
Epoch 787/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3376
Epoch 788/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3276
Epoch 789/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3344
Epoch 790/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3371
Epoch 791/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3738
Epoch 792/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3753
Epoch 793/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3535
Epoch 794/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3583
Epoch 795/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3580
Epoch 796/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3751
Epoch 797/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3245
Epoch 798/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3672

Epoch 799/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3660
Epoch 800/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3440
Epoch 801/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3262
Epoch 802/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3249
Epoch 803/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3221
Epoch 804/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3227
Epoch 805/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3448
Epoch 806/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3466
Epoch 807/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3390
Epoch 808/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3491
Epoch 809/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3753
Epoch 810/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3448
Epoch 811/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3289
Epoch 812/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3229
Epoch 813/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3314
Epoch 814/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3358
Epoch 815/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3403
Epoch 816/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3407
Epoch 817/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3587
Epoch 818/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3525
Epoch 819/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3247
Epoch 820/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3617
Epoch 821/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3893
Epoch 822/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3459
Epoch 823/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3410
Epoch 824/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3472
Epoch 825/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3366
Epoch 826/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3276
Epoch 827/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3227
Epoch 828/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3439

Epoch 829/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3702
Epoch 830/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4245
Epoch 831/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3446
Epoch 832/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3522
Epoch 833/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3427
Epoch 834/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3497
Epoch 835/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3221
Epoch 836/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3326
Epoch 837/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3306
Epoch 838/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3449
Epoch 839/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3274
Epoch 840/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3685
Epoch 841/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3443
Epoch 842/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3543
Epoch 843/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3450
Epoch 844/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3298
Epoch 845/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3264
Epoch 846/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3259
Epoch 847/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3404
Epoch 848/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3418
Epoch 849/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3244
Epoch 850/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3384
Epoch 851/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3352
Epoch 852/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3488
Epoch 853/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3618
Epoch 854/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3329
Epoch 855/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3363
Epoch 856/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3353
Epoch 857/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3408
Epoch 858/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3748

Epoch 859/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3694
Epoch 860/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3419
Epoch 861/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3562
Epoch 862/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3237
Epoch 863/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3185
Epoch 864/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3711
Epoch 865/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3869
Epoch 866/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3700
Epoch 867/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3313
Epoch 868/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3356
Epoch 869/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3421
Epoch 870/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3598
Epoch 871/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3662
Epoch 872/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3405
Epoch 873/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3364
Epoch 874/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3456
Epoch 875/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3385
Epoch 876/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3409
Epoch 877/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3513
Epoch 878/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3691
Epoch 879/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3490
Epoch 880/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3284
Epoch 881/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3526
Epoch 882/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3638
Epoch 883/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4290
Epoch 884/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3415
Epoch 885/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3456
Epoch 886/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3430
Epoch 887/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3355
Epoch 888/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3378

Epoch 889/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3317
Epoch 890/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3648
Epoch 891/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3267
Epoch 892/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3282
Epoch 893/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3346
Epoch 894/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3397
Epoch 895/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3884
Epoch 896/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3537
Epoch 897/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3320
Epoch 898/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3547
Epoch 899/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3872
Epoch 900/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3677
Epoch 901/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3630
Epoch 902/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3469
Epoch 903/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3427
Epoch 904/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3239
Epoch 905/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3357
Epoch 906/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3523
Epoch 907/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3513
Epoch 908/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3627
Epoch 909/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4059
Epoch 910/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3684
Epoch 911/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3302
Epoch 912/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3322
Epoch 913/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3223
Epoch 914/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3481
Epoch 915/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3494
Epoch 916/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3580
Epoch 917/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3452
Epoch 918/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3416

Epoch 919/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3608
Epoch 920/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3691
Epoch 921/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3447
Epoch 922/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3530
Epoch 923/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3196
Epoch 924/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3484
Epoch 925/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3334
Epoch 926/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3238
Epoch 927/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3384
Epoch 928/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3238
Epoch 929/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3453
Epoch 930/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3904
Epoch 931/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4304
Epoch 932/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3775
Epoch 933/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3424
Epoch 934/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3853
Epoch 935/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3400
Epoch 936/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3381
Epoch 937/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3421
Epoch 938/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3509
Epoch 939/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3448
Epoch 940/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3375
Epoch 941/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3199
Epoch 942/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3214
Epoch 943/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3392
Epoch 944/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3394
Epoch 945/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3503
Epoch 946/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3181
Epoch 947/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3293
Epoch 948/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3255

Epoch 949/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3198
Epoch 950/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3160
Epoch 951/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3088
Epoch 952/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3339
Epoch 953/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3382
Epoch 954/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3636
Epoch 955/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3209
Epoch 956/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3413
Epoch 957/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3273
Epoch 958/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3347
Epoch 959/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3188
Epoch 960/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3201
Epoch 961/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3264
Epoch 962/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3176
Epoch 963/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3395
Epoch 964/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3200
Epoch 965/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3204
Epoch 966/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3366
Epoch 967/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3302
Epoch 968/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3373
Epoch 969/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3916
Epoch 970/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3835
Epoch 971/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3413
Epoch 972/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3221
Epoch 973/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3235
Epoch 974/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3209
Epoch 975/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3418
Epoch 976/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3334
Epoch 977/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3362
Epoch 978/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3217

```
Epoch 979/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3215
Epoch 980/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3331
Epoch 981/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3209
Epoch 982/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3251
Epoch 983/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3156
Epoch 984/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3314
Epoch 985/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3515
Epoch 986/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3528
Epoch 987/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3642
Epoch 988/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3226
Epoch 989/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3361
Epoch 990/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3456
Epoch 991/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3362
Epoch 992/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3459
Epoch 993/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3217
Epoch 994/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3261
Epoch 995/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3567
Epoch 996/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3495
Epoch 997/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3701
Epoch 998/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3298
Epoch 999/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3521
Epoch 1000/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3527
Finished lambda = 0.1
Epoch 1/1000
13/13 [=====] - 0s 2ms/step - loss: 7.2305
Epoch 2/1000
13/13 [=====] - 0s 2ms/step - loss: 2.1085
Epoch 3/1000
13/13 [=====] - 0s 2ms/step - loss: 1.8656
Epoch 4/1000
13/13 [=====] - 0s 2ms/step - loss: 1.5539
Epoch 5/1000
13/13 [=====] - 0s 2ms/step - loss: 1.4279
Epoch 6/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3365
Epoch 7/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2405
Epoch 8/1000
```


13/13 [=====] - 0s 2ms/step - loss: 1.1729
Epoch 9/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1066
Epoch 10/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0520
Epoch 11/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0156
Epoch 12/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9892
Epoch 13/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9824
Epoch 14/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9771
Epoch 15/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9303
Epoch 16/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9343
Epoch 17/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9430
Epoch 18/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9267
Epoch 19/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8989
Epoch 20/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8865
Epoch 21/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8512
Epoch 22/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8660
Epoch 23/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8533
Epoch 24/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8240
Epoch 25/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8210
Epoch 26/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9313
Epoch 27/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8426
Epoch 28/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7978
Epoch 29/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7749
Epoch 30/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8004
Epoch 31/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7836
Epoch 32/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8088
Epoch 33/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7786
Epoch 34/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7880
Epoch 35/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7997
Epoch 36/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7535
Epoch 37/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7379
Epoch 38/1000

13/13 [=====] - 0s 2ms/step - loss: 0.7254
Epoch 39/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7363
Epoch 40/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7585
Epoch 41/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7501
Epoch 42/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7170
Epoch 43/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7408
Epoch 44/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7434
Epoch 45/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7228
Epoch 46/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7327
Epoch 47/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7141
Epoch 48/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7551
Epoch 49/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7161
Epoch 50/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7052
Epoch 51/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7049
Epoch 52/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6762
Epoch 53/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6770
Epoch 54/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6664
Epoch 55/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7190
Epoch 56/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6635
Epoch 57/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6668
Epoch 58/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6565
Epoch 59/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6744
Epoch 60/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6681
Epoch 61/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6951
Epoch 62/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6695
Epoch 63/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6530
Epoch 64/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6668
Epoch 65/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6562
Epoch 66/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6567
Epoch 67/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6406
Epoch 68/1000

13/13 [=====] - 0s 2ms/step - loss: 0.6378
Epoch 69/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6491
Epoch 70/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6509
Epoch 71/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6654
Epoch 72/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6482
Epoch 73/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6368
Epoch 74/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6284
Epoch 75/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6237
Epoch 76/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6323
Epoch 77/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6302
Epoch 78/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6297
Epoch 79/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6510
Epoch 80/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6246
Epoch 81/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6547
Epoch 82/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6363
Epoch 83/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6143
Epoch 84/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6049
Epoch 85/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6188
Epoch 86/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6115
Epoch 87/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6157
Epoch 88/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6046
Epoch 89/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6053
Epoch 90/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6042
Epoch 91/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6022
Epoch 92/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5952
Epoch 93/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5823
Epoch 94/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5863
Epoch 95/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5891
Epoch 96/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5785
Epoch 97/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5873
Epoch 98/1000

13/13 [=====] - 0s 2ms/step - loss: 0.5910
Epoch 99/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6149
Epoch 100/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6300
Epoch 101/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6315
Epoch 102/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6021
Epoch 103/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5906
Epoch 104/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5849
Epoch 105/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6378
Epoch 106/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6071
Epoch 107/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5806
Epoch 108/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5804
Epoch 109/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5737
Epoch 110/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5770
Epoch 111/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5735
Epoch 112/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5677
Epoch 113/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5631
Epoch 114/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5592
Epoch 115/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5584
Epoch 116/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5624
Epoch 117/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5964
Epoch 118/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5851
Epoch 119/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5781
Epoch 120/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5697
Epoch 121/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5779
Epoch 122/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5713
Epoch 123/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5563
Epoch 124/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5602
Epoch 125/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5471
Epoch 126/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5520
Epoch 127/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5622
Epoch 128/1000

13/13 [=====] - 0s 2ms/step - loss: 0.5424
Epoch 129/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5474
Epoch 130/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5414
Epoch 131/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5639
Epoch 132/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5547
Epoch 133/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5286
Epoch 134/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5628
Epoch 135/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5506
Epoch 136/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5488
Epoch 137/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5365
Epoch 138/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5484
Epoch 139/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5439
Epoch 140/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5617
Epoch 141/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5608
Epoch 142/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5356
Epoch 143/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5469
Epoch 144/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5576
Epoch 145/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5338
Epoch 146/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5303
Epoch 147/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5785
Epoch 148/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5535
Epoch 149/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5393
Epoch 150/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5324
Epoch 151/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5275
Epoch 152/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5288
Epoch 153/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5362
Epoch 154/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5263
Epoch 155/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5299
Epoch 156/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5296
Epoch 157/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5340
Epoch 158/1000

13/13 [=====] - 0s 2ms/step - loss: 0.5259
Epoch 159/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5134
Epoch 160/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5319
Epoch 161/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5505
Epoch 162/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5497
Epoch 163/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5140
Epoch 164/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5319
Epoch 165/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5486
Epoch 166/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5546
Epoch 167/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5586
Epoch 168/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5442
Epoch 169/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5227
Epoch 170/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5301
Epoch 171/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5182
Epoch 172/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5250
Epoch 173/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5237
Epoch 174/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5265
Epoch 175/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5070
Epoch 176/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5317
Epoch 177/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5294
Epoch 178/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5232
Epoch 179/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5213
Epoch 180/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5216
Epoch 181/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5252
Epoch 182/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5135
Epoch 183/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5070
Epoch 184/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5059
Epoch 185/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5096
Epoch 186/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5119
Epoch 187/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5073
Epoch 188/1000

13/13 [=====] - 0s 2ms/step - loss: 0.5149
Epoch 189/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4984
Epoch 190/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4932
Epoch 191/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5047
Epoch 192/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5101
Epoch 193/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5016
Epoch 194/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5011
Epoch 195/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4946
Epoch 196/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4906
Epoch 197/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5094
Epoch 198/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4911
Epoch 199/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5020
Epoch 200/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4943
Epoch 201/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5160
Epoch 202/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4914
Epoch 203/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5037
Epoch 204/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5046
Epoch 205/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5484
Epoch 206/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5171
Epoch 207/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5113
Epoch 208/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5250
Epoch 209/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5337
Epoch 210/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5088
Epoch 211/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5162
Epoch 212/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4923
Epoch 213/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4876
Epoch 214/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4914
Epoch 215/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4946
Epoch 216/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5034
Epoch 217/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4926
Epoch 218/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4983
Epoch 219/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4888
Epoch 220/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4847
Epoch 221/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4777
Epoch 222/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4966
Epoch 223/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4956
Epoch 224/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5112
Epoch 225/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4997
Epoch 226/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5177
Epoch 227/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5339
Epoch 228/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4943
Epoch 229/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4845
Epoch 230/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5170
Epoch 231/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5013
Epoch 232/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5146
Epoch 233/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4869
Epoch 234/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4818
Epoch 235/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4781
Epoch 236/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4861
Epoch 237/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4885
Epoch 238/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5032
Epoch 239/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4960
Epoch 240/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4792
Epoch 241/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4748
Epoch 242/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4824
Epoch 243/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4806
Epoch 244/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4839
Epoch 245/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4906
Epoch 246/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4957
Epoch 247/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4688
Epoch 248/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4783
Epoch 249/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4883
Epoch 250/1000
13/13 [=====] - 0s 3ms/step - loss: 0.4825
Epoch 251/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5057
Epoch 252/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4909
Epoch 253/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4826
Epoch 254/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4982
Epoch 255/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4822
Epoch 256/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4695
Epoch 257/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4803
Epoch 258/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4712
Epoch 259/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4804
Epoch 260/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4814
Epoch 261/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4797
Epoch 262/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5424
Epoch 263/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5291
Epoch 264/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4864
Epoch 265/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4750
Epoch 266/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4883
Epoch 267/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4940
Epoch 268/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4856
Epoch 269/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4604
Epoch 270/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4601
Epoch 271/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4686
Epoch 272/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4703
Epoch 273/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4922
Epoch 274/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4668
Epoch 275/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4721
Epoch 276/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4674
Epoch 277/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4735
Epoch 278/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4668
Epoch 279/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4930
Epoch 280/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4828
Epoch 281/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4591
Epoch 282/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4606
Epoch 283/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4629
Epoch 284/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4586
Epoch 285/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4730
Epoch 286/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4826
Epoch 287/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5009
Epoch 288/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4860
Epoch 289/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4634
Epoch 290/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4673
Epoch 291/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4715
Epoch 292/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4521
Epoch 293/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4545
Epoch 294/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4669
Epoch 295/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4900
Epoch 296/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4651
Epoch 297/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4637
Epoch 298/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4673
Epoch 299/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4773
Epoch 300/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4817
Epoch 301/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4610
Epoch 302/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4647
Epoch 303/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4778
Epoch 304/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4744
Epoch 305/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4547
Epoch 306/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4782
Epoch 307/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4615
Epoch 308/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4518
Epoch 309/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4630
Epoch 310/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4547
Epoch 311/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4478
Epoch 312/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4486
Epoch 313/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4531
Epoch 314/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4565
Epoch 315/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4511
Epoch 316/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4460
Epoch 317/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4490
Epoch 318/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4459
Epoch 319/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4439
Epoch 320/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4614
Epoch 321/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4729
Epoch 322/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4774
Epoch 323/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4968
Epoch 324/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5048
Epoch 325/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4812
Epoch 326/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4736
Epoch 327/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4767
Epoch 328/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4835
Epoch 329/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4615
Epoch 330/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4491
Epoch 331/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4477
Epoch 332/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4510
Epoch 333/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5010
Epoch 334/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4710
Epoch 335/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4736
Epoch 336/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4970
Epoch 337/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4956
Epoch 338/1000

13/13 [=====] - 0s 4ms/step - loss: 0.4802
Epoch 339/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4454
Epoch 340/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4513
Epoch 341/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4510
Epoch 342/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4390
Epoch 343/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4381
Epoch 344/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4364
Epoch 345/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4345
Epoch 346/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4365
Epoch 347/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4561
Epoch 348/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4799
Epoch 349/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4582
Epoch 350/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4864
Epoch 351/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4430
Epoch 352/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4623
Epoch 353/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4478
Epoch 354/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4382
Epoch 355/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4465
Epoch 356/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4388
Epoch 357/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4476
Epoch 358/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4643
Epoch 359/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4708
Epoch 360/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4697
Epoch 361/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4914
Epoch 362/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5326
Epoch 363/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4668
Epoch 364/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4488
Epoch 365/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4346
Epoch 366/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4302
Epoch 367/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4356
Epoch 368/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4476
Epoch 369/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4522
Epoch 370/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4422
Epoch 371/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4322
Epoch 372/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4333
Epoch 373/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4520
Epoch 374/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4421
Epoch 375/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4565
Epoch 376/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4587
Epoch 377/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4301
Epoch 378/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4389
Epoch 379/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4485
Epoch 380/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4328
Epoch 381/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4921
Epoch 382/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4668
Epoch 383/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4422
Epoch 384/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4315
Epoch 385/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4356
Epoch 386/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4257
Epoch 387/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4427
Epoch 388/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4348
Epoch 389/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4342
Epoch 390/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4267
Epoch 391/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4381
Epoch 392/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4426
Epoch 393/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4340
Epoch 394/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4476
Epoch 395/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4706
Epoch 396/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4672
Epoch 397/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4702
Epoch 398/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4574
Epoch 399/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4671
Epoch 400/1000
13/13 [=====] - 0s 3ms/step - loss: 0.4481
Epoch 401/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4247
Epoch 402/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4290
Epoch 403/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4365
Epoch 404/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4365
Epoch 405/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4253
Epoch 406/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4280
Epoch 407/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4398
Epoch 408/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4476
Epoch 409/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4285
Epoch 410/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4453
Epoch 411/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4708
Epoch 412/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4316
Epoch 413/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4397
Epoch 414/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4432
Epoch 415/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4414
Epoch 416/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4317
Epoch 417/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4485
Epoch 418/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4356
Epoch 419/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4330
Epoch 420/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4202
Epoch 421/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4330
Epoch 422/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4401
Epoch 423/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4297
Epoch 424/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4249
Epoch 425/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4221
Epoch 426/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4233
Epoch 427/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4419
Epoch 428/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4488
Epoch 429/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4394
Epoch 430/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4400
Epoch 431/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4220
Epoch 432/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4245
Epoch 433/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4367
Epoch 434/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4520
Epoch 435/1000
13/13 [=====] - 0s 3ms/step - loss: 0.4587
Epoch 436/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4434
Epoch 437/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4456
Epoch 438/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4332
Epoch 439/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4170
Epoch 440/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4150
Epoch 441/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4255
Epoch 442/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4484
Epoch 443/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4404
Epoch 444/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4423
Epoch 445/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4671
Epoch 446/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4480
Epoch 447/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4396
Epoch 448/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4251
Epoch 449/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4165
Epoch 450/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4203
Epoch 451/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4155
Epoch 452/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4210
Epoch 453/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4370
Epoch 454/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4550
Epoch 455/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4629
Epoch 456/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4568
Epoch 457/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4166
Epoch 458/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4402
Epoch 459/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4233
Epoch 460/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4125
Epoch 461/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4117
Epoch 462/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4089
Epoch 463/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4133
Epoch 464/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4268
Epoch 465/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4112
Epoch 466/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4541
Epoch 467/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4227
Epoch 468/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4506
Epoch 469/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4818
Epoch 470/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4190
Epoch 471/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4179
Epoch 472/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4455
Epoch 473/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4752
Epoch 474/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4685
Epoch 475/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4310
Epoch 476/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4106
Epoch 477/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4389
Epoch 478/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4188
Epoch 479/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4530
Epoch 480/1000
13/13 [=====] - 0s 3ms/step - loss: 0.4671
Epoch 481/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4344
Epoch 482/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4388
Epoch 483/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4716
Epoch 484/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4419
Epoch 485/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4662
Epoch 486/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4243
Epoch 487/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4064
Epoch 488/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4115
Epoch 489/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4025
Epoch 490/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4174
Epoch 491/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4209
Epoch 492/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4393
Epoch 493/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4202
Epoch 494/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4069
Epoch 495/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4137
Epoch 496/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4292
Epoch 497/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4940
Epoch 498/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4403
Epoch 499/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4063
Epoch 500/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4270
Epoch 501/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4112
Epoch 502/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4185
Epoch 503/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4478
Epoch 504/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4536
Epoch 505/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4472
Epoch 506/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4594
Epoch 507/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4444
Epoch 508/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4060
Epoch 509/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4180
Epoch 510/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4133
Epoch 511/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4214
Epoch 512/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4202
Epoch 513/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4167
Epoch 514/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4126
Epoch 515/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4147
Epoch 516/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4111
Epoch 517/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4135
Epoch 518/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4116
Epoch 519/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4142
Epoch 520/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4294
Epoch 521/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4281
Epoch 522/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4202
Epoch 523/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4558
Epoch 524/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4109
Epoch 525/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4155
Epoch 526/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4130
Epoch 527/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3980
Epoch 528/1000
13/13 [=====] - 0s 4ms/step - loss: 0.4043
Epoch 529/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4460
Epoch 530/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4293
Epoch 531/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4366
Epoch 532/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4021
Epoch 533/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3980
Epoch 534/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4191
Epoch 535/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4292
Epoch 536/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3981
Epoch 537/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4506
Epoch 538/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4122
Epoch 539/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4085
Epoch 540/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4308
Epoch 541/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4773
Epoch 542/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4368
Epoch 543/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4256
Epoch 544/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4351
Epoch 545/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4023
Epoch 546/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4089
Epoch 547/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4244
Epoch 548/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4043
Epoch 549/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4046
Epoch 550/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4056
Epoch 551/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4109
Epoch 552/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4069
Epoch 553/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4018
Epoch 554/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4048
Epoch 555/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4438
Epoch 556/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4323
Epoch 557/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4246
Epoch 558/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4038
Epoch 559/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4432
Epoch 560/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4305
Epoch 561/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4060
Epoch 562/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4166
Epoch 563/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4051
Epoch 564/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4296
Epoch 565/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4053
Epoch 566/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4198
Epoch 567/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4046
Epoch 568/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4093
Epoch 569/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4139
Epoch 570/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4040
Epoch 571/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4178
Epoch 572/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4224
Epoch 573/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4158
Epoch 574/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4307
Epoch 575/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4133
Epoch 576/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4070
Epoch 577/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4071
Epoch 578/1000

13/13 [=====] - 0s 2ms/step - loss: 0.5033
Epoch 579/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4474
Epoch 580/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4065
Epoch 581/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4161
Epoch 582/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4085
Epoch 583/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4078
Epoch 584/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4220
Epoch 585/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4475
Epoch 586/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4412
Epoch 587/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4076
Epoch 588/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3916
Epoch 589/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3888
Epoch 590/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3882
Epoch 591/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3965
Epoch 592/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3960
Epoch 593/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4008
Epoch 594/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4078
Epoch 595/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4661
Epoch 596/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4314
Epoch 597/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3995
Epoch 598/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3924
Epoch 599/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3960
Epoch 600/1000
13/13 [=====] - 0s 3ms/step - loss: 0.4066
Epoch 601/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3947
Epoch 602/1000
13/13 [=====] - 0s 4ms/step - loss: 0.4053
Epoch 603/1000
13/13 [=====] - 0s 4ms/step - loss: 0.3982
Epoch 604/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3966
Epoch 605/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4025
Epoch 606/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4195
Epoch 607/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4171
Epoch 608/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4175
Epoch 609/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4052
Epoch 610/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4231
Epoch 611/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4006
Epoch 612/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4111
Epoch 613/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4113
Epoch 614/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4106
Epoch 615/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4240
Epoch 616/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4187
Epoch 617/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3982
Epoch 618/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4351
Epoch 619/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5043
Epoch 620/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4696
Epoch 621/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4074
Epoch 622/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3999
Epoch 623/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3997
Epoch 624/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3890
Epoch 625/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3874
Epoch 626/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3966
Epoch 627/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3975
Epoch 628/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4257
Epoch 629/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4133
Epoch 630/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4264
Epoch 631/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4280
Epoch 632/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4402
Epoch 633/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4295
Epoch 634/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4181
Epoch 635/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4070
Epoch 636/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4137
Epoch 637/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4000
Epoch 638/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3987
Epoch 639/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3918
Epoch 640/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4130
Epoch 641/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3999
Epoch 642/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4185
Epoch 643/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4353
Epoch 644/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4124
Epoch 645/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4538
Epoch 646/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4460
Epoch 647/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3891
Epoch 648/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4108
Epoch 649/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4005
Epoch 650/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3990
Epoch 651/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3913
Epoch 652/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3831
Epoch 653/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3951
Epoch 654/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3999
Epoch 655/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4025
Epoch 656/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3938
Epoch 657/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3935
Epoch 658/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3865
Epoch 659/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3898
Epoch 660/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4080
Epoch 661/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3865
Epoch 662/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3850
Epoch 663/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4182
Epoch 664/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4046
Epoch 665/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3954
Epoch 666/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4158
Epoch 667/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3874
Epoch 668/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3824
Epoch 669/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3945
Epoch 670/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3897
Epoch 671/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3977
Epoch 672/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4105
Epoch 673/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4109
Epoch 674/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4298
Epoch 675/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3873
Epoch 676/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3867
Epoch 677/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3907
Epoch 678/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3890
Epoch 679/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3938
Epoch 680/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3886
Epoch 681/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4084
Epoch 682/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3900
Epoch 683/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3912
Epoch 684/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3952
Epoch 685/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3990
Epoch 686/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4002
Epoch 687/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3866
Epoch 688/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3787
Epoch 689/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4346
Epoch 690/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4264
Epoch 691/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4056
Epoch 692/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3913
Epoch 693/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3785
Epoch 694/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3838
Epoch 695/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3874
Epoch 696/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3892
Epoch 697/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3925
Epoch 698/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4063
Epoch 699/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3937
Epoch 700/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3836
Epoch 701/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3992
Epoch 702/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3932
Epoch 703/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3766
Epoch 704/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4027
Epoch 705/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3976
Epoch 706/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4029
Epoch 707/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4109
Epoch 708/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3975
Epoch 709/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4049
Epoch 710/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4076
Epoch 711/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3975
Epoch 712/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4437
Epoch 713/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3932
Epoch 714/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3945
Epoch 715/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3797
Epoch 716/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3799
Epoch 717/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3983
Epoch 718/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3982
Epoch 719/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4386
Epoch 720/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4406
Epoch 721/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4348
Epoch 722/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3955
Epoch 723/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4328
Epoch 724/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4163
Epoch 725/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4385
Epoch 726/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4156
Epoch 727/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3811
Epoch 728/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3933
Epoch 729/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3842
Epoch 730/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4052
Epoch 731/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3949
Epoch 732/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3939
Epoch 733/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3864
Epoch 734/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3944
Epoch 735/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3725
Epoch 736/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3787
Epoch 737/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3807
Epoch 738/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4124
Epoch 739/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4136
Epoch 740/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3959
Epoch 741/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4185
Epoch 742/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4268
Epoch 743/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3880
Epoch 744/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4073
Epoch 745/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3956
Epoch 746/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3935
Epoch 747/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3791
Epoch 748/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3936
Epoch 749/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4630
Epoch 750/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4087
Epoch 751/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4035
Epoch 752/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4943
Epoch 753/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4739
Epoch 754/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4099
Epoch 755/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4023
Epoch 756/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4045
Epoch 757/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4098
Epoch 758/1000

13/13 [=====] - 0s 2ms/step - loss: 0.4396
Epoch 759/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4188
Epoch 760/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4419
Epoch 761/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4437
Epoch 762/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4122
Epoch 763/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3941
Epoch 764/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4058
Epoch 765/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4023
Epoch 766/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3916
Epoch 767/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3999
Epoch 768/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4131
Epoch 769/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4080
Epoch 770/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3891
Epoch 771/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3957
Epoch 772/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3976
Epoch 773/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4176
Epoch 774/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4467
Epoch 775/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4112
Epoch 776/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3870
Epoch 777/1000
13/13 [=====] - 0s 3ms/step - loss: 0.4090
Epoch 778/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3738
Epoch 779/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3834
Epoch 780/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3893
Epoch 781/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4016
Epoch 782/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3785
Epoch 783/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3870
Epoch 784/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3847
Epoch 785/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3771
Epoch 786/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3853
Epoch 787/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3870
Epoch 788/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3757
Epoch 789/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3865
Epoch 790/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3893
Epoch 791/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4039
Epoch 792/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4276
Epoch 793/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4036
Epoch 794/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4227
Epoch 795/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4438
Epoch 796/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4502
Epoch 797/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3825
Epoch 798/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3948
Epoch 799/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3895
Epoch 800/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3913
Epoch 801/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3837
Epoch 802/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3808
Epoch 803/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3749
Epoch 804/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3668
Epoch 805/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3838
Epoch 806/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3862
Epoch 807/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3817
Epoch 808/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3839
Epoch 809/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4255
Epoch 810/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3834
Epoch 811/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3666
Epoch 812/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3711
Epoch 813/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3807
Epoch 814/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3775
Epoch 815/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3989
Epoch 816/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3950
Epoch 817/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3911
Epoch 818/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3832
Epoch 819/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3721
Epoch 820/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4266
Epoch 821/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4424
Epoch 822/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4148
Epoch 823/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3871
Epoch 824/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3850
Epoch 825/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3789
Epoch 826/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3810
Epoch 827/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3708
Epoch 828/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3878
Epoch 829/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4085
Epoch 830/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4337
Epoch 831/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3857
Epoch 832/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3783
Epoch 833/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3744
Epoch 834/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3820
Epoch 835/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3881
Epoch 836/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3825
Epoch 837/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3741
Epoch 838/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3869
Epoch 839/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3818
Epoch 840/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4143
Epoch 841/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4488
Epoch 842/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3917
Epoch 843/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4013
Epoch 844/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3874
Epoch 845/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3793
Epoch 846/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3853
Epoch 847/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3913
Epoch 848/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3833
Epoch 849/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3877
Epoch 850/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3991
Epoch 851/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3923
Epoch 852/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3887
Epoch 853/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4010
Epoch 854/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3833
Epoch 855/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3736
Epoch 856/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3793
Epoch 857/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3762
Epoch 858/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3877
Epoch 859/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4431
Epoch 860/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3867
Epoch 861/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4336
Epoch 862/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4001
Epoch 863/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3772
Epoch 864/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4316
Epoch 865/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4388
Epoch 866/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3939
Epoch 867/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3844
Epoch 868/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3734
Epoch 869/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3772
Epoch 870/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4007
Epoch 871/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3998
Epoch 872/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3735
Epoch 873/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3646
Epoch 874/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3765
Epoch 875/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3807
Epoch 876/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3913
Epoch 877/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3909
Epoch 878/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3836
Epoch 879/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3746
Epoch 880/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3770
Epoch 881/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4124
Epoch 882/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4225
Epoch 883/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4888
Epoch 884/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4251
Epoch 885/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4104
Epoch 886/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3708
Epoch 887/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3853
Epoch 888/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3832
Epoch 889/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3826
Epoch 890/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4013
Epoch 891/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3823
Epoch 892/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3878
Epoch 893/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3820
Epoch 894/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3781
Epoch 895/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4272
Epoch 896/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3973
Epoch 897/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3884
Epoch 898/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3868
Epoch 899/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4169
Epoch 900/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3996
Epoch 901/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4278
Epoch 902/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4126
Epoch 903/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4085
Epoch 904/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3729
Epoch 905/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3896
Epoch 906/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3867
Epoch 907/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3873
Epoch 908/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3975
Epoch 909/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4631
Epoch 910/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4206
Epoch 911/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3818
Epoch 912/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3809
Epoch 913/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3680
Epoch 914/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3905
Epoch 915/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3846
Epoch 916/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3832
Epoch 917/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3775
Epoch 918/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3644
Epoch 919/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3890
Epoch 920/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4278
Epoch 921/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3860
Epoch 922/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3988
Epoch 923/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3835
Epoch 924/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4029
Epoch 925/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3777
Epoch 926/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3785
Epoch 927/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3922
Epoch 928/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3653
Epoch 929/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3681
Epoch 930/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4210
Epoch 931/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4879
Epoch 932/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4624
Epoch 933/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3960
Epoch 934/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4013
Epoch 935/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3804
Epoch 936/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3766
Epoch 937/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3850
Epoch 938/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3882
Epoch 939/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3953
Epoch 940/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3796
Epoch 941/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3654
Epoch 942/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3612
Epoch 943/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3804
Epoch 944/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3859
Epoch 945/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3702
Epoch 946/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3694
Epoch 947/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3815
Epoch 948/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3758
Epoch 949/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3658
Epoch 950/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3652
Epoch 951/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3547
Epoch 952/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3651
Epoch 953/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3807
Epoch 954/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4005
Epoch 955/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3697
Epoch 956/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4008
Epoch 957/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3942
Epoch 958/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3650
Epoch 959/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3557
Epoch 960/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3678
Epoch 961/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3765
Epoch 962/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3611
Epoch 963/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3791
Epoch 964/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3638
Epoch 965/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3692
Epoch 966/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3816
Epoch 967/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3780
Epoch 968/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3942
Epoch 969/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4322
Epoch 970/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4104
Epoch 971/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4072
Epoch 972/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3927
Epoch 973/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3829
Epoch 974/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3845
Epoch 975/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3936
Epoch 976/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3824
Epoch 977/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3813
Epoch 978/1000
13/13 [=====] - 0s 3ms/step - loss: 0.3589
Epoch 979/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3755
Epoch 980/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3907
Epoch 981/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3797
Epoch 982/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3713
Epoch 983/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3619
Epoch 984/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3865
Epoch 985/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3865
Epoch 986/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3877
Epoch 987/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3954
Epoch 988/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3722
Epoch 989/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3788
Epoch 990/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3700
Epoch 991/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3862
Epoch 992/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3634
Epoch 993/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3725
Epoch 994/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3784
Epoch 995/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3795
Epoch 996/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3737
Epoch 997/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4055
Epoch 998/1000

13/13 [=====] - 0s 2ms/step - loss: 0.3704
Epoch 999/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3871
Epoch 1000/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3889
Finished lambda = 0.2
Epoch 1/1000
13/13 [=====] - 1s 2ms/step - loss: 10.0200
Epoch 2/1000
13/13 [=====] - 0s 2ms/step - loss: 2.3224
Epoch 3/1000
13/13 [=====] - 0s 2ms/step - loss: 2.0916
Epoch 4/1000
13/13 [=====] - 0s 2ms/step - loss: 1.7369
Epoch 5/1000
13/13 [=====] - 0s 2ms/step - loss: 1.6111
Epoch 6/1000
13/13 [=====] - 0s 2ms/step - loss: 1.5503
Epoch 7/1000
13/13 [=====] - 0s 2ms/step - loss: 1.4839
Epoch 8/1000
13/13 [=====] - 0s 2ms/step - loss: 1.4436
Epoch 9/1000
13/13 [=====] - 0s 2ms/step - loss: 1.4173
Epoch 10/1000
13/13 [=====] - 0s 2ms/step - loss: 1.4022
Epoch 11/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3691
Epoch 12/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3548
Epoch 13/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3763
Epoch 14/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3344
Epoch 15/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3076
Epoch 16/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3215
Epoch 17/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3037
Epoch 18/1000
13/13 [=====] - 0s 2ms/step - loss: 1.3006
Epoch 19/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2815
Epoch 20/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2757
Epoch 21/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2588
Epoch 22/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2815
Epoch 23/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2645
Epoch 24/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2502
Epoch 25/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2554
Epoch 26/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2611
Epoch 27/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2327

Epoch 28/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2199
Epoch 29/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2131
Epoch 30/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2317
Epoch 31/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2263
Epoch 32/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2623
Epoch 33/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2130
Epoch 34/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2218
Epoch 35/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2068
Epoch 36/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1824
Epoch 37/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1837
Epoch 38/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1734
Epoch 39/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1654
Epoch 40/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1917
Epoch 41/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1572
Epoch 42/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1693
Epoch 43/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1569
Epoch 44/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1501
Epoch 45/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1574
Epoch 46/1000
13/13 [=====] - 0s 2ms/step - loss: 1.2008
Epoch 47/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1789
Epoch 48/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1831
Epoch 49/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1547
Epoch 50/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1754
Epoch 51/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1771
Epoch 52/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1298
Epoch 53/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1251
Epoch 54/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1241
Epoch 55/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1641
Epoch 56/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1207
Epoch 57/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1176

Epoch 58/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1058
Epoch 59/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1239
Epoch 60/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1263
Epoch 61/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1532
Epoch 62/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1014
Epoch 63/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0997
Epoch 64/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1299
Epoch 65/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1222
Epoch 66/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1168
Epoch 67/1000
13/13 [=====] - 0s 2ms/step - loss: 1.1034
Epoch 68/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0895
Epoch 69/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0844
Epoch 70/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0765
Epoch 71/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0855
Epoch 72/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0736
Epoch 73/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0786
Epoch 74/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0948
Epoch 75/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0863
Epoch 76/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0651
Epoch 77/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0553
Epoch 78/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0531
Epoch 79/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0735
Epoch 80/1000
13/13 [=====] - 0s 2ms/step - loss: 1.0628
Epoch 81/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9781
Epoch 82/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9355
Epoch 83/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9214
Epoch 84/1000
13/13 [=====] - 0s 2ms/step - loss: 0.9065
Epoch 85/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8817
Epoch 86/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8689
Epoch 87/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8543

Epoch 88/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8659
Epoch 89/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8482
Epoch 90/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8271
Epoch 91/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8080
Epoch 92/1000
13/13 [=====] - 0s 2ms/step - loss: 0.8012
Epoch 93/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7899
Epoch 94/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7801
Epoch 95/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7788
Epoch 96/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7779
Epoch 97/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7789
Epoch 98/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7912
Epoch 99/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7804
Epoch 100/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7738
Epoch 101/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7791
Epoch 102/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7601
Epoch 103/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7463
Epoch 104/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7417
Epoch 105/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7647
Epoch 106/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7388
Epoch 107/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7415
Epoch 108/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7234
Epoch 109/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7344
Epoch 110/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7738
Epoch 111/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7570
Epoch 112/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7394
Epoch 113/1000
13/13 [=====] - 0s 3ms/step - loss: 0.7189
Epoch 114/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7207
Epoch 115/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7067
Epoch 116/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7284
Epoch 117/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7156

Epoch 118/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7380
Epoch 119/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7724
Epoch 120/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7452
Epoch 121/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6985
Epoch 122/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6955
Epoch 123/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7083
Epoch 124/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7095
Epoch 125/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7071
Epoch 126/1000
13/13 [=====] - 0s 3ms/step - loss: 0.7185
Epoch 127/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7251
Epoch 128/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6873
Epoch 129/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6772
Epoch 130/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6694
Epoch 131/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6813
Epoch 132/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6882
Epoch 133/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6751
Epoch 134/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6949
Epoch 135/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6866
Epoch 136/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6820
Epoch 137/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6607
Epoch 138/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6874
Epoch 139/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6791
Epoch 140/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6643
Epoch 141/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7036
Epoch 142/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6682
Epoch 143/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6610
Epoch 144/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6755
Epoch 145/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6594
Epoch 146/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6560
Epoch 147/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6953

Epoch 148/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6576
Epoch 149/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6588
Epoch 150/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6460
Epoch 151/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6375
Epoch 152/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6405
Epoch 153/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6421
Epoch 154/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6388
Epoch 155/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6359
Epoch 156/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6389
Epoch 157/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6385
Epoch 158/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6369
Epoch 159/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6473
Epoch 160/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6544
Epoch 161/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6777
Epoch 162/1000
13/13 [=====] - 0s 2ms/step - loss: 0.7063
Epoch 163/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6757
Epoch 164/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6439
Epoch 165/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6478
Epoch 166/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6483
Epoch 167/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6433
Epoch 168/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6234
Epoch 169/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6223
Epoch 170/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6321
Epoch 171/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6308
Epoch 172/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6145
Epoch 173/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6356
Epoch 174/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6327
Epoch 175/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6269
Epoch 176/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6205
Epoch 177/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6185

Epoch 178/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6181
Epoch 179/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6174
Epoch 180/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6302
Epoch 181/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6100
Epoch 182/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6114
Epoch 183/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5997
Epoch 184/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6111
Epoch 185/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6026
Epoch 186/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6151
Epoch 187/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6062
Epoch 188/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5973
Epoch 189/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6056
Epoch 190/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5979
Epoch 191/1000
13/13 [=====] - 0s 3ms/step - loss: 0.6089
Epoch 192/1000
13/13 [=====] - 0s 4ms/step - loss: 0.6041
Epoch 193/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5925
Epoch 194/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5938
Epoch 195/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5914
Epoch 196/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5921
Epoch 197/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6022
Epoch 198/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5944
Epoch 199/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5968
Epoch 200/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5942
Epoch 201/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6174
Epoch 202/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5856
Epoch 203/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5888
Epoch 204/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6080
Epoch 205/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6408
Epoch 206/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5903
Epoch 207/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5945

Epoch 208/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5982
Epoch 209/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6100
Epoch 210/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5999
Epoch 211/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5951
Epoch 212/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5855
Epoch 213/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5797
Epoch 214/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5805
Epoch 215/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5997
Epoch 216/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5938
Epoch 217/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5841
Epoch 218/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6008
Epoch 219/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5805
Epoch 220/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5887
Epoch 221/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5714
Epoch 222/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5837
Epoch 223/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5891
Epoch 224/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5774
Epoch 225/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5669
Epoch 226/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6077
Epoch 227/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5883
Epoch 228/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5749
Epoch 229/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6093
Epoch 230/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6406
Epoch 231/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6181
Epoch 232/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6226
Epoch 233/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5750
Epoch 234/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5631
Epoch 235/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5710
Epoch 236/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5762
Epoch 237/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5769

Epoch 238/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5989
Epoch 239/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6056
Epoch 240/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5897
Epoch 241/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5594
Epoch 242/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5572
Epoch 243/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5606
Epoch 244/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5601
Epoch 245/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5765
Epoch 246/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5542
Epoch 247/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5513
Epoch 248/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5735
Epoch 249/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5818
Epoch 250/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5560
Epoch 251/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5803
Epoch 252/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5760
Epoch 253/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5518
Epoch 254/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5639
Epoch 255/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5607
Epoch 256/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5555
Epoch 257/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5686
Epoch 258/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5579
Epoch 259/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5575
Epoch 260/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5745
Epoch 261/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5595
Epoch 262/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5777
Epoch 263/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5597
Epoch 264/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5463
Epoch 265/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5656
Epoch 266/1000
13/13 [=====] - 0s 2ms/step - loss: 0.6008
Epoch 267/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5922

Epoch 268/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5897
Epoch 269/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5410
Epoch 270/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5439
Epoch 271/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5457
Epoch 272/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5514
Epoch 273/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5582
Epoch 274/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5395
Epoch 275/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5479
Epoch 276/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5459
Epoch 277/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5401
Epoch 278/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5385
Epoch 279/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5671
Epoch 280/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5627
Epoch 281/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5446
Epoch 282/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5417
Epoch 283/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5517
Epoch 284/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5407
Epoch 285/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5576
Epoch 286/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5415
Epoch 287/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5485
Epoch 288/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5465
Epoch 289/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5530
Epoch 290/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5656
Epoch 291/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5668
Epoch 292/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5364
Epoch 293/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5465
Epoch 294/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5488
Epoch 295/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5631
Epoch 296/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5406
Epoch 297/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5354

Epoch 298/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5399
Epoch 299/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5584
Epoch 300/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5343
Epoch 301/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5384
Epoch 302/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5292
Epoch 303/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5466
Epoch 304/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5599
Epoch 305/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5365
Epoch 306/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5371
Epoch 307/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5360
Epoch 308/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5373
Epoch 309/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5333
Epoch 310/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5210
Epoch 311/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5186
Epoch 312/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5269
Epoch 313/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5385
Epoch 314/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5403
Epoch 315/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5319
Epoch 316/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5252
Epoch 317/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5232
Epoch 318/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5195
Epoch 319/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5176
Epoch 320/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5289
Epoch 321/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5289
Epoch 322/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5300
Epoch 323/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5331
Epoch 324/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5584
Epoch 325/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5529
Epoch 326/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5394
Epoch 327/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5373

Epoch 328/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5341
Epoch 329/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5173
Epoch 330/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5209
Epoch 331/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5186
Epoch 332/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5283
Epoch 333/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5692
Epoch 334/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5395
Epoch 335/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5373
Epoch 336/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5261
Epoch 337/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5373
Epoch 338/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5426
Epoch 339/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5322
Epoch 340/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5149
Epoch 341/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5240
Epoch 342/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5087
Epoch 343/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5077
Epoch 344/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5103
Epoch 345/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5038
Epoch 346/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5101
Epoch 347/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5126
Epoch 348/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5398
Epoch 349/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5199
Epoch 350/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5231
Epoch 351/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5187
Epoch 352/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5221
Epoch 353/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5091
Epoch 354/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5055
Epoch 355/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5104
Epoch 356/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5000
Epoch 357/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5063

Epoch 358/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5254
Epoch 359/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5182
Epoch 360/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5160
Epoch 361/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5150
Epoch 362/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5585
Epoch 363/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5070
Epoch 364/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5054
Epoch 365/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5091
Epoch 366/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5024
Epoch 367/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5052
Epoch 368/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5308
Epoch 369/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5143
Epoch 370/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5187
Epoch 371/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5095
Epoch 372/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4958
Epoch 373/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5057
Epoch 374/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5201
Epoch 375/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5143
Epoch 376/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5274
Epoch 377/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4956
Epoch 378/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5043
Epoch 379/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5149
Epoch 380/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4974
Epoch 381/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5453
Epoch 382/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5188
Epoch 383/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5509
Epoch 384/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5087
Epoch 385/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5089
Epoch 386/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4956
Epoch 387/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5108

Epoch 388/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5211
Epoch 389/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5065
Epoch 390/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4879
Epoch 391/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4986
Epoch 392/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5126
Epoch 393/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4934
Epoch 394/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4934
Epoch 395/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5338
Epoch 396/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5376
Epoch 397/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5576
Epoch 398/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5092
Epoch 399/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5005
Epoch 400/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5123
Epoch 401/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4947
Epoch 402/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4951
Epoch 403/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5090
Epoch 404/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5285
Epoch 405/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5026
Epoch 406/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4939
Epoch 407/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5092
Epoch 408/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5175
Epoch 409/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4980
Epoch 410/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5074
Epoch 411/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5038
Epoch 412/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4820
Epoch 413/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4903
Epoch 414/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5186
Epoch 415/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5541
Epoch 416/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4871
Epoch 417/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5095

Epoch 418/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4947
Epoch 419/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4873
Epoch 420/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4789
Epoch 421/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5024
Epoch 422/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5113
Epoch 423/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5058
Epoch 424/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4899
Epoch 425/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4836
Epoch 426/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4826
Epoch 427/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5015
Epoch 428/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4994
Epoch 429/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4915
Epoch 430/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4871
Epoch 431/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4749
Epoch 432/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4821
Epoch 433/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4883
Epoch 434/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5074
Epoch 435/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5016
Epoch 436/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4885
Epoch 437/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4877
Epoch 438/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4895
Epoch 439/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4779
Epoch 440/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4839
Epoch 441/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4944
Epoch 442/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5039
Epoch 443/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4945
Epoch 444/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5142
Epoch 445/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4948
Epoch 446/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5493
Epoch 447/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5185

Epoch 448/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5150
Epoch 449/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4816
Epoch 450/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4769
Epoch 451/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4834
Epoch 452/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4886
Epoch 453/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5004
Epoch 454/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5035
Epoch 455/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5022
Epoch 456/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4915
Epoch 457/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4757
Epoch 458/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4841
Epoch 459/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4714
Epoch 460/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4810
Epoch 461/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4855
Epoch 462/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4710
Epoch 463/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4696
Epoch 464/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4860
Epoch 465/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4644
Epoch 466/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4978
Epoch 467/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4855
Epoch 468/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5072
Epoch 469/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5278
Epoch 470/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4680
Epoch 471/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4715
Epoch 472/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5039
Epoch 473/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5219
Epoch 474/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5128
Epoch 475/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4818
Epoch 476/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4744
Epoch 477/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4821

Epoch 478/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4745
Epoch 479/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5103
Epoch 480/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5091
Epoch 481/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5223
Epoch 482/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4757
Epoch 483/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5086
Epoch 484/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4791
Epoch 485/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5043
Epoch 486/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4802
Epoch 487/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4806
Epoch 488/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4716
Epoch 489/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4572
Epoch 490/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4728
Epoch 491/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4927
Epoch 492/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4979
Epoch 493/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4969
Epoch 494/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4714
Epoch 495/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4766
Epoch 496/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4837
Epoch 497/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5263
Epoch 498/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4903
Epoch 499/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4704
Epoch 500/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4881
Epoch 501/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4649
Epoch 502/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4750
Epoch 503/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4880
Epoch 504/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5184
Epoch 505/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5019
Epoch 506/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5003
Epoch 507/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4865

Epoch 508/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4744
Epoch 509/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4716
Epoch 510/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4687
Epoch 511/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4750
Epoch 512/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4600
Epoch 513/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4629
Epoch 514/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4821
Epoch 515/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4739
Epoch 516/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4818
Epoch 517/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4778
Epoch 518/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4756
Epoch 519/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4678
Epoch 520/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4690
Epoch 521/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5012
Epoch 522/1000
13/13 [=====] - 0s 3ms/step - loss: 0.4762
Epoch 523/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4905
Epoch 524/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4806
Epoch 525/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4745
Epoch 526/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4982
Epoch 527/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4636
Epoch 528/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4660
Epoch 529/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4712
Epoch 530/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4720
Epoch 531/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4899
Epoch 532/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4744
Epoch 533/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4627
Epoch 534/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4672
Epoch 535/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4724
Epoch 536/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4484
Epoch 537/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5001

Epoch 538/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4757
Epoch 539/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4601
Epoch 540/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4817
Epoch 541/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5116
Epoch 542/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4723
Epoch 543/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4746
Epoch 544/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4827
Epoch 545/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4561
Epoch 546/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4604
Epoch 547/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4821
Epoch 548/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4690
Epoch 549/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4618
Epoch 550/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4541
Epoch 551/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4600
Epoch 552/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4564
Epoch 553/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4645
Epoch 554/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4644
Epoch 555/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4986
Epoch 556/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5012
Epoch 557/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4654
Epoch 558/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4578
Epoch 559/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4876
Epoch 560/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4710
Epoch 561/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4535
Epoch 562/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4607
Epoch 563/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4538
Epoch 564/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4731
Epoch 565/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4715
Epoch 566/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4640
Epoch 567/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4675

Epoch 568/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4639
Epoch 569/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4622
Epoch 570/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4698
Epoch 571/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4746
Epoch 572/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4651
Epoch 573/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4544
Epoch 574/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4757
Epoch 575/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4981
Epoch 576/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4545
Epoch 577/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4527
Epoch 578/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5156
Epoch 579/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4712
Epoch 580/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4486
Epoch 581/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4843
Epoch 582/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4790
Epoch 583/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4899
Epoch 584/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4788
Epoch 585/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4884
Epoch 586/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4661
Epoch 587/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4630
Epoch 588/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4462
Epoch 589/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4395
Epoch 590/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4412
Epoch 591/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4535
Epoch 592/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4488
Epoch 593/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4598
Epoch 594/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4530
Epoch 595/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5041
Epoch 596/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4791
Epoch 597/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4527

Epoch 598/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4516
Epoch 599/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4460
Epoch 600/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4552
Epoch 601/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4404
Epoch 602/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4488
Epoch 603/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4457
Epoch 604/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4474
Epoch 605/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4482
Epoch 606/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4912
Epoch 607/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4505
Epoch 608/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4578
Epoch 609/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4476
Epoch 610/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4678
Epoch 611/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4609
Epoch 612/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4828
Epoch 613/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4619
Epoch 614/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4551
Epoch 615/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4691
Epoch 616/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5206
Epoch 617/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4706
Epoch 618/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4564
Epoch 619/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4792
Epoch 620/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4780
Epoch 621/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4545
Epoch 622/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4517
Epoch 623/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4622
Epoch 624/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4416
Epoch 625/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4407
Epoch 626/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4553
Epoch 627/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4549

Epoch 628/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4626
Epoch 629/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4808
Epoch 630/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4764
Epoch 631/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4722
Epoch 632/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4651
Epoch 633/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4591
Epoch 634/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4485
Epoch 635/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4449
Epoch 636/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4691
Epoch 637/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4467
Epoch 638/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4500
Epoch 639/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4506
Epoch 640/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4837
Epoch 641/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4556
Epoch 642/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4930
Epoch 643/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4911
Epoch 644/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4600
Epoch 645/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5018
Epoch 646/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4820
Epoch 647/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4384
Epoch 648/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4479
Epoch 649/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4433
Epoch 650/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4440
Epoch 651/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4367
Epoch 652/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4322
Epoch 653/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4487
Epoch 654/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4618
Epoch 655/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4611
Epoch 656/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4444
Epoch 657/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4497

Epoch 658/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4351
Epoch 659/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4388
Epoch 660/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4593
Epoch 661/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4361
Epoch 662/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4394
Epoch 663/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4741
Epoch 664/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4702
Epoch 665/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4526
Epoch 666/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4594
Epoch 667/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4380
Epoch 668/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4279
Epoch 669/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4437
Epoch 670/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4431
Epoch 671/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4451
Epoch 672/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4433
Epoch 673/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4335
Epoch 674/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4534
Epoch 675/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4617
Epoch 676/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4488
Epoch 677/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4599
Epoch 678/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4427
Epoch 679/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4496
Epoch 680/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4355
Epoch 681/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4529
Epoch 682/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4402
Epoch 683/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4429
Epoch 684/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4404
Epoch 685/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4485
Epoch 686/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4513
Epoch 687/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4417

Epoch 688/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4287
Epoch 689/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4832
Epoch 690/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4633
Epoch 691/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4602
Epoch 692/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4616
Epoch 693/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4328
Epoch 694/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4389
Epoch 695/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4323
Epoch 696/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4326
Epoch 697/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4413
Epoch 698/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4581
Epoch 699/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4358
Epoch 700/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4404
Epoch 701/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4444
Epoch 702/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4337
Epoch 703/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4220
Epoch 704/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4497
Epoch 705/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4471
Epoch 706/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4370
Epoch 707/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4503
Epoch 708/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4581
Epoch 709/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4763
Epoch 710/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4620
Epoch 711/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4466
Epoch 712/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4775
Epoch 713/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4506
Epoch 714/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4496
Epoch 715/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4321
Epoch 716/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4186
Epoch 717/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4362

Epoch 718/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4344
Epoch 719/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4698
Epoch 720/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4680
Epoch 721/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4640
Epoch 722/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4487
Epoch 723/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4745
Epoch 724/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4634
Epoch 725/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4607
Epoch 726/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5011
Epoch 727/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4551
Epoch 728/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4703
Epoch 729/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4237
Epoch 730/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4483
Epoch 731/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4430
Epoch 732/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4339
Epoch 733/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4351
Epoch 734/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4520
Epoch 735/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4248
Epoch 736/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4299
Epoch 737/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4235
Epoch 738/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4563
Epoch 739/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4495
Epoch 740/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4327
Epoch 741/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4479
Epoch 742/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4599
Epoch 743/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4353
Epoch 744/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4490
Epoch 745/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4320
Epoch 746/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4433
Epoch 747/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4242

Epoch 748/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4246
Epoch 749/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5043
Epoch 750/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4740
Epoch 751/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4472
Epoch 752/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5057
Epoch 753/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4875
Epoch 754/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4433
Epoch 755/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4394
Epoch 756/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4648
Epoch 757/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4776
Epoch 758/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4945
Epoch 759/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4865
Epoch 760/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5016
Epoch 761/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5040
Epoch 762/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4696
Epoch 763/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4413
Epoch 764/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4337
Epoch 765/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4366
Epoch 766/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4319
Epoch 767/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4382
Epoch 768/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4492
Epoch 769/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4624
Epoch 770/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4494
Epoch 771/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4450
Epoch 772/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4377
Epoch 773/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4424
Epoch 774/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4882
Epoch 775/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4609
Epoch 776/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4382
Epoch 777/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4597

Epoch 778/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4519
Epoch 779/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4378
Epoch 780/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4340
Epoch 781/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4516
Epoch 782/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4226
Epoch 783/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4329
Epoch 784/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4299
Epoch 785/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4181
Epoch 786/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4252
Epoch 787/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4287
Epoch 788/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4210
Epoch 789/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4328
Epoch 790/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4664
Epoch 791/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4666
Epoch 792/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4788
Epoch 793/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4510
Epoch 794/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4497
Epoch 795/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4569
Epoch 796/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4688
Epoch 797/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4176
Epoch 798/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4431
Epoch 799/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4304
Epoch 800/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4275
Epoch 801/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4202
Epoch 802/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4155
Epoch 803/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4178
Epoch 804/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4202
Epoch 805/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4346
Epoch 806/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4363
Epoch 807/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4273

Epoch 808/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4235
Epoch 809/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4563
Epoch 810/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4189
Epoch 811/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4162
Epoch 812/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4195
Epoch 813/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4235
Epoch 814/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4154
Epoch 815/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4348
Epoch 816/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4426
Epoch 817/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4436
Epoch 818/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4269
Epoch 819/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4301
Epoch 820/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4592
Epoch 821/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4633
Epoch 822/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4815
Epoch 823/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4249
Epoch 824/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4338
Epoch 825/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4205
Epoch 826/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4219
Epoch 827/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4184
Epoch 828/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4258
Epoch 829/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4447
Epoch 830/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4746
Epoch 831/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4268
Epoch 832/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4232
Epoch 833/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4179
Epoch 834/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4297
Epoch 835/1000
13/13 [=====] - 0s 3ms/step - loss: 0.4219
Epoch 836/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4288
Epoch 837/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4199

Epoch 838/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4358
Epoch 839/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4308
Epoch 840/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4574
Epoch 841/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4684
Epoch 842/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4150
Epoch 843/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4336
Epoch 844/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4363
Epoch 845/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4266
Epoch 846/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4220
Epoch 847/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4304
Epoch 848/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4258
Epoch 849/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4504
Epoch 850/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4558
Epoch 851/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4457
Epoch 852/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4422
Epoch 853/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4320
Epoch 854/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4266
Epoch 855/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4217
Epoch 856/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4301
Epoch 857/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4262
Epoch 858/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4375
Epoch 859/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4829
Epoch 860/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4301
Epoch 861/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4452
Epoch 862/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4477
Epoch 863/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4324
Epoch 864/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5030
Epoch 865/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4973
Epoch 866/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4498
Epoch 867/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4364

Epoch 868/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4234
Epoch 869/1000
13/13 [=====] - 0s 3ms/step - loss: 0.4221
Epoch 870/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4538
Epoch 871/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4406
Epoch 872/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4090
Epoch 873/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4086
Epoch 874/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4132
Epoch 875/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4208
Epoch 876/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4337
Epoch 877/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4315
Epoch 878/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4256
Epoch 879/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4170
Epoch 880/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4139
Epoch 881/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4349
Epoch 882/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4418
Epoch 883/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4769
Epoch 884/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4671
Epoch 885/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4726
Epoch 886/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4253
Epoch 887/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4319
Epoch 888/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4357
Epoch 889/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4447
Epoch 890/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4477
Epoch 891/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4162
Epoch 892/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4355
Epoch 893/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4608
Epoch 894/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4329
Epoch 895/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4489
Epoch 896/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4335
Epoch 897/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4211

Epoch 898/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4284
Epoch 899/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4557
Epoch 900/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4337
Epoch 901/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4510
Epoch 902/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4427
Epoch 903/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4421
Epoch 904/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4112
Epoch 905/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4315
Epoch 906/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4315
Epoch 907/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4356
Epoch 908/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4280
Epoch 909/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4677
Epoch 910/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4256
Epoch 911/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4437
Epoch 912/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4384
Epoch 913/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4274
Epoch 914/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4488
Epoch 915/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4246
Epoch 916/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4144
Epoch 917/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4147
Epoch 918/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4072
Epoch 919/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4200
Epoch 920/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4713
Epoch 921/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4375
Epoch 922/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4262
Epoch 923/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4471
Epoch 924/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4763
Epoch 925/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4238
Epoch 926/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4167
Epoch 927/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4580

Epoch 928/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4136
Epoch 929/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4122
Epoch 930/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4576
Epoch 931/1000
13/13 [=====] - 0s 2ms/step - loss: 0.5130
Epoch 932/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4797
Epoch 933/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4299
Epoch 934/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4341
Epoch 935/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4359
Epoch 936/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4408
Epoch 937/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4066
Epoch 938/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4407
Epoch 939/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4355
Epoch 940/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4142
Epoch 941/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4131
Epoch 942/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4047
Epoch 943/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4193
Epoch 944/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4190
Epoch 945/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4176
Epoch 946/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4215
Epoch 947/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4424
Epoch 948/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4251
Epoch 949/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4096
Epoch 950/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4007
Epoch 951/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4013
Epoch 952/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4067
Epoch 953/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4219
Epoch 954/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4515
Epoch 955/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4156
Epoch 956/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4392
Epoch 957/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4762

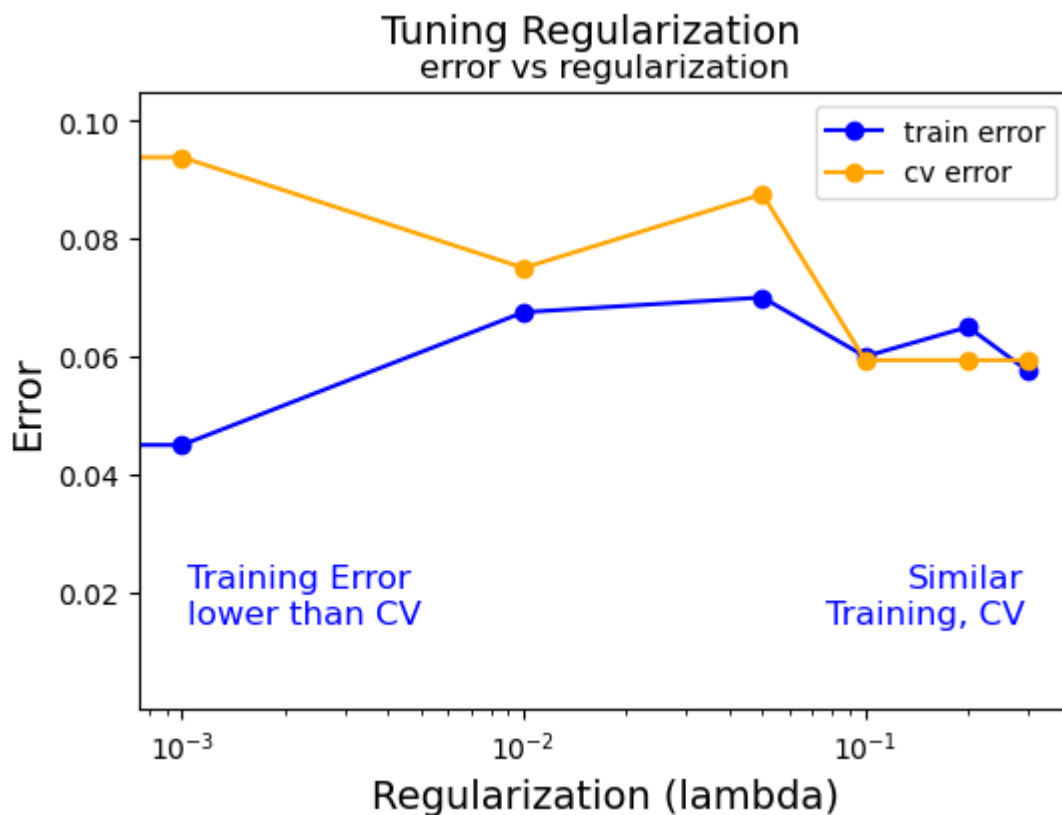
Epoch 958/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4229
Epoch 959/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4012
Epoch 960/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4215
Epoch 961/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4273
Epoch 962/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4092
Epoch 963/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4253
Epoch 964/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4035
Epoch 965/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4117
Epoch 966/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4168
Epoch 967/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4070
Epoch 968/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4205
Epoch 969/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4536
Epoch 970/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4450
Epoch 971/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4352
Epoch 972/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4216
Epoch 973/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4078
Epoch 974/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4152
Epoch 975/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4126
Epoch 976/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4065
Epoch 977/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4138
Epoch 978/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4007
Epoch 979/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4169
Epoch 980/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4274
Epoch 981/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4164
Epoch 982/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4106
Epoch 983/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4024
Epoch 984/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4268
Epoch 985/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4104
Epoch 986/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4168
Epoch 987/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4361

```

Epoch 988/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3972
Epoch 989/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4139
Epoch 990/1000
13/13 [=====] - 0s 2ms/step - loss: 0.3995
Epoch 991/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4154
Epoch 992/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4107
Epoch 993/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4116
Epoch 994/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4233
Epoch 995/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4279
Epoch 996/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4294
Epoch 997/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4630
Epoch 998/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4117
Epoch 999/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4127
Epoch 1000/1000
13/13 [=====] - 0s 2ms/step - loss: 0.4209
Finished lambda = 0.3

```

In [38]: `plot_iterate(lambdas, models, X_train, y_train, X_cv, y_cv)`



As regularization is increased, the performance of the model on the training and cross-validation data sets converge. For this data set and model, $\lambda > 0.01$ seems to be a

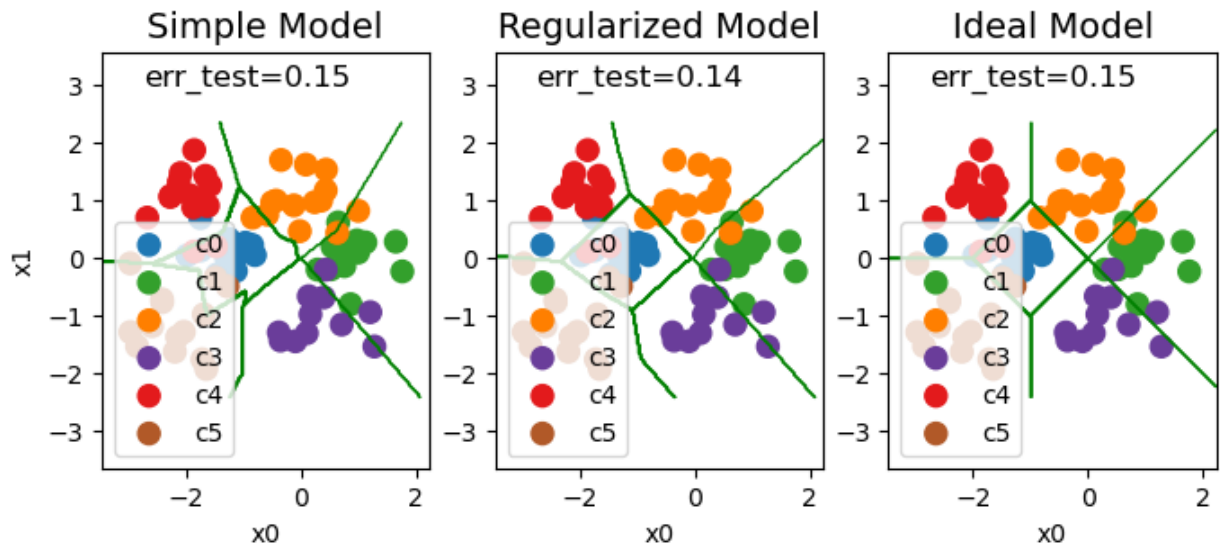
reasonable choice.

7.1 Test

Let's try our optimized models on the test set and compare them to 'ideal' performance.

```
In [39]: plt_compare(X_test,y_test, classes, model_predict_s, model_predict_r, centers)
```

```
1050/1050 [=====] - 1s 1ms/step
1050/1050 [=====] - 1s 1ms/step
3/3 [=====] - 0s 1ms/step
3/3 [=====] - 0s 2ms/step
```



Our test set is small and seems to have a number of outliers so classification error is high. However, the performance of our optimized models is comparable to ideal performance.

You have become familiar with important tools to apply when evaluating your machine learning models. Namely:

- splitting data into trained and untrained sets allows you to differentiate between underfitting and overfitting
- creating three data sets, Training, Cross-Validation and Test allows you to
 - train your parameters W, B with the training set
 - tune model parameters such as complexity, regularization and number of examples with the cross-validation set
 - evaluate your 'real world' performance using the test set.
- comparing training vs cross-validation performance provides insight into a model's propensity towards overfitting (high variance) or underfitting (high bias)

```
In [ ]:
```