ML_L7_CA2

SUBMISSION TO: CCT COLLEGE DUBLIN

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Introduction

For purposes of this CA, I was given a dataset “glass_data.csv”, the dataset consists of following columns:

1. Id number: 1 to 214
2. RI: refractive index
3. Na: Sodium (unit measurement: weight percent in corresponding oxide, as are attributes 4-10)
4. Mg: Magnesium
5. Al: Aluminium
6. Si: Silicon
7. K: Potassium
8. Ca: Calcium
9. Ba: Barium
10. Fe: Iron
11. Type of glass: (class attribute)
    - 1 building_windows_float_processed
    - 2 building_windows_non_float_processed
    - 3 vehicle_windows_float_processed
    - 4 vehicle_windows_non_float_processed (none in this database)
    - 5 containers
    - 6 tableware
    - 7 headlamps

The objective for me is to conduct an analysis using a neural network with the following dataset is as follows:

1. To perform EDA on the dataset and discuss findings and what relevance they have on the Neural network I wish to create.

2. Pre-processing data for the machine learning models and justification on how the chosen methods should help me.

3. Create and implement a Dense Neural Network that will output the glass type classification.

4. Test and try to improve the accuracy of the Neural network models using various methods and parameters.

5. Make a Classification using the Final choice of model and validate the results.

In [1]:
```
import numpy as np
import pandas as pd

import tensorflow as tf
from tensorflow import keras
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Dense
from tensorflow import optimizers

from sklearn import metrics
from sklearn.metrics import accuracy_score
from sklearn.model_selection import train_test_split

from sklearn import preprocessing
from sklearn.preprocessing import MinMaxScaler
from sklearn.preprocessing import StandardScaler
from sklearn.preprocessing import LabelEncoder
from sklearn.ensemble import RandomForestClassifier

import matplotlib
from matplotlib import pyplot as plt
%matplotlib inline

import warnings
warnings.filterwarnings("ignore", category=FutureWarning)
warnings.filterwarnings("ignore", category=DeprecationWarning)

from keras.models import Sequential
from keras.layers import Dense
from keras.utils import np_utils

import xgboost as xgb
from xgboost import XGBClassifier
```

Libraries -

I imported multiple libraries for the following:

- Pandas - for creating a data frame.
- Keras and tesnsorflow - For creating machine learning and Neural Network Models, along with multiple parameters that I would use for my test models.
- Numpy - To convert the data to a numpy array.
- Sklearn - For pre-processing data and checking accuracy, metrics among others.
- Matplotlib - For creating plots.
- xgboost - For Xgboost test and classification
- Warnings - To supress warnings.

1. Exploratory Data Analysis

Creating a variable to store the column names for EDA analysis

In [2]:
```
column_names = ['Id','RI','Na','Mg','Al','Si','K','Ca','Ba','Fe','Glass Type']
```

Reading the file and creating a data frame

In [8]:
```
data = pd.read_csv('glass_data.csv',names = column_names,index_col = 0,header = None)
data.head()#[140:145]
```

Out[8]:

Id	RI	Na	Mg	Al	Si	K	Ca	Ba	Fe	Glass Type
1	1.52101	13.64	4.49	1.10	71.78	0.06	8.75	0.0	0.0	1
2	1.51761	13.89	3.60	1.36	72.73	0.48	7.83	0.0	0.0	1
3	1.51618	13.53	3.55	1.54	72.99	0.39	7.78	0.0	0.0	1
4	1.51766	13.21	3.69	1.29	72.61	0.57	8.22	0.0	0.0	1
5	1.51742	13.27	3.62	1.24	73.08	0.55	8.07	0.0	0.0	1

I used the **ID index column data as index** for the created data frame, this is due to the fact that the ID data serves no purpose for predicting the output target glass types in classification or neural network models that I will create further in my analysis.

Check the shape of data

In [4]:
```
data.shape
```

Out[4]:
```
(214, 10)
```

Check null values and data types within the dataset

In [5]:
```
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 214 entries, 1 to 214
Data columns (total 10 columns):
 #   Column      Non-Null Count  Dtype
---  ------      --------------  -----
 0   RI          214 non-null    float64
 1   Na          214 non-null    float64
 2   Mg          214 non-null    float64
 3   Al          214 non-null    float64
 4   Si          214 non-null    float64
 5   K           214 non-null    float64
 6   Ca          214 non-null    float64
 7   Ba          214 non-null    float64
 8   Fe          214 non-null    float64
 9   Glass Type  214 non-null    int64
dtypes: float64(9), int64(1)
memory usage: 18.4 KB
```

Check the data for value spread and distribution of values for mean and min-max between the columns of independent variables

In [6]:
```
data.describe()
```

Out[6]:

	RI	Na	Mg	Al	Si	K	Ca	Ba	Fe	Glass Type
count	214.000000	214.000000	214.000000	214.000000	214.000000	214.000000	214.000000	214.000000	214.000000	214.000000
mean	1.518365	13.407850	2.684533	1.444907	72.650935	0.497056	8.956963	0.175047	0.057009	2.780374
std	0.003037	0.816604	1.442408	0.499270	0.774546	0.652192	1.423153	0.497219	0.097439	2.103739
min	1.511150	10.730000	0.000000	0.290000	69.810000	0.000000	5.430000	0.000000	0.000000	1.000000
25%	1.516523	12.907500	2.115000	1.190000	72.280000	0.122500	8.240000	0.000000	0.000000	1.000000
50%	1.517680	13.300000	3.480000	1.360000	72.790000	0.555000	8.600000	0.000000	0.000000	2.000000
75%	1.519157	13.825000	3.600000	1.630000	73.087500	0.610000	9.172500	0.000000	0.100000	3.000000
max	1.533930	17.380000	4.490000	3.500000	75.410000	6.210000	16.190000	3.150000	0.510000	7.000000

The data values show no negative values in range, while the mean values for silicon and sodium columns show highest. The independent columns hold float values and so it would be good to scale the data to apply a normal distribution range of values for my neural network model to learn and predict more accurately.

In [7]:
```
data['Glass Type'].unique()
```

Out[7]:
```
array([1, 2, 3, 5, 6, 7], dtype=int64)
```

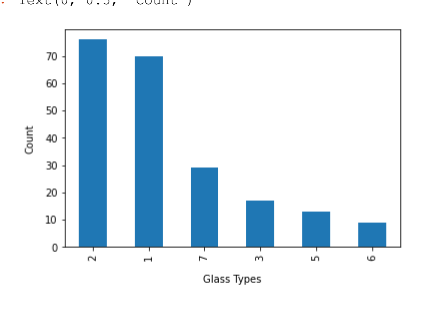
Unique values from the target column 'Glass Type' reveal the glass type 4 data does not exist in the dataset, as described in the class assessment brief.

In [8]:
```
Glass_types_sum = data['Glass Type'].value_counts()
Glass_types_sum
```

Out[8]:
```
2    76
1    70
7    29
3    17
5    13
6     9
Name: Glass Type, dtype: int64
```

In [9]:
```
data['Glass Type'].value_counts().plot(kind='bar')

plt.xlabel("Glass Types", labelpad=14)
plt.ylabel("Count", labelpad=10)
```

Out[9]:
```
Text(0, 0.5, 'Count')
```

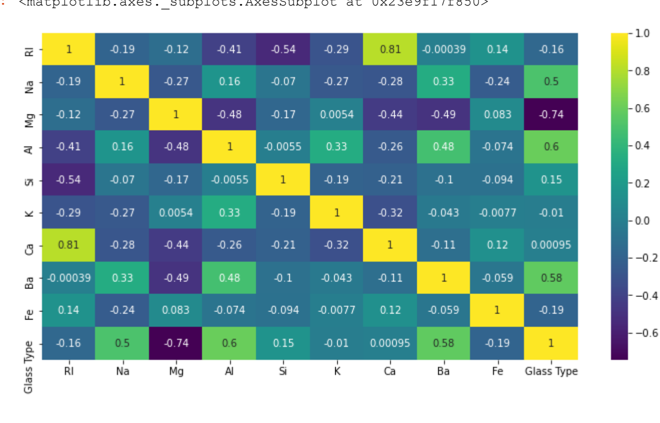


There are six types of glass in the dataset, it may be correct in assuming the data is imbalanced for categorical classification glass types with the most prominent type being **'type 2'** and least being **'type 6'.**

Check Correlation of Glass dataset

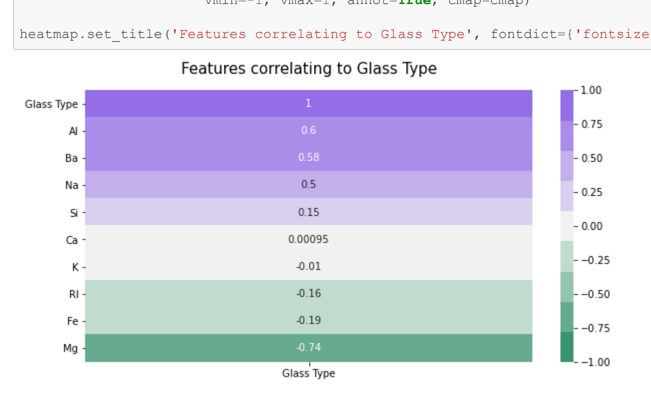
In [10]:
```
import seaborn as sns
plt.figure(figsize=(12, 6))
corr=data.corr()
sns.heatmap(corr,cmap='viridis',annot=True)
```

Out[10]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x23e9f17f850>
```



There is high correlation between Calcium and Refractive index showing 81%, also some low correlation among Barium, Aluminium and Potassium. The least correlating feature being Magnesium in the glass dataset excluding the target variable Glass type.

In [11]:
```
plt.figure(figsize=(10, 5))

cmap= sns.diverging_palette(150, 275, s=80, l=55, n=9)

heatmap = sns.heatmap(data.corr()[['Glass Type']].
                      sort_values(by='Glass Type', ascending=False),
                      vmin=-1, vmax=1, annot=True, cmap=cmap)

heatmap.set_title('Features correlating to Glass Type', fontdict={'fontsize':15}, pad=16);
```



Sodium, Calcium and Barium is showing moderate to good correlations with the target variable Glass type.

Preliminary report for EDA

The dataset shares float values for all independent variables within the dataset, the target variable consists of glass type values as integers and **no data records for glass type 4** form the dataset.

Due the nature of how the nature of how the integers values are assigned to glass data type I will need **encode glass type column to individual categorical units and convert them in to a 1 dimensional array** for my neural network.

I can verify the method further by cross validating the data with other algorithms, using the target variable with no One-hot or categorical encoding.

1. Pre-processing data for the machine learning models and justification on how the chosen methods should help me.
2. Create and implement a Dense Neural Network that will output the glass type classification.
3. Test and try to improve the accuracy of the model using various methods, parameters in its accuracy.
4. Make a Classification using the Final choice of model and validate the results.

2. Preprocess the data to fit the machine learning models and evalution with algorithms

i. Converting the exisisting dataframe to numpy for Machine learning model going forward

In [12]:
```
data_num = data.to_numpy()
```

In [13]:
```
X = data_num[:,0:9]
y = data_num[:,9]
```

In [14]:
```
y[150:170]
```

Out[14]:
```
array([3., 3., 3., 3., 3., 3., 3., 3., 3., 3., 3., 3., 3., 5., 5., 5., 5.,
       5., 5., 5.])
```

ii. Scaling the variables

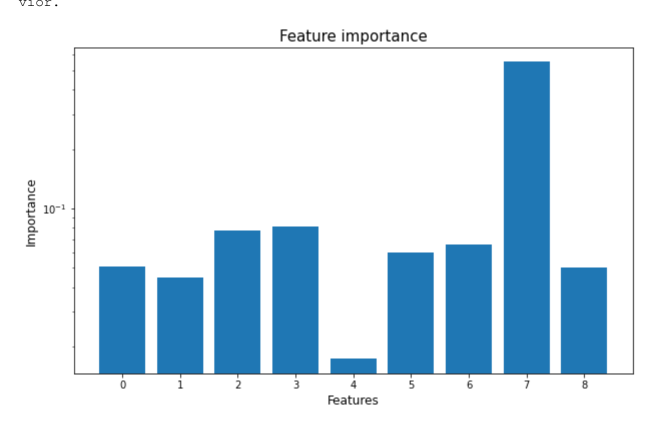
In [15]:
```
scaler = MinMaxScaler()

dataset1 = data.values

X = dataset1[:,0:9]

y = dataset1[:,9]

X = scaler.fit_transform(X)
```

iii. Using XGBoost to find the feature importance

In [16]:
```
model = XGBClassifier(n_estimators=50)

model.fit(X, y)

feature_importance = model.feature_importances_

plt.figure(figsize=(10, 6))

plt.yscale('log', nonposy='clip')

plt.bar(range(len(feature_importance)), feature_importance, align='center')

plt.xticks(range(len(feature_importance)), rotation='horizontal')

plt.title('Feature importance',size=15)

plt.ylabel('Importance',size=12)
plt.xlabel('Features',size=12)

plt.show()
```

```
C:\Users\USER\anaconda3\lib\site-packages\xgboost\sklearn.py:888: UserWarning: The use of label encod
er in XGBClassifier is deprecated and will be removed in a future release. To remove this warning, do
the following: 1) Pass option use_label_encoder=False when constructing XGBClassifier object; and 2)
Encode your labels (y) as integers starting with 0, i.e. 0, 1, 2, ..., [num_class - 1].
  warnings.warn(label_encoder_deprecation_msg, UserWarning)
```

```
[16:52:22] WARNING: C:/Users/Administrator/workspace/xgboost-win64_release_1.3.0/src/learner.cc:1061:
Starting in XGBoost 1.3.0, the default evaluation metric used with the objective 'multi:softprob' was
changed from 'merror' to 'mlogloss'. Explicitly set eval_metric if you'd like to restore the old beha
vior.
```



Using feature importance algorithm model for XGBoost, I see the **feature 7** being the most important and **feature 4** as the least important in contribution to the glass type classification. I can test the accuracy further conducting a XGBoost classifier evaluation.

iv. Split the data 70/30 in train/test for machine learning models

In [17]:
```
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_state=1)
```

v. XGBoost Classifier

In [18]:
```
xgb = XGBClassifier(max_depth = 6, n_estimators = 100, learning_rate = 0.07, random_state = 2)

xgb.fit(X_train,y_train)

y_pred = xgb.predict(X_test)

xgb_accuracy = metrics.accuracy_score(y_pred,y_test)
```

```
[16:52:23] WARNING: C:/Users/Administrator/workspace/xgboost-win64_release_1.3.0/src/learner.cc:1061:
Starting in XGBoost 1.3.0, the default evaluation metric used with the objective 'multi:softprob' was
changed from 'merror' to 'mlogloss'. Explicitly set eval_metric if you'd like to restore the old beha
vior.
```

In [19]:
```
print ('The Accuracy for XGBoost classifier :',xgb_accuracy)
```

```
The Accuracy for XGBoost classifier : 0.8307692307692308
```

I achieved an accuracy score of 83% approximately after choosing max_depth = 6 as default value and a learning rate of 0.07, it is an impressive accuracy percentage with the help of regularization and tree pruning methods the XGBoost method offers. It is no surprise as a prominent algorithm in the industry for data analysis.

vi. Check accuracy with Random Forest

In [20]:
```
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_state=1)

clf=RandomForestClassifier(n_estimators=50)

clf.fit(X_train,y_train)

y_predict=clf.predict(X_test)

score_R = metrics.accuracy_score(y_test, y_pred)

print("Accuracy {:.2f}".format(score_R))
```

```
Accuracy 0.83
```

In [21]:
```
y_predict[0:5]
```

Out[21]:
```
array([6., 7., 7., 2., 1.])
```

I Imported the Random Forest Classifier from Sklearn library, after doing so I created a gaussian classifier with n_estimator (number of trees before cut-off) being 50. I trained and tested the values to make predictions, the accuracy score of 83%. The accuracy is quite good, and I must try to match the same if not more using a Dense Neural network.

3. Dense Neural Network

Read the data for creating the dense neural network models

In [22]:
```
data = pd.read_csv('glass_data.csv',names = column_names,index_col = 0,header = None)

num_data = data.to_numpy()

dataset1 = num_data

X_cols = dataset1[:,0:9].astype(float)

y_cols = dataset1[:,9]

preprocessing.scale(X_cols, copy=False)

encoder = preprocessing.LabelEncoder()

encoder.fit(y_cols)

y_tran = encoder.transform(y_cols).reshape(-1, 1)

y_enc = np_utils.to_categorical(y_tran)

y_enc,X_cols
```

Out[22]:
```
(array([[1., 0., 0., 0., 0., 0.],
        [1., 0., 0., 0., 0., 0.],
        [1., 0., 0., 0., 0., 0.],
        ...,
        [0., 0., 0., 0., 0., 1.],
        [0., 0., 0., 0., 0., 1.],
        [0., 0., 0., 0., 0., 1.]], dtype=float32),
 array([[ 0.87286765,  0.28495326,  1.25463857, ..., -0.14576634,
         -0.35287683, -0.5864509 ],
        [-0.24933347,  0.59181718,  0.63616803, ..., -0.79373376,
         -0.35287683, -0.5864509 ],
        [-0.72131806,  0.14993314,  0.60142249, ..., -0.82894938,
         -0.35287683, -0.5864509 ],
        ...,
        [ 0.75404635,  1.16872135, -1.86551055, ..., -0.36410319,
          2.95320036, -0.5864509 ],
        [-0.61239854,  1.19327046, -1.86551055, ..., -0.33593069,
          2.81208731, -0.5864509 ],
        [-0.41436305,  1.00915211, -1.86551055, ..., -0.23732695,
          3.01367739, -0.5864509 ]]))
```

Review

Pre-processing the data to fit the ANN models was challenging. I converted the values in target column with one hot encoding and later converting it to categorical, doing so I am able to pass in the values of target 'Glass Type' column without causing an imbalance in the data. Glass type 4 is non-existent in the data frame and also to use categorical_crossentropy as my primary loss function initially, it enables to get the categorical values a higher learning rate.

Later I will need to evaluate the learning rates and epochs/batch sizes for the models to check the models fit.

I will explore multiple variations using activation functions, loss functions, number of epochs and batch sizes to improve the model and find meaningful results.

ANN TEST MODELS

Model 1

Model creation parameters

- *Sequential Model*
- I will start by creating 9 input layers, along with 3 hidden dense layers.
- **Test size = 0.3** a 70/30 split for train and testing the dataset at the beginning.
- **random_state = 0** set as 0 initially and will evaluate as I progress through the models.
- **kernel_initializer = 'normal'** for normal distribution of weights through the neural layers.
- **Activation = 'relu'** for linear activation initially, serves a costless method for achieving a good learning rate without impeding the slope or causing to vanishing gradient.
- **Final Activation = 'softmax'** for classification of glass types and predicting the probabilities with last layer of logits.
- **Optimizer = adam** to reduce the loss and adjust weights in model training and fast convergence with each iteration.

In [23]:

```python
X_train, X_test, y_train, y_test = train_test_split(X_cols, y_enc, test_size=0.3, random_state=0)

trial_model_1 = Sequential()

trial_model_1.add(Dense(28, input_dim=9, kernel_initializer='normal', activation='relu'))

trial_model_1.add(Dense(10, kernel_initializer='normal', activation='relu'))

trial_model_1.add(Dense(6, kernel_initializer='normal', activation='softmax'))

trial_model_1.compile(loss='categorical_crossentropy', optimizer='adam', metrics=['accuracy'])

trial_model_1.fit(X_train, y_train, epochs=400, batch_size=10, verbose=2)

trial_model_1.evaluate(X_test, y_test)
```

```
Epoch 1/400
15/15 - 1s - loss: 1.7871 - accuracy: 0.3557
Epoch 2/400
15/15 - 0s - loss: 1.7751 - accuracy: 0.5302
Epoch 3/400
15/15 - 0s - loss: 1.7599 - accuracy: 0.5839
Epoch 4/400
15/15 - 0s - loss: 1.7350 - accuracy: 0.5705
Epoch 5/400
15/15 - 0s - loss: 1.6990 - accuracy: 0.5906
Epoch 6/400
15/15 - 0s - loss: 1.6384 - accuracy: 0.5638
Epoch 7/400
15/15 - 0s - loss: 1.5527 - accuracy: 0.6040
Epoch 8/400
15/15 - 0s - loss: 1.4508 - accuracy: 0.6107
Epoch 9/400
15/15 - 0s - loss: 1.3427 - accuracy: 0.6040
Epoch 10/400
15/15 - 0s - loss: 1.2438 - accuracy: 0.5570
Epoch 11/400
15/15 - 0s - loss: 1.1745 - accuracy: 0.5705
Epoch 12/400
15/15 - 0s - loss: 1.1231 - accuracy: 0.5772
Epoch 13/400
15/15 - 0s - loss: 1.0874 - accuracy: 0.5705
Epoch 14/400
15/15 - 0s - loss: 1.0569 - accuracy: 0.5638
Epoch 15/400
15/15 - 0s - loss: 1.0323 - accuracy: 0.5638
Epoch 16/400
15/15 - 0s - loss: 1.0104 - accuracy: 0.5772
Epoch 17/400
15/15 - 0s - loss: 0.9894 - accuracy: 0.5973
Epoch 18/400
15/15 - 0s - loss: 0.9726 - accuracy: 0.6040
Epoch 19/400
15/15 - 0s - loss: 0.9556 - accuracy: 0.5973
Epoch 20/400
15/15 - 0s - loss: 0.9420 - accuracy: 0.6242
Epoch 21/400
15/15 - 0s - loss: 0.9291 - accuracy: 0.6107
Epoch 22/400
15/15 - 0s - loss: 0.9167 - accuracy: 0.6510
Epoch 23/400
15/15 - 0s - loss: 0.9045 - accuracy: 0.6779
Epoch 24/400
15/15 - 0s - loss: 0.8946 - accuracy: 0.6711
Epoch 25/400
15/15 - 0s - loss: 0.8834 - accuracy: 0.6913
Epoch 26/400
15/15 - 0s - loss: 0.8739 - accuracy: 0.6980
Epoch 27/400
15/15 - 0s - loss: 0.8657 - accuracy: 0.7047
Epoch 28/400
15/15 - 0s - loss: 0.8561 - accuracy: 0.6913
Epoch 29/400
15/15 - 0s - loss: 0.8476 - accuracy: 0.7114
Epoch 30/400
15/15 - 0s - loss: 0.8401 - accuracy: 0.7114
Epoch 31/400
15/15 - 0s - loss: 0.8317 - accuracy: 0.6980
Epoch 32/400
15/15 - 0s - loss: 0.8240 - accuracy: 0.7047
Epoch 33/400
15/15 - 0s - loss: 0.8148 - accuracy: 0.7114
Epoch 34/400
15/15 - 0s - loss: 0.8103 - accuracy: 0.7114
Epoch 35/400
15/15 - 0s - loss: 0.7993 - accuracy: 0.7047
Epoch 36/400
15/15 - 0s - loss: 0.7921 - accuracy: 0.7114
Epoch 37/400
15/15 - 0s - loss: 0.7860 - accuracy: 0.7181
Epoch 38/400
15/15 - 0s - loss: 0.7790 - accuracy: 0.7248
Epoch 39/400
15/15 - 0s - loss: 0.7713 - accuracy: 0.7248
Epoch 40/400
15/15 - 0s - loss: 0.7648 - accuracy: 0.7248
Epoch 41/400
15/15 - 0s - loss: 0.7597 - accuracy: 0.7248
Epoch 42/400
15/15 - 0s - loss: 0.7516 - accuracy: 0.7248
Epoch 43/400
15/15 - 0s - loss: 0.7460 - accuracy: 0.7248
Epoch 44/400
15/15 - 0s - loss: 0.7418 - accuracy: 0.7248
Epoch 45/400
15/15 - 0s - loss: 0.7322 - accuracy: 0.7383
Epoch 46/400
15/15 - 0s - loss: 0.7272 - accuracy: 0.7315
Epoch 47/400
15/15 - 0s - loss: 0.7197 - accuracy: 0.7383
Epoch 48/400
15/15 - 0s - loss: 0.7148 - accuracy: 0.7315
Epoch 49/400
15/15 - 0s - loss: 0.7094 - accuracy: 0.7248
Epoch 50/400
15/15 - 0s - loss: 0.7070 - accuracy: 0.7383
Epoch 51/400
15/15 - 0s - loss: 0.6989 - accuracy: 0.7517
Epoch 52/400
15/15 - 0s - loss: 0.6921 - accuracy: 0.7450
Epoch 53/400
15/15 - 0s - loss: 0.6864 - accuracy: 0.7315
Epoch 54/400
15/15 - 0s - loss: 0.6824 - accuracy: 0.7383
Epoch 55/400
15/15 - 0s - loss: 0.6770 - accuracy: 0.7450
Epoch 56/400
15/15 - 0s - loss: 0.6699 - accuracy: 0.7584
Epoch 57/400
15/15 - 0s - loss: 0.6668 - accuracy: 0.7517
Epoch 58/400
15/15 - 0s - loss: 0.6628 - accuracy: 0.7517
Epoch 59/400
15/15 - 0s - loss: 0.6598 - accuracy: 0.7584
Epoch 60/400
15/15 - 0s - loss: 0.6511 - accuracy: 0.7718
Epoch 61/400
15/15 - 0s - loss: 0.6517 - accuracy: 0.7584
Epoch 62/400
15/15 - 0s - loss: 0.6421 - accuracy: 0.7785
Epoch 63/400
15/15 - 0s - loss: 0.6373 - accuracy: 0.7852
Epoch 64/400
15/15 - 0s - loss: 0.6325 - accuracy: 0.7852
Epoch 65/400
15/15 - 0s - loss: 0.6300 - accuracy: 0.7785
Epoch 66/400
15/15 - 0s - loss: 0.6233 - accuracy: 0.7852
Epoch 67/400
15/15 - 0s - loss: 0.6212 - accuracy: 0.7919
Epoch 68/400
15/15 - 0s - loss: 0.6154 - accuracy: 0.8121
Epoch 69/400
15/15 - 0s - loss: 0.6120 - accuracy: 0.7987
Epoch 70/400
15/15 - 0s - loss: 0.6079 - accuracy: 0.8121
Epoch 71/400
15/15 - 0s - loss: 0.6044 - accuracy: 0.8054
Epoch 72/400
15/15 - 0s - loss: 0.6009 - accuracy: 0.7987
Epoch 73/400
15/15 - 0s - loss: 0.5964 - accuracy: 0.7987
Epoch 74/400
15/15 - 0s - loss: 0.5926 - accuracy: 0.8121
Epoch 75/400
15/15 - 0s - loss: 0.5876 - accuracy: 0.8121
Epoch 76/400
15/15 - 0s - loss: 0.5843 - accuracy: 0.8054
Epoch 77/400
15/15 - 0s - loss: 0.5845 - accuracy: 0.8054
Epoch 78/400
15/15 - 0s - loss: 0.5776 - accuracy: 0.8121
Epoch 79/400
15/15 - 0s - loss: 0.5748 - accuracy: 0.8054
Epoch 80/400
15/15 - 0s - loss: 0.5735 - accuracy: 0.8188
Epoch 81/400
15/15 - 0s - loss: 0.5667 - accuracy: 0.8255
Epoch 82/400
15/15 - 0s - loss: 0.5686 - accuracy: 0.8255
Epoch 83/400
15/15 - 0s - loss: 0.5603 - accuracy: 0.8121
Epoch 84/400
15/15 - 0s - loss: 0.5591 - accuracy: 0.8188
Epoch 85/400
15/15 - 0s - loss: 0.5553 - accuracy: 0.8188
Epoch 86/400
15/15 - 0s - loss: 0.5519 - accuracy: 0.8255
Epoch 87/400
15/15 - 0s - loss: 0.5504 - accuracy: 0.8322
Epoch 88/400
15/15 - 0s - loss: 0.5454 - accuracy: 0.8389
Epoch 89/400
15/15 - 0s - loss: 0.5421 - accuracy: 0.8322
Epoch 90/400
15/15 - 0s - loss: 0.5384 - accuracy: 0.8322
Epoch 91/400
15/15 - 0s - loss: 0.5366 - accuracy: 0.8389
Epoch 92/400
15/15 - 0s - loss: 0.5336 - accuracy: 0.8389
Epoch 93/400
15/15 - 0s - loss: 0.5303 - accuracy: 0.8456
Epoch 94/400
15/15 - 0s - loss: 0.5275 - accuracy: 0.8322
Epoch 95/400
15/15 - 0s - loss: 0.5269 - accuracy: 0.8322
Epoch 96/400
15/15 - 0s - loss: 0.5221 - accuracy: 0.8456
Epoch 97/400
15/15 - 0s - loss: 0.5208 - accuracy: 0.8523
Epoch 98/400
15/15 - 0s - loss: 0.5197 - accuracy: 0.8456
Epoch 99/400
15/15 - 0s - loss: 0.5176 - accuracy: 0.8322
Epoch 100/400
15/15 - 0s - loss: 0.5166 - accuracy: 0.8456
Epoch 101/400
15/15 - 0s - loss: 0.5107 - accuracy: 0.8456
Epoch 102/400
15/15 - 0s - loss: 0.5108 - accuracy: 0.8255
Epoch 103/400
15/15 - 0s - loss: 0.5073 - accuracy: 0.8523
Epoch 104/400
15/15 - 0s - loss: 0.5029 - accuracy: 0.8523
Epoch 105/400
15/15 - 0s - loss: 0.5042 - accuracy: 0.8389
Epoch 106/400
15/15 - 0s - loss: 0.4984 - accuracy: 0.8456
Epoch 107/400
15/15 - 0s - loss: 0.4978 - accuracy: 0.8523
Epoch 108/400
15/15 - 0s - loss: 0.4924 - accuracy: 0.8523
Epoch 109/400
15/15 - 0s - loss: 0.4971 - accuracy: 0.8389
Epoch 110/400
15/15 - 0s - loss: 0.4964 - accuracy: 0.8456
Epoch 111/400
15/15 - 0s - loss: 0.4908 - accuracy: 0.8456
Epoch 112/400
15/15 - 0s - loss: 0.4859 - accuracy: 0.8456
Epoch 113/400
15/15 - 0s - loss: 0.4825 - accuracy: 0.8456
Epoch 114/400
15/15 - 0s - loss: 0.4816 - accuracy: 0.8523
Epoch 115/400
15/15 - 0s - loss: 0.4795 - accuracy: 0.8591
Epoch 116/400
15/15 - 0s - loss: 0.4760 - accuracy: 0.8456
Epoch 117/400
15/15 - 0s - loss: 0.4787 - accuracy: 0.8456
Epoch 118/400
15/15 - 0s - loss: 0.4720 - accuracy: 0.8523
Epoch 119/400
15/15 - 0s - loss: 0.4702 - accuracy: 0.8523
Epoch 120/400
15/15 - 0s - loss: 0.4680 - accuracy: 0.8389
Epoch 121/400
15/15 - 0s - loss: 0.4662 - accuracy: 0.8389
Epoch 122/400
15/15 - 0s - loss: 0.4633 - accuracy: 0.8523
Epoch 123/400
15/15 - 0s - loss: 0.4609 - accuracy: 0.8591
Epoch 124/400
15/15 - 0s - loss: 0.4589 - accuracy: 0.8591
Epoch 125/400
15/15 - 0s - loss: 0.4595 - accuracy: 0.8456
Epoch 126/400
15/15 - 0s - loss: 0.4667 - accuracy: 0.8456
Epoch 127/400
15/15 - 0s - loss: 0.4509 - accuracy: 0.8591
Epoch 128/400
15/15 - 0s - loss: 0.4532 - accuracy: 0.8389
Epoch 129/400
15/15 - 0s - loss: 0.4512 - accuracy: 0.8389
Epoch 130/400
15/15 - 0s - loss: 0.4511 - accuracy: 0.8523
Epoch 131/400
15/15 - 0s - loss: 0.4461 - accuracy: 0.8591
Epoch 132/400
15/15 - 0s - loss: 0.4442 - accuracy: 0.8591
Epoch 133/400
15/15 - 0s - loss: 0.4427 - accuracy: 0.8591
Epoch 134/400
15/15 - 0s - loss: 0.4423 - accuracy: 0.8591
Epoch 135/400
15/15 - 0s - loss: 0.4391 - accuracy: 0.8591
Epoch 136/400
15/15 - 0s - loss: 0.4379 - accuracy: 0.8658
Epoch 137/400
15/15 - 0s - loss: 0.4406 - accuracy: 0.8523
Epoch 138/400
15/15 - 0s - loss: 0.4328 - accuracy: 0.8523
Epoch 139/400
15/15 - 0s - loss: 0.4314 - accuracy: 0.8658
Epoch 140/400
15/15 - 0s - loss: 0.4318 - accuracy: 0.8591
Epoch 141/400
15/15 - 0s - loss: 0.4281 - accuracy: 0.8725
Epoch 142/400
15/15 - 0s - loss: 0.4261 - accuracy: 0.8658
Epoch 143/400
15/15 - 0s - loss: 0.4238 - accuracy: 0.8725
Epoch 144/400
15/15 - 0s - loss: 0.4231 - accuracy: 0.8725
Epoch 145/400
15/15 - 0s - loss: 0.4209 - accuracy: 0.8725
Epoch 146/400
15/15 - 0s - loss: 0.4188 - accuracy: 0.8658
Epoch 147/400
15/15 - 0s - loss: 0.4176 - accuracy: 0.8658
Epoch 148/400
15/15 - 0s - loss: 0.4164 - accuracy: 0.8725
Epoch 149/400
15/15 - 0s - loss: 0.4159 - accuracy: 0.8658
Epoch 150/400
15/15 - 0s - loss: 0.4136 - accuracy: 0.8591
Epoch 151/400
15/15 - 0s - loss: 0.4126 - accuracy: 0.8725
Epoch 152/400
15/15 - 0s - loss: 0.4087 - accuracy: 0.8725
Epoch 153/400
15/15 - 0s - loss: 0.4074 - accuracy: 0.8725
Epoch 154/400
15/15 - 0s - loss: 0.4077 - accuracy: 0.8591
Epoch 155/400
15/15 - 0s - loss: 0.4038 - accuracy: 0.8725
Epoch 156/400
15/15 - 0s - loss: 0.4027 - accuracy: 0.8725
Epoch 157/400
15/15 - 0s - loss: 0.4001 - accuracy: 0.8725
Epoch 158/400
15/15 - 0s - loss: 0.3988 - accuracy: 0.8658
Epoch 159/400
15/15 - 0s - loss: 0.3965 - accuracy: 0.8725
Epoch 160/400
15/15 - 0s - loss: 0.3975 - accuracy: 0.8658
Epoch 161/400
15/15 - 0s - loss: 0.3936 - accuracy: 0.8725
Epoch 162/400
15/15 - 0s - loss: 0.3926 - accuracy: 0.8725
Epoch 163/400
15/15 - 0s - loss: 0.3914 - accuracy: 0.8725
Epoch 164/400
15/15 - 0s - loss: 0.3897 - accuracy: 0.8658
Epoch 165/400
15/15 - 0s - loss: 0.3914 - accuracy: 0.8591
Epoch 166/400
15/15 - 0s - loss: 0.3853 - accuracy: 0.8658
Epoch 167/400
15/15 - 0s - loss: 0.3836 - accuracy: 0.8658
Epoch 168/400
15/15 - 0s - loss: 0.3836 - accuracy: 0.8658
Epoch 169/400
15/15 - 0s - loss: 0.3814 - accuracy: 0.8658
Epoch 170/400
15/15 - 0s - loss: 0.3819 - accuracy: 0.8725
Epoch 171/400
15/15 - 0s - loss: 0.3794 - accuracy: 0.8658
Epoch 172/400
15/15 - 0s - loss: 0.3777 - accuracy: 0.8725
Epoch 173/400
15/15 - 0s - loss: 0.3772 - accuracy: 0.8591
Epoch 174/400
15/15 - 0s - loss: 0.3733 - accuracy: 0.8658
Epoch 175/400
15/15 - 0s - loss: 0.3756 - accuracy: 0.8591
Epoch 176/400
15/15 - 0s - loss: 0.3702 - accuracy: 0.8658
Epoch 177/400
15/15 - 0s - loss: 0.3680 - accuracy: 0.8725
Epoch 178/400
15/15 - 0s - loss: 0.3706 - accuracy: 0.8725
Epoch 179/400
15/15 - 0s - loss: 0.3684 - accuracy: 0.8658
Epoch 180/400
15/15 - 0s - loss: 0.3646 - accuracy: 0.8658
Epoch 181/400
15/15 - 0s - loss: 0.3663 - accuracy: 0.8792
Epoch 182/400
15/15 - 0s - loss: 0.3597 - accuracy: 0.8725
Epoch 183/400
15/15 - 0s - loss: 0.3598 - accuracy: 0.8523
Epoch 184/400
15/15 - 0s - loss: 0.3574 - accuracy: 0.8792
Epoch 185/400
15/15 - 0s - loss: 0.3558 - accuracy: 0.8792
Epoch 186/400
15/15 - 0s - loss: 0.3534 - accuracy: 0.8792
Epoch 187/400
15/15 - 0s - loss: 0.3545 - accuracy: 0.8792
Epoch 188/400
15/15 - 0s - loss: 0.3512 - accuracy: 0.8859
Epoch 189/400
15/15 - 0s - loss: 0.3546 - accuracy: 0.8591
Epoch 190/400
15/15 - 0s - loss: 0.3472 - accuracy: 0.8658
Epoch 191/400
15/15 - 0s - loss: 0.3484 - accuracy: 0.8859
Epoch 192/400
15/15 - 0s - loss: 0.3436 - accuracy: 0.8859
Epoch 193/400
15/15 - 0s - loss: 0.3435 - accuracy: 0.8792
Epoch 194/400
15/15 - 0s - loss: 0.3412 - accuracy: 0.8725
Epoch 195/400
15/15 - 0s - loss: 0.3381 - accuracy: 0.8725
Epoch 196/400
15/15 - 0s - loss: 0.3376 - accuracy: 0.8859
Epoch 197/400
15/15 - 0s - loss: 0.3365 - accuracy: 0.8859
Epoch 198/400
15/15 - 0s - loss: 0.3339 - accuracy: 0.8859
Epoch 199/400
15/15 - 0s - loss: 0.3324 - accuracy: 0.8926
Epoch 200/400
15/15 - 0s - loss: 0.3302 - accuracy: 0.8658
Epoch 201/400
15/15 - 0s - loss: 0.3281 - accuracy: 0.8792
Epoch 202/400
15/15 - 0s - loss: 0.3263 - accuracy: 0.8926
Epoch 203/400
15/15 - 0s - loss: 0.3252 - accuracy: 0.8725
Epoch 204/400
15/15 - 0s - loss: 0.3239 - accuracy: 0.8658
Epoch 205/400
15/15 - 0s - loss: 0.3219 - accuracy: 0.8859
Epoch 206/400
15/15 - 0s - loss: 0.3207 - accuracy: 0.8859
Epoch 207/400
15/15 - 0s - loss: 0.3174 - accuracy: 0.8859
Epoch 208/400
15/15 - 0s - loss: 0.3155 - accuracy: 0.8926
Epoch 209/400
15/15 - 0s - loss: 0.3162 - accuracy: 0.8859
Epoch 210/400
15/15 - 0s - loss: 0.3150 - accuracy: 0.8658
Epoch 211/400
15/15 - 0s - loss: 0.3106 - accuracy: 0.8859
Epoch 212/400
15/15 - 0s - loss: 0.3116 - accuracy: 0.8926
Epoch 213/400
15/15 - 0s - loss: 0.3067 - accuracy: 0.8859
Epoch 214/400
15/15 - 0s - loss: 0.3075 - accuracy: 0.8859
Epoch 215/400
15/15 - 0s - loss: 0.3047 - accuracy: 0.8859
Epoch 216/400
15/15 - 0s - loss: 0.3046 - accuracy: 0.8926
Epoch 217/400
15/15 - 0s - loss: 0.2998 - accuracy: 0.8926
Epoch 218/400
15/15 - 0s - loss: 0.3006 - accuracy: 0.8859
Epoch 219/400
15/15 - 0s - loss: 0.2980 - accuracy: 0.8926
Epoch 220/400
15/15 - 0s - loss: 0.2947 - accuracy: 0.8926
Epoch 221/400
15/15 - 0s - loss: 0.2957 - accuracy: 0.8926
Epoch 222/400
15/15 - 0s - loss: 0.2908 - accuracy: 0.8926
Epoch 223/400
15/15 - 0s - loss: 0.2905 - accuracy: 0.8859
Epoch 224/400
15/15 - 0s - loss: 0.2898 - accuracy: 0.8926
Epoch 225/400
15/15 - 0s - loss: 0.2883 - accuracy: 0.8926
Epoch 226/400
15/15 - 0s - loss: 0.2903 - accuracy: 0.8926
Epoch 227/400
15/15 - 0s - loss: 0.2882 - accuracy: 0.8926
Epoch 228/400
15/15 - 0s - loss: 0.2852 - accuracy: 0.8926
Epoch 229/400
15/15 - 0s - loss: 0.2847 - accuracy: 0.8926
Epoch 230/400
15/15 - 0s - loss: 0.2805 - accuracy: 0.8926
Epoch 231/400
15/15 - 0s - loss: 0.2781 - accuracy: 0.8926
Epoch 232/400
15/15 - 0s - loss: 0.2762 - accuracy: 0.8926
Epoch 233/400
15/15 - 0s - loss: 0.2742 - accuracy: 0.8926
Epoch 234/400
15/15 - 0s - loss: 0.2741 - accuracy: 0.8926
Epoch 235/400
15/15 - 0s - loss: 0.2713 - accuracy: 0.8993
Epoch 236/400
15/15 - 0s - loss: 0.2692 - accuracy: 0.8993
Epoch 237/400
15/15 - 0s - loss: 0.2672 - accuracy: 0.8993
Epoch 238/400
15/15 - 0s - loss: 0.2665 - accuracy: 0.8993
Epoch 239/400
15/15 - 0s - loss: 0.2645 - accuracy: 0.9060
Epoch 240/400
15/15 - 0s - loss: 0.2625 - accuracy: 0.9060
Epoch 241/400
15/15 - 0s - loss: 0.2651 - accuracy: 0.8993
Epoch 242/400
15/15 - 0s - loss: 0.2631 - accuracy: 0.8993
Epoch 243/400
15/15 - 0s - loss: 0.2601 - accuracy: 0.9128
Epoch 244/400
15/15 - 0s - loss: 0.2576 - accuracy: 0.9128
Epoch 245/400
15/15 - 0s - loss: 0.2552 - accuracy: 0.9128
Epoch 246/400
15/15 - 0s - loss: 0.2537 - accuracy: 0.9128
Epoch 247/400
15/15 - 0s - loss: 0.2559 - accuracy: 0.8993
Epoch 248/400
15/15 - 0s - loss: 0.2512 - accuracy: 0.9060
Epoch 249/400
15/15 - 0s - loss: 0.2524 - accuracy: 0.9060
Epoch 250/400
15/15 - 0s - loss: 0.2479 - accuracy: 0.9128
Epoch 251/400
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Epoch 252/400
15/15 - 0s - loss: 0.2456 - accuracy: 0.9128
Epoch 253/400
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Epoch 254/400
15/15 - 0s - loss: 0.2462 - accuracy: 0.9060
Epoch 255/400
15/15 - 0s - loss: 0.2416 - accuracy: 0.9060
Epoch 256/400
15/15 - 0s - loss: 0.2387 - accuracy: 0.8993
Epoch 257/400
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Epoch 258/400
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Epoch 259/400
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Epoch 260/400
15/15 - 0s - loss: 0.2334 - accuracy: 0.9128
Epoch 261/400
15/15 - 0s - loss: 0.2316 - accuracy: 0.9195
Epoch 262/400
15/15 - 0s - loss: 0.2305 - accuracy: 0.9128
Epoch 263/400
15/15 - 0s - loss: 0.2282 - accuracy: 0.9195
Epoch 264/400
15/15 - 0s - loss: 0.2273 - accuracy: 0.9128
Epoch 265/400
15/15 - 0s - loss: 0.2258 - accuracy: 0.9195
Epoch 266/400
15/15 - 0s - loss: 0.2231 - accuracy: 0.9195
Epoch 267/400
15/15 - 0s - loss: 0.2225 - accuracy: 0.9262
Epoch 268/400
15/15 - 0s - loss: 0.2200 - accuracy: 0.9128
Epoch 269/400
15/15 - 0s - loss: 0.2208 - accuracy: 0.9195
Epoch 270/400
15/15 - 0s - loss: 0.2223 - accuracy: 0.9329
Epoch 271/400
15/15 - 0s - loss: 0.2175 - accuracy: 0.9128
Epoch 272/400
15/15 - 0s - loss: 0.2156 - accuracy: 0.9262
Epoch 273/400
15/15 - 0s - loss: 0.2150 - accuracy: 0.9128
Epoch 274/400
15/15 - 0s - loss: 0.2157 - accuracy: 0.9262
Epoch 275/400
15/15 - 0s - loss: 0.2095 - accuracy: 0.9329
Epoch 276/400
15/15 - 0s - loss: 0.2095 - accuracy: 0.9195
Epoch 277/400
15/15 - 0s - loss: 0.2123 - accuracy: 0.9262
Epoch 278/400
15/15 - 0s - loss: 0.2068 - accuracy: 0.9262
Epoch 279/400
15/15 - 0s - loss: 0.2051 - accuracy: 0.9329
Epoch 280/400
15/15 - 0s - loss: 0.2058 - accuracy: 0.9195
Epoch 281/400
15/15 - 0s - loss: 0.2001 - accuracy: 0.9262
Epoch 282/400
15/15 - 0s - loss: 0.2011 - accuracy: 0.9329
Epoch 283/400
15/15 - 0s - loss: 0.1999 - accuracy: 0.9396
Epoch 284/400
15/15 - 0s - loss: 0.1999 - accuracy: 0.9195
Epoch 285/400
15/15 - 0s - loss: 0.1962 - accuracy: 0.9262
Epoch 286/400
15/15 - 0s - loss: 0.1956 - accuracy: 0.9329
Epoch 287/400
15/15 - 0s - loss: 0.1975 - accuracy: 0.9262
Epoch 288/400
15/15 - 0s - loss: 0.1942 - accuracy: 0.9396
Epoch 289/400
15/15 - 0s - loss: 0.1907 - accuracy: 0.9396
Epoch 290/400
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Epoch 291/400
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Epoch 292/400
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Epoch 293/400
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Epoch 294/400
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Epoch 295/400
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Epoch 296/400
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Epoch 297/400
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Epoch 299/400
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Epoch 300/400
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Epoch 301/400
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Epoch 302/400
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Epoch 303/400
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Epoch 304/400
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Epoch 305/400
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Epoch 306/400
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Epoch 307/400
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Epoch 308/400
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Epoch 309/400
15/15 - 0s - loss: 0.1689 - accuracy: 0.9329
Epoch 310/400
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Epoch 311/400
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Epoch 312/400
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Epoch 313/400
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Epoch 314/400
15/15 - 0s - loss: 0.1616 - accuracy: 0.9329
Epoch 315/400
15/15 - 0s - loss: 0.1585 - accuracy: 0.9396
Epoch 316/400
15/15 - 0s - loss: 0.1612 - accuracy: 0.9463
Epoch 317/400
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Epoch 318/400
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Epoch 319/400
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Epoch 320/400
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Epoch 321/400
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Epoch 322/400
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Epoch 323/400
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Epoch 324/400
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Epoch 325/400
15/15 - 0s - loss: 0.1509 - accuracy: 0.9530
Epoch 326/400
15/15 - 0s - loss: 0.1474 - accuracy: 0.9463
Epoch 327/400
15/15 - 0s - loss: 0.1490 - accuracy: 0.9396
Epoch 328/400
15/15 - 0s - loss: 0.1471 - accuracy: 0.9530
Epoch 329/400
15/15 - 0s - loss: 0.1435 - accuracy: 0.9530
Epoch 330/400
15/15 - 0s - loss: 0.1448 - accuracy: 0.9463
Epoch 331/400
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Epoch 332/400
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Epoch 333/400
15/15 - 0s - loss: 0.1403 - accuracy: 0.9530
Epoch 334/400
15/15 - 0s - loss: 0.1395 - accuracy: 0.9597
Epoch 335/400
15/15 - 0s - loss: 0.1387 - accuracy: 0.9530
Epoch 336/400
15/15 - 0s - loss: 0.1380 - accuracy: 0.9597
Epoch 337/400
15/15 - 0s - loss: 0.1377 - accuracy: 0.9463
Epoch 338/400
15/15 - 0s - loss: 0.1381 - accuracy: 0.9463
Epoch 339/400
15/15 - 0s - loss: 0.1357 - accuracy: 0.9664
Epoch 340/400
15/15 - 0s - loss: 0.1369 - accuracy: 0.9396
Epoch 341/400
15/15 - 0s - loss: 0.1376 - accuracy: 0.9530
Epoch 342/400
15/15 - 0s - loss: 0.1344 - accuracy: 0.9664
Epoch 343/400
15/15 - 0s - loss: 0.1328 - accuracy: 0.9664
Epoch 344/400
15/15 - 0s - loss: 0.1319 - accuracy: 0.9597
Epoch 345/400
15/15 - 0s - loss: 0.1307 - accuracy: 0.9664
Epoch 346/400
15/15 - 0s - loss: 0.1315 - accuracy: 0.9597
Epoch 347/400
15/15 - 0s - loss: 0.1310 - accuracy: 0.9597
Epoch 348/400
15/15 - 0s - loss: 0.1277 - accuracy: 0.9664
Epoch 349/400
15/15 - 0s - loss: 0.1301 - accuracy: 0.9664
Epoch 350/400
15/15 - 0s - loss: 0.1267 - accuracy: 0.9799
Epoch 351/400
15/15 - 0s - loss: 0.1267 - accuracy: 0.9799
Epoch 352/400
15/15 - 0s - loss: 0.1254 - accuracy: 0.9732
Epoch 353/400
15/15 - 0s - loss: 0.1253 - accuracy: 0.9732
Epoch 354/400
15/15 - 0s - loss: 0.1244 - accuracy: 0.9664
Epoch 355/400
15/15 - 0s - loss: 0.1268 - accuracy: 0.9597
Epoch 356/400
15/15 - 0s - loss: 0.1231 - accuracy: 0.9664
Epoch 357/400
15/15 - 0s - loss: 0.1214 - accuracy: 0.9732
Epoch 358/400
15/15 - 0s - loss: 0.1231 - accuracy: 0.9732
Epoch 359/400
15/15 - 0s - loss: 0.1212 - accuracy: 0.9732
Epoch 360/400
15/15 - 0s - loss: 0.1195 - accuracy: 0.9732
Epoch 361/400
15/15 - 0s - loss: 0.1228 - accuracy: 0.9732
Epoch 362/400
15/15 - 0s - loss: 0.1232 - accuracy: 0.9597
Epoch 363/400
15/15 - 0s - loss: 0.1184 - accuracy: 0.9732
Epoch 364/400
15/15 - 0s - loss: 0.1169 - accuracy: 0.9732
Epoch 365/400
15/15 - 0s - loss: 0.1175 - accuracy: 0.9799
Epoch 366/400
15/15 - 0s - loss: 0.1176 - accuracy: 0.9732
Epoch 367/400
15/15 - 0s - loss: 0.1158 - accuracy: 0.9799
Epoch 368/400
15/15 - 0s - loss: 0.1161 - accuracy: 0.9732
Epoch 369/400
15/15 - 0s - loss: 0.1127 - accuracy: 0.9799
Epoch 370/400
15/15 - 0s - loss: 0.1128 - accuracy: 0.9799
Epoch 371/400
15/15 - 0s - loss: 0.1195 - accuracy: 0.9597
Epoch 372/400
15/15 - 0s - loss: 0.1143 - accuracy: 0.9732
Epoch 373/400
15/15 - 0s - loss: 0.1172 - accuracy: 0.9530
Epoch 374/400
15/15 - 0s - loss: 0.1120 - accuracy: 0.9799
Epoch 375/400
15/15 - 0s - loss: 0.1120 - accuracy: 0.9732
Epoch 376/400
15/15 - 0s - loss: 0.1099 - accuracy: 0.9799
Epoch 377/400
15/15 - 0s - loss: 0.1097 - accuracy: 0.9799
Epoch 378/400
15/15 - 0s - loss: 0.1091 - accuracy: 0.9799
Epoch 379/400
15/15 - 0s - loss: 0.1089 - accuracy: 0.9799
Epoch 380/400
15/15 - 0s - loss: 0.1080 - accuracy: 0.9799
Epoch 381/400
15/15 - 0s - loss: 0.1080 - accuracy: 0.9732
Epoch 382/400
15/15 - 0s - loss: 0.1052 - accuracy: 0.9799
Epoch 383/400
15/15 - 0s - loss: 0.1053 - accuracy: 0.9799
Epoch 384/400
15/15 - 0s - loss: 0.1051 - accuracy: 0.9799
Epoch 385/400
15/15 - 0s - loss: 0.1042 - accuracy: 0.9799
Epoch 386/400
15/15 - 0s - loss: 0.1036 - accuracy: 0.9799
Epoch 387/400
15/15 - 0s - loss: 0.1047 - accuracy: 0.9799
Epoch 388/400
15/15 - 0s - loss: 0.1034 - accuracy: 0.9799
Epoch 389/400
15/15 - 0s - loss: 0.1027 - accuracy: 0.9799
Epoch 390/400
15/15 - 0s - loss: 0.1040 - accuracy: 0.9664
Epoch 391/400
15/15 - 0s - loss: 0.1052 - accuracy: 0.9799
Epoch 392/400
15/15 - 0s - loss: 0.1018 - accuracy: 0.9799
Epoch 393/400
15/15 - 0s - loss: 0.1023 - accuracy: 0.9799
Epoch 394/400
15/15 - 0s - loss: 0.0998 - accuracy: 0.9799
Epoch 395/400
15/15 - 0s - loss: 0.0991 - accuracy: 0.9799
Epoch 396/400
15/15 - 0s - loss: 0.0983 - accuracy: 0.9799
Epoch 397/400
15/15 - 0s - loss: 0.0991 - accuracy: 0.9732
Epoch 398/400
15/15 - 0s - loss: 0.0984 - accuracy: 0.9799
Epoch 399/400
15/15 - 0s - loss: 0.0985 - accuracy: 0.9799
Epoch 400/400
15/15 - 0s - loss: 0.0975 - accuracy: 0.9799
3/3 [==============================] - 0s 2ms/step - loss: 1.4907 - accuracy: 0.6769
```

Out[23]: [1.4906502962112427, 0.6769230961799622]

In [24]:

```python
_, train_acc = trial_model_1.evaluate(X_train, y_train, verbose=0)
_, test_acc = trial_model_1.evaluate(X_test, y_test, verbose=0)

print ('Train:%.3f, Test:%.3f' % (train_acc,test_acc))
```

```
Train:0.980, Test:0.677
```

Train and test Accuracy Scores from multiple model test runs

1. Train:0.649, Test:0.558
2. Train:0.649, Test:0.558
3. Train:0.626, Test:0.465
4. Train:0.620, Test:0.488

Change in Epochs and batch size

1. Train:0.883, Test:0.605
2. Train:0.973, Test:0.708
3. Train:0.966, Test:0.769
4. Train:0.966, Test:0.708

Initial test run shows a training accuracy between 62% - 64% and testing accuracy between 46% - 55%, I will try to improve the model further to reduce under or over fitting the data and tune the model further.

Notes

1. After changing the values of epochs and batch size I am getting high accuracy in training and low testing accuracy, this could be a case of overfitting the data.
2. There could be discriminant values among the test data that may impact the learning rate, I will try to introduce random_state, custom learning rates with higher epochs/batch sizes to achieve the predictions.
3. The loss does seem to reduce over time through the number of epochs but the accuracy gap between the training and testing data proves its not a good fit and may need to try other parameters or methods to get the accuracy higher and reduce loss in errors.

Model 2

- *Sequential Model*
- I have added 9 input layers, along with 3 hidden dense layers of 12,7 and 6.
- **Test size = 0.3** a 70/30 split for training and testing the dataset at the beginning.
- **random_state = 2** set as 2 to evaluate the randomness between the values with various magnitudes and to not be skewed to one side while the model learns through the training set.
- **kernel_initializer = 'normal'** for normal distribution of weights through the neural layers.
- **Activation = 'relu'** for linear activation initially, serves a costless method for achieving a good learning rate without impeding the slope or causing to vanishing gradient.
- **Final Activation = 'softmax'** for classification of glass types and predicting the probabilities with last layer of logits.
- **Optimizer = adam** to reduce the loss and adjust weights in model training and fast convergence with each iteration.
- **Batch size** = 80, **Epochs**=1200
- **Loss = 'MSE'** - As Mean squared error is set to try and leverage the loss over the number of epochs by squaring the values and adding the errors to obtain the mean among the errors.

In [25]:

```
X_train, X_test, y_train, y_test = train_test_split(X_cols, y_enc, test_size=0.3, random_state=2)

trial_model_2 = Sequential()

trial_model_2.add(Dense(12, input_dim=9, kernel_initializer='normal', activation='relu'))

trial_model_2.add(Dense(7, kernel_initializer='normal', activation='relu'))

trial_model_2.add(Dense(6, kernel_initializer='normal', activation='softmax'))

trial_model_2.compile(loss='MSE', optimizer=keras.optimizers.Adam(0.0003), metrics=['accuracy'])

History = trial_model_2.fit(X_train, y_train, epochs=1200, batch_size=80, verbose=1)

#trial_model_1.evaluate(X_test, y_test)

_, train_acc = trial_model_2.evaluate(X_train, y_train, verbose=0)
_, test_acc = trial_model_2.evaluate(X_test, y_test, verbose=0)
```

```
Epoch 1/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1389 - accuracy: 0.1717
Epoch 2/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1389 - accuracy: 0.3359
Epoch 3/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1388 - accuracy: 0.3535
Epoch 4/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1388 - accuracy: 0.3458
Epoch 5/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1388 - accuracy: 0.3794
Epoch 6/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1388 - accuracy: 0.3631
Epoch 7/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1387 - accuracy: 0.3884
Epoch 8/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1387 - accuracy: 0.3887
Epoch 9/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1387 - accuracy: 0.3887
Epoch 10/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1386 - accuracy: 0.3893
Epoch 11/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1386 - accuracy: 0.4021
Epoch 12/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1386 - accuracy: 0.4232
Epoch 13/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1386 - accuracy: 0.4191
Epoch 14/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1385 - accuracy: 0.4277
Epoch 15/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1385 - accuracy: 0.4277
Epoch 16/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1385 - accuracy: 0.4530
Epoch 17/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1384 - accuracy: 0.4364
Epoch 18/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1384 - accuracy: 0.4414
Epoch 19/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1384 - accuracy: 0.4414
Epoch 20/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1384 - accuracy: 0.4539
Epoch 21/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1383 - accuracy: 0.4623
Epoch 22/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1383 - accuracy: 0.4539
Epoch 23/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1383 - accuracy: 0.4370
Epoch 24/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1383 - accuracy: 0.4242
Epoch 25/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1382 - accuracy: 0.4575
Epoch 26/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1382 - accuracy: 0.4158
Epoch 27/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1382 - accuracy: 0.4117
Epoch 28/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1381 - accuracy: 0.4444
Epoch 29/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1381 - accuracy: 0.4197
Epoch 30/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1380 - accuracy: 0.4530
Epoch 31/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1380 - accuracy: 0.4149
Epoch 32/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1380 - accuracy: 0.4370
Epoch 33/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1379 - accuracy: 0.4242
Epoch 34/1200
2/2 [==============================] - ETA: 0s - loss: 0.1378 - accuracy: 0.42 - 0s 3ms/step - loss: 0.1379 - accuracy: 0.4280
Epoch 35/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1379 - accuracy: 0.4194
Epoch 36/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1378 - accuracy: 0.4235
Epoch 37/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1378 - accuracy: 0.4364
Epoch 38/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1377 - accuracy: 0.4364
Epoch 39/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1377 - accuracy: 0.4364
Epoch 40/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1377 - accuracy: 0.4110
Epoch 41/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1376 - accuracy: 0.4110
Epoch 42/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1375 - accuracy: 0.4200
Epoch 43/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.1375 - accuracy: 0.4453
Epoch 44/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1374 - accuracy: 0.4322
Epoch 45/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1374 - accuracy: 0.4197
Epoch 46/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1373 - accuracy: 0.4245
Epoch 47/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1373 - accuracy: 0.4405
Epoch 48/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1371 - accuracy: 0.4530
Epoch 49/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1372 - accuracy: 0.4158
Epoch 50/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1370 - accuracy: 0.4408
Epoch 51/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1371 - accuracy: 0.4408
Epoch 52/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1370 - accuracy: 0.4414
Epoch 53/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1369 - accuracy: 0.4373
Epoch 54/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1367 - accuracy: 0.4498
Epoch 55/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1368 - accuracy: 0.4414
Epoch 56/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1366 - accuracy: 0.4584
Epoch 57/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1366 - accuracy: 0.4626
Epoch 58/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1366 - accuracy: 0.4498
Epoch 59/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1365 - accuracy: 0.4418
Epoch 60/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1364 - accuracy: 0.4376
Epoch 61/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1364 - accuracy: 0.4328
Epoch 62/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1361 - accuracy: 0.4495
Epoch 63/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1361 - accuracy: 0.4328
Epoch 64/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1360 - accuracy: 0.4411
Epoch 65/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1360 - accuracy: 0.4161
Epoch 66/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1358 - accuracy: 0.4325
Epoch 67/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1357 - accuracy: 0.4283
Epoch 68/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1357 - accuracy: 0.4155
Epoch 69/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1353 - accuracy: 0.4447
Epoch 70/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1353 - accuracy: 0.4360
Epoch 71/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1352 - accuracy: 0.4104
Epoch 72/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1351 - accuracy: 0.4104
Epoch 73/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1348 - accuracy: 0.4188
Epoch 74/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1347 - accuracy: 0.4194
Epoch 75/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1350 - accuracy: 0.3944
Epoch 76/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1346 - accuracy: 0.4152
Epoch 77/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1344 - accuracy: 0.4110
Epoch 78/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1343 - accuracy: 0.4152
Epoch 79/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1342 - accuracy: 0.4235
Epoch 80/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1338 - accuracy: 0.4360
Epoch 81/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1340 - accuracy: 0.4194
Epoch 82/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1337 - accuracy: 0.4027
Epoch 83/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1336 - accuracy: 0.4110
Epoch 84/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1335 - accuracy: 0.4197
Epoch 85/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1334 - accuracy: 0.4364
Epoch 86/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1331 - accuracy: 0.4277
Epoch 87/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1329 - accuracy: 0.4152
Epoch 88/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1331 - accuracy: 0.4069
Epoch 89/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1325 - accuracy: 0.4152
Epoch 90/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1325 - accuracy: 0.4280
Epoch 91/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1323 - accuracy: 0.4242
Epoch 92/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1322 - accuracy: 0.4200
Epoch 93/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1322 - accuracy: 0.4373
Epoch 94/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1316 - accuracy: 0.4543
Epoch 95/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1315 - accuracy: 0.4549
Epoch 96/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1315 - accuracy: 0.4632
Epoch 97/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1310 - accuracy: 0.4840
Epoch 98/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1307 - accuracy: 0.4593
Epoch 99/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1306 - accuracy: 0.4677
Epoch 100/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1302 - accuracy: 0.4936
Epoch 101/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1304 - accuracy: 0.4853
Epoch 102/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1303 - accuracy: 0.5064
Epoch 103/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1300 - accuracy: 0.4984
Epoch 104/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1297 - accuracy: 0.4987
Epoch 105/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1297 - accuracy: 0.4987
Epoch 106/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1290 - accuracy: 0.5487
Epoch 107/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1292 - accuracy: 0.5154
Epoch 108/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1284 - accuracy: 0.5073
Epoch 109/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.1286 - accuracy: 0.5115
Epoch 110/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1282 - accuracy: 0.5323
Epoch 111/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1279 - accuracy: 0.5201
Epoch 112/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1278 - accuracy: 0.5243
Epoch 113/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1270 - accuracy: 0.5410
Epoch 114/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1272 - accuracy: 0.5204
Epoch 115/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1263 - accuracy: 0.5579
Epoch 116/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1261 - accuracy: 0.5496
Epoch 117/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1262 - accuracy: 0.5249
Epoch 118/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1260 - accuracy: 0.5419
Epoch 119/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1257 - accuracy: 0.5627
Epoch 120/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1250 - accuracy: 0.5422
Epoch 121/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1250 - accuracy: 0.5800
Epoch 122/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1247 - accuracy: 0.5675
Epoch 123/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1246 - accuracy: 0.5758
Epoch 124/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1249 - accuracy: 0.5303
Epoch 125/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1241 - accuracy: 0.5636
Epoch 126/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1228 - accuracy: 0.6095
Epoch 127/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1237 - accuracy: 0.5595
Epoch 128/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1230 - accuracy: 0.5845
Epoch 129/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1226 - accuracy: 0.5720
Epoch 130/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1225 - accuracy: 0.5675
Epoch 131/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1226 - accuracy: 0.5300
Epoch 132/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1217 - accuracy: 0.5550
Epoch 133/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1207 - accuracy: 0.5800
Epoch 134/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1214 - accuracy: 0.5550
Epoch 135/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1203 - accuracy: 0.5928
Epoch 136/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1203 - accuracy: 0.5678
Epoch 137/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1201 - accuracy: 0.5720
Epoch 138/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1197 - accuracy: 0.5806
Epoch 139/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1202 - accuracy: 0.5806
Epoch 140/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1185 - accuracy: 0.5893
Epoch 141/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1193 - accuracy: 0.5601
Epoch 142/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1190 - accuracy: 0.5601
Epoch 143/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1180 - accuracy: 0.6146
Epoch 144/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1185 - accuracy: 0.5982
Epoch 145/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1174 - accuracy: 0.6190
Epoch 146/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1170 - accuracy: 0.6024
Epoch 147/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1177 - accuracy: 0.5854
Epoch 148/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1165 - accuracy: 0.5812
Epoch 149/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1157 - accuracy: 0.6187
Epoch 150/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1167 - accuracy: 0.5940
Epoch 151/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1155 - accuracy: 0.6107
Epoch 152/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1152 - accuracy: 0.5899
Epoch 153/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1144 - accuracy: 0.6277
Epoch 154/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1152 - accuracy: 0.6155
Epoch 155/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1149 - accuracy: 0.6072
Epoch 156/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1148 - accuracy: 0.5905
Epoch 157/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1145 - accuracy: 0.6033
Epoch 158/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1130 - accuracy: 0.6453
Epoch 159/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1144 - accuracy: 0.6161
Epoch 160/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1138 - accuracy: 0.6119
Epoch 161/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1127 - accuracy: 0.6411
Epoch 162/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1119 - accuracy: 0.6244
Epoch 163/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1122 - accuracy: 0.6411
Epoch 164/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1128 - accuracy: 0.6244
Epoch 165/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1106 - accuracy: 0.6286
Epoch 166/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1111 - accuracy: 0.6244
Epoch 167/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1123 - accuracy: 0.6161
Epoch 168/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1097 - accuracy: 0.6203
Epoch 169/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1102 - accuracy: 0.6081
Epoch 170/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1095 - accuracy: 0.6331
Epoch 171/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.1090 - accuracy: 0.6372
Epoch 172/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1089 - accuracy: 0.6372
Epoch 173/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1097 - accuracy: 0.6414
Epoch 174/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1072 - accuracy: 0.6414
Epoch 175/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1074 - accuracy: 0.6622
Epoch 176/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1078 - accuracy: 0.6376
Epoch 177/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1079 - accuracy: 0.6334
Epoch 178/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1073 - accuracy: 0.6251
Epoch 179/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1068 - accuracy: 0.6587
Epoch 180/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1072 - accuracy: 0.6507
Epoch 181/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1051 - accuracy: 0.6718
Epoch 182/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1080 - accuracy: 0.6468
Epoch 183/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1056 - accuracy: 0.6590
Epoch 184/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.1063 - accuracy: 0.6635
Epoch 185/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1044 - accuracy: 0.6635
Epoch 186/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1058 - accuracy: 0.6635
Epoch 187/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1028 - accuracy: 0.6843
Epoch 188/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1044 - accuracy: 0.6635
Epoch 189/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1058 - accuracy: 0.6593
Epoch 190/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1031 - accuracy: 0.6760
Epoch 191/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1053 - accuracy: 0.6423
Epoch 192/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1045 - accuracy: 0.6507
Epoch 193/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1044 - accuracy: 0.6465
Epoch 194/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1039 - accuracy: 0.6548
Epoch 195/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1028 - accuracy: 0.6548
Epoch 196/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1043 - accuracy: 0.6423
Epoch 197/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1018 - accuracy: 0.6507
Epoch 198/1200
2/2 [==============================] - ETA: 0s - loss: 0.1027 - accuracy: 0.67 - 0s 3ms/step - loss: 0.1027 - accuracy: 0.6590
Epoch 199/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1031 - accuracy: 0.6382
Epoch 200/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1032 - accuracy: 0.6382
Epoch 201/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1022 - accuracy: 0.6548
Epoch 202/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1002 - accuracy: 0.6757
Epoch 203/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.1004 - accuracy: 0.6507
Epoch 204/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1027 - accuracy: 0.6382
Epoch 205/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1021 - accuracy: 0.6507
Epoch 206/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1019 - accuracy: 0.6590
Epoch 207/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1008 - accuracy: 0.6382
Epoch 208/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1035 - accuracy: 0.6295
Epoch 209/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1012 - accuracy: 0.6337
Epoch 210/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0993 - accuracy: 0.6548
Epoch 211/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1013 - accuracy: 0.6420
Epoch 212/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0992 - accuracy: 0.6545
Epoch 213/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1010 - accuracy: 0.6420
Epoch 214/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.1004 - accuracy: 0.6379
Epoch 215/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0991 - accuracy: 0.6501
Epoch 216/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.1003 - accuracy: 0.6459
Epoch 217/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1007 - accuracy: 0.6295
Epoch 218/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1007 - accuracy: 0.6379
Epoch 219/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.1010 - accuracy: 0.6420
Epoch 220/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0990 - accuracy: 0.6504
Epoch 221/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0991 - accuracy: 0.6292
Epoch 222/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1014 - accuracy: 0.6209
Epoch 223/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0975 - accuracy: 0.6501
Epoch 224/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0998 - accuracy: 0.6334
Epoch 225/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.1000 - accuracy: 0.6334
Epoch 226/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0986 - accuracy: 0.6376
Epoch 227/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0989 - accuracy: 0.6251
Epoch 228/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.1003 - accuracy: 0.6417
Epoch 229/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0971 - accuracy: 0.6417
Epoch 230/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0982 - accuracy: 0.6292
Epoch 231/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0980 - accuracy: 0.6334
Epoch 232/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0975 - accuracy: 0.6292
Epoch 233/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0983 - accuracy: 0.6251
Epoch 234/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0984 - accuracy: 0.6292
Epoch 235/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0993 - accuracy: 0.6292
Epoch 236/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0957 - accuracy: 0.6629
Epoch 237/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0978 - accuracy: 0.6295
Epoch 238/1200
2/2 [==============================] - ETA: 0s - loss: 0.0939 - accuracy: 0.68 - 0s 5ms/step - loss: 0.0963 - accuracy: 0.6587
Epoch 239/1200
2/2 [==============================] - ETA: 0s - loss: 0.0951 - accuracy: 0.61 - 0s 7ms/step - loss: 0.0966 - accuracy: 0.6337
Epoch 240/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0984 - accuracy: 0.6379
Epoch 241/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0978 - accuracy: 0.6462
Epoch 242/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0973 - accuracy: 0.6254
Epoch 243/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0968 - accuracy: 0.6379
Epoch 244/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0974 - accuracy: 0.6465
Epoch 245/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0970 - accuracy: 0.6507
Epoch 246/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0990 - accuracy: 0.6173
Epoch 247/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0968 - accuracy: 0.6548
Epoch 248/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0955 - accuracy: 0.6590
Epoch 249/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0967 - accuracy: 0.6340
Epoch 250/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0940 - accuracy: 0.6590
Epoch 251/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0957 - accuracy: 0.6673
Epoch 252/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0969 - accuracy: 0.6465
Epoch 253/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0967 - accuracy: 0.6593
Epoch 254/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0954 - accuracy: 0.6635
Epoch 255/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0961 - accuracy: 0.6635
Epoch 256/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0979 - accuracy: 0.6385
Epoch 257/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0933 - accuracy: 0.6676
Epoch 258/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0975 - accuracy: 0.6468
Epoch 259/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0934 - accuracy: 0.6760
Epoch 260/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0939 - accuracy: 0.6635
Epoch 261/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0951 - accuracy: 0.6676
Epoch 262/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0962 - accuracy: 0.6635
Epoch 263/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0943 - accuracy: 0.6551
Epoch 264/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0989 - accuracy: 0.6426
Epoch 265/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0912 - accuracy: 0.6843
Epoch 266/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0953 - accuracy: 0.6468
Epoch 267/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0963 - accuracy: 0.6426
Epoch 268/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0951 - accuracy: 0.6718
Epoch 269/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0942 - accuracy: 0.6635
Epoch 270/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0944 - accuracy: 0.6676
Epoch 271/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0959 - accuracy: 0.6596
Epoch 272/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0953 - accuracy: 0.6638
Epoch 273/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0936 - accuracy: 0.6680
Epoch 274/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0942 - accuracy: 0.6680
Epoch 275/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0938 - accuracy: 0.6763
Epoch 276/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0932 - accuracy: 0.6846
Epoch 277/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0939 - accuracy: 0.6513
Epoch 278/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0940 - accuracy: 0.6596
Epoch 279/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0948 - accuracy: 0.6763
Epoch 280/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0933 - accuracy: 0.6638
Epoch 281/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0934 - accuracy: 0.6680
Epoch 282/1200
2/2 [==============================] - ETA: 0s - loss: 0.0857 - accuracy: 0.72 - 0s 3ms/step - loss: 0.0913 - accuracy: 0.6846
Epoch 283/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0932 - accuracy: 0.6638
Epoch 284/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0954 - accuracy: 0.6516
Epoch 285/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0955 - accuracy: 0.6513
Epoch 286/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0922 - accuracy: 0.6808
Epoch 287/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0936 - accuracy: 0.6724
Epoch 288/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0956 - accuracy: 0.6683
Epoch 289/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0927 - accuracy: 0.6849
Epoch 290/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0922 - accuracy: 0.6766
Epoch 291/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0939 - accuracy: 0.6724
Epoch 292/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0934 - accuracy: 0.6724
Epoch 293/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0955 - accuracy: 0.6474
Epoch 294/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0932 - accuracy: 0.6599
Epoch 295/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0941 - accuracy: 0.6516
Epoch 296/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0924 - accuracy: 0.6766
Epoch 297/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0927 - accuracy: 0.6808
Epoch 298/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0930 - accuracy: 0.6766
Epoch 299/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0950 - accuracy: 0.6471
Epoch 300/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0936 - accuracy: 0.6596
Epoch 301/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0914 - accuracy: 0.6721
Epoch 302/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0936 - accuracy: 0.6513
Epoch 303/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0929 - accuracy: 0.6680
Epoch 304/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0971 - accuracy: 0.6305
Epoch 305/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0929 - accuracy: 0.6596
Epoch 306/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0920 - accuracy: 0.6638
Epoch 307/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0945 - accuracy: 0.6596
Epoch 308/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0934 - accuracy: 0.6555
Epoch 309/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0943 - accuracy: 0.6513
Epoch 310/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0927 - accuracy: 0.6638
Epoch 311/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0947 - accuracy: 0.6680
Epoch 312/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0926 - accuracy: 0.6346
Epoch 313/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0919 - accuracy: 0.6638
Epoch 314/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0907 - accuracy: 0.6638
Epoch 315/1200
2/2 [==============================] - ETA: 0s - loss: 0.0938 - accuracy: 0.61 - 0s 7ms/step - loss: 0.0926 - accuracy: 0.6471
Epoch 316/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0948 - accuracy: 0.6555
Epoch 317/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0900 - accuracy: 0.6891
Epoch 318/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0908 - accuracy: 0.6852
Epoch 319/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0926 - accuracy: 0.6727
Epoch 320/1200
2/2 [==============================] - 0s 9ms/step - loss: 0.0920 - accuracy: 0.6727
Epoch 321/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0939 - accuracy: 0.6519
Epoch 322/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0920 - accuracy: 0.6811
Epoch 323/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0908 - accuracy: 0.6727
Epoch 324/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0910 - accuracy: 0.6894
Epoch 325/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0900 - accuracy: 0.6936
Epoch 326/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0923 - accuracy: 0.6644
Epoch 327/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0917 - accuracy: 0.6811
Epoch 328/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0925 - accuracy: 0.6644
Epoch 329/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0909 - accuracy: 0.6769
Epoch 330/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0923 - accuracy: 0.6602
Epoch 331/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0932 - accuracy: 0.6519
Epoch 332/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0896 - accuracy: 0.6977
Epoch 333/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0923 - accuracy: 0.6519
Epoch 334/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0885 - accuracy: 0.6811
Epoch 335/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0889 - accuracy: 0.6894
Epoch 336/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0873 - accuracy: 0.7061
Epoch 337/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0884 - accuracy: 0.7019
Epoch 338/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0883 - accuracy: 0.6977
Epoch 339/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0894 - accuracy: 0.6686
Epoch 340/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0911 - accuracy: 0.6602
Epoch 341/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0886 - accuracy: 0.6811
Epoch 342/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0908 - accuracy: 0.6686
Epoch 343/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0900 - accuracy: 0.6894
Epoch 344/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0920 - accuracy: 0.6686
Epoch 345/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0886 - accuracy: 0.6852
Epoch 346/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0909 - accuracy: 0.6602
Epoch 347/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0883 - accuracy: 0.6686
Epoch 348/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0884 - accuracy: 0.6977
Epoch 349/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0867 - accuracy: 0.6894
Epoch 350/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0895 - accuracy: 0.6769
Epoch 351/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0892 - accuracy: 0.6811
Epoch 352/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0923 - accuracy: 0.6602
Epoch 353/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0918 - accuracy: 0.6602
Epoch 354/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0910 - accuracy: 0.6769
Epoch 355/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0885 - accuracy: 0.6852
Epoch 356/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0915 - accuracy: 0.6516
Epoch 357/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0902 - accuracy: 0.6683
Epoch 358/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0885 - accuracy: 0.6808
Epoch 359/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0892 - accuracy: 0.6683
Epoch 360/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0867 - accuracy: 0.6974
Epoch 361/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0914 - accuracy: 0.6683
Epoch 362/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0883 - accuracy: 0.6724
Epoch 363/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0868 - accuracy: 0.6849
Epoch 364/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0878 - accuracy: 0.6808
Epoch 365/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0905 - accuracy: 0.6683
Epoch 366/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0908 - accuracy: 0.6558
Epoch 367/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0930 - accuracy: 0.6433
Epoch 368/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0908 - accuracy: 0.6516
Epoch 369/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0879 - accuracy: 0.6766
Epoch 370/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0898 - accuracy: 0.6724
Epoch 371/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0911 - accuracy: 0.6433
Epoch 372/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0853 - accuracy: 0.6933
Epoch 373/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0887 - accuracy: 0.6599
Epoch 374/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0887 - accuracy: 0.6724
Epoch 375/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0883 - accuracy: 0.6724
Epoch 376/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0871 - accuracy: 0.6849
Epoch 377/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0902 - accuracy: 0.6516
Epoch 378/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0896 - accuracy: 0.6558
Epoch 379/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0897 - accuracy: 0.6558
Epoch 380/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0861 - accuracy: 0.6766
Epoch 381/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0899 - accuracy: 0.6599
Epoch 382/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0865 - accuracy: 0.6766
Epoch 383/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0890 - accuracy: 0.6599
Epoch 384/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0895 - accuracy: 0.6683
Epoch 385/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0850 - accuracy: 0.6808
Epoch 386/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0873 - accuracy: 0.6641
Epoch 387/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0872 - accuracy: 0.6724
Epoch 388/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0878 - accuracy: 0.6724
Epoch 389/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0869 - accuracy: 0.6849
Epoch 390/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0853 - accuracy: 0.6641
Epoch 391/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0862 - accuracy: 0.6766
Epoch 392/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0868 - accuracy: 0.6766
Epoch 393/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0848 - accuracy: 0.6849
Epoch 394/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0876 - accuracy: 0.6641
Epoch 395/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0879 - accuracy: 0.6641
Epoch 396/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0868 - accuracy: 0.6641
Epoch 397/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0845 - accuracy: 0.6933
Epoch 398/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0892 - accuracy: 0.6516
Epoch 399/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0840 - accuracy: 0.6808
Epoch 400/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0857 - accuracy: 0.6724
Epoch 401/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0837 - accuracy: 0.6891
Epoch 402/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0875 - accuracy: 0.6683
Epoch 403/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0892 - accuracy: 0.6558
Epoch 404/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0893 - accuracy: 0.6516
Epoch 405/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0846 - accuracy: 0.6724
Epoch 406/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0888 - accuracy: 0.6519
Epoch 407/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0878 - accuracy: 0.6811
Epoch 408/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0867 - accuracy: 0.6644
Epoch 409/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0864 - accuracy: 0.6644
Epoch 410/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0844 - accuracy: 0.6724
Epoch 411/1200
```

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2/2 [==============================] - 0s 4ms/step - loss: 0.0853 - accuracy: 0.6849
Epoch 412/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0827 - accuracy: 0.6974
Epoch 413/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0851 - accuracy: 0.6769
Epoch 414/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0816 - accuracy: 0.7061
Epoch 415/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0847 - accuracy: 0.6769
Epoch 416/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0854 - accuracy: 0.6727
Epoch 417/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0846 - accuracy: 0.6852
Epoch 418/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0856 - accuracy: 0.6769
Epoch 419/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0864 - accuracy: 0.6727
Epoch 420/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0853 - accuracy: 0.6811
Epoch 421/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0853 - accuracy: 0.6686
Epoch 422/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0853 - accuracy: 0.6855
Epoch 423/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0839 - accuracy: 0.6855
Epoch 424/1200
2/2 [==============================] - ETA: 0s - loss: 0.0858 - accuracy: 0.65 - 0s 3ms/step - loss: 
0.0852 - accuracy: 0.6730
Epoch 425/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0861 - accuracy: 0.6689
Epoch 426/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0872 - accuracy: 0.6772
Epoch 427/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0840 - accuracy: 0.6814
Epoch 428/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0832 - accuracy: 0.6980
Epoch 429/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0819 - accuracy: 0.6980
Epoch 430/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0856 - accuracy: 0.6689
Epoch 431/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0878 - accuracy: 0.6647
Epoch 432/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0840 - accuracy: 0.6730
Epoch 433/1200
2/2 [==============================] - 0s 10ms/step - loss: 0.0835 - accuracy: 0.6897
Epoch 434/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0848 - accuracy: 0.6727
Epoch 435/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0841 - accuracy: 0.6897
Epoch 436/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0844 - accuracy: 0.6855
Epoch 437/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0801 - accuracy: 0.7105
Epoch 438/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0829 - accuracy: 0.6727
Epoch 439/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0859 - accuracy: 0.6686
Epoch 440/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0848 - accuracy: 0.6727
Epoch 441/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0840 - accuracy: 0.6769
Epoch 442/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0856 - accuracy: 0.6644
Epoch 443/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0858 - accuracy: 0.6602
Epoch 444/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0831 - accuracy: 0.6811
Epoch 445/1200
2/2 [==============================] - ETA: 0s - loss: 0.0810 - accuracy: 0.70 - 0s 7ms/step - loss: 
0.0828 - accuracy: 0.6852
Epoch 446/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0856 - accuracy: 0.6686
Epoch 447/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0807 - accuracy: 0.6894
Epoch 448/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0829 - accuracy: 0.6852
Epoch 449/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0847 - accuracy: 0.6644
Epoch 450/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0844 - accuracy: 0.6727
Epoch 451/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0850 - accuracy: 0.6686
Epoch 452/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0835 - accuracy: 0.6769
Epoch 453/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0862 - accuracy: 0.6561
Epoch 454/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0824 - accuracy: 0.6894
Epoch 455/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0806 - accuracy: 0.6894
Epoch 456/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0821 - accuracy: 0.6811
Epoch 457/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0828 - accuracy: 0.6852
Epoch 458/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0861 - accuracy: 0.6602
Epoch 459/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0824 - accuracy: 0.6811
Epoch 460/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0835 - accuracy: 0.6769
Epoch 461/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0841 - accuracy: 0.6727
Epoch 462/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0851 - accuracy: 0.6602
Epoch 463/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0829 - accuracy: 0.6811
Epoch 464/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0821 - accuracy: 0.6769
Epoch 465/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0804 - accuracy: 0.6977
Epoch 466/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0840 - accuracy: 0.6602
Epoch 467/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0832 - accuracy: 0.6727
Epoch 468/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0823 - accuracy: 0.6811
Epoch 469/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0813 - accuracy: 0.6894
Epoch 470/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0809 - accuracy: 0.6894
Epoch 471/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0839 - accuracy: 0.6686
Epoch 472/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0825 - accuracy: 0.6811
Epoch 473/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0820 - accuracy: 0.6852
Epoch 474/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0820 - accuracy: 0.6769
Epoch 475/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0819 - accuracy: 0.6727
Epoch 476/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0796 - accuracy: 0.6977
Epoch 477/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0819 - accuracy: 0.6811
Epoch 478/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0817 - accuracy: 0.6727
Epoch 479/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0822 - accuracy: 0.6811
Epoch 480/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0812 - accuracy: 0.6727
Epoch 481/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0820 - accuracy: 0.6686
Epoch 482/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0837 - accuracy: 0.6602
Epoch 483/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0835 - accuracy: 0.6644
Epoch 484/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0840 - accuracy: 0.6561
Epoch 485/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0812 - accuracy: 0.6811
Epoch 486/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0828 - accuracy: 0.6644
Epoch 487/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0821 - accuracy: 0.6644
Epoch 488/1200
2/2 [==============================] - ETA: 0s - loss: 0.0815 - accuracy: 0.68 - 0s 4ms/step - loss: 
0.0814 - accuracy: 0.6811
Epoch 489/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0779 - accuracy: 0.6894
Epoch 490/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0818 - accuracy: 0.6686
Epoch 491/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0821 - accuracy: 0.6727
Epoch 492/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0824 - accuracy: 0.6769
Epoch 493/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0833 - accuracy: 0.6727
Epoch 494/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0807 - accuracy: 0.6727
Epoch 495/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0826 - accuracy: 0.6727
Epoch 496/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0826 - accuracy: 0.6811
Epoch 497/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0820 - accuracy: 0.6769
Epoch 498/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0802 - accuracy: 0.6894
Epoch 499/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0799 - accuracy: 0.6811
Epoch 500/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0823 - accuracy: 0.6686
Epoch 501/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0806 - accuracy: 0.6769
Epoch 502/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0804 - accuracy: 0.6852
Epoch 503/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0816 - accuracy: 0.6769
Epoch 504/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0787 - accuracy: 0.7019
Epoch 505/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0820 - accuracy: 0.6727
Epoch 506/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0811 - accuracy: 0.6769
Epoch 507/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0830 - accuracy: 0.6602
Epoch 508/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0804 - accuracy: 0.6852
Epoch 509/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0813 - accuracy: 0.6686
Epoch 510/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0771 - accuracy: 0.6936
Epoch 511/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0785 - accuracy: 0.6936
Epoch 512/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0822 - accuracy: 0.6644
Epoch 513/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0804 - accuracy: 0.6686
Epoch 514/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0768 - accuracy: 0.7019
Epoch 515/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0822 - accuracy: 0.6686
Epoch 516/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0790 - accuracy: 0.6686
Epoch 517/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0788 - accuracy: 0.6852
Epoch 518/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0804 - accuracy: 0.6769
Epoch 519/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0810 - accuracy: 0.6727
Epoch 520/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0804 - accuracy: 0.6644
Epoch 521/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0810 - accuracy: 0.6686
Epoch 522/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0786 - accuracy: 0.6811
Epoch 523/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0811 - accuracy: 0.6727
Epoch 524/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0782 - accuracy: 0.6894
Epoch 525/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0772 - accuracy: 0.6852
Epoch 526/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0789 - accuracy: 0.6852
Epoch 527/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0779 - accuracy: 0.6894
Epoch 528/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0779 - accuracy: 0.6977
Epoch 529/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0753 - accuracy: 0.6936
Epoch 530/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0793 - accuracy: 0.6811
Epoch 531/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0808 - accuracy: 0.6686
Epoch 532/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0788 - accuracy: 0.6936
Epoch 533/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0767 - accuracy: 0.6894
Epoch 534/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0769 - accuracy: 0.6936
Epoch 535/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0799 - accuracy: 0.6727
Epoch 536/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0754 - accuracy: 0.6977
Epoch 537/1200
2/2 [==============================] - 0s 17ms/step - loss: 0.0808 - accuracy: 0.6686
Epoch 538/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0800 - accuracy: 0.6769
Epoch 539/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0772 - accuracy: 0.6894
Epoch 540/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0788 - accuracy: 0.6769
Epoch 541/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0790 - accuracy: 0.6852
Epoch 542/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0772 - accuracy: 0.6811
Epoch 543/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0794 - accuracy: 0.6811
Epoch 544/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0770 - accuracy: 0.6977
Epoch 545/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0753 - accuracy: 0.7061
Epoch 546/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0763 - accuracy: 0.6977
Epoch 547/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0798 - accuracy: 0.6686
Epoch 548/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0773 - accuracy: 0.6852
Epoch 549/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0787 - accuracy: 0.6769
Epoch 550/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0792 - accuracy: 0.6686
Epoch 551/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0771 - accuracy: 0.6855
Epoch 552/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0797 - accuracy: 0.6727
Epoch 553/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0792 - accuracy: 0.6897
Epoch 554/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0766 - accuracy: 0.6939
Epoch 555/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0795 - accuracy: 0.6814
Epoch 556/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0786 - accuracy: 0.6855
Epoch 557/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0774 - accuracy: 0.6897
Epoch 558/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0802 - accuracy: 0.6772
Epoch 559/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0770 - accuracy: 0.6855
Epoch 560/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0760 - accuracy: 0.6939
Epoch 561/1200
2/2 [==============================] - 0s 12ms/step - loss: 0.0766 - accuracy: 0.7022
Epoch 562/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0792 - accuracy: 0.6772
Epoch 563/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0764 - accuracy: 0.6939
Epoch 564/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0766 - accuracy: 0.6980
Epoch 565/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0788 - accuracy: 0.6730
Epoch 566/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0804 - accuracy: 0.6689
Epoch 567/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0792 - accuracy: 0.6730
Epoch 568/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0771 - accuracy: 0.6814
Epoch 569/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0789 - accuracy: 0.6814
Epoch 570/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0760 - accuracy: 0.7064
Epoch 571/1200
2/2 [==============================] - 0s 9ms/step - loss: 0.0807 - accuracy: 0.6647
Epoch 572/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0747 - accuracy: 0.7022
Epoch 573/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0781 - accuracy: 0.6814
Epoch 574/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0758 - accuracy: 0.6980
Epoch 575/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0786 - accuracy: 0.6855
Epoch 576/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0789 - accuracy: 0.6730
Epoch 577/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0809 - accuracy: 0.6730
Epoch 578/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0779 - accuracy: 0.6855
Epoch 579/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0799 - accuracy: 0.6730
Epoch 580/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0781 - accuracy: 0.6689
Epoch 581/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0782 - accuracy: 0.6855
Epoch 582/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0813 - accuracy: 0.6647
Epoch 583/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0791 - accuracy: 0.6730
Epoch 584/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0743 - accuracy: 0.7147
Epoch 585/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0777 - accuracy: 0.6772
Epoch 586/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0755 - accuracy: 0.6939
Epoch 587/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0739 - accuracy: 0.7105
Epoch 588/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0758 - accuracy: 0.6939
Epoch 589/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0765 - accuracy: 0.6855
Epoch 590/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0746 - accuracy: 0.6980
Epoch 591/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0767 - accuracy: 0.6855
Epoch 592/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0749 - accuracy: 0.7022
Epoch 593/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0750 - accuracy: 0.6980
Epoch 594/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0775 - accuracy: 0.6814
Epoch 595/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0767 - accuracy: 0.6814
Epoch 596/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0809 - accuracy: 0.6605
Epoch 597/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0782 - accuracy: 0.6814
Epoch 598/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0775 - accuracy: 0.6814
Epoch 599/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0795 - accuracy: 0.6730
Epoch 600/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0778 - accuracy: 0.6689
Epoch 601/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0743 - accuracy: 0.6980
Epoch 602/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0762 - accuracy: 0.6855
Epoch 603/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0735 - accuracy: 0.7022
Epoch 604/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0775 - accuracy: 0.6855
Epoch 605/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0786 - accuracy: 0.6772
Epoch 606/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0755 - accuracy: 0.6897
Epoch 607/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0763 - accuracy: 0.6939
Epoch 608/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0717 - accuracy: 0.7064
Epoch 609/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0771 - accuracy: 0.6814
Epoch 610/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0746 - accuracy: 0.6980
Epoch 611/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0783 - accuracy: 0.6772
Epoch 612/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0783 - accuracy: 0.6730
Epoch 613/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0771 - accuracy: 0.6855
Epoch 614/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0752 - accuracy: 0.6939
Epoch 615/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0767 - accuracy: 0.6897
Epoch 616/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0752 - accuracy: 0.6980
Epoch 617/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0741 - accuracy: 0.7022
Epoch 618/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0804 - accuracy: 0.6564
Epoch 619/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0742 - accuracy: 0.6897
Epoch 620/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0761 - accuracy: 0.6814
Epoch 621/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0760 - accuracy: 0.6897
Epoch 622/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0759 - accuracy: 0.6980
Epoch 623/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0757 - accuracy: 0.6855
Epoch 624/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0759 - accuracy: 0.6897
Epoch 625/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0790 - accuracy: 0.6605
Epoch 626/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0776 - accuracy: 0.6689
Epoch 627/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0757 - accuracy: 0.6855
Epoch 628/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0765 - accuracy: 0.6814
Epoch 629/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0764 - accuracy: 0.6897
Epoch 630/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0776 - accuracy: 0.6814
Epoch 631/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0762 - accuracy: 0.6855
Epoch 632/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0781 - accuracy: 0.6689
Epoch 633/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0782 - accuracy: 0.6689
Epoch 634/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0746 - accuracy: 0.6939
Epoch 635/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0760 - accuracy: 0.6814
Epoch 636/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0759 - accuracy: 0.6811
Epoch 637/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0729 - accuracy: 0.6936
Epoch 638/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0739 - accuracy: 0.6936
Epoch 639/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0751 - accuracy: 0.6852
Epoch 640/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0774 - accuracy: 0.6686
Epoch 641/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0767 - accuracy: 0.6644
Epoch 642/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0734 - accuracy: 0.6811
Epoch 643/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0747 - accuracy: 0.6852
Epoch 644/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0730 - accuracy: 0.6936
Epoch 645/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0737 - accuracy: 0.6811
Epoch 646/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0749 - accuracy: 0.6727
Epoch 647/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0748 - accuracy: 0.6769
Epoch 648/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0748 - accuracy: 0.6769
Epoch 649/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0772 - accuracy: 0.6644
Epoch 650/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0768 - accuracy: 0.6727
Epoch 651/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0768 - accuracy: 0.6644
Epoch 652/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0712 - accuracy: 0.6894
Epoch 653/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0777 - accuracy: 0.6602
Epoch 654/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0736 - accuracy: 0.6977
Epoch 655/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0746 - accuracy: 0.6727
Epoch 656/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0741 - accuracy: 0.6852
Epoch 657/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0749 - accuracy: 0.6811
Epoch 658/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0751 - accuracy: 0.6769
Epoch 659/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0755 - accuracy: 0.6730
Epoch 660/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0745 - accuracy: 0.6897
Epoch 661/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0710 - accuracy: 0.6980
Epoch 662/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0769 - accuracy: 0.6689
Epoch 663/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0734 - accuracy: 0.6897
Epoch 664/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0785 - accuracy: 0.6689
Epoch 665/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0740 - accuracy: 0.6939
Epoch 666/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0730 - accuracy: 0.6939
Epoch 667/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0735 - accuracy: 0.6939
Epoch 668/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0734 - accuracy: 0.6897
Epoch 669/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0748 - accuracy: 0.6855
Epoch 670/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0792 - accuracy: 0.6480
Epoch 671/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0779 - accuracy: 0.6605
Epoch 672/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0741 - accuracy: 0.6897
Epoch 673/1200
2/2 [==============================] - ETA: 0s - loss: 0.0754 - accuracy: 0.66 - 0s 4ms/step - loss: 
0.0748 - accuracy: 0.6772
Epoch 674/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0759 - accuracy: 0.6772
Epoch 675/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0736 - accuracy: 0.6814
Epoch 676/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0764 - accuracy: 0.6689
Epoch 677/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0695 - accuracy: 0.7147
Epoch 678/1200
2/2 [==============================] - ETA: 0s - loss: 0.0759 - accuracy: 0.68 - 0s 5ms/step - loss: 
0.0748 - accuracy: 0.6855
Epoch 679/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0740 - accuracy: 0.6897
Epoch 680/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0757 - accuracy: 0.6772
Epoch 681/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0771 - accuracy: 0.6605
Epoch 682/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0755 - accuracy: 0.6730
Epoch 683/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0719 - accuracy: 0.6980
Epoch 684/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0726 - accuracy: 0.6814
Epoch 685/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0716 - accuracy: 0.6897
Epoch 686/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0728 - accuracy: 0.6980
Epoch 687/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0746 - accuracy: 0.6855
Epoch 688/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0755 - accuracy: 0.6730
Epoch 689/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0714 - accuracy: 0.7067
Epoch 690/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0744 - accuracy: 0.6859
Epoch 691/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0737 - accuracy: 0.6984
Epoch 692/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0757 - accuracy: 0.6859
Epoch 693/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0749 - accuracy: 0.6900
Epoch 694/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0744 - accuracy: 0.6900
Epoch 695/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0748 - accuracy: 0.6859
Epoch 696/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0731 - accuracy: 0.7025
Epoch 697/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0748 - accuracy: 0.6859
Epoch 698/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0741 - accuracy: 0.6900
Epoch 699/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0750 - accuracy: 0.6942
Epoch 700/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0744 - accuracy: 0.6900
Epoch 701/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0737 - accuracy: 0.6984
Epoch 702/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0724 - accuracy: 0.7025
Epoch 703/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0753 - accuracy: 0.6817
Epoch 704/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0742 - accuracy: 0.6900
Epoch 705/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0760 - accuracy: 0.6817
Epoch 706/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0720 - accuracy: 0.6942
Epoch 707/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0744 - accuracy: 0.6817
Epoch 708/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0714 - accuracy: 0.6942
Epoch 709/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0706 - accuracy: 0.7150
Epoch 710/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0748 - accuracy: 0.6775
Epoch 711/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0716 - accuracy: 0.6984
Epoch 712/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0745 - accuracy: 0.6859
Epoch 713/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0765 - accuracy: 0.6817
Epoch 714/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0714 - accuracy: 0.6984
Epoch 715/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0704 - accuracy: 0.7109
Epoch 716/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0732 - accuracy: 0.6987
Epoch 717/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0740 - accuracy: 0.6903
Epoch 718/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0764 - accuracy: 0.6778
Epoch 719/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0725 - accuracy: 0.7028
Epoch 720/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0708 - accuracy: 0.6987
Epoch 721/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0715 - accuracy: 0.7070
Epoch 722/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0694 - accuracy: 0.7237
Epoch 723/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0729 - accuracy: 0.6862
Epoch 724/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0742 - accuracy: 0.6945
Epoch 725/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0691 - accuracy: 0.7237
Epoch 726/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0730 - accuracy: 0.7153
Epoch 727/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0711 - accuracy: 0.7112
Epoch 728/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0732 - accuracy: 0.6945
Epoch 729/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0731 - accuracy: 0.6987
Epoch 730/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0710 - accuracy: 0.7028
Epoch 731/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0717 - accuracy: 0.7070
Epoch 732/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0721 - accuracy: 0.6987
Epoch 733/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0723 - accuracy: 0.6987
Epoch 734/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0737 - accuracy: 0.6945
Epoch 735/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0719 - accuracy: 0.6987
Epoch 736/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0713 - accuracy: 0.7112
Epoch 737/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0739 - accuracy: 0.6862
Epoch 738/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0743 - accuracy: 0.6945
Epoch 739/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0738 - accuracy: 0.6903
Epoch 740/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0708 - accuracy: 0.7243
Epoch 741/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0704 - accuracy: 0.7159
Epoch 742/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0707 - accuracy: 0.7284
Epoch 743/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0775 - accuracy: 0.6826
Epoch 744/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0715 - accuracy: 0.7118
Epoch 745/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0706 - accuracy: 0.7201
Epoch 746/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0740 - accuracy: 0.6993
Epoch 747/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0720 - accuracy: 0.7076
Epoch 748/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0701 - accuracy: 0.7243
Epoch 749/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0729 - accuracy: 0.7079
Epoch 750/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0688 - accuracy: 0.7371
Epoch 751/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0727 - accuracy: 0.6996
Epoch 752/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0712 - accuracy: 0.7162
Epoch 753/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0730 - accuracy: 0.7037
Epoch 754/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0733 - accuracy: 0.7079
Epoch 755/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0707 - accuracy: 0.7329
Epoch 756/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0712 - accuracy: 0.7246
Epoch 757/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0727 - accuracy: 0.7204
Epoch 758/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0711 - accuracy: 0.7246
Epoch 759/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0727 - accuracy: 0.7204
Epoch 760/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0738 - accuracy: 0.6996
Epoch 761/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0721 - accuracy: 0.7079
Epoch 762/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0722 - accuracy: 0.7204
Epoch 763/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0720 - accuracy: 0.7037
Epoch 764/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0692 - accuracy: 0.7329
Epoch 765/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0705 - accuracy: 0.7204
Epoch 766/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0692 - accuracy: 0.7371
Epoch 767/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0723 - accuracy: 0.7162
Epoch 768/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0731 - accuracy: 0.7121
Epoch 769/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0723 - accuracy: 0.7162
Epoch 770/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0718 - accuracy: 0.7121
Epoch 771/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0696 - accuracy: 0.7329
Epoch 772/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0713 - accuracy: 0.7162
Epoch 773/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0748 - accuracy: 0.6912
Epoch 774/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0688 - accuracy: 0.7329
Epoch 775/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0722 - accuracy: 0.7162
Epoch 776/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0735 - accuracy: 0.7079
Epoch 777/1200
2/2 [==============================] - 0s 10ms/step - loss: 0.0702 - accuracy: 0.7204
Epoch 778/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0723 - accuracy: 0.7037
Epoch 779/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0707 - accuracy: 0.7162
Epoch 780/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0712 - accuracy: 0.7204
Epoch 781/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0714 - accuracy: 0.7121
Epoch 782/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0693 - accuracy: 0.7246
Epoch 783/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0700 - accuracy: 0.7162
Epoch 784/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0691 - accuracy: 0.7246
Epoch 785/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0731 - accuracy: 0.7037
Epoch 786/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0736 - accuracy: 0.7037
Epoch 787/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0693 - accuracy: 0.7246
Epoch 788/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0664 - accuracy: 0.7412
Epoch 789/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0707 - accuracy: 0.7162
Epoch 790/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0684 - accuracy: 0.7287
Epoch 791/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0718 - accuracy: 0.7079
Epoch 792/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0696 - accuracy: 0.7246
Epoch 793/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0711 - accuracy: 0.7162
Epoch 794/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0681 - accuracy: 0.7416
Epoch 795/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0745 - accuracy: 0.7082
Epoch 796/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0689 - accuracy: 0.7374
Epoch 797/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0703 - accuracy: 0.7291
Epoch 798/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0703 - accuracy: 0.7249
Epoch 799/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0698 - accuracy: 0.7332
Epoch 800/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0736 - accuracy: 0.7041
Epoch 801/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0694 - accuracy: 0.7207
Epoch 802/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0719 - accuracy: 0.7166
Epoch 803/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0733 - accuracy: 0.7082
Epoch 804/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0705 - accuracy: 0.7166
Epoch 805/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0719 - accuracy: 0.7166
Epoch 806/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0711 - accuracy: 0.7207
Epoch 807/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0706 - accuracy: 0.7207
Epoch 808/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0689 - accuracy: 0.7249
Epoch 809/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0739 - accuracy: 0.7041
Epoch 810/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0726 - accuracy: 0.7207
Epoch 811/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0726 - accuracy: 0.7041
Epoch 812/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0682 - accuracy: 0.7291
Epoch 813/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0696 - accuracy: 0.7291
Epoch 814/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0670 - accuracy: 0.7374
Epoch 815/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0700 - accuracy: 0.7332
Epoch 816/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0709 - accuracy: 0.7291
Epoch 817/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0699 - accuracy: 0.7249
Epoch 818/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0694 - accuracy: 0.7249
Epoch 819/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0677 - accuracy: 0.7249
Epoch 820/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0724 - accuracy: 0.7166
Epoch 821/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0674 - accuracy: 0.7374
Epoch 822/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0714 - accuracy: 0.7082
Epoch 823/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0700 - accuracy: 0.7291
Epoch 824/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0662 - accuracy: 0.7374
Epoch 825/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0697 - accuracy: 0.7291
Epoch 826/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0672 - accuracy: 0.7332
Epoch 827/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0707 - accuracy: 0.7166
Epoch 828/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0720 - accuracy: 0.7124

Epoch 829/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0679 - accuracy: 0.7249
Epoch 830/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0680 - accuracy: 0.7374
Epoch 831/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0698 - accuracy: 0.7291
```

```
Epoch 832/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0711 - accuracy: 0.7249
Epoch 833/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0715 - accuracy: 0.7207
Epoch 834/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0685 - accuracy: 0.7374
Epoch 835/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0743 - accuracy: 0.6957
Epoch 836/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0688 - accuracy: 0.7374
Epoch 837/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0686 - accuracy: 0.7332
Epoch 838/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0724 - accuracy: 0.7124
Epoch 839/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0659 - accuracy: 0.7457
Epoch 840/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0688 - accuracy: 0.7249
Epoch 841/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0699 - accuracy: 0.7249
Epoch 842/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0712 - accuracy: 0.7249
Epoch 843/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0694 - accuracy: 0.7207
Epoch 844/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0693 - accuracy: 0.7207
Epoch 845/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0722 - accuracy: 0.7124
Epoch 846/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0688 - accuracy: 0.7249
Epoch 847/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0669 - accuracy: 0.7374
Epoch 848/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0708 - accuracy: 0.7166
Epoch 849/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0671 - accuracy: 0.7416
Epoch 850/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0693 - accuracy: 0.7124
Epoch 851/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0679 - accuracy: 0.7332
Epoch 852/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0679 - accuracy: 0.7374
Epoch 853/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0704 - accuracy: 0.7207
Epoch 854/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0664 - accuracy: 0.7457
Epoch 855/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0671 - accuracy: 0.7291
Epoch 856/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0672 - accuracy: 0.7332
Epoch 857/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0715 - accuracy: 0.7082
Epoch 858/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0664 - accuracy: 0.7374
Epoch 859/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0668 - accuracy: 0.7374
Epoch 860/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0681 - accuracy: 0.7249
Epoch 861/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0692 - accuracy: 0.7207
Epoch 862/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0690 - accuracy: 0.7207
Epoch 863/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0680 - accuracy: 0.7291
Epoch 864/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0681 - accuracy: 0.7291
Epoch 865/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0685 - accuracy: 0.7249
Epoch 866/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0698 - accuracy: 0.7166
Epoch 867/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0669 - accuracy: 0.7416
Epoch 868/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0706 - accuracy: 0.7041
Epoch 869/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0721 - accuracy: 0.7082
Epoch 870/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0713 - accuracy: 0.7166
Epoch 871/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0721 - accuracy: 0.7124
Epoch 872/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0716 - accuracy: 0.7082
Epoch 873/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0657 - accuracy: 0.7416
Epoch 874/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0683 - accuracy: 0.7166
Epoch 875/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0685 - accuracy: 0.7249
Epoch 876/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0663 - accuracy: 0.7374
Epoch 877/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0671 - accuracy: 0.7332
Epoch 878/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0673 - accuracy: 0.7332
Epoch 879/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0667 - accuracy: 0.7291
Epoch 880/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0699 - accuracy: 0.7124
Epoch 881/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0665 - accuracy: 0.7249
Epoch 882/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0645 - accuracy: 0.7416
Epoch 883/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0712 - accuracy: 0.7124
Epoch 884/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0695 - accuracy: 0.7166
Epoch 885/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0681 - accuracy: 0.7249
Epoch 886/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0726 - accuracy: 0.6957
Epoch 887/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0700 - accuracy: 0.7124
Epoch 888/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0661 - accuracy: 0.7374
Epoch 889/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0686 - accuracy: 0.7166
Epoch 890/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0670 - accuracy: 0.7374
Epoch 891/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0703 - accuracy: 0.7082
Epoch 892/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0641 - accuracy: 0.7416
Epoch 893/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0683 - accuracy: 0.7249
Epoch 894/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0676 - accuracy: 0.7166
Epoch 895/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0669 - accuracy: 0.7332
Epoch 896/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0691 - accuracy: 0.7124
Epoch 897/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0669 - accuracy: 0.7249
Epoch 898/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0667 - accuracy: 0.7291
Epoch 899/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0679 - accuracy: 0.7166
Epoch 900/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0662 - accuracy: 0.7374
Epoch 901/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0649 - accuracy: 0.7374
Epoch 902/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0690 - accuracy: 0.7166
Epoch 903/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0664 - accuracy: 0.7374
Epoch 904/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0675 - accuracy: 0.7207
Epoch 905/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0680 - accuracy: 0.7207
Epoch 906/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0687 - accuracy: 0.7207
Epoch 907/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0691 - accuracy: 0.7166
Epoch 908/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0695 - accuracy: 0.7082
Epoch 909/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0660 - accuracy: 0.7416
Epoch 910/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0665 - accuracy: 0.7332
Epoch 911/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0655 - accuracy: 0.7374
Epoch 912/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0691 - accuracy: 0.7166
Epoch 913/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0647 - accuracy: 0.7457
Epoch 914/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0642 - accuracy: 0.7541
Epoch 915/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0666 - accuracy: 0.7291
Epoch 916/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0700 - accuracy: 0.7082
Epoch 917/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0682 - accuracy: 0.7207
Epoch 918/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0696 - accuracy: 0.7124
Epoch 919/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0690 - accuracy: 0.7166
Epoch 920/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0658 - accuracy: 0.7207
Epoch 921/1200
2/2 [==============================] - 0s 9ms/step - loss: 0.0693 - accuracy: 0.7124
Epoch 922/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0690 - accuracy: 0.7124
Epoch 923/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0665 - accuracy: 0.7249
Epoch 924/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0654 - accuracy: 0.7291
Epoch 925/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0669 - accuracy: 0.7291
Epoch 926/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0659 - accuracy: 0.7332
Epoch 927/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0705 - accuracy: 0.7124
Epoch 928/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0702 - accuracy: 0.7166
Epoch 929/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0657 - accuracy: 0.7371
Epoch 930/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0655 - accuracy: 0.7246
Epoch 931/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0650 - accuracy: 0.7204
Epoch 932/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0714 - accuracy: 0.6954
Epoch 933/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0637 - accuracy: 0.7371
Epoch 934/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0656 - accuracy: 0.7204
Epoch 935/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0667 - accuracy: 0.7246
Epoch 936/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0687 - accuracy: 0.7037
Epoch 937/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0655 - accuracy: 0.7287
Epoch 938/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0668 - accuracy: 0.7121
Epoch 939/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0645 - accuracy: 0.7329
Epoch 940/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0689 - accuracy: 0.6996
Epoch 941/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0654 - accuracy: 0.7329
Epoch 942/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0669 - accuracy: 0.7079
Epoch 943/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0668 - accuracy: 0.7121
Epoch 944/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0672 - accuracy: 0.7121
Epoch 945/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0686 - accuracy: 0.7079
Epoch 946/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0669 - accuracy: 0.7162
Epoch 947/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0698 - accuracy: 0.7079
Epoch 948/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0669 - accuracy: 0.7121
Epoch 949/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0652 - accuracy: 0.7329
Epoch 950/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0685 - accuracy: 0.7079
Epoch 951/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0676 - accuracy: 0.7121
Epoch 952/1200
2/2 [==============================] - ETA: 0s - loss: 0.0681 - accuracy: 0.70 - 0s 4ms/step - loss: 0.0670 - accuracy: 0.7121
Epoch 953/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0675 - accuracy: 0.7162
Epoch 954/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0661 - accuracy: 0.7121
Epoch 955/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0658 - accuracy: 0.7287
Epoch 956/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0658 - accuracy: 0.7204
Epoch 957/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0638 - accuracy: 0.7287
Epoch 958/1200
2/2 [==============================] - 0s 9ms/step - loss: 0.0673 - accuracy: 0.7121
Epoch 959/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0675 - accuracy: 0.7037
Epoch 960/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0634 - accuracy: 0.7329
Epoch 961/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0656 - accuracy: 0.7204
Epoch 962/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0655 - accuracy: 0.7204
Epoch 963/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0659 - accuracy: 0.7204
Epoch 964/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0637 - accuracy: 0.7287
Epoch 965/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0692 - accuracy: 0.7037
Epoch 966/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0650 - accuracy: 0.7162
Epoch 967/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0632 - accuracy: 0.7287
Epoch 968/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0681 - accuracy: 0.6996
Epoch 969/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0615 - accuracy: 0.7537
Epoch 970/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0648 - accuracy: 0.7204
Epoch 971/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0664 - accuracy: 0.7249
Epoch 972/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0691 - accuracy: 0.7082
Epoch 973/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0669 - accuracy: 0.7210
Epoch 974/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0676 - accuracy: 0.7169
Epoch 975/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0668 - accuracy: 0.7294
Epoch 976/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0657 - accuracy: 0.7294
Epoch 977/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0670 - accuracy: 0.7210
Epoch 978/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0635 - accuracy: 0.7377
Epoch 979/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0647 - accuracy: 0.7419
Epoch 980/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0637 - accuracy: 0.7460
Epoch 981/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0696 - accuracy: 0.7085
Epoch 982/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0629 - accuracy: 0.7460
Epoch 983/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0655 - accuracy: 0.7335
Epoch 984/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0637 - accuracy: 0.7377
Epoch 985/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0672 - accuracy: 0.7294
Epoch 986/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0658 - accuracy: 0.7335
Epoch 987/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0672 - accuracy: 0.7252
Epoch 988/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0636 - accuracy: 0.7419
Epoch 989/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0674 - accuracy: 0.7210
Epoch 990/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0670 - accuracy: 0.7210
Epoch 991/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0656 - accuracy: 0.7377
Epoch 992/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0680 - accuracy: 0.7294
Epoch 993/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0640 - accuracy: 0.7377
Epoch 994/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0645 - accuracy: 0.7335
Epoch 995/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0639 - accuracy: 0.7419
Epoch 996/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0640 - accuracy: 0.7377
Epoch 997/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0664 - accuracy: 0.7252
Epoch 998/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0626 - accuracy: 0.7460
Epoch 999/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0652 - accuracy: 0.7380
Epoch 1000/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0669 - accuracy: 0.7338
Epoch 1001/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0629 - accuracy: 0.7505
Epoch 1002/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0644 - accuracy: 0.7380
Epoch 1003/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0663 - accuracy: 0.7380
Epoch 1004/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0639 - accuracy: 0.7505
Epoch 1005/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0668 - accuracy: 0.7255
Epoch 1006/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0630 - accuracy: 0.7463
Epoch 1007/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0686 - accuracy: 0.7213
Epoch 1008/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0683 - accuracy: 0.7213
Epoch 1009/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0668 - accuracy: 0.7338
Epoch 1010/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0657 - accuracy: 0.7338
Epoch 1011/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0632 - accuracy: 0.7463
Epoch 1012/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0633 - accuracy: 0.7630
Epoch 1013/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0632 - accuracy: 0.7463
Epoch 1014/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0670 - accuracy: 0.7338
Epoch 1015/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0648 - accuracy: 0.7422
Epoch 1016/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0649 - accuracy: 0.7422
Epoch 1017/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0659 - accuracy: 0.7338
Epoch 1018/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0665 - accuracy: 0.7255
Epoch 1019/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0643 - accuracy: 0.7505
Epoch 1020/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0677 - accuracy: 0.7255
Epoch 1021/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0662 - accuracy: 0.7297
Epoch 1022/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0635 - accuracy: 0.7505
Epoch 1023/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0658 - accuracy: 0.7338
Epoch 1024/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0660 - accuracy: 0.7380
Epoch 1025/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0698 - accuracy: 0.7130
Epoch 1026/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0647 - accuracy: 0.7338
Epoch 1027/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0634 - accuracy: 0.7505
Epoch 1028/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0626 - accuracy: 0.7505
Epoch 1029/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0656 - accuracy: 0.7380
Epoch 1030/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0619 - accuracy: 0.7505
Epoch 1031/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0648 - accuracy: 0.7338
Epoch 1032/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0669 - accuracy: 0.7255
Epoch 1033/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0648 - accuracy: 0.7380
Epoch 1034/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0620 - accuracy: 0.7463
Epoch 1035/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0593 - accuracy: 0.7630
Epoch 1036/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0631 - accuracy: 0.7463
Epoch 1037/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0675 - accuracy: 0.7172
Epoch 1038/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0662 - accuracy: 0.7380
Epoch 1039/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0662 - accuracy: 0.7338
Epoch 1040/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0659 - accuracy: 0.7338
Epoch 1041/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0658 - accuracy: 0.7297
Epoch 1042/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0660 - accuracy: 0.7297
Epoch 1043/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0656 - accuracy: 0.7297
Epoch 1044/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0630 - accuracy: 0.7463
Epoch 1045/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0653 - accuracy: 0.7380
Epoch 1046/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0637 - accuracy: 0.7463
Epoch 1047/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0600 - accuracy: 0.7630
Epoch 1048/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0664 - accuracy: 0.7297
Epoch 1049/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0666 - accuracy: 0.7297
Epoch 1050/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0645 - accuracy: 0.7463
Epoch 1051/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0628 - accuracy: 0.7463
Epoch 1052/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0663 - accuracy: 0.7297
Epoch 1053/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0633 - accuracy: 0.7547
Epoch 1054/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0647 - accuracy: 0.7380
Epoch 1055/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0634 - accuracy: 0.7463
Epoch 1056/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0646 - accuracy: 0.7422
Epoch 1057/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0641 - accuracy: 0.7338
Epoch 1058/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0665 - accuracy: 0.7255
Epoch 1059/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0641 - accuracy: 0.7380
Epoch 1060/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0640 - accuracy: 0.7380
Epoch 1061/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0631 - accuracy: 0.7422
Epoch 1062/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0650 - accuracy: 0.7380
Epoch 1063/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0635 - accuracy: 0.7463
Epoch 1064/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0651 - accuracy: 0.7422
Epoch 1065/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0614 - accuracy: 0.7588
Epoch 1066/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0657 - accuracy: 0.7338
Epoch 1067/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0687 - accuracy: 0.7213
Epoch 1068/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0645 - accuracy: 0.7338
Epoch 1069/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0660 - accuracy: 0.7380
Epoch 1070/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0649 - accuracy: 0.7297
Epoch 1071/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0680 - accuracy: 0.7130
Epoch 1072/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0667 - accuracy: 0.7213
Epoch 1073/1200
2/2 [==============================] - ETA: 0s - loss: 0.0662 - accuracy: 0.73 - 0s 4ms/step - loss: 0.0647 - accuracy: 0.7380
Epoch 1074/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0639 - accuracy: 0.7463
Epoch 1075/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0644 - accuracy: 0.7380
Epoch 1076/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0637 - accuracy: 0.7338
Epoch 1077/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0649 - accuracy: 0.7297
Epoch 1078/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0627 - accuracy: 0.7463
Epoch 1079/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0620 - accuracy: 0.7463
Epoch 1080/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0641 - accuracy: 0.7297
Epoch 1081/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0624 - accuracy: 0.7463
Epoch 1082/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0630 - accuracy: 0.7463
Epoch 1083/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0612 - accuracy: 0.7630
Epoch 1084/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0597 - accuracy: 0.7547
Epoch 1085/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0606 - accuracy: 0.7547
Epoch 1086/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0616 - accuracy: 0.7505
Epoch 1087/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0652 - accuracy: 0.7422
Epoch 1088/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0619 - accuracy: 0.7422
Epoch 1089/1200
2/2 [==============================] - 0s 13ms/step - loss: 0.0617 - accuracy: 0.7422
Epoch 1090/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0631 - accuracy: 0.7505
Epoch 1091/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0635 - accuracy: 0.7380
Epoch 1092/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0622 - accuracy: 0.7463
Epoch 1093/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0641 - accuracy: 0.7255
Epoch 1094/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0653 - accuracy: 0.7255
Epoch 1095/1200
2/2 [==============================] - 0s 2ms/step - loss: 0.0665 - accuracy: 0.7255
Epoch 1096/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0623 - accuracy: 0.7422
Epoch 1097/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0640 - accuracy: 0.7422
Epoch 1098/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0654 - accuracy: 0.7380
Epoch 1099/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0636 - accuracy: 0.7463
Epoch 1100/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0629 - accuracy: 0.7422
Epoch 1101/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0645 - accuracy: 0.7380
Epoch 1102/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0621 - accuracy: 0.7422
Epoch 1103/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0635 - accuracy: 0.7380
Epoch 1104/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0636 - accuracy: 0.7380
Epoch 1105/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0634 - accuracy: 0.7380
Epoch 1106/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0622 - accuracy: 0.7463
Epoch 1107/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0642 - accuracy: 0.7422
Epoch 1108/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0628 - accuracy: 0.7422
Epoch 1109/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0654 - accuracy: 0.7172
Epoch 1110/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0673 - accuracy: 0.7172
Epoch 1111/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0628 - accuracy: 0.7297
Epoch 1112/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0657 - accuracy: 0.7338
Epoch 1113/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0657 - accuracy: 0.7255
Epoch 1114/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0649 - accuracy: 0.7380
Epoch 1115/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0634 - accuracy: 0.7338
Epoch 1116/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0617 - accuracy: 0.7463
Epoch 1117/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0626 - accuracy: 0.7463
Epoch 1118/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0634 - accuracy: 0.7297
Epoch 1119/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0626 - accuracy: 0.7422
Epoch 1120/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0655 - accuracy: 0.7213
Epoch 1121/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0643 - accuracy: 0.7255
Epoch 1122/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0636 - accuracy: 0.7380
Epoch 1123/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0634 - accuracy: 0.7338
Epoch 1124/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0609 - accuracy: 0.7547
Epoch 1125/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0629 - accuracy: 0.7338
Epoch 1126/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0653 - accuracy: 0.7255
Epoch 1127/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0604 - accuracy: 0.7422
Epoch 1128/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0619 - accuracy: 0.7380
Epoch 1129/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0627 - accuracy: 0.7338
Epoch 1130/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0634 - accuracy: 0.7422
Epoch 1131/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0636 - accuracy: 0.7380
Epoch 1132/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0620 - accuracy: 0.7422
Epoch 1133/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0625 - accuracy: 0.7463
Epoch 1134/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0613 - accuracy: 0.7422
Epoch 1135/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0601 - accuracy: 0.7505
Epoch 1136/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0630 - accuracy: 0.7380
Epoch 1137/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0643 - accuracy: 0.7297
Epoch 1138/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0633 - accuracy: 0.7338
Epoch 1139/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0634 - accuracy: 0.7297
Epoch 1140/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0612 - accuracy: 0.7422
Epoch 1141/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0654 - accuracy: 0.7172
Epoch 1142/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0621 - accuracy: 0.7425
Epoch 1143/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0647 - accuracy: 0.7425
Epoch 1144/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0621 - accuracy: 0.7508
Epoch 1145/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0583 - accuracy: 0.7716
Epoch 1146/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0635 - accuracy: 0.7383
Epoch 1147/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0610 - accuracy: 0.7550
Epoch 1148/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0605 - accuracy: 0.7550
Epoch 1149/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0620 - accuracy: 0.7466
Epoch 1150/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0590 - accuracy: 0.7716
Epoch 1151/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0612 - accuracy: 0.7508
Epoch 1152/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0597 - accuracy: 0.7591
Epoch 1153/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0648 - accuracy: 0.7341
Epoch 1154/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0605 - accuracy: 0.7466
Epoch 1155/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0628 - accuracy: 0.7508
Epoch 1156/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0606 - accuracy: 0.7508
Epoch 1157/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0609 - accuracy: 0.7508
Epoch 1158/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0643 - accuracy: 0.7386
Epoch 1159/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0612 - accuracy: 0.7553
Epoch 1160/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0620 - accuracy: 0.7470
Epoch 1161/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0638 - accuracy: 0.7470
Epoch 1162/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0629 - accuracy: 0.7428
Epoch 1163/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0607 - accuracy: 0.7636
Epoch 1164/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0625 - accuracy: 0.7470
Epoch 1165/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0602 - accuracy: 0.7678
Epoch 1166/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0606 - accuracy: 0.7595
Epoch 1167/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0641 - accuracy: 0.7386
Epoch 1168/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0599 - accuracy: 0.7636
Epoch 1169/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0623 - accuracy: 0.7470
Epoch 1170/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0612 - accuracy: 0.7553
Epoch 1171/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0636 - accuracy: 0.7470
Epoch 1172/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0592 - accuracy: 0.7595
Epoch 1173/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0650 - accuracy: 0.7303
Epoch 1174/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0642 - accuracy: 0.7345
Epoch 1175/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0637 - accuracy: 0.7428
Epoch 1176/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0621 - accuracy: 0.7511
Epoch 1177/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0621 - accuracy: 0.7511
Epoch 1178/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0643 - accuracy: 0.7386
Epoch 1179/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0608 - accuracy: 0.7636
Epoch 1180/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0641 - accuracy: 0.7386
Epoch 1181/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0618 - accuracy: 0.7553
Epoch 1182/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0622 - accuracy: 0.7470
Epoch 1183/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0604 - accuracy: 0.7595
Epoch 1184/1200
2/2 [==============================] - ETA: 0s - loss: 0.0695 - accuracy: 0.71 - 0s 4ms/step - loss: 0.0643 - accuracy: 0.7386
Epoch 1185/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0608 - accuracy: 0.7511
Epoch 1186/1200
2/2 [==============================] - 0s 8ms/step - loss: 0.0589 - accuracy: 0.7720
Epoch 1187/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0622 - accuracy: 0.7470
Epoch 1188/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0599 - accuracy: 0.7595
Epoch 1189/1200
2/2 [==============================] - 0s 7ms/step - loss: 0.0612 - accuracy: 0.7511
Epoch 1190/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0626 - accuracy: 0.7470
Epoch 1191/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0608 - accuracy: 0.7595
Epoch 1192/1200
2/2 [==============================] - 0s 6ms/step - loss: 0.0622 - accuracy: 0.7428
Epoch 1193/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0626 - accuracy: 0.7428
Epoch 1194/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0579 - accuracy: 0.7636
Epoch 1195/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0634 - accuracy: 0.7428
Epoch 1196/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0611 - accuracy: 0.7595
Epoch 1197/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0628 - accuracy: 0.7553
Epoch 1198/1200
2/2 [==============================] - 0s 4ms/step - loss: 0.0589 - accuracy: 0.7636
Epoch 1199/1200
2/2 [==============================] - 0s 3ms/step - loss: 0.0621 - accuracy: 0.7470
Epoch 1200/1200
2/2 [==============================] - 0s 5ms/step - loss: 0.0619 - accuracy: 0.7511
```

In [26]:

```
_, train_acc = trial_model_2.evaluate(X_train, y_train, verbose=0)
_, test_acc = trial_model_2.evaluate(X_test, y_test, verbose=0)

print ('Train:%.3f, Test:%.3f' % (train_acc,test_acc))
```

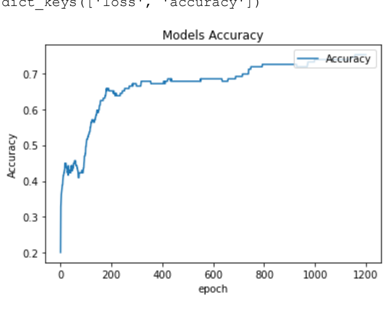
```
Train:0.752, Test:0.646
```

In [27]:

```
print(History.history.keys())

plt.plot(History.history['accuracy'])
plt.title('Models Accuracy')
plt.ylabel('Accuracy')
plt.xlabel('epoch')
plt.legend(['Accuracy'], loc='upper right')
plt.show()
```

```
dict_keys(['loss', 'accuracy'])
```



Train and test Accuracy Scores

1. Train:0.510, Test:0.446
2. Train:0.544, Test:0.462
3. Train:0.705, Test:0.615
4. Train:0.705, Test:0.631

Change in learning rate

1. Train:0.503, Test:0.415 (lr = using 0.002)
2. Train:0.779, Test:0.692 (lr = using 0.004)
3. Train:0.718, Test:0.569 (lr = using 0.003)

Change in epochs and batch size

1. Train:0.691, Test:0.615 (Batch = 50, epochs = 900)
2. Train:0.705, Test:0.631 (Batch = 60, epochs = 900)
3. Train:0.725, Test:0.662 (Batch = 60, epochs = 1000)
4. Train:0.758, Test:0.662 (Batch = 80, epochs = 1200)
5. Train:0.738, Test:0.662 (Batch = 80, epochs = 1200)
6. Train:0.685, Test:0.631 (Batch = 80, epochs = 1200)

Review

I tried to use MSE as loss, the loss does seem to improve for the model training, but the accuracy remains to be quite low.

Also tried to see if the learning rate can improve the model but it seems to be staying at a moderate level of 65%-75% for training and testing accuracy being between 44% - 69%.

I can try a different model to check if the accuracy and loss can improve or if the testing accuracy can come close to the training accuracy perhaps.

Model 3

In [28]:
```python
X_train, X_test, y_train, y_test = train_test_split(X_cols, y_enc, test_size=0.3,random_state = 5)

trial_model_3 = Sequential()

trial_model_3.add(Dense(24, input_dim=9, kernel_initializer='normal', activation='relu'))

trial_model_3.add(Dense(12, kernel_initializer='normal', activation='relu'))

trial_model_3.add(Dense(6, kernel_initializer='normal', activation='softmax'))

trial_model_3.compile(loss='MSE', optimizer='adam', metrics=['accuracy'])

History1 = trial_model_3.fit(X_train, y_train, epochs=600, batch_size=50, verbose =1)

trial_model_3.evaluate(X_test, y_test)
```

```
Epoch 1/600
3/3 [==============================] - 0s 1ms/step - loss: 0.1388 - accuracy: 0.3145
Epoch 2/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1387 - accuracy: 0.3179
Epoch 3/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1385 - accuracy: 0.3721
Epoch 4/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1384 - accuracy: 0.4063
Epoch 5/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1382 - accuracy: 0.3796
Epoch 6/600
3/3 [==============================] - 0s 3ms/step - loss: 0.1380 - accuracy: 0.3721
Epoch 7/600
3/3 [==============================] - 0s 3ms/step - loss: 0.1379 - accuracy: 0.3479
Epoch 8/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1376 - accuracy: 0.3929
Epoch 9/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1374 - accuracy: 0.3554
Epoch 10/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1371 - accuracy: 0.3779
Epoch 11/600
3/3 [==============================] - 0s 4ms/step - loss: 0.1368 - accuracy: 0.3829
Epoch 12/600
3/3 [==============================] - 0s 3ms/step - loss: 0.1362 - accuracy: 0.4129
Epoch 13/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1361 - accuracy: 0.3479
Epoch 14/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1356 - accuracy: 0.3579
Epoch 15/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1352 - accuracy: 0.3829
Epoch 16/600
3/3 [==============================] - 0s 3ms/step - loss: 0.1344 - accuracy: 0.3554
Epoch 17/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1337 - accuracy: 0.3929
Epoch 18/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1329 - accuracy: 0.3829
Epoch 19/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1320 - accuracy: 0.3779
Epoch 20/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1313 - accuracy: 0.3754
Epoch 21/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1302 - accuracy: 0.3654
Epoch 22/600
3/3 [==============================] - 0s 4ms/step - loss: 0.1288 - accuracy: 0.3379
Epoch 23/600
3/3 [==============================] - 0s 3ms/step - loss: 0.1270 - accuracy: 0.3963
Epoch 24/600
3/3 [==============================] - 0s 1ms/step - loss: 0.1257 - accuracy: 0.3880
Epoch 25/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1240 - accuracy: 0.4364
Epoch 26/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1223 - accuracy: 0.4673
Epoch 27/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1217 - accuracy: 0.4582
Epoch 28/600
3/3 [==============================] - 0s 3ms/step - loss: 0.1192 - accuracy: 0.4899
Epoch 29/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1181 - accuracy: 0.4833
Epoch 30/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1163 - accuracy: 0.4741
Epoch 31/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1148 - accuracy: 0.5116
Epoch 32/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1137 - accuracy: 0.4541
Epoch 33/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1121 - accuracy: 0.4891
Epoch 34/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1118 - accuracy: 0.4766
Epoch 35/600
3/3 [==============================] - 0s 4ms/step - loss: 0.1095 - accuracy: 0.4891
Epoch 36/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1097 - accuracy: 0.4841
Epoch 37/600
3/3 [==============================] - 0s 3ms/step - loss: 0.1085 - accuracy: 0.4966
Epoch 38/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1065 - accuracy: 0.4966
Epoch 39/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1072 - accuracy: 0.4966
Epoch 40/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1072 - accuracy: 0.4991
Epoch 41/600
3/3 [==============================] - 0s 5ms/step - loss: 0.1064 - accuracy: 0.4916
Epoch 42/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1041 - accuracy: 0.4616
Epoch 43/600
3/3 [==============================] - 0s 3ms/step - loss: 0.1027 - accuracy: 0.4966
Epoch 44/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1018 - accuracy: 0.5008
Epoch 45/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0985 - accuracy: 0.5000
Epoch 46/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1013 - accuracy: 0.5058
Epoch 47/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0996 - accuracy: 0.5242
Epoch 48/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0968 - accuracy: 0.5450
Epoch 49/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0998 - accuracy: 0.5117
Epoch 50/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0981 - accuracy: 0.5585
Epoch 51/600
3/3 [==============================] - 0s 2ms/step - loss: 0.1008 - accuracy: 0.5852
Epoch 52/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0959 - accuracy: 0.6053
Epoch 53/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0954 - accuracy: 0.6246
Epoch 54/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0941 - accuracy: 0.6412
Epoch 55/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0932 - accuracy: 0.6329
Epoch 56/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0963 - accuracy: 0.6346
Epoch 57/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0919 - accuracy: 0.6738
Epoch 58/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0909 - accuracy: 0.6438
Epoch 59/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0935 - accuracy: 0.6321
Epoch 60/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0923 - accuracy: 0.6496
Epoch 61/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0889 - accuracy: 0.6721
Epoch 62/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0900 - accuracy: 0.6546
Epoch 63/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0894 - accuracy: 0.6446
Epoch 64/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0887 - accuracy: 0.6513
Epoch 65/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0873 - accuracy: 0.6538
Epoch 66/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0888 - accuracy: 0.6279
Epoch 67/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0904 - accuracy: 0.6254
Epoch 68/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0879 - accuracy: 0.6646
Epoch 69/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0903 - accuracy: 0.6238
Epoch 70/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0861 - accuracy: 0.6371
Epoch 71/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0851 - accuracy: 0.6646
Epoch 72/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0828 - accuracy: 0.6621
Epoch 73/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0868 - accuracy: 0.6421
Epoch 74/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0842 - accuracy: 0.6696
Epoch 75/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0855 - accuracy: 0.6530
Epoch 76/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0867 - accuracy: 0.6480
Epoch 77/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0791 - accuracy: 0.6705
Epoch 78/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0831 - accuracy: 0.6480
Epoch 79/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0794 - accuracy: 0.6721
Epoch 80/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0775 - accuracy: 0.6855
Epoch 81/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0825 - accuracy: 0.6380
Epoch 82/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0840 - accuracy: 0.6371
Epoch 83/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0826 - accuracy: 0.6196
Epoch 84/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0767 - accuracy: 0.6796
Epoch 85/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0814 - accuracy: 0.6321
Epoch 86/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0776 - accuracy: 0.6521
Epoch 87/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0757 - accuracy: 0.6596
Epoch 88/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0788 - accuracy: 0.6605
Epoch 89/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0764 - accuracy: 0.6805
Epoch 90/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0825 - accuracy: 0.6255
Epoch 91/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0774 - accuracy: 0.6597
Epoch 92/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0731 - accuracy: 0.6981
Epoch 93/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0772 - accuracy: 0.6764
Epoch 94/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0739 - accuracy: 0.6781
Epoch 95/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0758 - accuracy: 0.6656
Epoch 96/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0776 - accuracy: 0.6681
Epoch 97/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0758 - accuracy: 0.6864
Epoch 98/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0749 - accuracy: 0.6739
Epoch 99/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0718 - accuracy: 0.6989
Epoch 100/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0750 - accuracy: 0.6873
Epoch 101/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0716 - accuracy: 0.6948
Epoch 102/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0753 - accuracy: 0.6748
Epoch 103/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0704 - accuracy: 0.7073
Epoch 104/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0710 - accuracy: 0.6873
Epoch 105/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0750 - accuracy: 0.6623
Epoch 106/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0730 - accuracy: 0.6798
Epoch 107/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0705 - accuracy: 0.6923
Epoch 108/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0723 - accuracy: 0.7006
Epoch 109/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0743 - accuracy: 0.6673
Epoch 110/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0673 - accuracy: 0.7148
Epoch 111/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0692 - accuracy: 0.6898
Epoch 112/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0728 - accuracy: 0.6598
Epoch 113/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0626 - accuracy: 0.7373
Epoch 114/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0717 - accuracy: 0.6906
Epoch 115/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0674 - accuracy: 0.7031
Epoch 116/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0704 - accuracy: 0.7015
Epoch 117/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0721 - accuracy: 0.6865
Epoch 118/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0694 - accuracy: 0.7031
Epoch 119/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0723 - accuracy: 0.6781
Epoch 120/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0711 - accuracy: 0.6815
Epoch 121/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0723 - accuracy: 0.6781
Epoch 122/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0727 - accuracy: 0.6856
Epoch 123/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0726 - accuracy: 0.6706
Epoch 124/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0697 - accuracy: 0.6940
Epoch 125/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0679 - accuracy: 0.7015
Epoch 126/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0739 - accuracy: 0.6690
Epoch 127/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0655 - accuracy: 0.7165
Epoch 128/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0681 - accuracy: 0.7140
Epoch 129/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0663 - accuracy: 0.7065
Epoch 130/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0663 - accuracy: 0.7065
Epoch 131/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0715 - accuracy: 0.6665
Epoch 132/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0683 - accuracy: 0.6965
Epoch 133/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0624 - accuracy: 0.7240
Epoch 134/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0691 - accuracy: 0.6840
Epoch 135/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0688 - accuracy: 0.6948
Epoch 136/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0656 - accuracy: 0.6990
Epoch 137/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0703 - accuracy: 0.6790
Epoch 138/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0655 - accuracy: 0.7198
Epoch 139/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0635 - accuracy: 0.7148
Epoch 140/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0663 - accuracy: 0.7157
Epoch 141/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0683 - accuracy: 0.7032
Epoch 142/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0659 - accuracy: 0.7141
Epoch 143/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0669 - accuracy: 0.7274
Epoch 144/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0638 - accuracy: 0.7324
Epoch 145/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0656 - accuracy: 0.7441
Epoch 146/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0660 - accuracy: 0.7341
Epoch 147/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0689 - accuracy: 0.7166
Epoch 148/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0646 - accuracy: 0.7450
Epoch 149/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0639 - accuracy: 0.7450
Epoch 150/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0655 - accuracy: 0.7400
Epoch 151/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0696 - accuracy: 0.7125
Epoch 152/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0667 - accuracy: 0.7450
Epoch 153/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0608 - accuracy: 0.7758
Epoch 154/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0650 - accuracy: 0.7442
Epoch 155/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0660 - accuracy: 0.7592
Epoch 156/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0661 - accuracy: 0.7592
Epoch 157/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0635 - accuracy: 0.7567
Epoch 158/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0587 - accuracy: 0.7801
Epoch 159/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0654 - accuracy: 0.7601
Epoch 160/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0602 - accuracy: 0.7742
Epoch 161/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0633 - accuracy: 0.7667
Epoch 162/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0636 - accuracy: 0.7601
Epoch 163/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0618 - accuracy: 0.7576
Epoch 164/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0643 - accuracy: 0.7693
Epoch 165/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0666 - accuracy: 0.7493
Epoch 166/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0699 - accuracy: 0.7343
Epoch 167/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0652 - accuracy: 0.7643
Epoch 168/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0633 - accuracy: 0.7718
Epoch 169/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0558 - accuracy: 0.8018
Epoch 170/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0626 - accuracy: 0.7718
Epoch 171/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0594 - accuracy: 0.7768
Epoch 172/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0617 - accuracy: 0.7743
Epoch 173/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0644 - accuracy: 0.7651
Epoch 174/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0625 - accuracy: 0.7776
Epoch 175/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0560 - accuracy: 0.8126
Epoch 176/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0642 - accuracy: 0.7676
Epoch 177/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0572 - accuracy: 0.7901
Epoch 178/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0583 - accuracy: 0.7951
Epoch 179/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0542 - accuracy: 0.8260
Epoch 180/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0616 - accuracy: 0.7810
Epoch 181/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0571 - accuracy: 0.7960
Epoch 182/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0573 - accuracy: 0.8010
Epoch 183/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0596 - accuracy: 0.7835
Epoch 184/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0617 - accuracy: 0.7860
Epoch 185/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0618 - accuracy: 0.7860
Epoch 186/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0585 - accuracy: 0.7910
Epoch 187/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0618 - accuracy: 0.7760
Epoch 188/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0560 - accuracy: 0.8093
Epoch 189/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0567 - accuracy: 0.8143
Epoch 190/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0636 - accuracy: 0.7818
Epoch 191/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0591 - accuracy: 0.7943
Epoch 192/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0595 - accuracy: 0.7793
Epoch 193/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0548 - accuracy: 0.8068
Epoch 194/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0584 - accuracy: 0.7918
Epoch 195/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0626 - accuracy: 0.7768
Epoch 196/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0539 - accuracy: 0.8168
Epoch 197/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0502 - accuracy: 0.8293
Epoch 198/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0591 - accuracy: 0.7868
Epoch 199/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0522 - accuracy: 0.8193
Epoch 200/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0539 - accuracy: 0.8068
Epoch 201/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0593 - accuracy: 0.7918
Epoch 202/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0578 - accuracy: 0.7893
Epoch 203/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0542 - accuracy: 0.8018
Epoch 204/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0557 - accuracy: 0.8043
Epoch 205/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0552 - accuracy: 0.8093
Epoch 206/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0563 - accuracy: 0.7827
Epoch 207/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0548 - accuracy: 0.8060
Epoch 208/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0538 - accuracy: 0.8185
Epoch 209/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0500 - accuracy: 0.8260
Epoch 210/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0505 - accuracy: 0.8385
Epoch 211/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0614 - accuracy: 0.7835
Epoch 212/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0568 - accuracy: 0.7935
Epoch 213/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0519 - accuracy: 0.8260
Epoch 214/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0557 - accuracy: 0.8069
Epoch 215/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0567 - accuracy: 0.8094
Epoch 216/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0538 - accuracy: 0.8169
Epoch 217/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0452 - accuracy: 0.8544
Epoch 218/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0526 - accuracy: 0.8219
Epoch 219/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0529 - accuracy: 0.8194
Epoch 220/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0566 - accuracy: 0.7869
Epoch 221/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0552 - accuracy: 0.8069
Epoch 222/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0532 - accuracy: 0.8244
Epoch 223/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0541 - accuracy: 0.8194
Epoch 224/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0510 - accuracy: 0.8294
Epoch 225/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0567 - accuracy: 0.8044
Epoch 226/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0537 - accuracy: 0.8144
Epoch 227/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0523 - accuracy: 0.8303
Epoch 228/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0533 - accuracy: 0.8153
Epoch 229/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0550 - accuracy: 0.8128
Epoch 230/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0564 - accuracy: 0.8003
Epoch 231/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0545 - accuracy: 0.8128
Epoch 232/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0495 - accuracy: 0.8353
Epoch 233/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0488 - accuracy: 0.8353
Epoch 234/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0485 - accuracy: 0.8328
Epoch 235/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0526 - accuracy: 0.8278
Epoch 236/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0506 - accuracy: 0.8253
Epoch 237/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0523 - accuracy: 0.8303
Epoch 238/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0510 - accuracy: 0.8278
Epoch 239/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0489 - accuracy: 0.8303
Epoch 240/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0486 - accuracy: 0.8328
Epoch 241/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0508 - accuracy: 0.8228
Epoch 242/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0492 - accuracy: 0.8169
Epoch 243/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0473 - accuracy: 0.8344
Epoch 244/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0493 - accuracy: 0.8219
Epoch 245/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0488 - accuracy: 0.8119
Epoch 246/600
3/3 [==============================] - ETA: 0s - loss: 0.0526 - accuracy: 0.78 - 0s 4ms/step - loss:
0.0503 - accuracy: 0.8094
Epoch 247/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0490 - accuracy: 0.8253
Epoch 248/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0454 - accuracy: 0.8453
Epoch 249/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0511 - accuracy: 0.8128
Epoch 250/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0470 - accuracy: 0.8294
Epoch 251/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0482 - accuracy: 0.8269
Epoch 252/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0517 - accuracy: 0.8069
Epoch 253/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0504 - accuracy: 0.8069
Epoch 254/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0503 - accuracy: 0.8094
Epoch 255/600
3/3 [==============================] - 0s 8ms/step - loss: 0.0436 - accuracy: 0.8394
Epoch 256/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0490 - accuracy: 0.8094
Epoch 257/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0475 - accuracy: 0.8244
Epoch 258/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0435 - accuracy: 0.8394
Epoch 259/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0548 - accuracy: 0.7735
Epoch 260/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0482 - accuracy: 0.8035
Epoch 261/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0455 - accuracy: 0.8160
Epoch 262/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0474 - accuracy: 0.8244
Epoch 263/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0502 - accuracy: 0.8019
Epoch 264/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0447 - accuracy: 0.8369
Epoch 265/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0483 - accuracy: 0.8069
Epoch 266/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0434 - accuracy: 0.8344
Epoch 267/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0483 - accuracy: 0.8110
Epoch 268/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0489 - accuracy: 0.8194
Epoch 269/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0452 - accuracy: 0.8319
Epoch 270/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0471 - accuracy: 0.8219
Epoch 271/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0478 - accuracy: 0.8010
Epoch 272/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0482 - accuracy: 0.7985
Epoch 273/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0426 - accuracy: 0.8419
Epoch 274/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0477 - accuracy: 0.8069
Epoch 275/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0427 - accuracy: 0.8269
Epoch 276/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0472 - accuracy: 0.8119
Epoch 277/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0465 - accuracy: 0.8169
Epoch 278/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0459 - accuracy: 0.8219
Epoch 279/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0449 - accuracy: 0.8203
Epoch 280/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0471 - accuracy: 0.8278
Epoch 281/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0378 - accuracy: 0.8703
Epoch 282/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0440 - accuracy: 0.8294
Epoch 283/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0455 - accuracy: 0.8278
Epoch 284/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0466 - accuracy: 0.8178
Epoch 285/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0498 - accuracy: 0.8019
Epoch 286/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0467 - accuracy: 0.7985
Epoch 287/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0402 - accuracy: 0.8494
Epoch 288/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0442 - accuracy: 0.8328
Epoch 289/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0500 - accuracy: 0.8028
Epoch 290/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0442 - accuracy: 0.8353
Epoch 291/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0448 - accuracy: 0.8203
Epoch 292/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0457 - accuracy: 0.8178
Epoch 293/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0463 - accuracy: 0.8178
Epoch 294/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0421 - accuracy: 0.8328
Epoch 295/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0416 - accuracy: 0.8386
Epoch 296/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0416 - accuracy: 0.8378
Epoch 297/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0443 - accuracy: 0.8203
Epoch 298/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0439 - accuracy: 0.8303
Epoch 299/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0428 - accuracy: 0.8353
Epoch 300/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0446 - accuracy: 0.8336
Epoch 301/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0446 - accuracy: 0.8361
Epoch 302/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0435 - accuracy: 0.8411
Epoch 303/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0371 - accuracy: 0.8686
Epoch 304/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0418 - accuracy: 0.8411
Epoch 305/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0400 - accuracy: 0.8386
Epoch 306/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0419 - accuracy: 0.8386
Epoch 307/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0429 - accuracy: 0.8286
Epoch 308/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0438 - accuracy: 0.8136
Epoch 309/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0431 - accuracy: 0.8286
Epoch 310/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0420 - accuracy: 0.8411
Epoch 311/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0449 - accuracy: 0.8236
Epoch 312/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0441 - accuracy: 0.8236
Epoch 313/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0413 - accuracy: 0.8461
Epoch 314/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0448 - accuracy: 0.8086
Epoch 315/600
3/3 [==============================] - 0s 6ms/step - loss: 0.0426 - accuracy: 0.8461
Epoch 316/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0441 - accuracy: 0.8186
Epoch 317/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0431 - accuracy: 0.8194
Epoch 318/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0416 - accuracy: 0.8269
Epoch 319/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0459 - accuracy: 0.8103
Epoch 320/600
3/3 [==============================] - 0s 18ms/step - loss: 0.0430 - accuracy: 0.8261
Epoch 321/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0482 - accuracy: 0.8061
Epoch 322/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0421 - accuracy: 0.8386
Epoch 323/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0448 - accuracy: 0.8161
Epoch 324/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0470 - accuracy: 0.7878
Epoch 325/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0463 - accuracy: 0.8078
Epoch 326/600
3/3 [==============================] - 0s 6ms/step - loss: 0.0355 - accuracy: 0.8711
Epoch 327/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0423 - accuracy: 0.8411
Epoch 328/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0393 - accuracy: 0.8528
Epoch 329/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0469 - accuracy: 0.7953
Epoch 330/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0377 - accuracy: 0.8294
Epoch 331/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0443 - accuracy: 0.8128
Epoch 332/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0392 - accuracy: 0.8453
Epoch 333/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0411 - accuracy: 0.8286
Epoch 334/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0401 - accuracy: 0.8336
Epoch 335/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0484 - accuracy: 0.8028
Epoch 336/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0446 - accuracy: 0.8044
Epoch 337/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0414 - accuracy: 0.8194
Epoch 338/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0442 - accuracy: 0.8019
Epoch 339/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0419 - accuracy: 0.8169
Epoch 340/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0389 - accuracy: 0.8369
Epoch 341/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0447 - accuracy: 0.8019
Epoch 342/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0448 - accuracy: 0.7994
Epoch 343/600
3/3 [==============================] - 0s 7ms/step - loss: 0.0421 - accuracy: 0.8253
Epoch 344/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0464 - accuracy: 0.7953
Epoch 345/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0409 - accuracy: 0.8436
Epoch 346/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0404 - accuracy: 0.8303
Epoch 347/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0399 - accuracy: 0.8411
Epoch 348/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0370 - accuracy: 0.8545
Epoch 349/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0409 - accuracy: 0.8503
Epoch 350/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0398 - accuracy: 0.8486
Epoch 351/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0417 - accuracy: 0.8161
Epoch 352/600
3/3 [==============================] - 0s 8ms/step - loss: 0.0418 - accuracy: 0.8245
Epoch 353/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0415 - accuracy: 0.8261
Epoch 354/600
3/3 [==============================] - 0s 6ms/step - loss: 0.0398 - accuracy: 0.8286
Epoch 355/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0393 - accuracy: 0.8528
Epoch 356/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0362 - accuracy: 0.8653
Epoch 357/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0401 - accuracy: 0.8478
Epoch 358/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0372 - accuracy: 0.8603
Epoch 359/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0381 - accuracy: 0.8528
Epoch 360/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0397 - accuracy: 0.8453
Epoch 361/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0367 - accuracy: 0.8603
Epoch 362/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0417 - accuracy: 0.8353
Epoch 363/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0417 - accuracy: 0.8353
Epoch 364/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0365 - accuracy: 0.8728
Epoch 365/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0370 - accuracy: 0.8628
Epoch 366/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0389 - accuracy: 0.8478
Epoch 367/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0414 - accuracy: 0.8378
Epoch 368/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0420 - accuracy: 0.8378
Epoch 369/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0369 - accuracy: 0.8628
Epoch 370/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0390 - accuracy: 0.8453
Epoch 371/600
3/3 [==============================] - 0s 7ms/step - loss: 0.0365 - accuracy: 0.8553
Epoch 372/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0417 - accuracy: 0.8328
Epoch 373/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0399 - accuracy: 0.8428
Epoch 374/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0399 - accuracy: 0.8328
Epoch 375/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0394 - accuracy: 0.8428
Epoch 376/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0381 - accuracy: 0.8478
Epoch 377/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0397 - accuracy: 0.8478
Epoch 378/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0382 - accuracy: 0.8428
Epoch 379/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0367 - accuracy: 0.8553
Epoch 380/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0399 - accuracy: 0.8378
Epoch 381/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0369 - accuracy: 0.8553
Epoch 382/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0415 - accuracy: 0.8328
Epoch 383/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0347 - accuracy: 0.8678
Epoch 384/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0388 - accuracy: 0.8353
Epoch 385/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0392 - accuracy: 0.8378
Epoch 386/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0436 - accuracy: 0.8153
Epoch 387/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0352 - accuracy: 0.8528
Epoch 388/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0379 - accuracy: 0.8453
Epoch 389/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0383 - accuracy: 0.8403
Epoch 390/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0404 - accuracy: 0.8278
Epoch 391/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0354 - accuracy: 0.8653
Epoch 392/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0374 - accuracy: 0.8378
Epoch 393/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0374 - accuracy: 0.8428
Epoch 394/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0370 - accuracy: 0.8553
Epoch 395/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0423 - accuracy: 0.8278
Epoch 396/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0394 - accuracy: 0.8253
Epoch 397/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0394 - accuracy: 0.8328
Epoch 398/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0418 - accuracy: 0.8253
Epoch 399/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0403 - accuracy: 0.8303
Epoch 400/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0404 - accuracy: 0.8128
Epoch 401/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0339 - accuracy: 0.8528
Epoch 402/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0373 - accuracy: 0.8428
Epoch 403/600
3/3 [==============================] - 0s 20ms/step - loss: 0.0359 - accuracy: 0.8453
Epoch 404/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0385 - accuracy: 0.8303
Epoch 405/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0318 - accuracy: 0.8728
Epoch 406/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0358 - accuracy: 0.8478
Epoch 407/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0348 - accuracy: 0.8587
Epoch 408/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0370 - accuracy: 0.8537
Epoch 409/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0361 - accuracy: 0.8645
Epoch 410/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0384 - accuracy: 0.8420
Epoch 411/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0374 - accuracy: 0.8412
Epoch 412/600
3/3 [==============================] - 0s 7ms/step - loss: 0.0328 - accuracy: 0.8662
Epoch 413/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0324 - accuracy: 0.8712
Epoch 414/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0395 - accuracy: 0.8295
Epoch 415/600
```

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3/3 [==============================] - ETA: 0s - loss: 0.0508 - accuracy: 0.78 - 0s 6ms/step - loss: 0.0393 - accuracy: 0.8395
Epoch 416/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0317 - accuracy: 0.8870
Epoch 417/600
3/3 [==============================] - 0s 6ms/step - loss: 0.0359 - accuracy: 0.8670
Epoch 418/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0380 - accuracy: 0.8287
Epoch 419/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0364 - accuracy: 0.8595
Epoch 420/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0362 - accuracy: 0.8570
Epoch 421/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0342 - accuracy: 0.8620
Epoch 422/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0343 - accuracy: 0.8645
Epoch 423/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0349 - accuracy: 0.8545
Epoch 424/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0316 - accuracy: 0.8745
Epoch 425/600
3/3 [==============================] - 0s 6ms/step - loss: 0.0328 - accuracy: 0.8595
Epoch 426/600
3/3 [==============================] - 0s 6ms/step - loss: 0.0356 - accuracy: 0.8445
Epoch 427/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0334 - accuracy: 0.8779
Epoch 428/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0359 - accuracy: 0.8604
Epoch 429/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0328 - accuracy: 0.8704
Epoch 430/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0342 - accuracy: 0.8579
Epoch 431/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0329 - accuracy: 0.8604
Epoch 432/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0324 - accuracy: 0.8754
Epoch 433/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0349 - accuracy: 0.8520
Epoch 434/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0320 - accuracy: 0.8704
Epoch 435/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0326 - accuracy: 0.8754
Epoch 436/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0346 - accuracy: 0.8579
Epoch 437/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0321 - accuracy: 0.8754
Epoch 438/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0300 - accuracy: 0.8795
Epoch 439/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0334 - accuracy: 0.8779
Epoch 440/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0352 - accuracy: 0.8637
Epoch 441/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0359 - accuracy: 0.8612
Epoch 442/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0331 - accuracy: 0.8612
Epoch 443/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0338 - accuracy: 0.8812
Epoch 444/600
3/3 [==============================] - 0s 6ms/step - loss: 0.0314 - accuracy: 0.8762
Epoch 445/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0356 - accuracy: 0.8587
Epoch 446/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0313 - accuracy: 0.8837
Epoch 447/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0316 - accuracy: 0.8762
Epoch 448/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0290 - accuracy: 0.9037
Epoch 449/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0316 - accuracy: 0.8737
Epoch 450/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0326 - accuracy: 0.8737
Epoch 451/600
3/3 [==============================] - 0s 5ms/step - loss: 0.0276 - accuracy: 0.8962
Epoch 452/600
3/3 [==============================] - 0s 20ms/step - loss: 0.0325 - accuracy: 0.8737
Epoch 453/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0308 - accuracy: 0.8862
Epoch 454/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0320 - accuracy: 0.8787
Epoch 455/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0382 - accuracy: 0.8337
Epoch 456/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0326 - accuracy: 0.8787
Epoch 457/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0325 - accuracy: 0.8662
Epoch 458/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0326 - accuracy: 0.8587
Epoch 459/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0327 - accuracy: 0.8737
Epoch 460/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0346 - accuracy: 0.8587
Epoch 461/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0319 - accuracy: 0.8662
Epoch 462/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0319 - accuracy: 0.8812
Epoch 463/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0292 - accuracy: 0.8937
Epoch 464/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0326 - accuracy: 0.8712
Epoch 465/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0269 - accuracy: 0.8962
Epoch 466/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0285 - accuracy: 0.8887
Epoch 467/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0369 - accuracy: 0.8487
Epoch 468/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0277 - accuracy: 0.8887
Epoch 469/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0293 - accuracy: 0.8737
Epoch 470/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0277 - accuracy: 0.8937
Epoch 471/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0324 - accuracy: 0.8637
Epoch 472/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0331 - accuracy: 0.8637
Epoch 473/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0288 - accuracy: 0.8962
Epoch 474/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0308 - accuracy: 0.8737
Epoch 475/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0293 - accuracy: 0.8787
Epoch 476/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0334 - accuracy: 0.8637
Epoch 477/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0294 - accuracy: 0.8762
Epoch 478/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0299 - accuracy: 0.8787
Epoch 479/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0291 - accuracy: 0.8871
Epoch 480/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0287 - accuracy: 0.8812
Epoch 481/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0310 - accuracy: 0.8737
Epoch 482/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0303 - accuracy: 0.8687
Epoch 483/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0296 - accuracy: 0.8812
Epoch 484/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0282 - accuracy: 0.8787
Epoch 485/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0321 - accuracy: 0.8612
Epoch 486/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0275 - accuracy: 0.8871
Epoch 487/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0299 - accuracy: 0.8821
Epoch 488/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0281 - accuracy: 0.8921
Epoch 489/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0264 - accuracy: 0.9021
Epoch 490/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0280 - accuracy: 0.8846
Epoch 491/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0307 - accuracy: 0.8771
Epoch 492/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0313 - accuracy: 0.8696
Epoch 493/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0310 - accuracy: 0.8646
Epoch 494/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0325 - accuracy: 0.8646
Epoch 495/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0308 - accuracy: 0.8712
Epoch 496/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0293 - accuracy: 0.8821
Epoch 497/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0270 - accuracy: 0.8846
Epoch 498/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0302 - accuracy: 0.8671
Epoch 499/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0283 - accuracy: 0.8821
Epoch 500/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0276 - accuracy: 0.8921
Epoch 501/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0307 - accuracy: 0.8721
Epoch 502/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0286 - accuracy: 0.8896
Epoch 503/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0346 - accuracy: 0.8521
Epoch 504/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0296 - accuracy: 0.8821
Epoch 505/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0300 - accuracy: 0.8746
Epoch 506/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0322 - accuracy: 0.8721
Epoch 507/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0322 - accuracy: 0.8621
Epoch 508/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0306 - accuracy: 0.8796
Epoch 509/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0304 - accuracy: 0.8671
Epoch 510/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0302 - accuracy: 0.8771
Epoch 511/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0302 - accuracy: 0.8696
Epoch 512/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0328 - accuracy: 0.8671
Epoch 513/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0268 - accuracy: 0.8971
Epoch 514/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0287 - accuracy: 0.8671
Epoch 515/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0306 - accuracy: 0.8671
Epoch 516/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0304 - accuracy: 0.8646
Epoch 517/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0297 - accuracy: 0.8771
Epoch 518/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0295 - accuracy: 0.8796
Epoch 519/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0321 - accuracy: 0.8521
Epoch 520/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0299 - accuracy: 0.8746
Epoch 521/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0251 - accuracy: 0.8946
Epoch 522/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0289 - accuracy: 0.8746
Epoch 523/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0245 - accuracy: 0.8996
Epoch 524/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0281 - accuracy: 0.8771
Epoch 525/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0280 - accuracy: 0.8921
Epoch 526/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0308 - accuracy: 0.8696
Epoch 527/600
3/3 [==============================] - ETA: 0s - loss: 0.0316 - accuracy: 0.86 - 0s 2ms/step - loss: 0.0282 - accuracy: 0.8771
Epoch 528/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0284 - accuracy: 0.8796
Epoch 529/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0332 - accuracy: 0.8496
Epoch 530/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0287 - accuracy: 0.8746
Epoch 531/600
3/3 [==============================] - 0s 4ms/step - loss: 0.0284 - accuracy: 0.8771
Epoch 532/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0274 - accuracy: 0.8771
Epoch 533/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0294 - accuracy: 0.8796
Epoch 534/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0274 - accuracy: 0.8771
Epoch 535/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0262 - accuracy: 0.8896
Epoch 536/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0274 - accuracy: 0.8821
Epoch 537/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0311 - accuracy: 0.8671
Epoch 538/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0228 - accuracy: 0.9096
Epoch 539/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0291 - accuracy: 0.8721
Epoch 540/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0318 - accuracy: 0.8621
Epoch 541/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0277 - accuracy: 0.8821
Epoch 542/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0277 - accuracy: 0.8821
Epoch 543/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0249 - accuracy: 0.8871
Epoch 544/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0266 - accuracy: 0.8896
Epoch 545/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0272 - accuracy: 0.8871
Epoch 546/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0258 - accuracy: 0.8946
Epoch 547/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0254 - accuracy: 0.8846
Epoch 548/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0244 - accuracy: 0.9030
Epoch 549/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0279 - accuracy: 0.8771
Epoch 550/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0294 - accuracy: 0.8621
Epoch 551/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0269 - accuracy: 0.8871
Epoch 552/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0282 - accuracy: 0.8721
Epoch 553/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0290 - accuracy: 0.8796
Epoch 554/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0268 - accuracy: 0.8671
Epoch 555/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0262 - accuracy: 0.8913
Epoch 556/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0233 - accuracy: 0.9138
Epoch 557/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0282 - accuracy: 0.8846
Epoch 558/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0276 - accuracy: 0.8855
Epoch 559/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0281 - accuracy: 0.8721
Epoch 560/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0268 - accuracy: 0.8913
Epoch 561/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0263 - accuracy: 0.9013
Epoch 562/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0245 - accuracy: 0.9047
Epoch 563/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0274 - accuracy: 0.8913
Epoch 564/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0220 - accuracy: 0.9055
Epoch 565/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0245 - accuracy: 0.8871
Epoch 566/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0292 - accuracy: 0.8838
Epoch 567/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0261 - accuracy: 0.8938
Epoch 568/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0225 - accuracy: 0.9138
Epoch 569/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0249 - accuracy: 0.9072
Epoch 570/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0275 - accuracy: 0.9080
Epoch 571/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0293 - accuracy: 0.8905
Epoch 572/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0266 - accuracy: 0.9080
Epoch 573/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0298 - accuracy: 0.8722
Epoch 574/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0280 - accuracy: 0.8880
Epoch 575/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0267 - accuracy: 0.9080
Epoch 576/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0269 - accuracy: 0.9105
Epoch 577/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0273 - accuracy: 0.8905
Epoch 578/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0249 - accuracy: 0.9180
Epoch 579/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0248 - accuracy: 0.9147
Epoch 580/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0242 - accuracy: 0.9022
Epoch 581/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0266 - accuracy: 0.9130
Epoch 582/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0286 - accuracy: 0.8880
Epoch 583/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0257 - accuracy: 0.9005
Epoch 584/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0289 - accuracy: 0.8905
Epoch 585/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0251 - accuracy: 0.9105
Epoch 586/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0268 - accuracy: 0.8980
Epoch 587/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0249 - accuracy: 0.9080
Epoch 588/600
3/3 [==============================] - 0s 1ms/step - loss: 0.0275 - accuracy: 0.8905
Epoch 589/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0264 - accuracy: 0.8980
Epoch 590/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0252 - accuracy: 0.9055
Epoch 591/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0209 - accuracy: 0.9280
Epoch 592/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0232 - accuracy: 0.9080
Epoch 593/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0244 - accuracy: 0.9214
Epoch 594/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0253 - accuracy: 0.9005
Epoch 595/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0242 - accuracy: 0.9005
Epoch 596/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0212 - accuracy: 0.9339
Epoch 597/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0221 - accuracy: 0.9239
Epoch 598/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0274 - accuracy: 0.8897
Epoch 599/600
3/3 [==============================] - 0s 2ms/step - loss: 0.0257 - accuracy: 0.9139
Epoch 600/600
3/3 [==============================] - 0s 3ms/step - loss: 0.0264 - accuracy: 0.9114
3/3 [==============================] - 0s 2ms/step - loss: 0.0599 - accuracy: 0.7692
```

Out[28]: [0.059900734573602676, 0.7692307829856873]

In [29]:
```
_, train_acc = trial_model_3.evaluate(X_train, y_train, verbose=0)
_, test_acc = trial_model_3.evaluate(X_test, y_test, verbose=0)

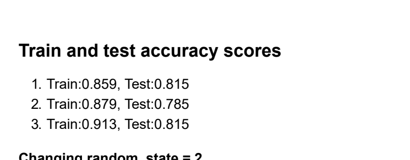
print ('Train:%.3f, Test:%.3f' % (train_acc,test_acc))
```

```
Train:0.913, Test:0.769
```

In [30]:
```
print(History1.history.keys())

plt.plot(History.history['accuracy'])
plt.title('Models Accuracy')
plt.ylabel('Accuracy')
plt.xlabel('epoch')
plt.legend(['Accuracy'], loc='upper right')
plt.show()
```

```
dict_keys(['loss', 'accuracy'])
```



Train and test accuracy scores

1. Train:0.859, Test:0.815
2. Train:0.879, Test:0.785
3. Train:0.913, Test:0.815

Changing random_state = 2

1. Train:0.872, Test:0.769

Changing the split size = 0.2

1. Train:0.889, Test:0.698
2. Train:0.889, Test:0.744

Changing the split size = 0.3| batch size = 50| epochs = 600

1. Train:0.889, Test:0.744
2. Train:0.906, Test:0.754

Notes

Using MSE as loss function may be limited in how much a testing accuracy can be improved and I can see the accuracy in training the model climbs quickly in training the dataset. I may need to use categorical_crossentropy for categorical features in target variable being trained.

- The learning rate was set as default 0.01 using adam optimizer
- Due to the randomness in learning between the independent variable values the testing set suffers from a limited predictability using Mean Squared Error as loss function.

Model 4

In [31]:

```python
data = pd.read_csv('glass_data.csv',names = column_names,index_col = 0,header = None)

num_data = data.to_numpy()

dataset1 = num_data

X_cols = dataset1[:,0:9].astype(float)

y_cols = dataset1[:,9]

preprocessing.scale(X_cols, copy=False)

encoder = preprocessing.LabelEncoder()

encoder.fit(y_cols)

y_tran = encoder.transform(y_cols).reshape(-1, 1)

y_enc = np_utils.to_categorical(y_tran)

X_train, X_test, y_train, y_test = train_test_split(X_cols, y_enc, test_size=0.2, random_state=4)

trial_model_4 = Sequential()

trial_model_4.add(Dense(25, input_dim=9, kernel_initializer='normal', activation='relu'))

trial_model_4.add(Dense(12, kernel_initializer='normal', activation='relu'))

trial_model_4.add(Dense(6, kernel_initializer='normal', activation='softmax'))

trial_model_4.compile(loss='categorical_crossentropy', optimizer=keras.optimizers.Adam(0.0003), metrics
=['accuracy'])

History = trial_model_4.fit(X_train, y_train, epochs=2200, batch_size=90, verbose=1)

trial_model_4.evaluate(X_test, y_test)
```

```
Epoch 1/2200
2/2 [==============================] - 1s 6ms/step - loss: 1.7916 - accuracy: 0.2425
Epoch 2/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7909 - accuracy: 0.4135
Epoch 3/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.7903 - accuracy: 0.4327
Epoch 4/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.7897 - accuracy: 0.4333
Epoch 5/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7891 - accuracy: 0.4519
Epoch 6/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7885 - accuracy: 0.4105
Epoch 7/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7879 - accuracy: 0.4368
Epoch 8/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7873 - accuracy: 0.4595
Epoch 9/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7867 - accuracy: 0.4142
Epoch 10/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7859 - accuracy: 0.4216
Epoch 11/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7853 - accuracy: 0.4290
Epoch 12/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7850 - accuracy: 0.4255
Epoch 13/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7841 - accuracy: 0.4255
Epoch 14/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7831 - accuracy: 0.4552
Epoch 15/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7828 - accuracy: 0.4368
Epoch 16/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7819 - accuracy: 0.4366
Epoch 17/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7815 - accuracy: 0.4519
Epoch 18/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7806 - accuracy: 0.4409
Epoch 19/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7799 - accuracy: 0.4409
Epoch 20/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7790 - accuracy: 0.4294
Epoch 21/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.7781 - accuracy: 0.4519
Epoch 22/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7771 - accuracy: 0.4409
Epoch 23/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7763 - accuracy: 0.4712
Epoch 24/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.7753 - accuracy: 0.4904
Epoch 25/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.7746 - accuracy: 0.5240
Epoch 26/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.7732 - accuracy: 0.5129
Epoch 27/2200
2/2 [==============================] - 0s 10ms/step - loss: 1.7728 - accuracy: 0.5092
Epoch 28/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7721 - accuracy: 0.4904
Epoch 29/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.7702 - accuracy: 0.5092
Epoch 30/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7700 - accuracy: 0.4982
Epoch 31/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7684 - accuracy: 0.4988
Epoch 32/2200
2/2 [==============================] - 0s 6ms/step - loss: 1.7665 - accuracy: 0.5173
Epoch 33/2200
2/2 [==============================] - 0s 6ms/step - loss: 1.7670 - accuracy: 0.4840
Epoch 34/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7654 - accuracy: 0.5244
Epoch 35/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.7638 - accuracy: 0.5018
Epoch 36/2200
2/2 [==============================] - ETA: 0s - loss: 1.7667 - accuracy: 0.44 - 0s 6ms/step - loss: 1.7641 - accuracy: 0.4834
Epoch 37/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.7621 - accuracy: 0.4793
Epoch 38/2200
2/2 [==============================] - 0s 10ms/step - loss: 1.7604 - accuracy: 0.4904
Epoch 39/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.7601 - accuracy: 0.4904
Epoch 40/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.7570 - accuracy: 0.5018
Epoch 41/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7550 - accuracy: 0.5018
Epoch 42/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.7544 - accuracy: 0.5129
Epoch 43/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7529 - accuracy: 0.4795
Epoch 44/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7513 - accuracy: 0.4981
Epoch 45/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.7497 - accuracy: 0.4830
Epoch 46/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7469 - accuracy: 0.5016
Epoch 47/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7439 - accuracy: 0.4754
Epoch 48/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.7437 - accuracy: 0.4865
Epoch 49/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7400 - accuracy: 0.4903
Epoch 50/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7401 - accuracy: 0.4793
Epoch 51/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7346 - accuracy: 0.5016
Epoch 52/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7347 - accuracy: 0.5090
Epoch 53/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7285 - accuracy: 0.5129
Epoch 54/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7274 - accuracy: 0.5129
Epoch 55/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7264 - accuracy: 0.4869
Epoch 56/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7257 - accuracy: 0.4758
Epoch 57/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.7208 - accuracy: 0.5166
Epoch 58/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7190 - accuracy: 0.5203
Epoch 59/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7153 - accuracy: 0.4832
Epoch 60/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.7104 - accuracy: 0.4867
Epoch 61/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7103 - accuracy: 0.4756
Epoch 62/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7052 - accuracy: 0.4942
Epoch 63/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.7079 - accuracy: 0.4534
Epoch 64/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.7009 - accuracy: 0.4869
Epoch 65/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.6979 - accuracy: 0.4981
Epoch 66/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.6912 - accuracy: 0.4981
Epoch 67/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.6886 - accuracy: 0.4832
Epoch 68/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.6860 - accuracy: 0.4830
Epoch 69/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.6775 - accuracy: 0.5275
Epoch 70/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.6758 - accuracy: 0.4867
Epoch 71/2200
2/2 [==============================] - 0s 29ms/step - loss: 1.6724 - accuracy: 0.4981
Epoch 72/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.6691 - accuracy: 0.5057
Epoch 73/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.6628 - accuracy: 0.5131
Epoch 74/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.6534 - accuracy: 0.5055
Epoch 75/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.6572 - accuracy: 0.4758
Epoch 76/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.6485 - accuracy: 0.4873
Epoch 77/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.6406 - accuracy: 0.5320
Epoch 78/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.6329 - accuracy: 0.5357
Epoch 79/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.6317 - accuracy: 0.5394
Epoch 80/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.6270 - accuracy: 0.5172
Epoch 81/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.6240 - accuracy: 0.5135
Epoch 82/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.6194 - accuracy: 0.5023
Epoch 83/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.6128 - accuracy: 0.5320
Epoch 84/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.6087 - accuracy: 0.5136
Epoch 85/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.5970 - accuracy: 0.5023
Epoch 86/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.6055 - accuracy: 0.4875
Epoch 87/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.5859 - accuracy: 0.5097
Epoch 88/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.5724 - accuracy: 0.5320
Epoch 89/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.5765 - accuracy: 0.5209
Epoch 90/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.5644 - accuracy: 0.5172
Epoch 91/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.5655 - accuracy: 0.5062
Epoch 92/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.5590 - accuracy: 0.5175
Epoch 93/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.5519 - accuracy: 0.5287
Epoch 94/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.5414 - accuracy: 0.5437
Epoch 95/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.5312 - accuracy: 0.5402
Epoch 96/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.5296 - accuracy: 0.5216
Epoch 97/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.5230 - accuracy: 0.5439
Epoch 98/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.5079 - accuracy: 0.5365
Epoch 99/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.5001 - accuracy: 0.5402
Epoch 100/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.5004 - accuracy: 0.5365
Epoch 101/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.4766 - accuracy: 0.5439
Epoch 102/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.4929 - accuracy: 0.5255
Epoch 103/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.4707 - accuracy: 0.5404
Epoch 104/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.4775 - accuracy: 0.5517
Epoch 105/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.4667 - accuracy: 0.5554
Epoch 106/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.4782 - accuracy: 0.5257
Epoch 107/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.4502 - accuracy: 0.5442
Epoch 108/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.4487 - accuracy: 0.5480
Epoch 109/2200
2/2 [==============================] - 0s 6ms/step - loss: 1.4433 - accuracy: 0.5444
Epoch 110/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.4258 - accuracy: 0.5667
Epoch 111/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.4278 - accuracy: 0.5519
Epoch 112/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.4087 - accuracy: 0.5556
Epoch 113/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.3917 - accuracy: 0.5852
Epoch 114/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.3973 - accuracy: 0.5889
Epoch 115/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.3952 - accuracy: 0.5706
Epoch 116/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.3751 - accuracy: 0.5780
Epoch 117/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.3699 - accuracy: 0.5743
Epoch 118/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.3587 - accuracy: 0.5632
Epoch 119/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.3632 - accuracy: 0.5483
Epoch 120/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.3577 - accuracy: 0.5595
Epoch 121/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.3500 - accuracy: 0.5634
Epoch 122/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.3474 - accuracy: 0.5782
Epoch 123/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.3510 - accuracy: 0.5634
Epoch 124/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.3407 - accuracy: 0.5635
Epoch 125/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.3324 - accuracy: 0.5635
Epoch 126/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.3262 - accuracy: 0.5747
Epoch 127/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.3090 - accuracy: 0.5673
Epoch 128/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.3176 - accuracy: 0.5712
Epoch 129/2200
2/2 [==============================] - 0s 6ms/step - loss: 1.2927 - accuracy: 0.5786
Epoch 130/2200
2/2 [==============================] - ETA: 0s - loss: 1.3545 - accuracy: 0.54 - 0s 3ms/step - loss: 1.3168 - accuracy: 0.5713
Epoch 131/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.3011 - accuracy: 0.5676
Epoch 132/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.2893 - accuracy: 0.5899
Epoch 133/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.2767 - accuracy: 0.5825
Epoch 134/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.2805 - accuracy: 0.5862
Epoch 135/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.2611 - accuracy: 0.5936
Epoch 136/2200
2/2 [==============================] - ETA: 0s - loss: 1.2282 - accuracy: 0.61 - 0s 4ms/step - loss: 1.2531 - accuracy: 0.5936
Epoch 137/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.2682 - accuracy: 0.5750
Epoch 138/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.2568 - accuracy: 0.5975
Epoch 139/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.2446 - accuracy: 0.5938
Epoch 140/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.2409 - accuracy: 0.5938
Epoch 141/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.2355 - accuracy: 0.5788
Epoch 142/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.2520 - accuracy: 0.5789
Epoch 143/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.2247 - accuracy: 0.6014
Epoch 144/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.2345 - accuracy: 0.5865
Epoch 145/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.2232 - accuracy: 0.5940
Epoch 146/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.2240 - accuracy: 0.5828
Epoch 147/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.2002 - accuracy: 0.6125
Epoch 148/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.1895 - accuracy: 0.6051
Epoch 149/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.2181 - accuracy: 0.5977
Epoch 150/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1952 - accuracy: 0.5977
Epoch 151/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1787 - accuracy: 0.6201
Epoch 152/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.2051 - accuracy: 0.5942
Epoch 153/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1746 - accuracy: 0.6312
Epoch 154/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1880 - accuracy: 0.5867
Epoch 155/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1973 - accuracy: 0.5867
Epoch 156/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1864 - accuracy: 0.6090
Epoch 157/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1932 - accuracy: 0.6016
Epoch 158/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1679 - accuracy: 0.6016
Epoch 159/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1953 - accuracy: 0.6016
Epoch 160/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.1463 - accuracy: 0.6090
Epoch 161/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1648 - accuracy: 0.6238
Epoch 162/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1629 - accuracy: 0.5867
Epoch 163/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1357 - accuracy: 0.6164
Epoch 164/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.1678 - accuracy: 0.5979
Epoch 165/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1273 - accuracy: 0.6240
Epoch 166/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1383 - accuracy: 0.6129
Epoch 167/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1449 - accuracy: 0.6277
Epoch 168/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1554 - accuracy: 0.6203
Epoch 169/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.1325 - accuracy: 0.6203
Epoch 170/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1525 - accuracy: 0.5869
Epoch 171/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1525 - accuracy: 0.5981
Epoch 172/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1522 - accuracy: 0.5981
Epoch 173/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1527 - accuracy: 0.5906
Epoch 174/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1255 - accuracy: 0.6131
Epoch 175/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1246 - accuracy: 0.6279
Epoch 176/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1260 - accuracy: 0.6019
Epoch 177/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.1265 - accuracy: 0.6205
Epoch 178/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.1201 - accuracy: 0.6168
Epoch 179/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.1428 - accuracy: 0.6131
Epoch 180/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1208 - accuracy: 0.6094
Epoch 181/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0943 - accuracy: 0.6279
Epoch 182/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1317 - accuracy: 0.5908
Epoch 183/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.1118 - accuracy: 0.6131
Epoch 184/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.1420 - accuracy: 0.6168
Epoch 185/2200
2/2 [==============================] - 0s 8ms/step - loss: 1.0990 - accuracy: 0.6133
Epoch 186/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.1152 - accuracy: 0.6058
Epoch 187/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.1015 - accuracy: 0.6281
Epoch 188/2200
2/2 [==============================] - 0s 7ms/step - loss: 1.0997 - accuracy: 0.6244
Epoch 189/2200
2/2 [==============================] - 0s 8ms/step - loss: 1.0846 - accuracy: 0.6466
Epoch 190/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.1213 - accuracy: 0.5910
Epoch 191/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.1278 - accuracy: 0.6058
Epoch 192/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0964 - accuracy: 0.6244
Epoch 193/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0944 - accuracy: 0.6170
Epoch 194/2200
2/2 [==============================] - 0s 6ms/step - loss: 1.1036 - accuracy: 0.6244
Epoch 195/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.0900 - accuracy: 0.6318
Epoch 196/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0886 - accuracy: 0.6281
Epoch 197/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.0929 - accuracy: 0.6207
Epoch 198/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0793 - accuracy: 0.6392
Epoch 199/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.0847 - accuracy: 0.6133
Epoch 200/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0876 - accuracy: 0.6133
Epoch 201/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0642 - accuracy: 0.6281
Epoch 202/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0999 - accuracy: 0.6133
Epoch 203/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0715 - accuracy: 0.6207
Epoch 204/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0708 - accuracy: 0.6281
Epoch 205/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0991 - accuracy: 0.6058
Epoch 206/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0929 - accuracy: 0.6058
Epoch 207/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.1139 - accuracy: 0.6023
Epoch 208/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0864 - accuracy: 0.6209
Epoch 209/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0878 - accuracy: 0.6135
Epoch 210/2200
2/2 [==============================] - 0s 9ms/step - loss: 1.0682 - accuracy: 0.6133
Epoch 211/2200
2/2 [==============================] - 0s 6ms/step - loss: 1.0562 - accuracy: 0.6318
Epoch 212/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0524 - accuracy: 0.6244
Epoch 213/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0930 - accuracy: 0.6021
Epoch 214/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0414 - accuracy: 0.6318
Epoch 215/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0653 - accuracy: 0.6246
Epoch 216/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0764 - accuracy: 0.6172
Epoch 217/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0616 - accuracy: 0.6172
Epoch 218/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0840 - accuracy: 0.6060
Epoch 219/2200
2/2 [==============================] - 0s 6ms/step - loss: 1.0478 - accuracy: 0.6209
Epoch 220/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0524 - accuracy: 0.6246
Epoch 221/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0364 - accuracy: 0.6320
Epoch 222/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0739 - accuracy: 0.6246
Epoch 223/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0708 - accuracy: 0.6246
Epoch 224/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0645 - accuracy: 0.6209
Epoch 225/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0590 - accuracy: 0.6320
Epoch 226/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0641 - accuracy: 0.6246
Epoch 227/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0462 - accuracy: 0.6283
Epoch 228/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0423 - accuracy: 0.6246
Epoch 229/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0719 - accuracy: 0.6357
Epoch 230/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0520 - accuracy: 0.6394
Epoch 231/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0502 - accuracy: 0.6135
Epoch 232/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0496 - accuracy: 0.6246
Epoch 233/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0278 - accuracy: 0.6170
Epoch 234/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0556 - accuracy: 0.6172
Epoch 235/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0159 - accuracy: 0.6357
Epoch 236/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0245 - accuracy: 0.6320
Epoch 237/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0515 - accuracy: 0.6246
Epoch 238/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0326 - accuracy: 0.6246
Epoch 239/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0319 - accuracy: 0.6431
Epoch 240/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0381 - accuracy: 0.6357
Epoch 241/2200
2/2 [==============================] - ETA: 0s - loss: 1.0072 - accuracy: 0.62 - 0s 4ms/step - loss: 1.0235 - accuracy: 0.6246
Epoch 242/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0182 - accuracy: 0.6172
Epoch 243/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0197 - accuracy: 0.6246
Epoch 244/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0339 - accuracy: 0.6285
Epoch 245/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0199 - accuracy: 0.6285
Epoch 246/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0165 - accuracy: 0.6322
Epoch 247/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0143 - accuracy: 0.6433
Epoch 248/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0408 - accuracy: 0.6062
Epoch 249/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0066 - accuracy: 0.6396
Epoch 250/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0055 - accuracy: 0.6396
Epoch 251/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0271 - accuracy: 0.6248
Epoch 252/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0066 - accuracy: 0.6433
Epoch 253/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0248 - accuracy: 0.6285
Epoch 254/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0117 - accuracy: 0.6396
Epoch 255/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9847 - accuracy: 0.6396
Epoch 256/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0228 - accuracy: 0.6285
Epoch 257/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0218 - accuracy: 0.6248
Epoch 258/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9901 - accuracy: 0.6396
Epoch 259/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0095 - accuracy: 0.6324
Epoch 260/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9920 - accuracy: 0.6398
Epoch 261/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0014 - accuracy: 0.6472
Epoch 262/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0303 - accuracy: 0.6288
Epoch 263/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0049 - accuracy: 0.6363
Epoch 264/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0089 - accuracy: 0.6400
Epoch 265/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9991 - accuracy: 0.6437
Epoch 266/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0158 - accuracy: 0.6363
Epoch 267/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0277 - accuracy: 0.6437
Epoch 268/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0121 - accuracy: 0.6474
Epoch 269/2200
2/2 [==============================] - 0s 5ms/step - loss: 1.0056 - accuracy: 0.6400
Epoch 270/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.9728 - accuracy: 0.6622
Epoch 271/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.9877 - accuracy: 0.6474
Epoch 272/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9906 - accuracy: 0.6400
Epoch 273/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.9751 - accuracy: 0.6585
Epoch 274/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0066 - accuracy: 0.6288
Epoch 275/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0061 - accuracy: 0.6212
Epoch 276/2200
2/2 [==============================] - 0s 3ms/step - loss: 1.0058 - accuracy: 0.6250
Epoch 277/2200
2/2 [==============================] - 0s 4ms/step - loss: 1.0051 - accuracy: 0.6287
Epoch 278/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9601 - accuracy: 0.6620
Epoch 279/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9864 - accuracy: 0.6324
Epoch 280/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9810 - accuracy: 0.6324
Epoch 281/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9743 - accuracy: 0.6620
Epoch 282/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9849 - accuracy: 0.6324
Epoch 283/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9896 - accuracy: 0.6287
Epoch 284/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9963 - accuracy: 0.6398
Epoch 285/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9824 - accuracy: 0.6546
Epoch 286/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9556 - accuracy: 0.6620
Epoch 287/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9943 - accuracy: 0.6398
Epoch 288/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.9433 - accuracy: 0.6546
Epoch 289/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9980 - accuracy: 0.6175
Epoch 290/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9628 - accuracy: 0.6472
Epoch 291/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9685 - accuracy: 0.6620
Epoch 292/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9677 - accuracy: 0.6472
Epoch 293/2200
2/2 [==============================] - 0s 2ms/step - loss: 1.0029 - accuracy: 0.6138
Epoch 294/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9742 - accuracy: 0.6398
Epoch 295/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9673 - accuracy: 0.6472
Epoch 296/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9895 - accuracy: 0.6287
Epoch 297/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9734 - accuracy: 0.6398
Epoch 298/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9889 - accuracy: 0.6212
Epoch 299/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9705 - accuracy: 0.6361
Epoch 300/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9846 - accuracy: 0.6472
Epoch 301/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9674 - accuracy: 0.6250
Epoch 302/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9583 - accuracy: 0.6509
Epoch 303/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9735 - accuracy: 0.6324
Epoch 304/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9934 - accuracy: 0.6361
Epoch 305/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9689 - accuracy: 0.6287
Epoch 306/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9592 - accuracy: 0.6472
Epoch 307/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9653 - accuracy: 0.6361
Epoch 308/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9642 - accuracy: 0.6398
Epoch 309/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9656 - accuracy: 0.6287
Epoch 310/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9658 - accuracy: 0.6472
Epoch 311/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9480 - accuracy: 0.6546
Epoch 312/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9693 - accuracy: 0.6398
Epoch 313/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.9632 - accuracy: 0.6472
Epoch 314/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9736 - accuracy: 0.6287
Epoch 315/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9680 - accuracy: 0.6212
Epoch 316/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9453 - accuracy: 0.6398
Epoch 317/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9359 - accuracy: 0.6583
Epoch 318/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.9527 - accuracy: 0.6324
Epoch 319/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9207 - accuracy: 0.6546
Epoch 320/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9544 - accuracy: 0.6361
Epoch 321/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9310 - accuracy: 0.6472
Epoch 322/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9516 - accuracy: 0.6472
Epoch 323/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9390 - accuracy: 0.6398
Epoch 324/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9417 - accuracy: 0.6435
Epoch 325/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9609 - accuracy: 0.6398
Epoch 326/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9485 - accuracy: 0.6398
Epoch 327/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9358 - accuracy: 0.6324
Epoch 328/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9482 - accuracy: 0.6398
Epoch 329/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9609 - accuracy: 0.6398
Epoch 330/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9493 - accuracy: 0.6398
Epoch 331/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9716 - accuracy: 0.6361
Epoch 332/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9566 - accuracy: 0.6288
Epoch 333/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9051 - accuracy: 0.6585
Epoch 334/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9342 - accuracy: 0.6511
Epoch 335/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9431 - accuracy: 0.6326
Epoch 336/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9481 - accuracy: 0.6437
Epoch 337/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9378 - accuracy: 0.6437
Epoch 338/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9331 - accuracy: 0.6474
Epoch 339/2200
2/2 [==============================] - ETA: 0s - loss: 0.8880 - accuracy: 0.70 - 0s 3ms/step - loss: 0.9212 - accuracy: 0.6622
Epoch 340/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9342 - accuracy: 0.6363
Epoch 341/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9389 - accuracy: 0.6437
Epoch 342/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9293 - accuracy: 0.6476
Epoch 343/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9214 - accuracy: 0.6550
Epoch 344/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9281 - accuracy: 0.6513
Epoch 345/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9334 - accuracy: 0.6439
Epoch 346/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9313 - accuracy: 0.6513
Epoch 347/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9214 - accuracy: 0.6550
Epoch 348/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9380 - accuracy: 0.6402
Epoch 349/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9485 - accuracy: 0.6439
Epoch 350/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9275 - accuracy: 0.6476
Epoch 351/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9111 - accuracy: 0.6587
Epoch 352/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9039 - accuracy: 0.6698
Epoch 353/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9239 - accuracy: 0.6550
Epoch 354/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9219 - accuracy: 0.6661
Epoch 355/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9264 - accuracy: 0.6550
Epoch 356/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9107 - accuracy: 0.6439
Epoch 357/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9255 - accuracy: 0.6476
Epoch 358/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9081 - accuracy: 0.6587
Epoch 359/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9185 - accuracy: 0.6587
Epoch 360/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.9151 - accuracy: 0.6624
Epoch 361/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9230 - accuracy: 0.6402
Epoch 362/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9091 - accuracy: 0.6513
Epoch 363/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.9254 - accuracy: 0.6365
Epoch 364/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9576 - accuracy: 0.6216
Epoch 365/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8993 - accuracy: 0.6550
Epoch 366/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9253 - accuracy: 0.6402
Epoch 367/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.9088 - accuracy: 0.6550
Epoch 368/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9124 - accuracy: 0.6476
Epoch 369/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9430 - accuracy: 0.6402
Epoch 370/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9359 - accuracy: 0.6365
Epoch 371/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9220 - accuracy: 0.6439
Epoch 372/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8981 - accuracy: 0.6513
Epoch 373/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9234 - accuracy: 0.6476
Epoch 374/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.8937 - accuracy: 0.6661
Epoch 375/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8903 - accuracy: 0.6735
Epoch 376/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9188 - accuracy: 0.6550
Epoch 377/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9223 - accuracy: 0.6402
Epoch 378/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9100 - accuracy: 0.6476
Epoch 379/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9179 - accuracy: 0.6327
Epoch 380/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8942 - accuracy: 0.6513
Epoch 381/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8945 - accuracy: 0.6661
Epoch 382/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9035 - accuracy: 0.6587
Epoch 383/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8987 - accuracy: 0.6513
Epoch 384/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8958 - accuracy: 0.6513
Epoch 385/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9151 - accuracy: 0.6587
Epoch 386/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9140 - accuracy: 0.6476
Epoch 387/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9102 - accuracy: 0.6439
Epoch 388/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8903 - accuracy: 0.6624
Epoch 389/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9290 - accuracy: 0.6365
Epoch 390/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8962 - accuracy: 0.6476
Epoch 391/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8966 - accuracy: 0.6587
Epoch 392/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8912 - accuracy: 0.6511
Epoch 393/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9029 - accuracy: 0.6437
Epoch 394/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8947 - accuracy: 0.6400
Epoch 395/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9015 - accuracy: 0.6437
Epoch 396/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9004 - accuracy: 0.6437
Epoch 397/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8927 - accuracy: 0.6400
Epoch 398/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8986 - accuracy: 0.6511
Epoch 399/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8886 - accuracy: 0.6437
Epoch 400/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8684 - accuracy: 0.6622
Epoch 401/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9003 - accuracy: 0.6288
Epoch 402/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9200 - accuracy: 0.6363
```

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Epoch 403/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8953 - accuracy: 0.6474
Epoch 404/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9138 - accuracy: 0.6251
Epoch 405/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8843 - accuracy: 0.6511
Epoch 406/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8877 - accuracy: 0.6511
Epoch 407/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8815 - accuracy: 0.6548
Epoch 408/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8916 - accuracy: 0.6474
Epoch 409/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9077 - accuracy: 0.6288
Epoch 410/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8784 - accuracy: 0.6511
Epoch 411/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8768 - accuracy: 0.6622
Epoch 412/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8896 - accuracy: 0.6474
Epoch 413/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9221 - accuracy: 0.6214
Epoch 414/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8499 - accuracy: 0.6659
Epoch 415/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.9065 - accuracy: 0.6288
Epoch 416/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.8812 - accuracy: 0.6474
Epoch 417/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8990 - accuracy: 0.6326
Epoch 418/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8659 - accuracy: 0.6548
Epoch 419/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8762 - accuracy: 0.6511
Epoch 420/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8889 - accuracy: 0.6400
Epoch 421/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8653 - accuracy: 0.6587
Epoch 422/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9008 - accuracy: 0.6439
Epoch 423/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8989 - accuracy: 0.6439
Epoch 424/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8773 - accuracy: 0.6439
Epoch 425/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8804 - accuracy: 0.6402
Epoch 426/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8812 - accuracy: 0.6439
Epoch 427/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.9033 - accuracy: 0.6327
Epoch 428/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8615 - accuracy: 0.6587
Epoch 429/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8792 - accuracy: 0.6439
Epoch 430/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8749 - accuracy: 0.6513
Epoch 431/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8817 - accuracy: 0.6365
Epoch 432/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8914 - accuracy: 0.6327
Epoch 433/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8851 - accuracy: 0.6476
Epoch 434/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8769 - accuracy: 0.6624
Epoch 435/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8589 - accuracy: 0.6624
Epoch 436/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9011 - accuracy: 0.6439
Epoch 437/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8770 - accuracy: 0.6439
Epoch 438/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8649 - accuracy: 0.6624
Epoch 439/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8861 - accuracy: 0.6476
Epoch 440/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8446 - accuracy: 0.6550
Epoch 441/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.9045 - accuracy: 0.6365
Epoch 442/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8609 - accuracy: 0.6624
Epoch 443/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8750 - accuracy: 0.6365
Epoch 444/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8863 - accuracy: 0.6476
Epoch 445/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8741 - accuracy: 0.6439
Epoch 446/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8929 - accuracy: 0.6327
Epoch 447/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8926 - accuracy: 0.6365
Epoch 448/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8812 - accuracy: 0.6476
Epoch 449/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8895 - accuracy: 0.6402
Epoch 450/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8743 - accuracy: 0.6365
Epoch 451/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8777 - accuracy: 0.6439
Epoch 452/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8477 - accuracy: 0.6624
Epoch 453/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8612 - accuracy: 0.6439
Epoch 454/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8597 - accuracy: 0.6476
Epoch 455/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8462 - accuracy: 0.6698
Epoch 456/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8418 - accuracy: 0.6550
Epoch 457/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8427 - accuracy: 0.6624
Epoch 458/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8548 - accuracy: 0.6550
Epoch 459/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8576 - accuracy: 0.6587
Epoch 460/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8640 - accuracy: 0.6476
Epoch 461/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8831 - accuracy: 0.6365
Epoch 462/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8636 - accuracy: 0.6439
Epoch 463/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8605 - accuracy: 0.6513
Epoch 464/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8319 - accuracy: 0.6698
Epoch 465/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8845 - accuracy: 0.6253
Epoch 466/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8715 - accuracy: 0.6402
Epoch 467/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8838 - accuracy: 0.6439
Epoch 468/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8540 - accuracy: 0.6513
Epoch 469/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8680 - accuracy: 0.6476
Epoch 470/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8474 - accuracy: 0.6661
Epoch 471/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8585 - accuracy: 0.6476
Epoch 472/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8749 - accuracy: 0.6402
Epoch 473/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8738 - accuracy: 0.6365
Epoch 474/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8369 - accuracy: 0.6661
Epoch 475/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.8295 - accuracy: 0.6698
Epoch 476/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8401 - accuracy: 0.6550
Epoch 477/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8371 - accuracy: 0.6476
Epoch 478/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8349 - accuracy: 0.6661
Epoch 479/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8363 - accuracy: 0.6587
Epoch 480/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8616 - accuracy: 0.6402
Epoch 481/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8462 - accuracy: 0.6439
Epoch 482/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8540 - accuracy: 0.6439
Epoch 483/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8367 - accuracy: 0.6513
Epoch 484/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8374 - accuracy: 0.6624
Epoch 485/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8611 - accuracy: 0.6439
Epoch 486/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8502 - accuracy: 0.6476
Epoch 487/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8483 - accuracy: 0.6365
Epoch 488/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8437 - accuracy: 0.6476
Epoch 489/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.8247 - accuracy: 0.6698
Epoch 490/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8624 - accuracy: 0.6439
Epoch 491/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8573 - accuracy: 0.6476
Epoch 492/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8367 - accuracy: 0.6513
Epoch 493/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8315 - accuracy: 0.6587
Epoch 494/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8280 - accuracy: 0.6587
Epoch 495/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8432 - accuracy: 0.6513
Epoch 496/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8359 - accuracy: 0.6513
Epoch 497/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8360 - accuracy: 0.6402
Epoch 498/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8529 - accuracy: 0.6365
Epoch 499/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8145 - accuracy: 0.6624
Epoch 500/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8295 - accuracy: 0.6476
Epoch 501/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8287 - accuracy: 0.6550
Epoch 502/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8486 - accuracy: 0.6402
Epoch 503/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8589 - accuracy: 0.6365
Epoch 504/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8470 - accuracy: 0.6439
Epoch 505/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8437 - accuracy: 0.6476
Epoch 506/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8611 - accuracy: 0.6365
Epoch 507/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8058 - accuracy: 0.6624
Epoch 508/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8272 - accuracy: 0.6511
Epoch 509/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8440 - accuracy: 0.6327
Epoch 510/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8496 - accuracy: 0.6251
Epoch 511/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8271 - accuracy: 0.6437
Epoch 512/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8172 - accuracy: 0.6585
Epoch 513/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8309 - accuracy: 0.6474
Epoch 514/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8526 - accuracy: 0.6326
Epoch 515/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8234 - accuracy: 0.6437
Epoch 516/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8297 - accuracy: 0.6437
Epoch 517/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8308 - accuracy: 0.6585
Epoch 518/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8272 - accuracy: 0.6511
Epoch 519/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8566 - accuracy: 0.6177
Epoch 520/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8199 - accuracy: 0.6585
Epoch 521/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.8229 - accuracy: 0.6474
Epoch 522/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8233 - accuracy: 0.6548
Epoch 523/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8251 - accuracy: 0.6363
Epoch 524/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8281 - accuracy: 0.6400
Epoch 525/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8159 - accuracy: 0.6474
Epoch 526/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8370 - accuracy: 0.6327
Epoch 527/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8181 - accuracy: 0.6550
Epoch 528/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8186 - accuracy: 0.6550
Epoch 529/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8225 - accuracy: 0.6550
Epoch 530/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8096 - accuracy: 0.6589
Epoch 531/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8016 - accuracy: 0.6700
Epoch 532/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.8197 - accuracy: 0.6552
Epoch 533/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8170 - accuracy: 0.6552
Epoch 534/2200
2/2 [==============================] - 0s 9ms/step - loss: 0.8389 - accuracy: 0.6366
Epoch 535/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.8195 - accuracy: 0.6626
Epoch 536/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8232 - accuracy: 0.6515
Epoch 537/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.8126 - accuracy: 0.6552
Epoch 538/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7956 - accuracy: 0.6589
Epoch 539/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8266 - accuracy: 0.6515
Epoch 540/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8064 - accuracy: 0.6589
Epoch 541/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8348 - accuracy: 0.6292
Epoch 542/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8081 - accuracy: 0.6589
Epoch 543/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8623 - accuracy: 0.6366
Epoch 544/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8017 - accuracy: 0.6661
Epoch 545/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8177 - accuracy: 0.6402
Epoch 546/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7889 - accuracy: 0.6698
Epoch 547/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8255 - accuracy: 0.6402
Epoch 548/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8204 - accuracy: 0.6439
Epoch 549/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8290 - accuracy: 0.6550
Epoch 550/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.8003 - accuracy: 0.6550
Epoch 551/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8322 - accuracy: 0.6441
Epoch 552/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7933 - accuracy: 0.6700
Epoch 553/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8175 - accuracy: 0.6478
Epoch 554/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.7818 - accuracy: 0.6663
Epoch 555/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7903 - accuracy: 0.6739
Epoch 556/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7860 - accuracy: 0.6850
Epoch 557/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8120 - accuracy: 0.6667
Epoch 558/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8199 - accuracy: 0.6554
Epoch 559/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7967 - accuracy: 0.6739
Epoch 560/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7781 - accuracy: 0.6887
Epoch 561/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7807 - accuracy: 0.6887
Epoch 562/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8133 - accuracy: 0.6628
Epoch 563/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8276 - accuracy: 0.6480
Epoch 564/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7956 - accuracy: 0.6778
Epoch 565/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8169 - accuracy: 0.6741
Epoch 566/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8074 - accuracy: 0.6667
Epoch 567/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8002 - accuracy: 0.6704
Epoch 568/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8213 - accuracy: 0.6556
Epoch 569/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8224 - accuracy: 0.6519
Epoch 570/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7889 - accuracy: 0.6815
Epoch 571/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8237 - accuracy: 0.6519
Epoch 572/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7806 - accuracy: 0.6704
Epoch 573/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8053 - accuracy: 0.6741
Epoch 574/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8087 - accuracy: 0.6519
Epoch 575/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8096 - accuracy: 0.6554
Epoch 576/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7984 - accuracy: 0.6481
Epoch 577/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7975 - accuracy: 0.6630
Epoch 578/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8068 - accuracy: 0.6556
Epoch 579/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7861 - accuracy: 0.6778
Epoch 580/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7836 - accuracy: 0.6778
Epoch 581/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7760 - accuracy: 0.6741
Epoch 582/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8016 - accuracy: 0.6630
Epoch 583/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7832 - accuracy: 0.6778
Epoch 584/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7668 - accuracy: 0.6778
Epoch 585/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7851 - accuracy: 0.6667
Epoch 586/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7883 - accuracy: 0.6630
Epoch 587/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8094 - accuracy: 0.6558
Epoch 588/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7573 - accuracy: 0.7039
Epoch 589/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7820 - accuracy: 0.6669
Epoch 590/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.8121 - accuracy: 0.6596
Epoch 591/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7952 - accuracy: 0.6745
Epoch 592/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7941 - accuracy: 0.6782
Epoch 593/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7883 - accuracy: 0.6708
Epoch 594/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8055 - accuracy: 0.6596
Epoch 595/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7792 - accuracy: 0.6819
Epoch 596/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7976 - accuracy: 0.6708
Epoch 597/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7648 - accuracy: 0.6967
Epoch 598/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7855 - accuracy: 0.6819
Epoch 599/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8137 - accuracy: 0.6634
Epoch 600/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.8036 - accuracy: 0.6745
Epoch 601/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7975 - accuracy: 0.6819
Epoch 602/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7733 - accuracy: 0.6967
Epoch 603/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7781 - accuracy: 0.6782
Epoch 604/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7698 - accuracy: 0.6891
Epoch 605/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7773 - accuracy: 0.6893
Epoch 606/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7679 - accuracy: 0.6856
Epoch 607/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7641 - accuracy: 0.6743
Epoch 608/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7904 - accuracy: 0.6634
Epoch 609/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7903 - accuracy: 0.6671
Epoch 610/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7869 - accuracy: 0.6782
Epoch 611/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7924 - accuracy: 0.6634
Epoch 612/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.8057 - accuracy: 0.6596
Epoch 613/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7791 - accuracy: 0.6745
Epoch 614/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7824 - accuracy: 0.6745
Epoch 615/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7946 - accuracy: 0.6596
Epoch 616/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7368 - accuracy: 0.6967
Epoch 617/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.7678 - accuracy: 0.6782
Epoch 618/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7895 - accuracy: 0.6819
Epoch 619/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7925 - accuracy: 0.6708
Epoch 620/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7599 - accuracy: 0.6893
Epoch 621/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7497 - accuracy: 0.6856
Epoch 622/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7774 - accuracy: 0.6745
Epoch 623/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7661 - accuracy: 0.6856
Epoch 624/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7831 - accuracy: 0.6819
Epoch 625/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7757 - accuracy: 0.6745
Epoch 626/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7752 - accuracy: 0.6708
Epoch 627/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7917 - accuracy: 0.6520
Epoch 628/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7671 - accuracy: 0.6817
Epoch 629/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7774 - accuracy: 0.6706
Epoch 630/2200
2/2 [==============================] - ETA: 0s - loss: 0.8100 - accuracy: 0.66 - 0s 2ms/step - loss:
 0.7833 - accuracy: 0.6745
Epoch 631/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7708 - accuracy: 0.6745
Epoch 632/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.7476 - accuracy: 0.7006
Epoch 633/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7685 - accuracy: 0.6784
Epoch 634/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.7709 - accuracy: 0.6823
Epoch 635/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7568 - accuracy: 0.6821
Epoch 636/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7844 - accuracy: 0.6712
Epoch 637/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7539 - accuracy: 0.6971
Epoch 638/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7812 - accuracy: 0.6823
Epoch 639/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7477 - accuracy: 0.6971
Epoch 640/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7683 - accuracy: 0.6897
Epoch 641/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7723 - accuracy: 0.6860
Epoch 642/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7765 - accuracy: 0.6860
Epoch 643/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7408 - accuracy: 0.7119
Epoch 644/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7389 - accuracy: 0.7156
Epoch 645/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7608 - accuracy: 0.6860
Epoch 646/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7896 - accuracy: 0.6712
Epoch 647/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7940 - accuracy: 0.6749
Epoch 648/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7536 - accuracy: 0.6971
Epoch 649/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7819 - accuracy: 0.6749
Epoch 650/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7540 - accuracy: 0.6897
Epoch 651/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7573 - accuracy: 0.6897
Epoch 652/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7667 - accuracy: 0.6897
Epoch 653/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7570 - accuracy: 0.6971
Epoch 654/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7606 - accuracy: 0.6971
Epoch 655/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7598 - accuracy: 0.6934
Epoch 656/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.7769 - accuracy: 0.6712
Epoch 657/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7551 - accuracy: 0.6934
Epoch 658/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7677 - accuracy: 0.6860
Epoch 659/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7675 - accuracy: 0.6823
Epoch 660/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7472 - accuracy: 0.7008
Epoch 661/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7574 - accuracy: 0.6934
Epoch 662/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7714 - accuracy: 0.6786
Epoch 663/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7363 - accuracy: 0.6971
Epoch 664/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7486 - accuracy: 0.6895
Epoch 665/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7760 - accuracy: 0.6598
Epoch 666/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7416 - accuracy: 0.6821
Epoch 667/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7634 - accuracy: 0.6673
Epoch 668/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7173 - accuracy: 0.7043
Epoch 669/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7630 - accuracy: 0.6710
Epoch 670/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7670 - accuracy: 0.6710
Epoch 671/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7619 - accuracy: 0.6747
Epoch 672/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7352 - accuracy: 0.7193
Epoch 673/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7326 - accuracy: 0.7008
Epoch 674/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7373 - accuracy: 0.6969
Epoch 675/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7578 - accuracy: 0.6784
Epoch 676/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7348 - accuracy: 0.7008
Epoch 677/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7584 - accuracy: 0.6823
Epoch 678/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7401 - accuracy: 0.7008
Epoch 679/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7429 - accuracy: 0.6749
Epoch 680/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7517 - accuracy: 0.6934
Epoch 681/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7423 - accuracy: 0.6860
Epoch 682/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7533 - accuracy: 0.6860
Epoch 683/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7567 - accuracy: 0.6749
Epoch 684/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7517 - accuracy: 0.6823
Epoch 685/2200
2/2 [==============================] - ETA: 0s - loss: 0.7543 - accuracy: 0.70 - 0s 3ms/step - loss:
 0.7469 - accuracy: 0.6934
Epoch 686/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7515 - accuracy: 0.6823
Epoch 687/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7386 - accuracy: 0.6821
Epoch 688/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7359 - accuracy: 0.6821
Epoch 689/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7090 - accuracy: 0.7006
Epoch 690/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7289 - accuracy: 0.6895
Epoch 691/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7375 - accuracy: 0.6784
Epoch 692/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7481 - accuracy: 0.6747
Epoch 693/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7438 - accuracy: 0.6897
Epoch 694/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7472 - accuracy: 0.6934
Epoch 695/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7385 - accuracy: 0.6897
Epoch 696/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7544 - accuracy: 0.6749
Epoch 697/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7119 - accuracy: 0.7082
Epoch 698/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7274 - accuracy: 0.6971
Epoch 699/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7503 - accuracy: 0.6934
Epoch 700/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7422 - accuracy: 0.6897
Epoch 701/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7320 - accuracy: 0.6897
Epoch 702/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7417 - accuracy: 0.7008
Epoch 703/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7193 - accuracy: 0.7045
Epoch 704/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7176 - accuracy: 0.7008
Epoch 705/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7359 - accuracy: 0.6821
Epoch 706/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7469 - accuracy: 0.6821
Epoch 707/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7406 - accuracy: 0.6784
Epoch 708/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.7419 - accuracy: 0.6710
Epoch 709/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7094 - accuracy: 0.7080
Epoch 710/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7372 - accuracy: 0.6821
Epoch 711/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7271 - accuracy: 0.6747
Epoch 712/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7511 - accuracy: 0.6635
Epoch 713/2200
2/2 [==============================] - ETA: 0s - loss: 0.6924 - accuracy: 0.70 - 0s 2ms/step - loss:
 0.7182 - accuracy: 0.6895
Epoch 714/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7193 - accuracy: 0.6895
Epoch 715/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7535 - accuracy: 0.6598
Epoch 716/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7424 - accuracy: 0.6747
Epoch 717/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7271 - accuracy: 0.6821
Epoch 718/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7284 - accuracy: 0.6895
Epoch 719/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7197 - accuracy: 0.6858
Epoch 720/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7670 - accuracy: 0.6747
Epoch 721/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7482 - accuracy: 0.6784
Epoch 722/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7426 - accuracy: 0.6784
Epoch 723/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7252 - accuracy: 0.6784
Epoch 724/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7205 - accuracy: 0.7008
Epoch 725/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7340 - accuracy: 0.6823
Epoch 726/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7131 - accuracy: 0.7008
Epoch 727/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7228 - accuracy: 0.7008
Epoch 728/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7392 - accuracy: 0.6823
Epoch 729/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7286 - accuracy: 0.6934
Epoch 730/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7078 - accuracy: 0.7008
Epoch 731/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7299 - accuracy: 0.6897
Epoch 732/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7266 - accuracy: 0.6897
Epoch 733/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7495 - accuracy: 0.6713
Epoch 734/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7061 - accuracy: 0.7084
Epoch 735/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7081 - accuracy: 0.7047
Epoch 736/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6956 - accuracy: 0.7121
Epoch 737/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7212 - accuracy: 0.7047
Epoch 738/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7350 - accuracy: 0.6899
Epoch 739/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6971 - accuracy: 0.7195
Epoch 740/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7295 - accuracy: 0.6899
Epoch 741/2200
2/2 [==============================] - ETA: 0s - loss: 0.6474 - accuracy: 0.76 - 0s 3ms/step - loss:
 0.6953 - accuracy: 0.7195
Epoch 742/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7222 - accuracy: 0.7121
Epoch 743/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6948 - accuracy: 0.7197
Epoch 744/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7001 - accuracy: 0.7049
Epoch 745/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7443 - accuracy: 0.6901
Epoch 746/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7180 - accuracy: 0.7049
Epoch 747/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7367 - accuracy: 0.6938
Epoch 748/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6916 - accuracy: 0.7197
Epoch 749/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6869 - accuracy: 0.7123
Epoch 750/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7168 - accuracy: 0.7086
Epoch 751/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7308 - accuracy: 0.6975
Epoch 752/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7082 - accuracy: 0.7012
Epoch 753/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7116 - accuracy: 0.7197
Epoch 754/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6753 - accuracy: 0.7160
Epoch 755/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7072 - accuracy: 0.7049
Epoch 756/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7205 - accuracy: 0.7012
Epoch 757/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7283 - accuracy: 0.7012
Epoch 758/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7174 - accuracy: 0.6901
Epoch 759/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7253 - accuracy: 0.6827
Epoch 760/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7274 - accuracy: 0.6827
Epoch 761/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7073 - accuracy: 0.7012
Epoch 762/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7080 - accuracy: 0.7162
Epoch 763/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7210 - accuracy: 0.6977
Epoch 764/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7294 - accuracy: 0.6940
Epoch 765/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6917 - accuracy: 0.7125
Epoch 766/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7160 - accuracy: 0.6977
Epoch 767/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6884 - accuracy: 0.7162
Epoch 768/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7127 - accuracy: 0.7051
Epoch 769/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.7025 - accuracy: 0.7088
Epoch 770/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7197 - accuracy: 0.7125
Epoch 771/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7097 - accuracy: 0.7125
Epoch 772/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.7082 - accuracy: 0.7199
Epoch 773/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7217 - accuracy: 0.7051
Epoch 774/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6887 - accuracy: 0.7125
Epoch 775/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7022 - accuracy: 0.7125
Epoch 776/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6986 - accuracy: 0.7012
Epoch 777/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7186 - accuracy: 0.6977
Epoch 778/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7021 - accuracy: 0.7125
Epoch 779/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7005 - accuracy: 0.7162
Epoch 780/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6993 - accuracy: 0.7125
Epoch 781/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7123 - accuracy: 0.7014
Epoch 782/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6998 - accuracy: 0.7162
Epoch 783/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7233 - accuracy: 0.6977
Epoch 784/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6967 - accuracy: 0.7051
Epoch 785/2200
2/2 [==============================] - ETA: 0s - loss: 0.7399 - accuracy: 0.68 - 0s 3ms/step - loss:
 0.7146 - accuracy: 0.7014
Epoch 786/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7002 - accuracy: 0.7162
Epoch 787/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7216 - accuracy: 0.6828
Epoch 788/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7016 - accuracy: 0.6940
Epoch 789/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6923 - accuracy: 0.7051
Epoch 790/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6985 - accuracy: 0.7051
Epoch 791/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6985 - accuracy: 0.7051
Epoch 792/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6942 - accuracy: 0.7051
Epoch 793/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6968 - accuracy: 0.7014
Epoch 794/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6696 - accuracy: 0.7310
Epoch 795/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6905 - accuracy: 0.7088
Epoch 796/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7138 - accuracy: 0.7051
Epoch 797/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6957 - accuracy: 0.7162
Epoch 798/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7198 - accuracy: 0.6977
Epoch 799/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.7261 - accuracy: 0.6865
Epoch 800/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6942 - accuracy: 0.7014
Epoch 801/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7059 - accuracy: 0.7125
Epoch 802/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7076 - accuracy: 0.6977
Epoch 803/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6874 - accuracy: 0.7051
Epoch 804/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6923 - accuracy: 0.7162
Epoch 805/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7021 - accuracy: 0.7051
Epoch 806/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7067 - accuracy: 0.6977
Epoch 807/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6998 - accuracy: 0.6977
Epoch 808/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.7136 - accuracy: 0.6865
Epoch 809/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7219 - accuracy: 0.6865
Epoch 810/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6872 - accuracy: 0.7051
Epoch 811/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6783 - accuracy: 0.7088
Epoch 812/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6948 - accuracy: 0.7199
Epoch 813/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6924 - accuracy: 0.7164
Epoch 814/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7149 - accuracy: 0.6979
Epoch 815/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7117 - accuracy: 0.7053
Epoch 816/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6954 - accuracy: 0.7127
Epoch 817/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6976 - accuracy: 0.7053
Epoch 818/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6746 - accuracy: 0.7201
Epoch 819/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6893 - accuracy: 0.7164
Epoch 820/2200

2/2 [==============================] - 0s 4ms/step - loss: 0.6892 - accuracy: 0.7201
Epoch 821/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6992 - accuracy: 0.7053
Epoch 822/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6772 - accuracy: 0.7127
Epoch 823/2200
```

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2/2 [==============================] - 0s 3ms/step - loss: 0.6687 - accuracy: 0.7275
Epoch 824/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.7136 - accuracy: 0.7016
Epoch 825/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6928 - accuracy: 0.7090
Epoch 826/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7222 - accuracy: 0.6942
Epoch 827/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6893 - accuracy: 0.7164
Epoch 828/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6962 - accuracy: 0.7090
Epoch 829/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6875 - accuracy: 0.7090
Epoch 830/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6772 - accuracy: 0.7127
Epoch 831/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6794 - accuracy: 0.7164
Epoch 832/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6800 - accuracy: 0.7164
Epoch 833/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6872 - accuracy: 0.7164
Epoch 834/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6694 - accuracy: 0.7312
Epoch 835/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6986 - accuracy: 0.7164
Epoch 836/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6773 - accuracy: 0.7201
Epoch 837/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6934 - accuracy: 0.6979
Epoch 838/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.7094 - accuracy: 0.6979
Epoch 839/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6588 - accuracy: 0.7164
Epoch 840/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6820 - accuracy: 0.7127
Epoch 841/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6975 - accuracy: 0.7090
Epoch 842/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6925 - accuracy: 0.7164
Epoch 843/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6900 - accuracy: 0.7127
Epoch 844/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6873 - accuracy: 0.7090
Epoch 845/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.7015 - accuracy: 0.6979
Epoch 846/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6680 - accuracy: 0.7275
Epoch 847/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6822 - accuracy: 0.7238
Epoch 848/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6919 - accuracy: 0.7090
Epoch 849/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6906 - accuracy: 0.7164
Epoch 850/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6755 - accuracy: 0.7090
Epoch 851/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6806 - accuracy: 0.7127
Epoch 852/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.6889 - accuracy: 0.7053
Epoch 853/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6733 - accuracy: 0.7127
Epoch 854/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6697 - accuracy: 0.7275
Epoch 855/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6834 - accuracy: 0.7016
Epoch 856/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6432 - accuracy: 0.7386
Epoch 857/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6912 - accuracy: 0.7127
Epoch 858/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6933 - accuracy: 0.7090
Epoch 859/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.6784 - accuracy: 0.7164
Epoch 860/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6615 - accuracy: 0.7238
Epoch 861/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6704 - accuracy: 0.7127
Epoch 862/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6572 - accuracy: 0.7238
Epoch 863/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6822 - accuracy: 0.7090
Epoch 864/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6795 - accuracy: 0.7127
Epoch 865/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6836 - accuracy: 0.7090
Epoch 866/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6723 - accuracy: 0.7275
Epoch 867/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.7062 - accuracy: 0.6979
Epoch 868/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6532 - accuracy: 0.7201
Epoch 869/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6880 - accuracy: 0.7090
Epoch 870/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.6859 - accuracy: 0.7090
Epoch 871/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6632 - accuracy: 0.7164
Epoch 872/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6943 - accuracy: 0.7090
Epoch 873/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6718 - accuracy: 0.7127
Epoch 874/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6955 - accuracy: 0.7053
Epoch 875/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6771 - accuracy: 0.7238
Epoch 876/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6682 - accuracy: 0.7164
Epoch 877/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6711 - accuracy: 0.7127
Epoch 878/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6665 - accuracy: 0.7238
Epoch 879/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6458 - accuracy: 0.7386
Epoch 880/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.6985 - accuracy: 0.6904
Epoch 881/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6669 - accuracy: 0.7127
Epoch 882/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6759 - accuracy: 0.7164
Epoch 883/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6653 - accuracy: 0.7127
Epoch 884/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6479 - accuracy: 0.7388
Epoch 885/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6750 - accuracy: 0.7277
Epoch 886/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6739 - accuracy: 0.7203
Epoch 887/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6726 - accuracy: 0.7166
Epoch 888/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6611 - accuracy: 0.7351
Epoch 889/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6466 - accuracy: 0.7314
Epoch 890/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6865 - accuracy: 0.7055
Epoch 891/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6633 - accuracy: 0.7240
Epoch 892/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6785 - accuracy: 0.7166
Epoch 893/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.6763 - accuracy: 0.7129
Epoch 894/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6886 - accuracy: 0.7092
Epoch 895/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6391 - accuracy: 0.7351
Epoch 896/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6563 - accuracy: 0.7240
Epoch 897/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6674 - accuracy: 0.7203
Epoch 898/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6872 - accuracy: 0.7018
Epoch 899/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6764 - accuracy: 0.7055
Epoch 900/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6600 - accuracy: 0.7277
Epoch 901/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6587 - accuracy: 0.7277
Epoch 902/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6561 - accuracy: 0.7129
Epoch 903/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6891 - accuracy: 0.7166
Epoch 904/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6596 - accuracy: 0.7203
Epoch 905/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6626 - accuracy: 0.7240
Epoch 906/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6837 - accuracy: 0.7018
Epoch 907/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6812 - accuracy: 0.7092
Epoch 908/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6708 - accuracy: 0.7129
Epoch 909/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6469 - accuracy: 0.7277
Epoch 910/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6919 - accuracy: 0.7092
Epoch 911/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6704 - accuracy: 0.7166
Epoch 912/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6630 - accuracy: 0.7166
Epoch 913/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6584 - accuracy: 0.7203
Epoch 914/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6461 - accuracy: 0.7314
Epoch 915/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6313 - accuracy: 0.7351
Epoch 916/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6931 - accuracy: 0.7018
Epoch 917/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6670 - accuracy: 0.7240
Epoch 918/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6848 - accuracy: 0.7092
Epoch 919/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6775 - accuracy: 0.7018
Epoch 920/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6564 - accuracy: 0.7277
Epoch 921/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6699 - accuracy: 0.7129
Epoch 922/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6439 - accuracy: 0.7240
Epoch 923/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6582 - accuracy: 0.7203
Epoch 924/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6642 - accuracy: 0.7166
Epoch 925/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6708 - accuracy: 0.7240
Epoch 926/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6345 - accuracy: 0.7388
Epoch 927/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6879 - accuracy: 0.6981
Epoch 928/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6591 - accuracy: 0.7129
Epoch 929/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6931 - accuracy: 0.6943
Epoch 930/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6693 - accuracy: 0.7203
Epoch 931/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6529 - accuracy: 0.7203
Epoch 932/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6479 - accuracy: 0.7314
Epoch 933/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6386 - accuracy: 0.7388
Epoch 934/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6437 - accuracy: 0.7351
Epoch 935/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6587 - accuracy: 0.7092
Epoch 936/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6669 - accuracy: 0.7168
Epoch 937/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6501 - accuracy: 0.7316
Epoch 938/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6308 - accuracy: 0.7427
Epoch 939/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6558 - accuracy: 0.7316
Epoch 940/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6540 - accuracy: 0.7316
Epoch 941/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6646 - accuracy: 0.7168
Epoch 942/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6491 - accuracy: 0.7392
Epoch 943/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6396 - accuracy: 0.7429
Epoch 944/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6608 - accuracy: 0.7429
Epoch 945/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6532 - accuracy: 0.7281
Epoch 946/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6477 - accuracy: 0.7355
Epoch 947/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6751 - accuracy: 0.7207
Epoch 948/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6694 - accuracy: 0.7281
Epoch 949/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6667 - accuracy: 0.7207
Epoch 950/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6573 - accuracy: 0.7355
Epoch 951/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6790 - accuracy: 0.7133
Epoch 952/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6484 - accuracy: 0.7355
Epoch 953/2200
2/2 [==============================] - ETA: 0s - loss: 0.6553 - accuracy: 0.73 - 0s 5ms/step - loss:
 0.6554 - accuracy: 0.7318
Epoch 954/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6420 - accuracy: 0.7429
Epoch 955/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6533 - accuracy: 0.7394
Epoch 956/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6570 - accuracy: 0.7394
Epoch 957/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6678 - accuracy: 0.7283
Epoch 958/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6660 - accuracy: 0.7357
Epoch 959/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6486 - accuracy: 0.7320
Epoch 960/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6895 - accuracy: 0.7209
Epoch 961/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6539 - accuracy: 0.7468
Epoch 962/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6367 - accuracy: 0.7468
Epoch 963/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6417 - accuracy: 0.7468
Epoch 964/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6431 - accuracy: 0.7320
Epoch 965/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6471 - accuracy: 0.7394
Epoch 966/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6534 - accuracy: 0.7357
Epoch 967/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6381 - accuracy: 0.7283
Epoch 968/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6406 - accuracy: 0.7431
Epoch 969/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6560 - accuracy: 0.7431
Epoch 970/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6547 - accuracy: 0.7357
Epoch 971/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6637 - accuracy: 0.7431
Epoch 972/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6294 - accuracy: 0.7431
Epoch 973/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6587 - accuracy: 0.7357
Epoch 974/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6797 - accuracy: 0.7283
Epoch 975/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6319 - accuracy: 0.7431
Epoch 976/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6475 - accuracy: 0.7468
Epoch 977/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6360 - accuracy: 0.7431
Epoch 978/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6316 - accuracy: 0.7505
Epoch 979/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6575 - accuracy: 0.7283
Epoch 980/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6416 - accuracy: 0.7283
Epoch 981/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6523 - accuracy: 0.7394
Epoch 982/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6414 - accuracy: 0.7431
Epoch 983/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6654 - accuracy: 0.7283
Epoch 984/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.6511 - accuracy: 0.7320
Epoch 985/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6616 - accuracy: 0.7283
Epoch 986/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6481 - accuracy: 0.7433
Epoch 987/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6607 - accuracy: 0.7433
Epoch 988/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6437 - accuracy: 0.7581
Epoch 989/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6276 - accuracy: 0.7544
Epoch 990/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6466 - accuracy: 0.7433
Epoch 991/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6400 - accuracy: 0.7470
Epoch 992/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6502 - accuracy: 0.7396
Epoch 993/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6372 - accuracy: 0.7544
Epoch 994/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6482 - accuracy: 0.7396
Epoch 995/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6428 - accuracy: 0.7433
Epoch 996/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6305 - accuracy: 0.7507
Epoch 997/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6560 - accuracy: 0.7396
Epoch 998/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6310 - accuracy: 0.7507
Epoch 999/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6635 - accuracy: 0.7433
Epoch 1000/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6107 - accuracy: 0.7618
Epoch 1001/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6604 - accuracy: 0.7285
Epoch 1002/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6702 - accuracy: 0.7211
Epoch 1003/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6284 - accuracy: 0.7396
Epoch 1004/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6307 - accuracy: 0.7581
Epoch 1005/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6412 - accuracy: 0.7544
Epoch 1006/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6608 - accuracy: 0.7359
Epoch 1007/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6584 - accuracy: 0.7248
Epoch 1008/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6513 - accuracy: 0.7322
Epoch 1009/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6345 - accuracy: 0.7507
Epoch 1010/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6498 - accuracy: 0.7433
Epoch 1011/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6644 - accuracy: 0.7322
Epoch 1012/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6298 - accuracy: 0.7470
Epoch 1013/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6345 - accuracy: 0.7544
Epoch 1014/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6319 - accuracy: 0.7470
Epoch 1015/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6150 - accuracy: 0.7507
Epoch 1016/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6527 - accuracy: 0.7322
Epoch 1017/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6275 - accuracy: 0.7433
Epoch 1018/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6464 - accuracy: 0.7285
Epoch 1019/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6467 - accuracy: 0.7433
Epoch 1020/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6321 - accuracy: 0.7544
Epoch 1021/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6275 - accuracy: 0.7359
Epoch 1022/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6439 - accuracy: 0.7361
Epoch 1023/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6549 - accuracy: 0.7398
Epoch 1024/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6304 - accuracy: 0.7509
Epoch 1025/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6527 - accuracy: 0.7361
Epoch 1026/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6436 - accuracy: 0.7472
Epoch 1027/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6367 - accuracy: 0.7546
Epoch 1028/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6488 - accuracy: 0.7435
Epoch 1029/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6195 - accuracy: 0.7583
Epoch 1030/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6389 - accuracy: 0.7472
Epoch 1031/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6306 - accuracy: 0.7435
Epoch 1032/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6448 - accuracy: 0.7398
Epoch 1033/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6211 - accuracy: 0.7731
Epoch 1034/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6392 - accuracy: 0.7435
Epoch 1035/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6623 - accuracy: 0.7435
Epoch 1036/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6674 - accuracy: 0.7361
Epoch 1037/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6612 - accuracy: 0.7472
Epoch 1038/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6412 - accuracy: 0.7509
Epoch 1039/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6301 - accuracy: 0.7546
Epoch 1040/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6258 - accuracy: 0.7435
Epoch 1041/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6615 - accuracy: 0.7398
Epoch 1042/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6290 - accuracy: 0.7435
Epoch 1043/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6554 - accuracy: 0.7324
Epoch 1044/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6373 - accuracy: 0.7472
Epoch 1045/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6370 - accuracy: 0.7472
Epoch 1046/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6492 - accuracy: 0.7398
Epoch 1047/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6310 - accuracy: 0.7509
Epoch 1048/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6503 - accuracy: 0.7287
Epoch 1049/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6513 - accuracy: 0.7435
Epoch 1050/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6368 - accuracy: 0.7361
Epoch 1051/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6307 - accuracy: 0.7472
Epoch 1052/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6011 - accuracy: 0.7694
Epoch 1053/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6432 - accuracy: 0.7361
Epoch 1054/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5965 - accuracy: 0.7842
Epoch 1055/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6287 - accuracy: 0.7435
Epoch 1056/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6322 - accuracy: 0.7398
Epoch 1057/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6559 - accuracy: 0.7398
Epoch 1058/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6087 - accuracy: 0.7657
Epoch 1059/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6322 - accuracy: 0.7472
Epoch 1060/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6250 - accuracy: 0.7546
Epoch 1061/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6209 - accuracy: 0.7546
Epoch 1062/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6173 - accuracy: 0.7509
Epoch 1063/2200
2/2 [==============================] - ETA: 0s - loss: 0.5962 - accuracy: 0.74 - 0s 4ms/step - loss:
 0.6189 - accuracy: 0.7472
Epoch 1064/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6383 - accuracy: 0.7361
Epoch 1065/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6412 - accuracy: 0.7435
Epoch 1066/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6166 - accuracy: 0.7583
Epoch 1067/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6340 - accuracy: 0.7435
Epoch 1068/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6248 - accuracy: 0.7472
Epoch 1069/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.6286 - accuracy: 0.7472
Epoch 1070/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6551 - accuracy: 0.7324
Epoch 1071/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6395 - accuracy: 0.7472
Epoch 1072/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6277 - accuracy: 0.7435
Epoch 1073/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6184 - accuracy: 0.7546
Epoch 1074/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6198 - accuracy: 0.7583
Epoch 1075/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6424 - accuracy: 0.7361
Epoch 1076/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6372 - accuracy: 0.7509
Epoch 1077/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6284 - accuracy: 0.7546
Epoch 1078/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6224 - accuracy: 0.7509
Epoch 1079/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6398 - accuracy: 0.7361
Epoch 1080/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6218 - accuracy: 0.7472
Epoch 1081/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6138 - accuracy: 0.7657
Epoch 1082/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6279 - accuracy: 0.7509
Epoch 1083/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6419 - accuracy: 0.7361
Epoch 1084/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6288 - accuracy: 0.7435
Epoch 1085/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6147 - accuracy: 0.7694
Epoch 1086/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6177 - accuracy: 0.7509
Epoch 1087/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6457 - accuracy: 0.7435
Epoch 1088/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6288 - accuracy: 0.7509
Epoch 1089/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6371 - accuracy: 0.7472
Epoch 1090/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6276 - accuracy: 0.7435
Epoch 1091/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6239 - accuracy: 0.7620
Epoch 1092/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6151 - accuracy: 0.7472
Epoch 1093/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6158 - accuracy: 0.7546
Epoch 1094/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6485 - accuracy: 0.7324
Epoch 1095/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6319 - accuracy: 0.7398
Epoch 1096/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6107 - accuracy: 0.7620
Epoch 1097/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6384 - accuracy: 0.7398
Epoch 1098/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6364 - accuracy: 0.7435
Epoch 1099/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6185 - accuracy: 0.7509
Epoch 1100/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6119 - accuracy: 0.7583
Epoch 1101/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6229 - accuracy: 0.7472
Epoch 1102/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6183 - accuracy: 0.7435
Epoch 1103/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6197 - accuracy: 0.7509
Epoch 1104/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6111 - accuracy: 0.7620
Epoch 1105/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6336 - accuracy: 0.7472
Epoch 1106/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6534 - accuracy: 0.7250
Epoch 1107/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6567 - accuracy: 0.7324
Epoch 1108/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6373 - accuracy: 0.7472
Epoch 1109/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5914 - accuracy: 0.7620
Epoch 1110/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6193 - accuracy: 0.7509
Epoch 1111/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6260 - accuracy: 0.7509
Epoch 1112/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6317 - accuracy: 0.7435
Epoch 1113/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6136 - accuracy: 0.7583
Epoch 1114/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6195 - accuracy: 0.7509
Epoch 1115/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6051 - accuracy: 0.7509
Epoch 1116/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6196 - accuracy: 0.7472
Epoch 1117/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6127 - accuracy: 0.7509
Epoch 1118/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6509 - accuracy: 0.7398
Epoch 1119/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6358 - accuracy: 0.7361
Epoch 1120/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6454 - accuracy: 0.7398
Epoch 1121/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6098 - accuracy: 0.7509
Epoch 1122/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6229 - accuracy: 0.7546
Epoch 1123/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6020 - accuracy: 0.7583
Epoch 1124/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6237 - accuracy: 0.7472
Epoch 1125/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6163 - accuracy: 0.7435
Epoch 1126/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6380 - accuracy: 0.7287
Epoch 1127/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6217 - accuracy: 0.7472
Epoch 1128/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6159 - accuracy: 0.7472
Epoch 1129/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6169 - accuracy: 0.7472
Epoch 1130/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6149 - accuracy: 0.7509
Epoch 1131/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6424 - accuracy: 0.7361
Epoch 1132/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6404 - accuracy: 0.7324
Epoch 1133/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5964 - accuracy: 0.7657
Epoch 1134/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6145 - accuracy: 0.7472
Epoch 1135/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6074 - accuracy: 0.7620
Epoch 1136/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6357 - accuracy: 0.7398
Epoch 1137/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6286 - accuracy: 0.7361
Epoch 1138/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6213 - accuracy: 0.7324
Epoch 1139/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6225 - accuracy: 0.7398
Epoch 1140/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6081 - accuracy: 0.7546
Epoch 1141/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6189 - accuracy: 0.7509
Epoch 1142/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6240 - accuracy: 0.7509
Epoch 1143/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6196 - accuracy: 0.7472
Epoch 1144/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6163 - accuracy: 0.7509
Epoch 1145/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5995 - accuracy: 0.7509
Epoch 1146/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6275 - accuracy: 0.7398
Epoch 1147/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6296 - accuracy: 0.7287
Epoch 1148/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6312 - accuracy: 0.7472
Epoch 1149/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6300 - accuracy: 0.7287
Epoch 1150/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6041 - accuracy: 0.7620
Epoch 1151/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6076 - accuracy: 0.7472
Epoch 1152/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6392 - accuracy: 0.7250
Epoch 1153/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6219 - accuracy: 0.7583
Epoch 1154/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6363 - accuracy: 0.7287
Epoch 1155/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6156 - accuracy: 0.7435
Epoch 1156/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6004 - accuracy: 0.7509
Epoch 1157/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5905 - accuracy: 0.7731
Epoch 1158/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6331 - accuracy: 0.7287
Epoch 1159/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6371 - accuracy: 0.7287
Epoch 1160/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6010 - accuracy: 0.7472
Epoch 1161/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6380 - accuracy: 0.7287
Epoch 1162/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6232 - accuracy: 0.7472
Epoch 1163/2200
2/2 [==============================] - ETA: 0s - loss: 0.5232 - accuracy: 0.82 - 0s 2ms/step - loss:
 0.5817 - accuracy: 0.7731
Epoch 1164/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6360 - accuracy: 0.7324
Epoch 1165/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5944 - accuracy: 0.7620
Epoch 1166/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6341 - accuracy: 0.7324
Epoch 1167/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5943 - accuracy: 0.7620
Epoch 1168/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5881 - accuracy: 0.7583
Epoch 1169/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6145 - accuracy: 0.7509
Epoch 1170/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5874 - accuracy: 0.7583
Epoch 1171/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5917 - accuracy: 0.7435
Epoch 1172/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6092 - accuracy: 0.7435
Epoch 1173/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6119 - accuracy: 0.7472
Epoch 1174/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6146 - accuracy: 0.7435
Epoch 1175/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6203 - accuracy: 0.7398
Epoch 1176/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5823 - accuracy: 0.7583
Epoch 1177/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5952 - accuracy: 0.7583
Epoch 1178/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.6086 - accuracy: 0.7546
Epoch 1179/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6044 - accuracy: 0.7472
Epoch 1180/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6269 - accuracy: 0.7287
Epoch 1181/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.6111 - accuracy: 0.7474
Epoch 1182/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5948 - accuracy: 0.7659
Epoch 1183/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5818 - accuracy: 0.7620
Epoch 1184/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6325 - accuracy: 0.7398
Epoch 1185/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6186 - accuracy: 0.7398
Epoch 1186/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5941 - accuracy: 0.7546
Epoch 1187/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5989 - accuracy: 0.7546
Epoch 1188/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6037 - accuracy: 0.7509
Epoch 1189/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6194 - accuracy: 0.7400
Epoch 1190/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5948 - accuracy: 0.7511
Epoch 1191/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5906 - accuracy: 0.7696
Epoch 1192/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6077 - accuracy: 0.7511
Epoch 1193/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5806 - accuracy: 0.7733
Epoch 1194/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.6382 - accuracy: 0.7251
Epoch 1195/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6188 - accuracy: 0.7511
Epoch 1196/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6153 - accuracy: 0.7511
Epoch 1197/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6089 - accuracy: 0.7548
Epoch 1198/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6031 - accuracy: 0.7548
Epoch 1199/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5950 - accuracy: 0.7585
Epoch 1200/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6225 - accuracy: 0.7437
Epoch 1201/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6326 - accuracy: 0.7437
Epoch 1202/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6017 - accuracy: 0.7548
Epoch 1203/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6006 - accuracy: 0.7585
Epoch 1204/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5933 - accuracy: 0.7548
Epoch 1205/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6046 - accuracy: 0.7511
Epoch 1206/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6038 - accuracy: 0.7474
Epoch 1207/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5929 - accuracy: 0.7548
Epoch 1208/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6063 - accuracy: 0.7548
Epoch 1209/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6150 - accuracy: 0.7400
Epoch 1210/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5871 - accuracy: 0.7659
Epoch 1211/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6012 - accuracy: 0.7585
Epoch 1212/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6034 - accuracy: 0.7659
Epoch 1213/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5959 - accuracy: 0.7511
Epoch 1214/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6174 - accuracy: 0.7511
Epoch 1215/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5850 - accuracy: 0.7622
Epoch 1216/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6050 - accuracy: 0.7474
Epoch 1217/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6199 - accuracy: 0.7511
Epoch 1218/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6063 - accuracy: 0.7585
Epoch 1219/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.6153 - accuracy: 0.7400
Epoch 1220/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5911 - accuracy: 0.7548
Epoch 1221/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5938 - accuracy: 0.7585
Epoch 1222/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6108 - accuracy: 0.7474
Epoch 1223/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6223 - accuracy: 0.7437
Epoch 1224/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5990 - accuracy: 0.7548
Epoch 1225/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5893 - accuracy: 0.7511
Epoch 1226/2200
2/2 [==============================] - ETA: 0s - loss: 0.5712 - accuracy: 0.76 - 0s 3ms/step - loss:
 0.5901 - accuracy: 0.7585
Epoch 1227/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6098 - accuracy: 0.7400
Epoch 1228/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6005 - accuracy: 0.7511
Epoch 1229/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6140 - accuracy: 0.7437
Epoch 1230/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6004 - accuracy: 0.7511
Epoch 1231/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5929 - accuracy: 0.7548
Epoch 1232/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6030 - accuracy: 0.7585
Epoch 1233/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6153 - accuracy: 0.7437
Epoch 1234/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5923 - accuracy: 0.7585
Epoch 1235/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5881 - accuracy: 0.7585
Epoch 1236/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6033 - accuracy: 0.7511
Epoch 1237/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6020 - accuracy: 0.7548
Epoch 1238/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6085 - accuracy: 0.7548
Epoch 1239/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6022 - accuracy: 0.7548
Epoch 1240/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5941 - accuracy: 0.7585
Epoch 1241/2200

2/2 [==============================] - 0s 4ms/step - loss: 0.6074 - accuracy: 0.7585
Epoch 1242/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5837 - accuracy: 0.7548
Epoch 1243/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5718 - accuracy: 0.7770
Epoch 1244/2200
```

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2/2 [==============================] - 0s 3ms/step - loss: 0.6000 - accuracy: 0.7511
Epoch 1245/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6190 - accuracy: 0.7363
Epoch 1246/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6118 - accuracy: 0.7437
Epoch 1247/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5944 - accuracy: 0.7659
Epoch 1248/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5933 - accuracy: 0.7511
Epoch 1249/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6083 - accuracy: 0.7474
Epoch 1250/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5915 - accuracy: 0.7585
Epoch 1251/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5949 - accuracy: 0.7585
Epoch 1252/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6006 - accuracy: 0.7437
Epoch 1253/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.6261 - accuracy: 0.7400
Epoch 1254/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5990 - accuracy: 0.7511
Epoch 1255/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.6049 - accuracy: 0.7474
Epoch 1256/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5979 - accuracy: 0.7474
Epoch 1257/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6049 - accuracy: 0.7511
Epoch 1258/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5981 - accuracy: 0.7474
Epoch 1259/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5839 - accuracy: 0.7622
Epoch 1260/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6268 - accuracy: 0.7251
Epoch 1261/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5925 - accuracy: 0.7585
Epoch 1262/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5804 - accuracy: 0.7622
Epoch 1263/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5605 - accuracy: 0.7696
Epoch 1264/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5792 - accuracy: 0.7622
Epoch 1265/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5821 - accuracy: 0.7659
Epoch 1266/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5981 - accuracy: 0.7585
Epoch 1267/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.6001 - accuracy: 0.7437
Epoch 1268/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5907 - accuracy: 0.7437
Epoch 1269/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5645 - accuracy: 0.7696
Epoch 1270/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5928 - accuracy: 0.7585
Epoch 1271/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5993 - accuracy: 0.7474
Epoch 1272/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6168 - accuracy: 0.7400
Epoch 1273/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5899 - accuracy: 0.7511
Epoch 1274/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5963 - accuracy: 0.7511
Epoch 1275/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5935 - accuracy: 0.7548
Epoch 1276/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5777 - accuracy: 0.7622
Epoch 1277/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5681 - accuracy: 0.7585
Epoch 1278/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5947 - accuracy: 0.7585
Epoch 1279/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5834 - accuracy: 0.7585
Epoch 1280/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5756 - accuracy: 0.7733
Epoch 1281/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5957 - accuracy: 0.7585
Epoch 1282/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6009 - accuracy: 0.7437
Epoch 1283/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5799 - accuracy: 0.7622
Epoch 1284/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5644 - accuracy: 0.7659
Epoch 1285/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6007 - accuracy: 0.7474
Epoch 1286/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6006 - accuracy: 0.7474
Epoch 1287/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5880 - accuracy: 0.7585
Epoch 1288/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5917 - accuracy: 0.7400
Epoch 1289/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5859 - accuracy: 0.7585
Epoch 1290/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6173 - accuracy: 0.7474
Epoch 1291/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5796 - accuracy: 0.7659
Epoch 1292/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5985 - accuracy: 0.7437
Epoch 1293/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5922 - accuracy: 0.7474
Epoch 1294/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5791 - accuracy: 0.7548
Epoch 1295/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5927 - accuracy: 0.7474
Epoch 1296/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5797 - accuracy: 0.7511
Epoch 1297/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5724 - accuracy: 0.7622
Epoch 1298/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5953 - accuracy: 0.7437
Epoch 1299/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5761 - accuracy: 0.7622
Epoch 1300/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5607 - accuracy: 0.7733
Epoch 1301/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5530 - accuracy: 0.7733
Epoch 1302/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6015 - accuracy: 0.7437
Epoch 1303/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5881 - accuracy: 0.7585
Epoch 1304/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6136 - accuracy: 0.7363
Epoch 1305/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5946 - accuracy: 0.7437
Epoch 1306/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5852 - accuracy: 0.7585
Epoch 1307/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5942 - accuracy: 0.7400
Epoch 1308/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5793 - accuracy: 0.7585
Epoch 1309/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5704 - accuracy: 0.7622
Epoch 1310/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5923 - accuracy: 0.7511
Epoch 1311/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5835 - accuracy: 0.7659
Epoch 1312/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5819 - accuracy: 0.7548
Epoch 1313/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5962 - accuracy: 0.7548
Epoch 1314/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5948 - accuracy: 0.7511
Epoch 1315/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5834 - accuracy: 0.7585
Epoch 1316/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5474 - accuracy: 0.7807
Epoch 1317/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6022 - accuracy: 0.7400
Epoch 1318/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5846 - accuracy: 0.7511
Epoch 1319/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5759 - accuracy: 0.7511
Epoch 1320/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5845 - accuracy: 0.7622
Epoch 1321/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5834 - accuracy: 0.7511
Epoch 1322/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6044 - accuracy: 0.7437
Epoch 1323/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5590 - accuracy: 0.7770
Epoch 1324/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5879 - accuracy: 0.7511
Epoch 1325/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5962 - accuracy: 0.7437
Epoch 1326/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5817 - accuracy: 0.7548
Epoch 1327/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5500 - accuracy: 0.7770
Epoch 1328/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5838 - accuracy: 0.7548
Epoch 1329/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5734 - accuracy: 0.7659
Epoch 1330/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5871 - accuracy: 0.7548
Epoch 1331/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5804 - accuracy: 0.7511
Epoch 1332/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5975 - accuracy: 0.7474
Epoch 1333/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5947 - accuracy: 0.7400
Epoch 1334/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5702 - accuracy: 0.7585
Epoch 1335/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5651 - accuracy: 0.7622
Epoch 1336/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5699 - accuracy: 0.7585
Epoch 1337/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5752 - accuracy: 0.7474
Epoch 1338/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5950 - accuracy: 0.7439
Epoch 1339/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5763 - accuracy: 0.7585
Epoch 1340/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5877 - accuracy: 0.7548
Epoch 1341/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5532 - accuracy: 0.7622
Epoch 1342/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5709 - accuracy: 0.7698
Epoch 1343/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5632 - accuracy: 0.7735
Epoch 1344/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5622 - accuracy: 0.7661
Epoch 1345/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5727 - accuracy: 0.7624
Epoch 1346/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5614 - accuracy: 0.7698
Epoch 1347/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5959 - accuracy: 0.7476
Epoch 1348/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5524 - accuracy: 0.7772
Epoch 1349/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5904 - accuracy: 0.7550
Epoch 1350/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5976 - accuracy: 0.7550
Epoch 1351/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5781 - accuracy: 0.7548
Epoch 1352/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5521 - accuracy: 0.7696
Epoch 1353/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5765 - accuracy: 0.7511
Epoch 1354/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5678 - accuracy: 0.7622
Epoch 1355/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5597 - accuracy: 0.7585
Epoch 1356/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5584 - accuracy: 0.7659
Epoch 1357/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5684 - accuracy: 0.7659
Epoch 1358/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5706 - accuracy: 0.7548
Epoch 1359/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5953 - accuracy: 0.7437
Epoch 1360/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5882 - accuracy: 0.7474
Epoch 1361/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5671 - accuracy: 0.7622
Epoch 1362/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5654 - accuracy: 0.7585
Epoch 1363/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5723 - accuracy: 0.7585
Epoch 1364/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5893 - accuracy: 0.7400
Epoch 1365/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5571 - accuracy: 0.7511
Epoch 1366/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5590 - accuracy: 0.7511
Epoch 1367/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5842 - accuracy: 0.7511
Epoch 1368/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5733 - accuracy: 0.7585
Epoch 1369/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5673 - accuracy: 0.7548
Epoch 1370/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5768 - accuracy: 0.7622
Epoch 1371/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5844 - accuracy: 0.7400
Epoch 1372/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5749 - accuracy: 0.7585
Epoch 1373/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5844 - accuracy: 0.7437
Epoch 1374/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5960 - accuracy: 0.7474
Epoch 1375/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5551 - accuracy: 0.7696
Epoch 1376/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5747 - accuracy: 0.7437
Epoch 1377/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5990 - accuracy: 0.7400
Epoch 1378/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5732 - accuracy: 0.7548
Epoch 1379/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5871 - accuracy: 0.7363
Epoch 1380/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5818 - accuracy: 0.7437
Epoch 1381/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5714 - accuracy: 0.7474
Epoch 1382/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5693 - accuracy: 0.7548
Epoch 1383/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5674 - accuracy: 0.7511
Epoch 1384/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.6041 - accuracy: 0.7251
Epoch 1385/2200
2/2 [==============================] - ETA: 0s - loss: 0.6176 - accuracy: 0.71 - 0s 5ms/step - loss:
 0.5860 - accuracy: 0.7400
Epoch 1386/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5873 - accuracy: 0.7437
Epoch 1387/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5749 - accuracy: 0.7548
Epoch 1388/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5509 - accuracy: 0.7622
Epoch 1389/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5858 - accuracy: 0.7476
Epoch 1390/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5674 - accuracy: 0.7663
Epoch 1391/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5626 - accuracy: 0.7587
Epoch 1392/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5645 - accuracy: 0.7737
Epoch 1393/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5568 - accuracy: 0.7737
Epoch 1394/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5672 - accuracy: 0.7626
Epoch 1395/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5574 - accuracy: 0.7774
Epoch 1396/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5780 - accuracy: 0.7663
Epoch 1397/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5698 - accuracy: 0.7626
Epoch 1398/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5670 - accuracy: 0.7774
Epoch 1399/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5437 - accuracy: 0.7811
Epoch 1400/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5396 - accuracy: 0.7885
Epoch 1401/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5699 - accuracy: 0.7587
Epoch 1402/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5892 - accuracy: 0.7513
Epoch 1403/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5395 - accuracy: 0.7735
Epoch 1404/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5681 - accuracy: 0.7698
Epoch 1405/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5499 - accuracy: 0.7700
Epoch 1406/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5810 - accuracy: 0.7626
Epoch 1407/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5647 - accuracy: 0.7626
Epoch 1408/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5629 - accuracy: 0.7737
Epoch 1409/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5761 - accuracy: 0.7661
Epoch 1410/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.6077 - accuracy: 0.7327
Epoch 1411/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5834 - accuracy: 0.7552
Epoch 1412/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5587 - accuracy: 0.7626
Epoch 1413/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5649 - accuracy: 0.7737
Epoch 1414/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5645 - accuracy: 0.7626
Epoch 1415/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5513 - accuracy: 0.7774
Epoch 1416/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5792 - accuracy: 0.7589
Epoch 1417/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5693 - accuracy: 0.7587
Epoch 1418/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5508 - accuracy: 0.7700
Epoch 1419/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5678 - accuracy: 0.7587
Epoch 1420/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5680 - accuracy: 0.7587
Epoch 1421/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5565 - accuracy: 0.7587
Epoch 1422/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5624 - accuracy: 0.7550
Epoch 1423/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5639 - accuracy: 0.7587
Epoch 1424/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5830 - accuracy: 0.7439
Epoch 1425/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5553 - accuracy: 0.7587
Epoch 1426/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5806 - accuracy: 0.7550
Epoch 1427/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5538 - accuracy: 0.7698
Epoch 1428/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5496 - accuracy: 0.7661
Epoch 1429/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5690 - accuracy: 0.7626
Epoch 1430/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5531 - accuracy: 0.7774
Epoch 1431/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5576 - accuracy: 0.7774
Epoch 1432/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5549 - accuracy: 0.7700
Epoch 1433/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5539 - accuracy: 0.7626
Epoch 1434/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5582 - accuracy: 0.7737
Epoch 1435/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5471 - accuracy: 0.7776
Epoch 1436/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5502 - accuracy: 0.7739
Epoch 1437/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5655 - accuracy: 0.7628
Epoch 1438/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5656 - accuracy: 0.7589
Epoch 1439/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5581 - accuracy: 0.7626
Epoch 1440/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5272 - accuracy: 0.7848
Epoch 1441/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5745 - accuracy: 0.7589
Epoch 1442/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5606 - accuracy: 0.7626
Epoch 1443/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5707 - accuracy: 0.7589
Epoch 1444/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5562 - accuracy: 0.7700
Epoch 1445/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5567 - accuracy: 0.7700
Epoch 1446/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5657 - accuracy: 0.7589
Epoch 1447/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5503 - accuracy: 0.7626
Epoch 1448/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5525 - accuracy: 0.7737
Epoch 1449/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5450 - accuracy: 0.7774
Epoch 1450/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5374 - accuracy: 0.7811
Epoch 1451/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5470 - accuracy: 0.7774
Epoch 1452/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5768 - accuracy: 0.7515
Epoch 1453/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5575 - accuracy: 0.7700
Epoch 1454/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5674 - accuracy: 0.7700
Epoch 1455/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5520 - accuracy: 0.7552
Epoch 1456/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5863 - accuracy: 0.7404
Epoch 1457/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5490 - accuracy: 0.7700
Epoch 1458/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5426 - accuracy: 0.7700
Epoch 1459/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5409 - accuracy: 0.7885
Epoch 1460/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5544 - accuracy: 0.7626
Epoch 1461/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5565 - accuracy: 0.7663
Epoch 1462/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5532 - accuracy: 0.7663
Epoch 1463/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5456 - accuracy: 0.7811
Epoch 1464/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5423 - accuracy: 0.7663
Epoch 1465/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5670 - accuracy: 0.7552
Epoch 1466/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5622 - accuracy: 0.7663
Epoch 1467/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5392 - accuracy: 0.7811
Epoch 1468/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5481 - accuracy: 0.7700
Epoch 1469/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5498 - accuracy: 0.7737
Epoch 1470/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5587 - accuracy: 0.7663
Epoch 1471/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5519 - accuracy: 0.7700
Epoch 1472/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5364 - accuracy: 0.7774
Epoch 1473/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5492 - accuracy: 0.7700
Epoch 1474/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5653 - accuracy: 0.7515
Epoch 1475/2200
2/2 [==============================] - ETA: 0s - loss: 0.5017 - accuracy: 0.78 - 0s 4ms/step - loss:
 0.5354 - accuracy: 0.7737
Epoch 1476/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5362 - accuracy: 0.7737
Epoch 1477/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5767 - accuracy: 0.7478
Epoch 1478/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5436 - accuracy: 0.7737
Epoch 1479/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5579 - accuracy: 0.7626
Epoch 1480/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5550 - accuracy: 0.7626
Epoch 1481/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5609 - accuracy: 0.7663
Epoch 1482/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5524 - accuracy: 0.7589
Epoch 1483/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5558 - accuracy: 0.7626
Epoch 1484/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5492 - accuracy: 0.7737
Epoch 1485/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5554 - accuracy: 0.7626
Epoch 1486/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5522 - accuracy: 0.7589
Epoch 1487/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5546 - accuracy: 0.7589
Epoch 1488/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5318 - accuracy: 0.7811
Epoch 1489/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5306 - accuracy: 0.7811
Epoch 1490/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5510 - accuracy: 0.7663
Epoch 1491/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5636 - accuracy: 0.7589
Epoch 1492/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5426 - accuracy: 0.7700
Epoch 1493/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5249 - accuracy: 0.7811
Epoch 1494/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5621 - accuracy: 0.7515
Epoch 1495/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5118 - accuracy: 0.7811
Epoch 1496/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5564 - accuracy: 0.7589
Epoch 1497/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5681 - accuracy: 0.7478
Epoch 1498/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5568 - accuracy: 0.7515
Epoch 1499/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5481 - accuracy: 0.7663
Epoch 1500/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5284 - accuracy: 0.7774
Epoch 1501/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5198 - accuracy: 0.7811
Epoch 1502/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5530 - accuracy: 0.7700
Epoch 1503/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5247 - accuracy: 0.7700
Epoch 1504/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5264 - accuracy: 0.7774
Epoch 1505/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5421 - accuracy: 0.7663
Epoch 1506/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5354 - accuracy: 0.7700
Epoch 1507/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5482 - accuracy: 0.7589
Epoch 1508/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5387 - accuracy: 0.7700
Epoch 1509/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5167 - accuracy: 0.7885
Epoch 1510/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5429 - accuracy: 0.7700
Epoch 1511/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5534 - accuracy: 0.7589
Epoch 1512/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5406 - accuracy: 0.7700
Epoch 1513/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5515 - accuracy: 0.7626
Epoch 1514/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5401 - accuracy: 0.7663
Epoch 1515/2200
2/2 [==============================] - 0s 8ms/step - loss: 0.5285 - accuracy: 0.7737
Epoch 1516/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5524 - accuracy: 0.7515
Epoch 1517/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5541 - accuracy: 0.7552
Epoch 1518/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5469 - accuracy: 0.7663
Epoch 1519/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5514 - accuracy: 0.7626
Epoch 1520/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5297 - accuracy: 0.7700
Epoch 1521/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5538 - accuracy: 0.7552
Epoch 1522/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5316 - accuracy: 0.7663
Epoch 1523/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5496 - accuracy: 0.7663
Epoch 1524/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5199 - accuracy: 0.7848
Epoch 1525/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5333 - accuracy: 0.7774
Epoch 1526/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5359 - accuracy: 0.7774
Epoch 1527/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5534 - accuracy: 0.7626
Epoch 1528/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5374 - accuracy: 0.7626
Epoch 1529/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5215 - accuracy: 0.7774
Epoch 1530/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5242 - accuracy: 0.7811
Epoch 1531/2200
2/2 [==============================] - 0s 13ms/step - loss: 0.5458 - accuracy: 0.7700
Epoch 1532/2200
2/2 [==============================] - 0s 11ms/step - loss: 0.5495 - accuracy: 0.7478
Epoch 1533/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5699 - accuracy: 0.7478
Epoch 1534/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5362 - accuracy: 0.7663
Epoch 1535/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5181 - accuracy: 0.7848
Epoch 1536/2200
2/2 [==============================] - ETA: 0s - loss: 0.5280 - accuracy: 0.73 - 0s 4ms/step - loss:
 0.5356 - accuracy: 0.7552
Epoch 1537/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5441 - accuracy: 0.7663
Epoch 1538/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5369 - accuracy: 0.7663
Epoch 1539/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5584 - accuracy: 0.7515
Epoch 1540/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5376 - accuracy: 0.7626
Epoch 1541/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5248 - accuracy: 0.7700
Epoch 1542/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5325 - accuracy: 0.7663
Epoch 1543/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5459 - accuracy: 0.7663
Epoch 1544/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5166 - accuracy: 0.7848
Epoch 1545/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5186 - accuracy: 0.7737
Epoch 1546/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5508 - accuracy: 0.7589
Epoch 1547/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5630 - accuracy: 0.7515
Epoch 1548/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5279 - accuracy: 0.7663
Epoch 1549/2200
2/2 [==============================] - 0s 14ms/step - loss: 0.5408 - accuracy: 0.7626
Epoch 1550/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5369 - accuracy: 0.7589
Epoch 1551/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5417 - accuracy: 0.7663
Epoch 1552/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5369 - accuracy: 0.7663
Epoch 1553/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5364 - accuracy: 0.7663
Epoch 1554/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5411 - accuracy: 0.7626
Epoch 1555/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5218 - accuracy: 0.7737
Epoch 1556/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5635 - accuracy: 0.7478
Epoch 1557/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5307 - accuracy: 0.7737
Epoch 1558/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5297 - accuracy: 0.7737
Epoch 1559/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5295 - accuracy: 0.7700
Epoch 1560/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5034 - accuracy: 0.7885
Epoch 1561/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5189 - accuracy: 0.7737
Epoch 1562/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5247 - accuracy: 0.7626
Epoch 1563/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5371 - accuracy: 0.7626
Epoch 1564/2200
2/2 [==============================] - 0s 11ms/step - loss: 0.5206 - accuracy: 0.7737
Epoch 1565/2200
2/2 [==============================] - 0s 8ms/step - loss: 0.5337 - accuracy: 0.7626
Epoch 1566/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5352 - accuracy: 0.7663
Epoch 1567/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5311 - accuracy: 0.7663
Epoch 1568/2200
2/2 [==============================] - 0s 11ms/step - loss: 0.5235 - accuracy: 0.7737
Epoch 1569/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5441 - accuracy: 0.7552
Epoch 1570/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5310 - accuracy: 0.7589
Epoch 1571/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5317 - accuracy: 0.7700
Epoch 1572/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5357 - accuracy: 0.7626
Epoch 1573/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5436 - accuracy: 0.7626
Epoch 1574/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5239 - accuracy: 0.7663
Epoch 1575/2200
2/2 [==============================] - 0s 8ms/step - loss: 0.4997 - accuracy: 0.7811
Epoch 1576/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5357 - accuracy: 0.7663
Epoch 1577/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5255 - accuracy: 0.7700
Epoch 1578/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5125 - accuracy: 0.7811
Epoch 1579/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5375 - accuracy: 0.7700
Epoch 1580/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5384 - accuracy: 0.7552
Epoch 1581/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5251 - accuracy: 0.7737
Epoch 1582/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5313 - accuracy: 0.7626
Epoch 1583/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5375 - accuracy: 0.7700
Epoch 1584/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5265 - accuracy: 0.7700
Epoch 1585/2200
2/2 [==============================] - 0s 30ms/step - loss: 0.5365 - accuracy: 0.7663
Epoch 1586/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5173 - accuracy: 0.7737
Epoch 1587/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5242 - accuracy: 0.7700
Epoch 1588/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5281 - accuracy: 0.7589
Epoch 1589/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5199 - accuracy: 0.7774
Epoch 1590/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5173 - accuracy: 0.7774
Epoch 1591/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5161 - accuracy: 0.7811
Epoch 1592/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5275 - accuracy: 0.7626
Epoch 1593/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5257 - accuracy: 0.7737
Epoch 1594/2200
2/2 [==============================] - 0s 9ms/step - loss: 0.5310 - accuracy: 0.7589
Epoch 1595/2200
2/2 [==============================] - 0s 8ms/step - loss: 0.5171 - accuracy: 0.7737
Epoch 1596/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5288 - accuracy: 0.7626
Epoch 1597/2200
2/2 [==============================] - 0s 8ms/step - loss: 0.5280 - accuracy: 0.7663
Epoch 1598/2200
2/2 [==============================] - 0s 8ms/step - loss: 0.5408 - accuracy: 0.7589
Epoch 1599/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5360 - accuracy: 0.7478
Epoch 1600/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5222 - accuracy: 0.7774
Epoch 1601/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5294 - accuracy: 0.7552
Epoch 1602/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5138 - accuracy: 0.7737
Epoch 1603/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5192 - accuracy: 0.7774
Epoch 1604/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5288 - accuracy: 0.7700
Epoch 1605/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5127 - accuracy: 0.7589
Epoch 1606/2200
2/2 [==============================] - 0s 8ms/step - loss: 0.5517 - accuracy: 0.7591
Epoch 1607/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5126 - accuracy: 0.7813
Epoch 1608/2200
2/2 [==============================] - 0s 8ms/step - loss: 0.5479 - accuracy: 0.7591
Epoch 1609/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5201 - accuracy: 0.7665
Epoch 1610/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5311 - accuracy: 0.7591
Epoch 1611/2200
2/2 [==============================] - 0s 10ms/step - loss: 0.5162 - accuracy: 0.7739
Epoch 1612/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5406 - accuracy: 0.7665
Epoch 1613/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5293 - accuracy: 0.7702
Epoch 1614/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5492 - accuracy: 0.7554
Epoch 1615/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5187 - accuracy: 0.7813
Epoch 1616/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5263 - accuracy: 0.7665
Epoch 1617/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5353 - accuracy: 0.7702
Epoch 1618/2200
2/2 [==============================] - 0s 8ms/step - loss: 0.5167 - accuracy: 0.7776
Epoch 1619/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5098 - accuracy: 0.7776
Epoch 1620/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5396 - accuracy: 0.7554
Epoch 1621/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5336 - accuracy: 0.7665
Epoch 1622/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5068 - accuracy: 0.7813
Epoch 1623/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5319 - accuracy: 0.7665
Epoch 1624/2200
2/2 [==============================] - 0s 8ms/step - loss: 0.5084 - accuracy: 0.7813
Epoch 1625/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5278 - accuracy: 0.7628
Epoch 1626/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5307 - accuracy: 0.7702
Epoch 1627/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5028 - accuracy: 0.7776
Epoch 1628/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5181 - accuracy: 0.7665
Epoch 1629/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5350 - accuracy: 0.7702
Epoch 1630/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5070 - accuracy: 0.7887
Epoch 1631/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4943 - accuracy: 0.7924
Epoch 1632/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5158 - accuracy: 0.7813
Epoch 1633/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5231 - accuracy: 0.7702
Epoch 1634/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5480 - accuracy: 0.7554
Epoch 1635/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5196 - accuracy: 0.7887
Epoch 1636/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5062 - accuracy: 0.7776
Epoch 1637/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4913 - accuracy: 0.7926
Epoch 1638/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5399 - accuracy: 0.7741
Epoch 1639/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5105 - accuracy: 0.7739
Epoch 1640/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5249 - accuracy: 0.7702
Epoch 1641/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5037 - accuracy: 0.7887
Epoch 1642/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5350 - accuracy: 0.7554
Epoch 1643/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5231 - accuracy: 0.7665
Epoch 1644/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5162 - accuracy: 0.7739
Epoch 1645/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5153 - accuracy: 0.7704
Epoch 1646/2200
2/2 [==============================] - 0s 9ms/step - loss: 0.5094 - accuracy: 0.7926
Epoch 1647/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5350 - accuracy: 0.7632
Epoch 1648/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5207 - accuracy: 0.7817
Epoch 1649/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5128 - accuracy: 0.7817
Epoch 1650/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5038 - accuracy: 0.7928
Epoch 1651/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5139 - accuracy: 0.7891
Epoch 1652/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5117 - accuracy: 0.7891
Epoch 1653/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4947 - accuracy: 0.7965
Epoch 1654/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5021 - accuracy: 0.7854
Epoch 1655/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5100 - accuracy: 0.7854
Epoch 1656/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5244 - accuracy: 0.7817
Epoch 1657/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5321 - accuracy: 0.7743
Epoch 1658/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5110 - accuracy: 0.7891
Epoch 1659/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5127 - accuracy: 0.7743
Epoch 1660/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5323 - accuracy: 0.7743
Epoch 1661/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5117 - accuracy: 0.7780
Epoch 1662/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5030 - accuracy: 0.8004

Epoch 1663/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5036 - accuracy: 0.7930
Epoch 1664/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5054 - accuracy: 0.7930
Epoch 1665/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5063 - accuracy: 0.7817
```

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Epoch 1666/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5177 - accuracy: 0.7891
Epoch 1667/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5177 - accuracy: 0.7854
Epoch 1668/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5131 - accuracy: 0.7928
Epoch 1669/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5337 - accuracy: 0.7780
Epoch 1670/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5097 - accuracy: 0.7854
Epoch 1671/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5010 - accuracy: 0.8004
Epoch 1672/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5227 - accuracy: 0.7708
Epoch 1673/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5032 - accuracy: 0.7930
Epoch 1674/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5240 - accuracy: 0.7782
Epoch 1675/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5121 - accuracy: 0.8004
Epoch 1676/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5096 - accuracy: 0.7930
Epoch 1677/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5263 - accuracy: 0.7782
Epoch 1678/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5276 - accuracy: 0.7819
Epoch 1679/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.5001 - accuracy: 0.7930
Epoch 1680/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5013 - accuracy: 0.8043
Epoch 1681/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5223 - accuracy: 0.7932
Epoch 1682/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5129 - accuracy: 0.8006
Epoch 1683/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5138 - accuracy: 0.7895
Epoch 1684/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4981 - accuracy: 0.7932
Epoch 1685/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4952 - accuracy: 0.8117
Epoch 1686/2200
2/2 [==============================] - ETA: 0s - loss: 0.5474 - accuracy: 0.77 - 0s 4ms/step - loss:
 0.5221 - accuracy: 0.7895
Epoch 1687/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5094 - accuracy: 0.7969
Epoch 1688/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4895 - accuracy: 0.8080
Epoch 1689/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5218 - accuracy: 0.7895
Epoch 1690/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5065 - accuracy: 0.8043
Epoch 1691/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4999 - accuracy: 0.8043
Epoch 1692/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4890 - accuracy: 0.8080
Epoch 1693/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4917 - accuracy: 0.8043
Epoch 1694/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5212 - accuracy: 0.7895
Epoch 1695/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5389 - accuracy: 0.7784
Epoch 1696/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5083 - accuracy: 0.8006
Epoch 1697/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4968 - accuracy: 0.8043
Epoch 1698/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5146 - accuracy: 0.7858
Epoch 1699/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5010 - accuracy: 0.8043
Epoch 1700/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5033 - accuracy: 0.8043
Epoch 1701/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5209 - accuracy: 0.7932
Epoch 1702/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5110 - accuracy: 0.8006
Epoch 1703/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5190 - accuracy: 0.7784
Epoch 1704/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5210 - accuracy: 0.8006
Epoch 1705/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5282 - accuracy: 0.7858
Epoch 1706/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5162 - accuracy: 0.8006
Epoch 1707/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5084 - accuracy: 0.7858
Epoch 1708/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4905 - accuracy: 0.8080
Epoch 1709/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5094 - accuracy: 0.7969
Epoch 1710/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5265 - accuracy: 0.7747
Epoch 1711/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5000 - accuracy: 0.7969
Epoch 1712/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4846 - accuracy: 0.8043
Epoch 1713/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5211 - accuracy: 0.7821
Epoch 1714/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5249 - accuracy: 0.7784
Epoch 1715/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5095 - accuracy: 0.7895
Epoch 1716/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5123 - accuracy: 0.7932
Epoch 1717/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5058 - accuracy: 0.8006
Epoch 1718/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4962 - accuracy: 0.8006
Epoch 1719/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4894 - accuracy: 0.8006
Epoch 1720/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5165 - accuracy: 0.7932
Epoch 1721/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5038 - accuracy: 0.7932
Epoch 1722/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5022 - accuracy: 0.7969
Epoch 1723/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5193 - accuracy: 0.7747
Epoch 1724/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4929 - accuracy: 0.7932
Epoch 1725/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5113 - accuracy: 0.7821
Epoch 1726/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4952 - accuracy: 0.8006
Epoch 1727/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4924 - accuracy: 0.8006
Epoch 1728/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5059 - accuracy: 0.7932
Epoch 1729/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4894 - accuracy: 0.8117
Epoch 1730/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5133 - accuracy: 0.7932
Epoch 1731/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4878 - accuracy: 0.8006
Epoch 1732/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5112 - accuracy: 0.7895
Epoch 1733/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4891 - accuracy: 0.8043
Epoch 1734/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4949 - accuracy: 0.7858
Epoch 1735/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5071 - accuracy: 0.7969
Epoch 1736/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4848 - accuracy: 0.8043
Epoch 1737/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5001 - accuracy: 0.8043
Epoch 1738/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4743 - accuracy: 0.8043
Epoch 1739/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5018 - accuracy: 0.7969
Epoch 1740/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4990 - accuracy: 0.8117
Epoch 1741/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4940 - accuracy: 0.8006
Epoch 1742/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4940 - accuracy: 0.8006
Epoch 1743/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5290 - accuracy: 0.7821
Epoch 1744/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4887 - accuracy: 0.7969
Epoch 1745/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5085 - accuracy: 0.8043
Epoch 1746/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4805 - accuracy: 0.8043
Epoch 1747/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5026 - accuracy: 0.7895
Epoch 1748/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.4928 - accuracy: 0.8006
Epoch 1749/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4839 - accuracy: 0.8154
Epoch 1750/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5100 - accuracy: 0.7895
Epoch 1751/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4948 - accuracy: 0.7932
Epoch 1752/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5337 - accuracy: 0.7673
Epoch 1753/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5093 - accuracy: 0.7821
Epoch 1754/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4910 - accuracy: 0.7932
Epoch 1755/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4969 - accuracy: 0.8080
Epoch 1756/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5068 - accuracy: 0.7895
Epoch 1757/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4849 - accuracy: 0.7969
Epoch 1758/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4879 - accuracy: 0.8043
Epoch 1759/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5097 - accuracy: 0.7821
Epoch 1760/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4792 - accuracy: 0.8043
Epoch 1761/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5032 - accuracy: 0.7895
Epoch 1762/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5039 - accuracy: 0.7895
Epoch 1763/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5126 - accuracy: 0.7858
Epoch 1764/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5019 - accuracy: 0.7895
Epoch 1765/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5129 - accuracy: 0.7934
Epoch 1766/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4658 - accuracy: 0.8119
Epoch 1767/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4911 - accuracy: 0.8045
Epoch 1768/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5075 - accuracy: 0.7860
Epoch 1769/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5036 - accuracy: 0.7934
Epoch 1770/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4851 - accuracy: 0.8156
Epoch 1771/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4921 - accuracy: 0.8045
Epoch 1772/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5169 - accuracy: 0.7897
Epoch 1773/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4633 - accuracy: 0.8267
Epoch 1774/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4876 - accuracy: 0.8045
Epoch 1775/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4826 - accuracy: 0.8082
Epoch 1776/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4697 - accuracy: 0.8082
Epoch 1777/2200
2/2 [==============================] - 0s 7ms/step - loss: 0.5150 - accuracy: 0.7858
Epoch 1778/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4956 - accuracy: 0.7897
Epoch 1779/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5191 - accuracy: 0.7712
Epoch 1780/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5067 - accuracy: 0.7897
Epoch 1781/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4843 - accuracy: 0.8045
Epoch 1782/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4809 - accuracy: 0.8082
Epoch 1783/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4824 - accuracy: 0.8045
Epoch 1784/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.4996 - accuracy: 0.7897
Epoch 1785/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4968 - accuracy: 0.7858
Epoch 1786/2200
2/2 [==============================] - 0s 6ms/step - loss: 0.4860 - accuracy: 0.7969
Epoch 1787/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5106 - accuracy: 0.7784
Epoch 1788/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4762 - accuracy: 0.8043
Epoch 1789/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4949 - accuracy: 0.7895
Epoch 1790/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4657 - accuracy: 0.8154
Epoch 1791/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4894 - accuracy: 0.7969
Epoch 1792/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4703 - accuracy: 0.7969
Epoch 1793/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4792 - accuracy: 0.8119
Epoch 1794/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4859 - accuracy: 0.7897
Epoch 1795/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4885 - accuracy: 0.8008
Epoch 1796/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4813 - accuracy: 0.8004
Epoch 1797/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4933 - accuracy: 0.7856
Epoch 1798/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4861 - accuracy: 0.7856
Epoch 1799/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4876 - accuracy: 0.7893
Epoch 1800/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4867 - accuracy: 0.7819
Epoch 1801/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4953 - accuracy: 0.7782
Epoch 1802/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4852 - accuracy: 0.7930
Epoch 1803/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5011 - accuracy: 0.7782
Epoch 1804/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.5039 - accuracy: 0.7782
Epoch 1805/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4977 - accuracy: 0.7856
Epoch 1806/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4884 - accuracy: 0.7782
Epoch 1807/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4770 - accuracy: 0.7893
Epoch 1808/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4729 - accuracy: 0.7967
Epoch 1809/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4877 - accuracy: 0.7856
Epoch 1810/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4920 - accuracy: 0.7819
Epoch 1811/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4879 - accuracy: 0.8004
Epoch 1812/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4533 - accuracy: 0.8041
Epoch 1813/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5060 - accuracy: 0.7782
Epoch 1814/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4831 - accuracy: 0.7856
Epoch 1815/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4956 - accuracy: 0.7856
Epoch 1816/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5001 - accuracy: 0.7819
Epoch 1817/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4901 - accuracy: 0.7967
Epoch 1818/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4954 - accuracy: 0.7782
Epoch 1819/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4852 - accuracy: 0.7856
Epoch 1820/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4992 - accuracy: 0.7671
Epoch 1821/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.5119 - accuracy: 0.7745
Epoch 1822/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4726 - accuracy: 0.7893
Epoch 1823/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5033 - accuracy: 0.7708
Epoch 1824/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4656 - accuracy: 0.8004
Epoch 1825/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4673 - accuracy: 0.8004
Epoch 1826/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4940 - accuracy: 0.7819
Epoch 1827/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4873 - accuracy: 0.7967
Epoch 1828/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4777 - accuracy: 0.7893
Epoch 1829/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4636 - accuracy: 0.8189
Epoch 1830/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4822 - accuracy: 0.7782
Epoch 1831/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4820 - accuracy: 0.7856
Epoch 1832/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4929 - accuracy: 0.7930
Epoch 1833/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4730 - accuracy: 0.7967
Epoch 1834/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4695 - accuracy: 0.7893
Epoch 1835/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4785 - accuracy: 0.7930
Epoch 1836/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4613 - accuracy: 0.8041
Epoch 1837/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4855 - accuracy: 0.7893
Epoch 1838/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4830 - accuracy: 0.7856
Epoch 1839/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4867 - accuracy: 0.7856
Epoch 1840/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4654 - accuracy: 0.7967
Epoch 1841/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.5012 - accuracy: 0.7745
Epoch 1842/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4680 - accuracy: 0.8004
Epoch 1843/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4920 - accuracy: 0.7895
Epoch 1844/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4912 - accuracy: 0.7821
Epoch 1845/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4886 - accuracy: 0.7969
Epoch 1846/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4782 - accuracy: 0.7895
Epoch 1847/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4919 - accuracy: 0.7897
Epoch 1848/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.5020 - accuracy: 0.7934
Epoch 1849/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4850 - accuracy: 0.7934
Epoch 1850/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4886 - accuracy: 0.7971
Epoch 1851/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4705 - accuracy: 0.8082
Epoch 1852/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4689 - accuracy: 0.7971
Epoch 1853/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4764 - accuracy: 0.8082
Epoch 1854/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4850 - accuracy: 0.7934
Epoch 1855/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4685 - accuracy: 0.8045
Epoch 1856/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4890 - accuracy: 0.7971
Epoch 1857/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4808 - accuracy: 0.8008
Epoch 1858/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4861 - accuracy: 0.7934
Epoch 1859/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4500 - accuracy: 0.8156
Epoch 1860/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4790 - accuracy: 0.7971
Epoch 1861/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4668 - accuracy: 0.8119
Epoch 1862/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4623 - accuracy: 0.8156
Epoch 1863/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4707 - accuracy: 0.8082
Epoch 1864/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4679 - accuracy: 0.8045
Epoch 1865/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4662 - accuracy: 0.8156
Epoch 1866/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4833 - accuracy: 0.8082
Epoch 1867/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4841 - accuracy: 0.7971
Epoch 1868/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4766 - accuracy: 0.7971
Epoch 1869/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4687 - accuracy: 0.8008
Epoch 1870/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4619 - accuracy: 0.8008
Epoch 1871/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4989 - accuracy: 0.7860
Epoch 1872/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4744 - accuracy: 0.8082
Epoch 1873/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4561 - accuracy: 0.8230
Epoch 1874/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4467 - accuracy: 0.8193
Epoch 1875/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4853 - accuracy: 0.7860
Epoch 1876/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4827 - accuracy: 0.7971
Epoch 1877/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4772 - accuracy: 0.8008
Epoch 1878/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4765 - accuracy: 0.8045
Epoch 1879/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4865 - accuracy: 0.7897
Epoch 1880/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4500 - accuracy: 0.8119
Epoch 1881/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4812 - accuracy: 0.8045
Epoch 1882/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4859 - accuracy: 0.7971
Epoch 1883/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4458 - accuracy: 0.8193
Epoch 1884/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4812 - accuracy: 0.8045
Epoch 1885/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4513 - accuracy: 0.8119
Epoch 1886/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4667 - accuracy: 0.8045
Epoch 1887/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4565 - accuracy: 0.8045
Epoch 1888/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4619 - accuracy: 0.8082
Epoch 1889/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4576 - accuracy: 0.8156
Epoch 1890/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4959 - accuracy: 0.7786
Epoch 1891/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4720 - accuracy: 0.8045
Epoch 1892/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4704 - accuracy: 0.8045
Epoch 1893/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4798 - accuracy: 0.8045
Epoch 1894/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4735 - accuracy: 0.7971
Epoch 1895/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4811 - accuracy: 0.8047
Epoch 1896/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4561 - accuracy: 0.8158
Epoch 1897/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4650 - accuracy: 0.8084
Epoch 1898/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4845 - accuracy: 0.8010
Epoch 1899/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4610 - accuracy: 0.8232
Epoch 1900/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4857 - accuracy: 0.7973
Epoch 1901/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4758 - accuracy: 0.8121
Epoch 1902/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4646 - accuracy: 0.8195
Epoch 1903/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4943 - accuracy: 0.7862
Epoch 1904/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4711 - accuracy: 0.8084
Epoch 1905/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4982 - accuracy: 0.7899
Epoch 1906/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4716 - accuracy: 0.8047
Epoch 1907/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4824 - accuracy: 0.8047
Epoch 1908/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4483 - accuracy: 0.8232
Epoch 1909/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4729 - accuracy: 0.7936
Epoch 1910/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4557 - accuracy: 0.8010
Epoch 1911/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4666 - accuracy: 0.8010
Epoch 1912/2200
2/2 [==============================] - ETA: 0s - loss: 0.4772 - accuracy: 0.77 - 0s 3ms/step - loss:
 0.4708 - accuracy: 0.7973
Epoch 1913/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4502 - accuracy: 0.8195
Epoch 1914/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4755 - accuracy: 0.8010
Epoch 1915/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4605 - accuracy: 0.8047
Epoch 1916/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4752 - accuracy: 0.8010
Epoch 1917/2200
2/2 [==============================] - ETA: 0s - loss: 0.4309 - accuracy: 0.83 - 0s 4ms/step - loss:
 0.4547 - accuracy: 0.8158
Epoch 1918/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4548 - accuracy: 0.8084
Epoch 1919/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4665 - accuracy: 0.8197
Epoch 1920/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4656 - accuracy: 0.8160
Epoch 1921/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4732 - accuracy: 0.8086
Epoch 1922/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4397 - accuracy: 0.8234
Epoch 1923/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4556 - accuracy: 0.8197
Epoch 1924/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4638 - accuracy: 0.8160
Epoch 1925/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4634 - accuracy: 0.8197
Epoch 1926/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4763 - accuracy: 0.8012
Epoch 1927/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4779 - accuracy: 0.7975
Epoch 1928/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4715 - accuracy: 0.8123
Epoch 1929/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4767 - accuracy: 0.7938
Epoch 1930/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4826 - accuracy: 0.7975
Epoch 1931/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4475 - accuracy: 0.8123
Epoch 1932/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4544 - accuracy: 0.8197
Epoch 1933/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4240 - accuracy: 0.8456
Epoch 1934/2200
2/2 [==============================] - 0s 11ms/step - loss: 0.4566 - accuracy: 0.8160
Epoch 1935/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4472 - accuracy: 0.8234
Epoch 1936/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4702 - accuracy: 0.8123
Epoch 1937/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4500 - accuracy: 0.8197
Epoch 1938/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4771 - accuracy: 0.8012
Epoch 1939/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4663 - accuracy: 0.8234
Epoch 1940/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4684 - accuracy: 0.7973
Epoch 1941/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4544 - accuracy: 0.8158
Epoch 1942/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4662 - accuracy: 0.8010
Epoch 1943/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4838 - accuracy: 0.7936
Epoch 1944/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4573 - accuracy: 0.8158
Epoch 1945/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4555 - accuracy: 0.8158
Epoch 1946/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4497 - accuracy: 0.8121
Epoch 1947/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4757 - accuracy: 0.7973
Epoch 1948/2200
2/2 [==============================] - ETA: 0s - loss: 0.4579 - accuracy: 0.82 - 0s 3ms/step - loss:
 0.4602 - accuracy: 0.8121
Epoch 1949/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4604 - accuracy: 0.8010
Epoch 1950/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4469 - accuracy: 0.8195
Epoch 1951/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4463 - accuracy: 0.8269
Epoch 1952/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4539 - accuracy: 0.8232
Epoch 1953/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4562 - accuracy: 0.8158
Epoch 1954/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4522 - accuracy: 0.8158
Epoch 1955/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4662 - accuracy: 0.8121
Epoch 1956/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4334 - accuracy: 0.8269
Epoch 1957/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4669 - accuracy: 0.7936
Epoch 1958/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4658 - accuracy: 0.8047
Epoch 1959/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4490 - accuracy: 0.8158
Epoch 1960/2200
2/2 [==============================] - 0s 11ms/step - loss: 0.4754 - accuracy: 0.8010
Epoch 1961/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4816 - accuracy: 0.7862
Epoch 1962/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4768 - accuracy: 0.7899
Epoch 1963/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4647 - accuracy: 0.8047
Epoch 1964/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4382 - accuracy: 0.8306
Epoch 1965/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4562 - accuracy: 0.8121
Epoch 1966/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4606 - accuracy: 0.8047
Epoch 1967/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4609 - accuracy: 0.7973
Epoch 1968/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4597 - accuracy: 0.8084
Epoch 1969/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4607 - accuracy: 0.8084
Epoch 1970/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4757 - accuracy: 0.8047
Epoch 1971/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4629 - accuracy: 0.8121
Epoch 1972/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4667 - accuracy: 0.7973
Epoch 1973/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4539 - accuracy: 0.8121
Epoch 1974/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4450 - accuracy: 0.8232
Epoch 1975/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4371 - accuracy: 0.8232
Epoch 1976/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4724 - accuracy: 0.7936
Epoch 1977/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4901 - accuracy: 0.8012
Epoch 1978/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4670 - accuracy: 0.8012
Epoch 1979/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4517 - accuracy: 0.8197
Epoch 1980/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4666 - accuracy: 0.8086
Epoch 1981/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4676 - accuracy: 0.8086
Epoch 1982/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4780 - accuracy: 0.8049
Epoch 1983/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4506 - accuracy: 0.8271
Epoch 1984/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4644 - accuracy: 0.8049
Epoch 1985/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4687 - accuracy: 0.8012
Epoch 1986/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4316 - accuracy: 0.8345
Epoch 1987/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4576 - accuracy: 0.7936
Epoch 1988/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4507 - accuracy: 0.8195
Epoch 1989/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4449 - accuracy: 0.8121
Epoch 1990/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4695 - accuracy: 0.7862
Epoch 1991/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4606 - accuracy: 0.8047
Epoch 1992/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4470 - accuracy: 0.8047
Epoch 1993/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4539 - accuracy: 0.8121
Epoch 1994/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4555 - accuracy: 0.8047
Epoch 1995/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4613 - accuracy: 0.8047
Epoch 1996/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4525 - accuracy: 0.8084
Epoch 1997/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4667 - accuracy: 0.7973
Epoch 1998/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4669 - accuracy: 0.7936
Epoch 1999/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4442 - accuracy: 0.8158
Epoch 2000/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4413 - accuracy: 0.8269
Epoch 2001/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4426 - accuracy: 0.8121
Epoch 2002/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4466 - accuracy: 0.8121
Epoch 2003/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4531 - accuracy: 0.8047
Epoch 2004/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4464 - accuracy: 0.8084
Epoch 2005/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4614 - accuracy: 0.7973
Epoch 2006/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4489 - accuracy: 0.8010
Epoch 2007/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4451 - accuracy: 0.8047
Epoch 2008/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4554 - accuracy: 0.8047
Epoch 2009/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4331 - accuracy: 0.8306
Epoch 2010/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4417 - accuracy: 0.8121
Epoch 2011/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4596 - accuracy: 0.8047
Epoch 2012/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4715 - accuracy: 0.7936
Epoch 2013/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4440 - accuracy: 0.8047
Epoch 2014/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4557 - accuracy: 0.8084
Epoch 2015/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4556 - accuracy: 0.7973
Epoch 2016/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4565 - accuracy: 0.8047
Epoch 2017/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4570 - accuracy: 0.8010
Epoch 2018/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4518 - accuracy: 0.8084
Epoch 2019/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4488 - accuracy: 0.8084
Epoch 2020/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4594 - accuracy: 0.7975
Epoch 2021/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4402 - accuracy: 0.8234
Epoch 2022/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4574 - accuracy: 0.8086
Epoch 2023/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4535 - accuracy: 0.8049
Epoch 2024/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4515 - accuracy: 0.8197
Epoch 2025/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4653 - accuracy: 0.8086
Epoch 2026/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4366 - accuracy: 0.8160
Epoch 2027/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4442 - accuracy: 0.8197
Epoch 2028/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4332 - accuracy: 0.8234
Epoch 2029/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4680 - accuracy: 0.7975
Epoch 2030/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4441 - accuracy: 0.8123
Epoch 2031/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4456 - accuracy: 0.8234
Epoch 2032/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4396 - accuracy: 0.8086
Epoch 2033/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4742 - accuracy: 0.7975
Epoch 2034/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4443 - accuracy: 0.8160
Epoch 2035/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4351 - accuracy: 0.8160
Epoch 2036/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4609 - accuracy: 0.8012
Epoch 2037/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4501 - accuracy: 0.8160
Epoch 2038/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4420 - accuracy: 0.8160
Epoch 2039/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4318 - accuracy: 0.8234
Epoch 2040/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4612 - accuracy: 0.8160
Epoch 2041/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4245 - accuracy: 0.8234
Epoch 2042/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4260 - accuracy: 0.8160
Epoch 2043/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4368 - accuracy: 0.8271
Epoch 2044/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4333 - accuracy: 0.8197
Epoch 2045/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4515 - accuracy: 0.8086
Epoch 2046/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4642 - accuracy: 0.7938
Epoch 2047/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4423 - accuracy: 0.8086
Epoch 2048/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4524 - accuracy: 0.8012
Epoch 2049/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4314 - accuracy: 0.8197
Epoch 2050/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4379 - accuracy: 0.8123
Epoch 2051/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4479 - accuracy: 0.7975
Epoch 2052/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4526 - accuracy: 0.8123
Epoch 2053/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4607 - accuracy: 0.7862
Epoch 2054/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4420 - accuracy: 0.8084
Epoch 2055/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4290 - accuracy: 0.8195
Epoch 2056/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4246 - accuracy: 0.8271
Epoch 2057/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4283 - accuracy: 0.8084
Epoch 2058/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4681 - accuracy: 0.7936
Epoch 2059/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4425 - accuracy: 0.8084
Epoch 2060/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4401 - accuracy: 0.8047
Epoch 2061/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4292 - accuracy: 0.8195
Epoch 2062/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4454 - accuracy: 0.8010
Epoch 2063/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4459 - accuracy: 0.8121
Epoch 2064/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4535 - accuracy: 0.7936
Epoch 2065/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4521 - accuracy: 0.8047
Epoch 2066/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4397 - accuracy: 0.8047
Epoch 2067/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4424 - accuracy: 0.8121
Epoch 2068/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4330 - accuracy: 0.8084
Epoch 2069/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4519 - accuracy: 0.7973
Epoch 2070/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4323 - accuracy: 0.8306
Epoch 2071/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4352 - accuracy: 0.8121
Epoch 2072/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4568 - accuracy: 0.8010
Epoch 2073/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4521 - accuracy: 0.7973
Epoch 2074/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4357 - accuracy: 0.8121
Epoch 2075/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4480 - accuracy: 0.8158
Epoch 2076/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4381 - accuracy: 0.8084
Epoch 2077/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4556 - accuracy: 0.7936
Epoch 2078/2200
2/2 [==============================] - ETA: 0s - loss: 0.4520 - accuracy: 0.78 - 0s 3ms/step - loss:
 0.4442 - accuracy: 0.8010
Epoch 2079/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4342 - accuracy: 0.8121
Epoch 2080/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4293 - accuracy: 0.8121
Epoch 2081/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4098 - accuracy: 0.8269
Epoch 2082/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4242 - accuracy: 0.8121
Epoch 2083/2200

2/2 [==============================] - 0s 3ms/step - loss: 0.4422 - accuracy: 0.8047
Epoch 2084/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4123 - accuracy: 0.8084
Epoch 2085/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4460 - accuracy: 0.8010
Epoch 2086/2200
```

```
2/2 [==============================] - 0s 2ms/step - loss: 0.4315 - accuracy: 0.8158
Epoch 2087/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4411 - accuracy: 0.8084
Epoch 2088/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4240 - accuracy: 0.8158
Epoch 2089/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4438 - accuracy: 0.8010
Epoch 2090/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4433 - accuracy: 0.8010
Epoch 2091/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4267 - accuracy: 0.8121
Epoch 2092/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4482 - accuracy: 0.8047
Epoch 2093/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4443 - accuracy: 0.8010
Epoch 2094/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4341 - accuracy: 0.8084
Epoch 2095/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4342 - accuracy: 0.8084
Epoch 2096/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4404 - accuracy: 0.8047
Epoch 2097/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4584 - accuracy: 0.7973
Epoch 2098/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4453 - accuracy: 0.7936
Epoch 2099/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4164 - accuracy: 0.8306
Epoch 2100/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4376 - accuracy: 0.8047
Epoch 2101/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4247 - accuracy: 0.8158
Epoch 2102/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4038 - accuracy: 0.8232
Epoch 2103/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4218 - accuracy: 0.8158
Epoch 2104/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4428 - accuracy: 0.7973
Epoch 2105/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4465 - accuracy: 0.8047
Epoch 2106/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4380 - accuracy: 0.8084
Epoch 2107/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4208 - accuracy: 0.8195
Epoch 2108/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4362 - accuracy: 0.7973
Epoch 2109/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4560 - accuracy: 0.8010
Epoch 2110/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4290 - accuracy: 0.8047
Epoch 2111/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4403 - accuracy: 0.8084
Epoch 2112/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4365 - accuracy: 0.8010
Epoch 2113/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4199 - accuracy: 0.8195
Epoch 2114/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4452 - accuracy: 0.8047
Epoch 2115/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4549 - accuracy: 0.8010
Epoch 2116/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4317 - accuracy: 0.8084
Epoch 2117/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4181 - accuracy: 0.8158
Epoch 2118/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4213 - accuracy: 0.8084
Epoch 2119/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4288 - accuracy: 0.8049
Epoch 2120/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4021 - accuracy: 0.8345
Epoch 2121/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4381 - accuracy: 0.8086
Epoch 2122/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4304 - accuracy: 0.8160
Epoch 2123/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4176 - accuracy: 0.8271
Epoch 2124/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4006 - accuracy: 0.8308
Epoch 2125/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4369 - accuracy: 0.8160
Epoch 2126/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4350 - accuracy: 0.8160
Epoch 2127/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4114 - accuracy: 0.8271
Epoch 2128/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4145 - accuracy: 0.8234
Epoch 2129/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4457 - accuracy: 0.8012
Epoch 2130/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4176 - accuracy: 0.8197
Epoch 2131/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4254 - accuracy: 0.8086
Epoch 2132/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4179 - accuracy: 0.8308
Epoch 2133/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4337 - accuracy: 0.8012
Epoch 2134/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4219 - accuracy: 0.8197
Epoch 2135/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4359 - accuracy: 0.8197
Epoch 2136/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4601 - accuracy: 0.7938
Epoch 2137/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4202 - accuracy: 0.8123
Epoch 2138/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4223 - accuracy: 0.8197
Epoch 2139/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4334 - accuracy: 0.8123
Epoch 2140/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4273 - accuracy: 0.8086
Epoch 2141/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4075 - accuracy: 0.8271
Epoch 2142/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4294 - accuracy: 0.8160
Epoch 2143/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4188 - accuracy: 0.8197
Epoch 2144/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.3976 - accuracy: 0.8382
Epoch 2145/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4033 - accuracy: 0.8345
Epoch 2146/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4456 - accuracy: 0.8012
Epoch 2147/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4177 - accuracy: 0.8160
Epoch 2148/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4257 - accuracy: 0.8160
Epoch 2149/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4249 - accuracy: 0.8123
Epoch 2150/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4397 - accuracy: 0.7936
Epoch 2151/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4250 - accuracy: 0.8121
Epoch 2152/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4462 - accuracy: 0.8047
Epoch 2153/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4018 - accuracy: 0.8306
Epoch 2154/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4365 - accuracy: 0.8047
Epoch 2155/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4337 - accuracy: 0.8010
Epoch 2156/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4196 - accuracy: 0.8084
Epoch 2157/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4392 - accuracy: 0.7973
Epoch 2158/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4410 - accuracy: 0.8047
Epoch 2159/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4410 - accuracy: 0.7936
Epoch 2160/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4301 - accuracy: 0.8047
Epoch 2161/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4455 - accuracy: 0.7973
Epoch 2162/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4093 - accuracy: 0.8195
Epoch 2163/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4360 - accuracy: 0.8084
Epoch 2164/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4264 - accuracy: 0.8121
Epoch 2165/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4406 - accuracy: 0.7973
Epoch 2166/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4101 - accuracy: 0.8232
Epoch 2167/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4264 - accuracy: 0.8084
Epoch 2168/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4252 - accuracy: 0.8047
Epoch 2169/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4054 - accuracy: 0.8121
Epoch 2170/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4251 - accuracy: 0.8084
Epoch 2171/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4484 - accuracy: 0.8010
Epoch 2172/2200
2/2 [==============================] - ETA: 0s - loss: 0.4348 - accuracy: 0.80 - 0s 3ms/step - loss: 0.4284 - accuracy: 0.8047
Epoch 2173/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4461 - accuracy: 0.8047
Epoch 2174/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4223 - accuracy: 0.8123
Epoch 2175/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4322 - accuracy: 0.8012
Epoch 2176/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4113 - accuracy: 0.8236
Epoch 2177/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4275 - accuracy: 0.8199
Epoch 2178/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4106 - accuracy: 0.8310
Epoch 2179/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4275 - accuracy: 0.8088
Epoch 2180/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4211 - accuracy: 0.8273
Epoch 2181/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4167 - accuracy: 0.8236
Epoch 2182/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4272 - accuracy: 0.8125
Epoch 2183/2200
2/2 [==============================] - 0s 2ms/step - loss: 0.4366 - accuracy: 0.8088
Epoch 2184/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4271 - accuracy: 0.8088
Epoch 2185/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4443 - accuracy: 0.8125
Epoch 2186/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4121 - accuracy: 0.8162
Epoch 2187/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4453 - accuracy: 0.8014
Epoch 2188/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4295 - accuracy: 0.8049
Epoch 2189/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4298 - accuracy: 0.8088
Epoch 2190/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4446 - accuracy: 0.8051
Epoch 2191/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4103 - accuracy: 0.8273
Epoch 2192/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4314 - accuracy: 0.8125
Epoch 2193/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4125 - accuracy: 0.8236
Epoch 2194/2200
2/2 [==============================] - 0s 4ms/step - loss: 0.4201 - accuracy: 0.8236
Epoch 2195/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4239 - accuracy: 0.8162
Epoch 2196/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4111 - accuracy: 0.8162
Epoch 2197/2200
2/2 [==============================] - 0s 5ms/step - loss: 0.4421 - accuracy: 0.8088
Epoch 2198/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4408 - accuracy: 0.7977
Epoch 2199/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4184 - accuracy: 0.8162
Epoch 2200/2200
2/2 [==============================] - 0s 3ms/step - loss: 0.4255 - accuracy: 0.8162
2/2 [==============================] - 0s 3ms/step - loss: 0.7264 - accuracy: 0.8372
```

Out[31]: [0.7263950705528259, 0.8372092843055725]

In [32]:
```
_, train_acc = trial_model_4.evaluate(X_train, y_train, verbose=0)
_, test_acc = trial_model_4.evaluate(X_test, y_test, verbose=0)

print ('Train:%.3f, Test:%.3f' % (train_acc,test_acc))
```

```
Train:0.819, Test:0.837
```

Accuracy scores

Results by changing values of Test size, epochs, activation and loss functions.

1. Train:0.899, Test:0.708
2. Train:0.760, Test:0.814
3. Train:0.760, Test:0.837

Change in epochs = 2200

1. Train:0.754, Test:0.860
2. Train:0.784, Test:0.837

Change in batch size = 100

1. Train:0.789, Test:0.814
2. Train:0.772, Test:0.814

Change in learning rate = 0.03, batch size= 90, epochs = 2200, random_state= 4

[We see improvements here in this stage]

1. Train:0.830, Test:0.767
2. Train:0.854, Test:0.860
3. Train:0.848, Test:0.814
4. Train:0.854, Test:0.837
5. Train:0.825, Test:0.837
6. Train:0.877, Test:0.837
7. Train:0.842, Test:0.814
8. Train:0.848, Test:0.837
9. Train:0.860, Test:0.837
10. Train:0.889, Test:0.814
11. Train:0.871, Test:0.860

Although the testing accuracy is showing high, the difference in percentage between train and test is varying for each run. I will improve the model further to see what the best model configuration for both test and train accuracy is.

Model 5 - Final

i. Read the data in, preprocess and scale for the Final Dense Neural Netwrok model

In [33]:
```
column_names = ['Id','RI','Na','Mg','Al','Si','K','Ca','Ba','Fe','Glass Type']

data = pd.read_csv('glass_data.csv',names = column_names,index_col = 0,header = None)

num_data = data.to_numpy()

dataset1 = num_data

X_cols = dataset1[:,0:9].astype(float)

y_cols = dataset1[:,9]

preprocessing.scale(X_cols, copy=False)

encoder = preprocessing.LabelEncoder()

encoder.fit(y_cols)

y_tran = encoder.transform(y_cols).reshape(-1, 1)

y_enc = np_utils.to_categorical(y_tran)
```

In [34]:
```
y_enc.shape, X_cols.shape
```

Out[34]: ((214, 6), (214, 9))

1. The data frame created initially is the same format previously used for EDA and wish to keep the originality by presenting the same layout for data preparation and pre-processing for my final model. The index ID is used as the ID column in data frame.

2. The data after being read in is converted to Numpy array.

3. The target variable is separated from the independent variables for X and y variables.

4. I then scale the X_cols data to fit the model in a min-max scale.

5. The y_cols data is then label encoded to the respective values, doing so I know the data is in sequence and may trick the model in learning phase, due to the trickery that may happen further down in training the data I convert the labelled y_cols data to categorical values and retain the classification using softmax as my final activation in the model.

Split the data by 70/30 and set the random state

In [35]:
```
X_train, X_test, y_train, y_test = train_test_split(X_cols, y_enc, test_size=0.2, random_state=4)
```

In [36]:
```
X_train.shape, y_train.shape
```

Out[36]: ((171, 9), (171, 6))

In [37]:
```
X_test.shape, y_test.shape
```

Out[37]: ((43, 9), (43, 6))

No.5 - ANN Final Model

In [38]:
```
final_model = Sequential()

final_model.add(Dense(25, input_dim=9, kernel_initializer='normal', activation='relu'))

final_model.add(Dense(12, kernel_initializer='normal', activation='relu'))

final_model.add(Dense(6, kernel_initializer='normal', activation='softmax'))

final_model.compile(loss='categorical_crossentropy', optimizer=keras.optimizers.Adam(0.0003), metrics=['accuracy'])

final_model.summary()
```

```
Model: "sequential_4"
_________________________________________________________________
Layer (type)                 Output Shape              Param #
=================================================================
dense_12 (Dense)             (None, 25)                250
_________________________________________________________________
dense_13 (Dense)             (None, 12)                312
_________________________________________________________________
dense_14 (Dense)             (None, 6)                 78
=================================================================
Total params: 640
Trainable params: 640
Non-trainable params: 0
_________________________________________________________________
```

Parameters used for the final model

- **loss** - I used **categorical_crossentropy** as my loss function, to evaluate and learn the best probability from the label encoded vector of classification glass types. I would use sparse categorical cross entropy had I not encoded the target glass type labels and left them as integers.
- **optimizer** - I used **Adam** as my optimiser, additionally adding custom learning rate of 0.003 to improve models network weights. By leveraging the decaying average of previous squared gradients, it becomes efficient and adaptive throughout the train phase.
- **epoch** - set to 1900 for a close drop off before the model starts to over fit.
- **metrics** - The accuracy metric to check the model fit percentage wise, showing us a predictability outcome.
- **Batch Size** - I used the **batch gradient descent** using the total number of samples **214** from the dataset, works well with error prediction separation.
- **Layers** - I have added 9 input layers, along with 3 hidden dense layers of 25,12 and 6 as standard input and outputs.
- **Test size** -a 70/30 split for training and testing the dataset at the beginning.
- **random_state = 4** to evaluate the randomness between the values with various magnitudes and to not be skewed to one side while the model learns through the training set.
- **kernel_initializer** = 'normal' for normal distribution of weights through the neural layers.

Model Fit

```
In [39]: Plot_History = final_model.fit(X_train, y_train, epochs=1900, batch_size=214, verbose=1)
```

```
Epoch 1/1900
1/1 [==============================] - 0s 473ms/step - loss: 1.7914 - accuracy: 0.0936
Epoch 2/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7911 - accuracy: 0.2164
Epoch 3/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7908 - accuracy: 0.2924
Epoch 4/1900
1/1 [==============================] - 0s 2ms/step - loss: 1.7905 - accuracy: 0.3099
Epoch 5/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7902 - accuracy: 0.3099
Epoch 6/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7899 - accuracy: 0.3099
Epoch 7/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7896 - accuracy: 0.3158
Epoch 8/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7894 - accuracy: 0.3041
Epoch 9/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7891 - accuracy: 0.3216
Epoch 10/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7888 - accuracy: 0.3099
Epoch 11/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7885 - accuracy: 0.3333
Epoch 12/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7882 - accuracy: 0.3333
Epoch 13/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7879 - accuracy: 0.3275
Epoch 14/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7876 - accuracy: 0.3275
Epoch 15/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7873 - accuracy: 0.3275
Epoch 16/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7870 - accuracy: 0.3392
Epoch 17/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7867 - accuracy: 0.3450
Epoch 18/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7864 - accuracy: 0.3626
Epoch 19/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7861 - accuracy: 0.3684
Epoch 20/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7858 - accuracy: 0.3801
Epoch 21/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7855 - accuracy: 0.3918
Epoch 22/1900
1/1 [==============================] - 0s 2ms/step - loss: 1.7852 - accuracy: 0.3918
Epoch 23/1900
1/1 [==============================] - 0s 2ms/step - loss: 1.7849 - accuracy: 0.4035
Epoch 24/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7845 - accuracy: 0.4035
Epoch 25/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7842 - accuracy: 0.3977
Epoch 26/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7839 - accuracy: 0.3977
Epoch 27/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7835 - accuracy: 0.3977
Epoch 28/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7832 - accuracy: 0.3918
Epoch 29/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7829 - accuracy: 0.3918
Epoch 30/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7825 - accuracy: 0.3918
Epoch 31/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7822 - accuracy: 0.3977
Epoch 32/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7818 - accuracy: 0.3977
Epoch 33/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7814 - accuracy: 0.3977
Epoch 34/1900
1/1 [==============================] - ETA: 0s - loss: 1.7811 - accuracy: 0.40 - 0s 4ms/step - loss: 1.7811 - accuracy: 0.4035
Epoch 35/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7807 - accuracy: 0.4035
Epoch 36/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7803 - accuracy: 0.4094
Epoch 37/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7799 - accuracy: 0.4094
Epoch 38/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7795 - accuracy: 0.4094
Epoch 39/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7791 - accuracy: 0.4094
Epoch 40/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7787 - accuracy: 0.4152
Epoch 41/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7783 - accuracy: 0.4094
Epoch 42/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7779 - accuracy: 0.4152
Epoch 43/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7775 - accuracy: 0.4152
Epoch 44/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7771 - accuracy: 0.4152
Epoch 45/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7767 - accuracy: 0.4152
Epoch 46/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7762 - accuracy: 0.4152
Epoch 47/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7758 - accuracy: 0.4152
Epoch 48/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7753 - accuracy: 0.4211
Epoch 49/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7749 - accuracy: 0.4269
Epoch 50/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7744 - accuracy: 0.4269
Epoch 51/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7740 - accuracy: 0.4269
Epoch 52/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7735 - accuracy: 0.4269
Epoch 53/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7730 - accuracy: 0.4269
Epoch 54/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7725 - accuracy: 0.4269
Epoch 55/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7720 - accuracy: 0.4327
Epoch 56/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7715 - accuracy: 0.4386
Epoch 57/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7710 - accuracy: 0.4561
Epoch 58/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7705 - accuracy: 0.4620
Epoch 59/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7699 - accuracy: 0.4620
Epoch 60/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7694 - accuracy: 0.4620
Epoch 61/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7689 - accuracy: 0.4678
Epoch 62/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7683 - accuracy: 0.4678
Epoch 63/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7677 - accuracy: 0.4737
Epoch 64/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7672 - accuracy: 0.4795
Epoch 65/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7666 - accuracy: 0.4795
Epoch 66/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7660 - accuracy: 0.4795
Epoch 67/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7654 - accuracy: 0.4795
Epoch 68/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7648 - accuracy: 0.4795
Epoch 69/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7641 - accuracy: 0.4795
Epoch 70/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.7635 - accuracy: 0.4795
Epoch 71/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7629 - accuracy: 0.4795
Epoch 72/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7622 - accuracy: 0.4795
Epoch 73/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7615 - accuracy: 0.4912
Epoch 74/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7608 - accuracy: 0.4912
Epoch 75/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7601 - accuracy: 0.4854
Epoch 76/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7594 - accuracy: 0.4912
Epoch 77/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7587 - accuracy: 0.4971
Epoch 78/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7580 - accuracy: 0.4971
Epoch 79/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7572 - accuracy: 0.4971
Epoch 80/1900
1/1 [==============================] - 0s 2ms/step - loss: 1.7565 - accuracy: 0.4971
Epoch 81/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7557 - accuracy: 0.4971
Epoch 82/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7549 - accuracy: 0.4912
Epoch 83/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7541 - accuracy: 0.4912
Epoch 84/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7532 - accuracy: 0.4912
Epoch 85/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.7524 - accuracy: 0.4971
Epoch 86/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.7515 - accuracy: 0.4912
Epoch 87/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.7507 - accuracy: 0.4912
Epoch 88/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.7498 - accuracy: 0.4971
Epoch 89/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7489 - accuracy: 0.4971
Epoch 90/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.7480 - accuracy: 0.4971
Epoch 91/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7470 - accuracy: 0.4854
Epoch 92/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7461 - accuracy: 0.4854
Epoch 93/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7451 - accuracy: 0.4854
Epoch 94/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7441 - accuracy: 0.4912
Epoch 95/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7431 - accuracy: 0.4912
Epoch 96/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7421 - accuracy: 0.4912
Epoch 97/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7410 - accuracy: 0.4912
Epoch 98/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7400 - accuracy: 0.4912
Epoch 99/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7389 - accuracy: 0.4912
Epoch 100/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7378 - accuracy: 0.4912
Epoch 101/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7367 - accuracy: 0.4912
Epoch 102/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.7355 - accuracy: 0.4971
Epoch 103/1900
1/1 [==============================] - 0s 13ms/step - loss: 1.7343 - accuracy: 0.4971
Epoch 104/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.7332 - accuracy: 0.4971
Epoch 105/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7320 - accuracy: 0.4971
Epoch 106/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.7307 - accuracy: 0.4971
Epoch 107/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7295 - accuracy: 0.4971
Epoch 108/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7282 - accuracy: 0.4971
Epoch 109/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7269 - accuracy: 0.4971
Epoch 110/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.7256 - accuracy: 0.4971
Epoch 111/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7243 - accuracy: 0.5029
Epoch 112/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7229 - accuracy: 0.5029
Epoch 113/1900
1/1 [==============================] - 0s 15ms/step - loss: 1.7216 - accuracy: 0.5029
Epoch 114/1900
1/1 [==============================] - 0s 11ms/step - loss: 1.7202 - accuracy: 0.5029
Epoch 115/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.7187 - accuracy: 0.5029
Epoch 116/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.7173 - accuracy: 0.5088
Epoch 117/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.7158 - accuracy: 0.5088
Epoch 118/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.7143 - accuracy: 0.5088
Epoch 119/1900
1/1 [==============================] - 0s 23ms/step - loss: 1.7128 - accuracy: 0.5088
Epoch 120/1900
1/1 [==============================] - 0s 12ms/step - loss: 1.7113 - accuracy: 0.5088
Epoch 121/1900
1/1 [==============================] - 0s 13ms/step - loss: 1.7097 - accuracy: 0.5088
Epoch 122/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.7081 - accuracy: 0.5088
Epoch 123/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7065 - accuracy: 0.5029
Epoch 124/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.7049 - accuracy: 0.5029
Epoch 125/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.7032 - accuracy: 0.5088
Epoch 126/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.7015 - accuracy: 0.5088
Epoch 127/1900
1/1 [==============================] - 0s 18ms/step - loss: 1.6998 - accuracy: 0.5088
Epoch 128/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.6981 - accuracy: 0.5029
Epoch 129/1900
1/1 [==============================] - 0s 8ms/step - loss: 1.6963 - accuracy: 0.5088
Epoch 130/1900
1/1 [==============================] - 0s 11ms/step - loss: 1.6945 - accuracy: 0.5146
Epoch 131/1900
1/1 [==============================] - 0s 24ms/step - loss: 1.6927 - accuracy: 0.5205
Epoch 132/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.6908 - accuracy: 0.5263
Epoch 133/1900
1/1 [==============================] - 0s 8ms/step - loss: 1.6890 - accuracy: 0.5263
Epoch 134/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.6871 - accuracy: 0.5322
Epoch 135/1900
1/1 [==============================] - 0s 8ms/step - loss: 1.6851 - accuracy: 0.5322
Epoch 136/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.6832 - accuracy: 0.5322
Epoch 137/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.6812 - accuracy: 0.5322
Epoch 138/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.6792 - accuracy: 0.5322
Epoch 139/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.6772 - accuracy: 0.5263
Epoch 140/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.6751 - accuracy: 0.5263
Epoch 141/1900
1/1 [==============================] - 0s 11ms/step - loss: 1.6730 - accuracy: 0.5322
Epoch 142/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.6709 - accuracy: 0.5322
Epoch 143/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.6688 - accuracy: 0.5322
Epoch 144/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.6666 - accuracy: 0.5322
Epoch 145/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.6644 - accuracy: 0.5322
Epoch 146/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.6622 - accuracy: 0.5322
Epoch 147/1900
1/1 [==============================] - 0s 11ms/step - loss: 1.6600 - accuracy: 0.5322
Epoch 148/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.6577 - accuracy: 0.5439
Epoch 149/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.6554 - accuracy: 0.5439
Epoch 150/1900
1/1 [==============================] - 0s 12ms/step - loss: 1.6531 - accuracy: 0.5439
Epoch 151/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.6507 - accuracy: 0.5439
Epoch 152/1900
1/1 [==============================] - 0s 11ms/step - loss: 1.6483 - accuracy: 0.5439
Epoch 153/1900
1/1 [==============================] - 0s 12ms/step - loss: 1.6459 - accuracy: 0.5439
Epoch 154/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.6435 - accuracy: 0.5497
Epoch 155/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.6410 - accuracy: 0.5497
Epoch 156/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.6385 - accuracy: 0.5614
Epoch 157/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.6360 - accuracy: 0.5614
Epoch 158/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.6335 - accuracy: 0.5614
Epoch 159/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.6309 - accuracy: 0.5614
Epoch 160/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.6283 - accuracy: 0.5614
Epoch 161/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.6257 - accuracy: 0.5673
Epoch 162/1900
1/1 [==============================] - 0s 8ms/step - loss: 1.6231 - accuracy: 0.5673
Epoch 163/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.6204 - accuracy: 0.5673
Epoch 164/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.6177 - accuracy: 0.5673
Epoch 165/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.6150 - accuracy: 0.5731
Epoch 166/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.6122 - accuracy: 0.5731
Epoch 167/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.6095 - accuracy: 0.5731
Epoch 168/1900
1/1 [==============================] - 0s 15ms/step - loss: 1.6067 - accuracy: 0.5731
Epoch 169/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.6039 - accuracy: 0.5731
Epoch 170/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.6010 - accuracy: 0.5731
Epoch 171/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.5982 - accuracy: 0.5731
Epoch 172/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5953 - accuracy: 0.5731
Epoch 173/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5924 - accuracy: 0.5731
Epoch 174/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5894 - accuracy: 0.5789
Epoch 175/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5865 - accuracy: 0.5731
Epoch 176/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5835 - accuracy: 0.5731
Epoch 177/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.5805 - accuracy: 0.5731
Epoch 178/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.5775 - accuracy: 0.5731
Epoch 179/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5745 - accuracy: 0.5731
Epoch 180/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.5714 - accuracy: 0.5731
Epoch 181/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.5684 - accuracy: 0.5731
Epoch 182/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.5653 - accuracy: 0.5731
Epoch 183/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5622 - accuracy: 0.5731
Epoch 184/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.5590 - accuracy: 0.5673
Epoch 185/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.5559 - accuracy: 0.5673
Epoch 186/1900
1/1 [==============================] - ETA: 0s - loss: 1.5527 - accuracy: 0.56 - 0s 7ms/step - loss: 1.5527 - accuracy: 0.5673
Epoch 187/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.5496 - accuracy: 0.5673
Epoch 188/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5464 - accuracy: 0.5673
Epoch 189/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.5432 - accuracy: 0.5673
Epoch 190/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.5399 - accuracy: 0.5731
Epoch 191/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.5367 - accuracy: 0.5731
Epoch 192/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.5334 - accuracy: 0.5731
Epoch 193/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.5302 - accuracy: 0.5731
Epoch 194/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.5269 - accuracy: 0.5731
Epoch 195/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5236 - accuracy: 0.5731
Epoch 196/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.5203 - accuracy: 0.5731
Epoch 197/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.5170 - accuracy: 0.5731
Epoch 198/1900
1/1 [==============================] - 0s 8ms/step - loss: 1.5137 - accuracy: 0.5731
Epoch 199/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5103 - accuracy: 0.5731
Epoch 200/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.5070 - accuracy: 0.5731
Epoch 201/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.5036 - accuracy: 0.5731
Epoch 202/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.5003 - accuracy: 0.5731
Epoch 203/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.4969 - accuracy: 0.5789
Epoch 204/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.4935 - accuracy: 0.5789
Epoch 205/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.4902 - accuracy: 0.5848
Epoch 206/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.4868 - accuracy: 0.5848
Epoch 207/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.4834 - accuracy: 0.5848
Epoch 208/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.4800 - accuracy: 0.5789
Epoch 209/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.4766 - accuracy: 0.5789
Epoch 210/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.4732 - accuracy: 0.5848
Epoch 211/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.4698 - accuracy: 0.5848
Epoch 212/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.4664 - accuracy: 0.5848
Epoch 213/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.4630 - accuracy: 0.5906
Epoch 214/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.4596 - accuracy: 0.5906
Epoch 215/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.4561 - accuracy: 0.5906
Epoch 216/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.4527 - accuracy: 0.5906
Epoch 217/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.4493 - accuracy: 0.5906
Epoch 218/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.4459 - accuracy: 0.5906
Epoch 219/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.4425 - accuracy: 0.5965
Epoch 220/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.4391 - accuracy: 0.5965
Epoch 221/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.4357 - accuracy: 0.5965
Epoch 222/1900
1/1 [==============================] - 0s 12ms/step - loss: 1.4324 - accuracy: 0.5965
Epoch 223/1900
1/1 [==============================] - 0s 8ms/step - loss: 1.4290 - accuracy: 0.5965
Epoch 224/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.4256 - accuracy: 0.5965
Epoch 225/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.4222 - accuracy: 0.5965
Epoch 226/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.4188 - accuracy: 0.6023
Epoch 227/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.4155 - accuracy: 0.6023
Epoch 228/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.4121 - accuracy: 0.5965
Epoch 229/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.4088 - accuracy: 0.5965
Epoch 230/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.4054 - accuracy: 0.5965
Epoch 231/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.4021 - accuracy: 0.6023
Epoch 232/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3988 - accuracy: 0.6082
Epoch 233/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3955 - accuracy: 0.6082
Epoch 234/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3922 - accuracy: 0.6023
Epoch 235/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.3889 - accuracy: 0.6082
Epoch 236/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3856 - accuracy: 0.6082
Epoch 237/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.3823 - accuracy: 0.6082
Epoch 238/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.3790 - accuracy: 0.6082
Epoch 239/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3758 - accuracy: 0.6082
Epoch 240/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3725 - accuracy: 0.6082
Epoch 241/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3693 - accuracy: 0.6082
Epoch 242/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.3660 - accuracy: 0.6082
Epoch 243/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.3628 - accuracy: 0.6082
Epoch 244/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3596 - accuracy: 0.6082
Epoch 245/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.3564 - accuracy: 0.6082
Epoch 246/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.3532 - accuracy: 0.6082
Epoch 247/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3500 - accuracy: 0.6082
Epoch 248/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3468 - accuracy: 0.6082
Epoch 249/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3436 - accuracy: 0.6082
Epoch 250/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.3405 - accuracy: 0.6082
Epoch 251/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.3373 - accuracy: 0.6082
Epoch 252/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.3342 - accuracy: 0.6082
Epoch 253/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.3311 - accuracy: 0.6082
Epoch 254/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.3280 - accuracy: 0.6082
Epoch 255/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.3249 - accuracy: 0.6082
Epoch 256/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3218 - accuracy: 0.6082
Epoch 257/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3187 - accuracy: 0.6082
Epoch 258/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.3157 - accuracy: 0.6023
Epoch 259/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3126 - accuracy: 0.6023
Epoch 260/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3096 - accuracy: 0.6023
Epoch 261/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.3066 - accuracy: 0.6023
Epoch 262/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.3036 - accuracy: 0.6023
Epoch 263/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.3006 - accuracy: 0.6023
Epoch 264/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.2976 - accuracy: 0.6082
Epoch 265/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2946 - accuracy: 0.6023
Epoch 266/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2917 - accuracy: 0.5965
Epoch 267/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2887 - accuracy: 0.6023
Epoch 268/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.2858 - accuracy: 0.6023
Epoch 269/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2829 - accuracy: 0.6023
Epoch 270/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2800 - accuracy: 0.6023
Epoch 271/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2771 - accuracy: 0.6023
Epoch 272/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.2743 - accuracy: 0.6140
Epoch 273/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.2714 - accuracy: 0.6140
Epoch 274/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.2686 - accuracy: 0.6140
Epoch 275/1900
1/1 [==============================] - 0s 10ms/step - loss: 1.2658 - accuracy: 0.6023
Epoch 276/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2630 - accuracy: 0.6023
Epoch 277/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.2602 - accuracy: 0.6023
Epoch 278/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.2574 - accuracy: 0.6023
Epoch 279/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.2547 - accuracy: 0.6023
Epoch 280/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.2519 - accuracy: 0.6023
Epoch 281/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.2492 - accuracy: 0.5965
Epoch 282/1900
1/1 [==============================] - 0s 14ms/step - loss: 1.2465 - accuracy: 0.5965
Epoch 283/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2438 - accuracy: 0.5965
Epoch 284/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2411 - accuracy: 0.5965
Epoch 285/1900
1/1 [==============================] - 0s 18ms/step - loss: 1.2385 - accuracy: 0.5965
Epoch 286/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2358 - accuracy: 0.5965
Epoch 287/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2332 - accuracy: 0.5965
Epoch 288/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.2306 - accuracy: 0.5965
Epoch 289/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2280 - accuracy: 0.5965
Epoch 290/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.2254 - accuracy: 0.5965
Epoch 291/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.2228 - accuracy: 0.5965
Epoch 292/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2203 - accuracy: 0.5965
Epoch 293/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.2178 - accuracy: 0.5965
Epoch 294/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.2152 - accuracy: 0.6023
Epoch 295/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.2127 - accuracy: 0.6082
Epoch 296/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2103 - accuracy: 0.6082
Epoch 297/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2078 - accuracy: 0.6023
Epoch 298/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.2054 - accuracy: 0.6023
Epoch 299/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2029 - accuracy: 0.6023
Epoch 300/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.2005 - accuracy: 0.6023
Epoch 301/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1981 - accuracy: 0.6023
Epoch 302/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1958 - accuracy: 0.6023
Epoch 303/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1934 - accuracy: 0.6023
Epoch 304/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1911 - accuracy: 0.6023
Epoch 305/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1887 - accuracy: 0.6023
Epoch 306/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1864 - accuracy: 0.6023
Epoch 307/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.1841 - accuracy: 0.6023
Epoch 308/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.1819 - accuracy: 0.6023
Epoch 309/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1796 - accuracy: 0.6023
Epoch 310/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.1774 - accuracy: 0.6023
Epoch 311/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.1752 - accuracy: 0.6023
Epoch 312/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.1730 - accuracy: 0.6023
Epoch 313/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1708 - accuracy: 0.6023
Epoch 314/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.1686 - accuracy: 0.6023
Epoch 315/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1664 - accuracy: 0.6023
Epoch 316/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.1643 - accuracy: 0.6023
Epoch 317/1900
1/1 [==============================] - 0s 8ms/step - loss: 1.1622 - accuracy: 0.6023
Epoch 318/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.1600 - accuracy: 0.5965
Epoch 319/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1580 - accuracy: 0.5965
Epoch 320/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.1559 - accuracy: 0.5965
Epoch 321/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1538 - accuracy: 0.5965
Epoch 322/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.1518 - accuracy: 0.5965
Epoch 323/1900
1/1 [==============================] - ETA: 0s - loss: 1.1497 - accuracy: 0.60 - 0s 5ms/step - loss: 1.1497 - accuracy: 0.6023
Epoch 324/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1477 - accuracy: 0.6023
Epoch 325/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.1457 - accuracy: 0.6023
Epoch 326/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.1437 - accuracy: 0.6023
Epoch 327/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.1417 - accuracy: 0.6023
Epoch 328/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.1398 - accuracy: 0.6023
Epoch 329/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1379 - accuracy: 0.6023
Epoch 330/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1359 - accuracy: 0.6023
Epoch 331/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1340 - accuracy: 0.6023
Epoch 332/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1321 - accuracy: 0.6023
Epoch 333/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1303 - accuracy: 0.6023
Epoch 334/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.1284 - accuracy: 0.6023
Epoch 335/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.1265 - accuracy: 0.6082
Epoch 336/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1247 - accuracy: 0.6082
Epoch 337/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.1229 - accuracy: 0.6082
Epoch 338/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1211 - accuracy: 0.6082
Epoch 339/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.1193 - accuracy: 0.6082
Epoch 340/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.1175 - accuracy: 0.6082
Epoch 341/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1157 - accuracy: 0.6082
Epoch 342/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.1140 - accuracy: 0.6082
Epoch 343/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1122 - accuracy: 0.6082
Epoch 344/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.1105 - accuracy: 0.6082
Epoch 345/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.1088 - accuracy: 0.6082
Epoch 346/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.1071 - accuracy: 0.6082
Epoch 347/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1054 - accuracy: 0.6140
Epoch 348/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.1037 - accuracy: 0.6140
Epoch 349/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.1020 - accuracy: 0.6140
Epoch 350/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.1004 - accuracy: 0.6140
Epoch 351/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0987 - accuracy: 0.6140
Epoch 352/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0971 - accuracy: 0.6140
Epoch 353/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0955 - accuracy: 0.6140
Epoch 354/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0939 - accuracy: 0.6140
Epoch 355/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0923 - accuracy: 0.6140
Epoch 356/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0907 - accuracy: 0.6257
Epoch 357/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0891 - accuracy: 0.6257
Epoch 358/1900
1/1 [==============================] - 0s 8ms/step - loss: 1.0876 - accuracy: 0.6257
Epoch 359/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.0860 - accuracy: 0.6257
Epoch 360/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.0845 - accuracy: 0.6257
Epoch 361/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0829 - accuracy: 0.6257
Epoch 362/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0814 - accuracy: 0.6257
Epoch 363/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0799 - accuracy: 0.6257
Epoch 364/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0784 - accuracy: 0.6316
Epoch 365/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0769 - accuracy: 0.6316
Epoch 366/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0754 - accuracy: 0.6316
Epoch 367/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0739 - accuracy: 0.6316
Epoch 368/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0724 - accuracy: 0.6316
Epoch 369/1900
1/1 [==============================] - ETA: 0s - loss: 1.0710 - accuracy: 0.63 - 0s 6ms/step - loss: 1.0710 - accuracy: 0.6316
Epoch 370/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0695 - accuracy: 0.6316
Epoch 371/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0681 - accuracy: 0.6316
Epoch 372/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0667 - accuracy: 0.6316
Epoch 373/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0652 - accuracy: 0.6316
Epoch 374/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0638 - accuracy: 0.6316
Epoch 375/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.0624 - accuracy: 0.6316
Epoch 376/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0610 - accuracy: 0.6316
Epoch 377/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0596 - accuracy: 0.6316
Epoch 378/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0583 - accuracy: 0.6316
Epoch 379/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0569 - accuracy: 0.6257
Epoch 380/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0555 - accuracy: 0.6257
Epoch 381/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0542 - accuracy: 0.6257
Epoch 382/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0528 - accuracy: 0.6257
Epoch 383/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0515 - accuracy: 0.6257
Epoch 384/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0501 - accuracy: 0.6316
Epoch 385/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0488 - accuracy: 0.6374
Epoch 386/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0475 - accuracy: 0.6433
Epoch 387/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0462 - accuracy: 0.6491
Epoch 388/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0449 - accuracy: 0.6491
Epoch 389/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0436 - accuracy: 0.6491
Epoch 390/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0423 - accuracy: 0.6491
Epoch 391/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0410 - accuracy: 0.6491
Epoch 392/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0398 - accuracy: 0.6491
Epoch 393/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0385 - accuracy: 0.6491
Epoch 394/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0372 - accuracy: 0.6491
Epoch 395/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0360 - accuracy: 0.6491
Epoch 396/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0347 - accuracy: 0.6491
Epoch 397/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0335 - accuracy: 0.6491
Epoch 398/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0323 - accuracy: 0.6491
Epoch 399/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0310 - accuracy: 0.6491
Epoch 400/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0298 - accuracy: 0.6491
Epoch 401/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.0286 - accuracy: 0.6491
Epoch 402/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0274 - accuracy: 0.6491
Epoch 403/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0262 - accuracy: 0.6491
Epoch 404/1900
1/1 [==============================] - 0s 6ms/step - loss: 1.0250 - accuracy: 0.6491
Epoch 405/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0238 - accuracy: 0.6491
Epoch 406/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0226 - accuracy: 0.6491
Epoch 407/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0214 - accuracy: 0.6491
Epoch 408/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0202 - accuracy: 0.6491
Epoch 409/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0191 - accuracy: 0.6491
Epoch 410/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0179 - accuracy: 0.6491
Epoch 411/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0167 - accuracy: 0.6491
Epoch 412/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0156 - accuracy: 0.6491
Epoch 413/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0144 - accuracy: 0.6550
Epoch 414/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0133 - accuracy: 0.6550
Epoch 415/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0121 - accuracy: 0.6608
Epoch 416/1900
1/1 [==============================] - 0s 7ms/step - loss: 1.0110 - accuracy: 0.6667
Epoch 417/1900
1/1 [==============================] - 0s 13ms/step - loss: 1.0099 - accuracy: 0.6667
Epoch 418/1900
1/1 [==============================] - 0s 9ms/step - loss: 1.0088 - accuracy: 0.6667
Epoch 419/1900
1/1 [==============================] - 0s 5ms/step - loss: 1.0076 - accuracy: 0.6667
Epoch 420/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.0065 - accuracy: 0.6667
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Epoch 421/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0054 - accuracy: 0.6667
Epoch 422/1900
1/1 [==============================] - 0s 4ms/step - loss: 1.0043 - accuracy: 0.6667
Epoch 423/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.0032 - accuracy: 0.6667
Epoch 424/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.0021 - accuracy: 0.6667
Epoch 425/1900
1/1 [==============================] - 0s 3ms/step - loss: 1.0010 - accuracy: 0.6667
Epoch 426/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9999 - accuracy: 0.6667
Epoch 427/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9989 - accuracy: 0.6667
Epoch 428/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9978 - accuracy: 0.6667
Epoch 429/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9967 - accuracy: 0.6667
Epoch 430/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9957 - accuracy: 0.6725
Epoch 431/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.9946 - accuracy: 0.6725
Epoch 432/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9936 - accuracy: 0.6725
Epoch 433/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9925 - accuracy: 0.6725
Epoch 434/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9915 - accuracy: 0.6725
Epoch 435/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9904 - accuracy: 0.6725
Epoch 436/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9894 - accuracy: 0.6784
Epoch 437/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9884 - accuracy: 0.6784
Epoch 438/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9873 - accuracy: 0.6784
Epoch 439/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9863 - accuracy: 0.6784
Epoch 440/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9853 - accuracy: 0.6784
Epoch 441/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9843 - accuracy: 0.6784
Epoch 442/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9833 - accuracy: 0.6784
Epoch 443/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9823 - accuracy: 0.6784
Epoch 444/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9813 - accuracy: 0.6784
Epoch 445/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9803 - accuracy: 0.6784
Epoch 446/1900
1/1 [==============================] - 0s 8ms/step - loss: 0.9793 - accuracy: 0.6784
Epoch 447/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.9783 - accuracy: 0.6784
Epoch 448/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9773 - accuracy: 0.6784
Epoch 449/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.9763 - accuracy: 0.6784
Epoch 450/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9753 - accuracy: 0.6784
Epoch 451/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9743 - accuracy: 0.6784
Epoch 452/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9734 - accuracy: 0.6784
Epoch 453/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9724 - accuracy: 0.6784
Epoch 454/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9714 - accuracy: 0.6784
Epoch 455/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9705 - accuracy: 0.6784
Epoch 456/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9695 - accuracy: 0.6784
Epoch 457/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9686 - accuracy: 0.6842
Epoch 458/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9676 - accuracy: 0.6842
Epoch 459/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9667 - accuracy: 0.6842
Epoch 460/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9657 - accuracy: 0.6842
Epoch 461/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9648 - accuracy: 0.6842
Epoch 462/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9639 - accuracy: 0.6842
Epoch 463/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9629 - accuracy: 0.6842
Epoch 464/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9620 - accuracy: 0.6842
Epoch 465/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9611 - accuracy: 0.6842
Epoch 466/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9602 - accuracy: 0.6842
Epoch 467/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9592 - accuracy: 0.6842
Epoch 468/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9583 - accuracy: 0.6842
Epoch 469/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9574 - accuracy: 0.6842
Epoch 470/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9565 - accuracy: 0.6842
Epoch 471/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9556 - accuracy: 0.6842
Epoch 472/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9547 - accuracy: 0.6842
Epoch 473/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9538 - accuracy: 0.6842
Epoch 474/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9529 - accuracy: 0.6842
Epoch 475/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9520 - accuracy: 0.6842
Epoch 476/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9512 - accuracy: 0.6842
Epoch 477/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9503 - accuracy: 0.6842
Epoch 478/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9494 - accuracy: 0.6842
Epoch 479/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9485 - accuracy: 0.6842
Epoch 480/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9477 - accuracy: 0.6842
Epoch 481/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.9468 - accuracy: 0.6842
Epoch 482/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9459 - accuracy: 0.6842
Epoch 483/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9451 - accuracy: 0.6842
Epoch 484/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9442 - accuracy: 0.6842
Epoch 485/1900
1/1 [==============================] - 0s 8ms/step - loss: 0.9434 - accuracy: 0.6842
Epoch 486/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9425 - accuracy: 0.6842
Epoch 487/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.9417 - accuracy: 0.6842
Epoch 488/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.9408 - accuracy: 0.6842
Epoch 489/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.9400 - accuracy: 0.6842
Epoch 490/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9392 - accuracy: 0.6842
Epoch 491/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9383 - accuracy: 0.6842
Epoch 492/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9375 - accuracy: 0.6842
Epoch 493/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9367 - accuracy: 0.6842
Epoch 494/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9358 - accuracy: 0.6842
Epoch 495/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9350 - accuracy: 0.6842
Epoch 496/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9342 - accuracy: 0.6842
Epoch 497/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9334 - accuracy: 0.6842
Epoch 498/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9326 - accuracy: 0.6842
Epoch 499/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9318 - accuracy: 0.6842
Epoch 500/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9309 - accuracy: 0.6784
Epoch 501/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9301 - accuracy: 0.6784
Epoch 502/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9293 - accuracy: 0.6784
Epoch 503/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9285 - accuracy: 0.6784
Epoch 504/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9277 - accuracy: 0.6784
Epoch 505/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9269 - accuracy: 0.6784
Epoch 506/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9261 - accuracy: 0.6784
Epoch 507/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9254 - accuracy: 0.6784
Epoch 508/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9246 - accuracy: 0.6784
Epoch 509/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9238 - accuracy: 0.6784
Epoch 510/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9230 - accuracy: 0.6784
Epoch 511/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9222 - accuracy: 0.6784
Epoch 512/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9214 - accuracy: 0.6784
Epoch 513/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9207 - accuracy: 0.6842
Epoch 514/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9199 - accuracy: 0.6842
Epoch 515/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9191 - accuracy: 0.6842
Epoch 516/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9183 - accuracy: 0.6842
Epoch 517/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9176 - accuracy: 0.6842
Epoch 518/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9168 - accuracy: 0.6842
Epoch 519/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9161 - accuracy: 0.6842
Epoch 520/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9153 - accuracy: 0.6842
Epoch 521/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9145 - accuracy: 0.6842
Epoch 522/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9138 - accuracy: 0.6842
Epoch 523/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9130 - accuracy: 0.6842
Epoch 524/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9123 - accuracy: 0.6842
Epoch 525/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9115 - accuracy: 0.6842
Epoch 526/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9108 - accuracy: 0.6842
Epoch 527/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9100 - accuracy: 0.6842
Epoch 528/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9093 - accuracy: 0.6842
Epoch 529/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9086 - accuracy: 0.6842
Epoch 530/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9078 - accuracy: 0.6842
Epoch 531/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9071 - accuracy: 0.6842
Epoch 532/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9063 - accuracy: 0.6842
Epoch 533/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9056 - accuracy: 0.6842
Epoch 534/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9049 - accuracy: 0.6842
Epoch 535/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9042 - accuracy: 0.6842
Epoch 536/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9034 - accuracy: 0.6842
Epoch 537/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.9027 - accuracy: 0.6842
Epoch 538/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9020 - accuracy: 0.6842
Epoch 539/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.9013 - accuracy: 0.6842
Epoch 540/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.9006 - accuracy: 0.6842
Epoch 541/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.8998 - accuracy: 0.6842
Epoch 542/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8991 - accuracy: 0.6842
Epoch 543/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8984 - accuracy: 0.6842
Epoch 544/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8977 - accuracy: 0.6842
Epoch 545/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8970 - accuracy: 0.6842
Epoch 546/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8963 - accuracy: 0.6842
Epoch 547/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8956 - accuracy: 0.6842
Epoch 548/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8949 - accuracy: 0.6842
Epoch 549/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8942 - accuracy: 0.6842
Epoch 550/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8935 - accuracy: 0.6842
Epoch 551/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8928 - accuracy: 0.6842
Epoch 552/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8921 - accuracy: 0.6842
Epoch 553/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.8915 - accuracy: 0.6842
Epoch 554/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.8908 - accuracy: 0.6901
Epoch 555/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8901 - accuracy: 0.6901
Epoch 556/1900
1/1 [==============================] - 0s 8ms/step - loss: 0.8894 - accuracy: 0.6901
Epoch 557/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.8887 - accuracy: 0.6901
Epoch 558/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8881 - accuracy: 0.6901
Epoch 559/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8874 - accuracy: 0.6901
Epoch 560/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.8867 - accuracy: 0.6901
Epoch 561/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8860 - accuracy: 0.6901
Epoch 562/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8854 - accuracy: 0.6901
Epoch 563/1900
1/1 [==============================] - 0s 9ms/step - loss: 0.8847 - accuracy: 0.6901
Epoch 564/1900
1/1 [==============================] - 0s 10ms/step - loss: 0.8840 - accuracy: 0.6901
Epoch 565/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8834 - accuracy: 0.6901
Epoch 566/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8827 - accuracy: 0.6901
Epoch 567/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8821 - accuracy: 0.6901
Epoch 568/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8814 - accuracy: 0.6901
Epoch 569/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8807 - accuracy: 0.6901
Epoch 570/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.8801 - accuracy: 0.6959
Epoch 571/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8794 - accuracy: 0.6959
Epoch 572/1900
1/1 [==============================] - 0s 9ms/step - loss: 0.8788 - accuracy: 0.6901
Epoch 573/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.8781 - accuracy: 0.6901
Epoch 574/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8775 - accuracy: 0.6901
Epoch 575/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8768 - accuracy: 0.6901
Epoch 576/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8762 - accuracy: 0.6959
Epoch 577/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8755 - accuracy: 0.6959
Epoch 578/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8749 - accuracy: 0.6959
Epoch 579/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8743 - accuracy: 0.6959
Epoch 580/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8736 - accuracy: 0.6959
Epoch 581/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8730 - accuracy: 0.6959
Epoch 582/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8723 - accuracy: 0.6959
Epoch 583/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8717 - accuracy: 0.6959
Epoch 584/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8711 - accuracy: 0.6959
Epoch 585/1900
1/1 [==============================] - 0s 9ms/step - loss: 0.8704 - accuracy: 0.6959
Epoch 586/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8698 - accuracy: 0.6959
Epoch 587/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8692 - accuracy: 0.6959
Epoch 588/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8686 - accuracy: 0.6959
Epoch 589/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8679 - accuracy: 0.6959
Epoch 590/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8673 - accuracy: 0.6959
Epoch 591/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8667 - accuracy: 0.6959
Epoch 592/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8661 - accuracy: 0.6959
Epoch 593/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8654 - accuracy: 0.6959
Epoch 594/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8648 - accuracy: 0.6959
Epoch 595/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8642 - accuracy: 0.6959
Epoch 596/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8636 - accuracy: 0.6959
Epoch 597/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8630 - accuracy: 0.6959
Epoch 598/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8624 - accuracy: 0.6959
Epoch 599/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8618 - accuracy: 0.6959
Epoch 600/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8612 - accuracy: 0.6959
Epoch 601/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8606 - accuracy: 0.6959
Epoch 602/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8600 - accuracy: 0.6959
Epoch 603/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8594 - accuracy: 0.6959
Epoch 604/1900
1/1 [==============================] - 0s 11ms/step - loss: 0.8588 - accuracy: 0.6959
Epoch 605/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.8582 - accuracy: 0.6959
Epoch 606/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8576 - accuracy: 0.6959
Epoch 607/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8570 - accuracy: 0.6959
Epoch 608/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8564 - accuracy: 0.6959
Epoch 609/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8558 - accuracy: 0.6959
Epoch 610/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8552 - accuracy: 0.6959
Epoch 611/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8547 - accuracy: 0.6959
Epoch 612/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8541 - accuracy: 0.6959
Epoch 613/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8535 - accuracy: 0.6959
Epoch 614/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8529 - accuracy: 0.7018
Epoch 615/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8524 - accuracy: 0.7018
Epoch 616/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8518 - accuracy: 0.7018
Epoch 617/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8512 - accuracy: 0.7018
Epoch 618/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8506 - accuracy: 0.7076
Epoch 619/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8501 - accuracy: 0.7076
Epoch 620/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8495 - accuracy: 0.7076
Epoch 621/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8489 - accuracy: 0.7076
Epoch 622/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8484 - accuracy: 0.7076
Epoch 623/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8478 - accuracy: 0.7076
Epoch 624/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8473 - accuracy: 0.7018
Epoch 625/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8467 - accuracy: 0.7018
Epoch 626/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.8461 - accuracy: 0.7018
Epoch 627/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8456 - accuracy: 0.7018
Epoch 628/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8450 - accuracy: 0.7018
Epoch 629/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8445 - accuracy: 0.7018
Epoch 630/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8439 - accuracy: 0.7018
Epoch 631/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8434 - accuracy: 0.7018
Epoch 632/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.8428 - accuracy: 0.7018
Epoch 633/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8423 - accuracy: 0.7018
Epoch 634/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8417 - accuracy: 0.7018
Epoch 635/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8412 - accuracy: 0.7018
Epoch 636/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8407 - accuracy: 0.7018
Epoch 637/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8401 - accuracy: 0.7018
Epoch 638/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8396 - accuracy: 0.7018
Epoch 639/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8390 - accuracy: 0.7076
Epoch 640/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8385 - accuracy: 0.7076
Epoch 641/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8380 - accuracy: 0.7076
Epoch 642/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8374 - accuracy: 0.7076
Epoch 643/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8369 - accuracy: 0.7076
Epoch 644/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8364 - accuracy: 0.7076
Epoch 645/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8359 - accuracy: 0.7076
Epoch 646/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8353 - accuracy: 0.7076
Epoch 647/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8348 - accuracy: 0.7076
Epoch 648/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8343 - accuracy: 0.7076
Epoch 649/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8338 - accuracy: 0.7076
Epoch 650/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8333 - accuracy: 0.7076
Epoch 651/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8327 - accuracy: 0.7076
Epoch 652/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8322 - accuracy: 0.7076
Epoch 653/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8317 - accuracy: 0.7076
Epoch 654/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8312 - accuracy: 0.7076
Epoch 655/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8307 - accuracy: 0.7076
Epoch 656/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8302 - accuracy: 0.7076
Epoch 657/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8297 - accuracy: 0.7076
Epoch 658/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8292 - accuracy: 0.7076
Epoch 659/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8287 - accuracy: 0.7076
Epoch 660/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8282 - accuracy: 0.7076
Epoch 661/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.8277 - accuracy: 0.7076
Epoch 662/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8272 - accuracy: 0.7076
Epoch 663/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8267 - accuracy: 0.7076
Epoch 664/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8262 - accuracy: 0.7076
Epoch 665/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8257 - accuracy: 0.7076
Epoch 666/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8252 - accuracy: 0.7076
Epoch 667/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8247 - accuracy: 0.7076
Epoch 668/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.8242 - accuracy: 0.7076
Epoch 669/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8237 - accuracy: 0.7076
Epoch 670/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8232 - accuracy: 0.7076
Epoch 671/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8228 - accuracy: 0.7076
Epoch 672/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8223 - accuracy: 0.7076
Epoch 673/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8218 - accuracy: 0.7076
Epoch 674/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8213 - accuracy: 0.7076
Epoch 675/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8208 - accuracy: 0.7076
Epoch 676/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8204 - accuracy: 0.7076
Epoch 677/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8199 - accuracy: 0.7076
Epoch 678/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8194 - accuracy: 0.7076
Epoch 679/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8189 - accuracy: 0.7076
Epoch 680/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8185 - accuracy: 0.7076
Epoch 681/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8180 - accuracy: 0.7076
Epoch 682/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8175 - accuracy: 0.7076
Epoch 683/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8170 - accuracy: 0.7076
Epoch 684/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8166 - accuracy: 0.7076
Epoch 685/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8161 - accuracy: 0.7018
Epoch 686/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8156 - accuracy: 0.7018
Epoch 687/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8152 - accuracy: 0.7018
Epoch 688/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8147 - accuracy: 0.7018
Epoch 689/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8143 - accuracy: 0.7018
Epoch 690/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8138 - accuracy: 0.7018
Epoch 691/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8133 - accuracy: 0.7018
Epoch 692/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8129 - accuracy: 0.7018
Epoch 693/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8124 - accuracy: 0.7018
Epoch 694/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8120 - accuracy: 0.7018
Epoch 695/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8115 - accuracy: 0.7018
Epoch 696/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8111 - accuracy: 0.7018
Epoch 697/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8106 - accuracy: 0.7018
Epoch 698/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8102 - accuracy: 0.7018
Epoch 699/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8097 - accuracy: 0.7018
Epoch 700/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8093 - accuracy: 0.7018
Epoch 701/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8088 - accuracy: 0.7018
Epoch 702/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8084 - accuracy: 0.7018
Epoch 703/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8079 - accuracy: 0.7018
Epoch 704/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8075 - accuracy: 0.7018
Epoch 705/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8070 - accuracy: 0.7018
Epoch 706/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8066 - accuracy: 0.7018
Epoch 707/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8062 - accuracy: 0.7018
Epoch 708/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8057 - accuracy: 0.7018
Epoch 709/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8053 - accuracy: 0.7018
Epoch 710/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8048 - accuracy: 0.7018
Epoch 711/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8044 - accuracy: 0.7018
Epoch 712/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8040 - accuracy: 0.7018
Epoch 713/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8035 - accuracy: 0.7018
Epoch 714/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8031 - accuracy: 0.7018
Epoch 715/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8027 - accuracy: 0.7018
Epoch 716/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.8023 - accuracy: 0.7018
Epoch 717/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8018 - accuracy: 0.7018
Epoch 718/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8014 - accuracy: 0.7018
Epoch 719/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.8010 - accuracy: 0.7018
Epoch 720/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8006 - accuracy: 0.7018
Epoch 721/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.8001 - accuracy: 0.7018
Epoch 722/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7997 - accuracy: 0.7018
Epoch 723/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7993 - accuracy: 0.7018
Epoch 724/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7989 - accuracy: 0.7018
Epoch 725/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7985 - accuracy: 0.7018
Epoch 726/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7980 - accuracy: 0.7018
Epoch 727/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7976 - accuracy: 0.7018
Epoch 728/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7972 - accuracy: 0.6959
Epoch 729/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7968 - accuracy: 0.6959
Epoch 730/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7964 - accuracy: 0.6959
Epoch 731/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7960 - accuracy: 0.6959
Epoch 732/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7956 - accuracy: 0.6959
Epoch 733/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7952 - accuracy: 0.6959
Epoch 734/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7948 - accuracy: 0.6959
Epoch 735/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7943 - accuracy: 0.6959
Epoch 736/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7939 - accuracy: 0.6959
Epoch 737/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7935 - accuracy: 0.6959
Epoch 738/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7931 - accuracy: 0.6959
Epoch 739/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7927 - accuracy: 0.6959
Epoch 740/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7923 - accuracy: 0.6959
Epoch 741/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7919 - accuracy: 0.6959
Epoch 742/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7915 - accuracy: 0.6959
Epoch 743/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7911 - accuracy: 0.6959
Epoch 744/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7907 - accuracy: 0.6959
Epoch 745/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7904 - accuracy: 0.6959
Epoch 746/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7900 - accuracy: 0.6959
Epoch 747/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7896 - accuracy: 0.6959
Epoch 748/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7892 - accuracy: 0.6959
Epoch 749/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7888 - accuracy: 0.6959
Epoch 750/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7884 - accuracy: 0.6959
Epoch 751/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7880 - accuracy: 0.6959
Epoch 752/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7876 - accuracy: 0.6959
Epoch 753/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7872 - accuracy: 0.6959
Epoch 754/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7868 - accuracy: 0.6959
Epoch 755/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7865 - accuracy: 0.6959
Epoch 756/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7861 - accuracy: 0.6959
Epoch 757/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7857 - accuracy: 0.6959
Epoch 758/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7853 - accuracy: 0.6959
Epoch 759/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7849 - accuracy: 0.6959
Epoch 760/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7845 - accuracy: 0.6959
Epoch 761/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7842 - accuracy: 0.6959
Epoch 762/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7838 - accuracy: 0.6959
Epoch 763/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7834 - accuracy: 0.6959
Epoch 764/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7830 - accuracy: 0.6959
Epoch 765/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7827 - accuracy: 0.6959
Epoch 766/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7823 - accuracy: 0.6959
Epoch 767/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7819 - accuracy: 0.6959
Epoch 768/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7815 - accuracy: 0.6959
Epoch 769/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7812 - accuracy: 0.6959
Epoch 770/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7808 - accuracy: 0.6959
Epoch 771/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7804 - accuracy: 0.6959
Epoch 772/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7801 - accuracy: 0.6959
Epoch 773/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7797 - accuracy: 0.6959
Epoch 774/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7793 - accuracy: 0.6959
Epoch 775/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7790 - accuracy: 0.6959
Epoch 776/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7786 - accuracy: 0.6959
Epoch 777/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7782 - accuracy: 0.6959
Epoch 778/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7779 - accuracy: 0.6959
Epoch 779/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7775 - accuracy: 0.6959
Epoch 780/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7772 - accuracy: 0.6959
Epoch 781/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7768 - accuracy: 0.6959
Epoch 782/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7764 - accuracy: 0.6959
Epoch 783/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7761 - accuracy: 0.6959
Epoch 784/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7757 - accuracy: 0.6959
Epoch 785/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7754 - accuracy: 0.6959
Epoch 786/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7750 - accuracy: 0.6959
Epoch 787/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7747 - accuracy: 0.6959
Epoch 788/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7743 - accuracy: 0.6959
Epoch 789/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7740 - accuracy: 0.6959
Epoch 790/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7736 - accuracy: 0.6959
Epoch 791/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7733 - accuracy: 0.6959
Epoch 792/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7729 - accuracy: 0.6959
Epoch 793/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7725 - accuracy: 0.6959
Epoch 794/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7722 - accuracy: 0.6959
Epoch 795/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7718 - accuracy: 0.6959
Epoch 796/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7715 - accuracy: 0.6959
Epoch 797/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7711 - accuracy: 0.6959
Epoch 798/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7708 - accuracy: 0.6959
Epoch 799/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7704 - accuracy: 0.6959
Epoch 800/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7701 - accuracy: 0.6959
Epoch 801/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7697 - accuracy: 0.6959
Epoch 802/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7694 - accuracy: 0.6959
Epoch 803/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7690 - accuracy: 0.6959
Epoch 804/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7687 - accuracy: 0.6959
Epoch 805/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7683 - accuracy: 0.6959
Epoch 806/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7680 - accuracy: 0.6959
Epoch 807/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7676 - accuracy: 0.6959
Epoch 808/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7673 - accuracy: 0.6959
Epoch 809/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7669 - accuracy: 0.6959
Epoch 810/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7666 - accuracy: 0.6959
Epoch 811/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7663 - accuracy: 0.6959
Epoch 812/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7659 - accuracy: 0.6959
Epoch 813/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7656 - accuracy: 0.6959
Epoch 814/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7652 - accuracy: 0.6959
Epoch 815/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7649 - accuracy: 0.6959
Epoch 816/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7646 - accuracy: 0.6959
Epoch 817/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7642 - accuracy: 0.6959
Epoch 818/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7639 - accuracy: 0.6959
Epoch 819/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7635 - accuracy: 0.6959
Epoch 820/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7632 - accuracy: 0.6959
Epoch 821/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7629 - accuracy: 0.6959
Epoch 822/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7625 - accuracy: 0.6959
Epoch 823/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7622 - accuracy: 0.6959
Epoch 824/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7619 - accuracy: 0.6959
Epoch 825/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7616 - accuracy: 0.6959
Epoch 826/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7612 - accuracy: 0.6959
Epoch 827/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7609 - accuracy: 0.6959
Epoch 828/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7606 - accuracy: 0.6959
Epoch 829/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7602 - accuracy: 0.6959
Epoch 830/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7599 - accuracy: 0.6959
Epoch 831/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7596 - accuracy: 0.6959
Epoch 832/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7593 - accuracy: 0.6959
Epoch 833/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7589 - accuracy: 0.6959
Epoch 834/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7586 - accuracy: 0.6959
Epoch 835/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7583 - accuracy: 0.6959
Epoch 836/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7580 - accuracy: 0.6959
Epoch 837/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7576 - accuracy: 0.6959
Epoch 838/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7573 - accuracy: 0.6959
Epoch 839/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7570 - accuracy: 0.6959
Epoch 840/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7567 - accuracy: 0.6959
Epoch 841/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7564 - accuracy: 0.6959
Epoch 842/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7560 - accuracy: 0.6959
Epoch 843/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7557 - accuracy: 0.6959
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Epoch 844/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7554 - accuracy: 0.6959
Epoch 845/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7551 - accuracy: 0.6959
Epoch 846/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7548 - accuracy: 0.6959
Epoch 847/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7545 - accuracy: 0.6959
Epoch 848/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7541 - accuracy: 0.6959
Epoch 849/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7538 - accuracy: 0.6959
Epoch 850/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7535 - accuracy: 0.6959
Epoch 851/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7532 - accuracy: 0.6959
Epoch 852/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7529 - accuracy: 0.6959
Epoch 853/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7526 - accuracy: 0.6959
Epoch 854/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7522 - accuracy: 0.6959
Epoch 855/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7519 - accuracy: 0.6959
Epoch 856/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7516 - accuracy: 0.6959
Epoch 857/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7513 - accuracy: 0.6959
Epoch 858/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7510 - accuracy: 0.6959
Epoch 859/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7507 - accuracy: 0.6959
Epoch 860/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7504 - accuracy: 0.6959
Epoch 861/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7501 - accuracy: 0.6959
Epoch 862/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7498 - accuracy: 0.6959
Epoch 863/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7494 - accuracy: 0.6959
Epoch 864/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7491 - accuracy: 0.6959
Epoch 865/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7488 - accuracy: 0.6959
Epoch 866/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7485 - accuracy: 0.6959
Epoch 867/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7482 - accuracy: 0.6959
Epoch 868/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7479 - accuracy: 0.7018
Epoch 869/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7476 - accuracy: 0.7018
Epoch 870/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7473 - accuracy: 0.7018
Epoch 871/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7470 - accuracy: 0.7018
Epoch 872/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7467 - accuracy: 0.7018
Epoch 873/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7464 - accuracy: 0.7018
Epoch 874/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7461 - accuracy: 0.7018
Epoch 875/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7458 - accuracy: 0.7018
Epoch 876/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7455 - accuracy: 0.7018
Epoch 877/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7452 - accuracy: 0.7018
Epoch 878/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7449 - accuracy: 0.7018
Epoch 879/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7446 - accuracy: 0.7018
Epoch 880/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7443 - accuracy: 0.7018
Epoch 881/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7440 - accuracy: 0.7018
Epoch 882/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7437 - accuracy: 0.7018
Epoch 883/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7434 - accuracy: 0.7018
Epoch 884/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7431 - accuracy: 0.7018
Epoch 885/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7428 - accuracy: 0.7018
Epoch 886/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7425 - accuracy: 0.7018
Epoch 887/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7422 - accuracy: 0.7018
Epoch 888/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7419 - accuracy: 0.7018
Epoch 889/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7416 - accuracy: 0.7018
Epoch 890/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7413 - accuracy: 0.7018
Epoch 891/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7410 - accuracy: 0.7018
Epoch 892/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7407 - accuracy: 0.7018
Epoch 893/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7404 - accuracy: 0.7018
Epoch 894/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7401 - accuracy: 0.7018
Epoch 895/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7398 - accuracy: 0.6959
Epoch 896/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7395 - accuracy: 0.6959
Epoch 897/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7392 - accuracy: 0.6959
Epoch 898/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7389 - accuracy: 0.6959
Epoch 899/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7386 - accuracy: 0.6959
Epoch 900/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7383 - accuracy: 0.6959
Epoch 901/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7380 - accuracy: 0.6959
Epoch 902/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7378 - accuracy: 0.6959
Epoch 903/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7375 - accuracy: 0.6959
Epoch 904/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7372 - accuracy: 0.6959
Epoch 905/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7369 - accuracy: 0.6959
Epoch 906/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7366 - accuracy: 0.6959
Epoch 907/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7363 - accuracy: 0.6959
Epoch 908/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7360 - accuracy: 0.6959
Epoch 909/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7357 - accuracy: 0.6959
Epoch 910/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7354 - accuracy: 0.6959
Epoch 911/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7351 - accuracy: 0.6959
Epoch 912/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7348 - accuracy: 0.6959
Epoch 913/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7346 - accuracy: 0.6959
Epoch 914/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7343 - accuracy: 0.6959
Epoch 915/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7340 - accuracy: 0.6959
Epoch 916/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7337 - accuracy: 0.6959
Epoch 917/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7334 - accuracy: 0.6959
Epoch 918/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7331 - accuracy: 0.6959
Epoch 919/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7328 - accuracy: 0.6959
Epoch 920/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7325 - accuracy: 0.6959
Epoch 921/1900
1/1 [==============================] - ETA: 0s - loss: 0.7323 - accuracy: 0.70 - 0s 3ms/step - loss: 0.7323 - accuracy: 0.7018
Epoch 922/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7320 - accuracy: 0.7018
Epoch 923/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7317 - accuracy: 0.7018
Epoch 924/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7314 - accuracy: 0.7018
Epoch 925/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7311 - accuracy: 0.7018
Epoch 926/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7308 - accuracy: 0.7018
Epoch 927/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7305 - accuracy: 0.7018
Epoch 928/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7303 - accuracy: 0.7018
Epoch 929/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7300 - accuracy: 0.7018
Epoch 930/1900
1/1 [==============================] - ETA: 0s - loss: 0.7297 - accuracy: 0.70 - 0s 3ms/step - loss: 0.7297 - accuracy: 0.7018
Epoch 931/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7294 - accuracy: 0.7018
Epoch 932/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7291 - accuracy: 0.7018
Epoch 933/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7288 - accuracy: 0.7018
Epoch 934/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7286 - accuracy: 0.7018
Epoch 935/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7283 - accuracy: 0.7018
Epoch 936/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7280 - accuracy: 0.7018
Epoch 937/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7277 - accuracy: 0.7018
Epoch 938/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7274 - accuracy: 0.7018
Epoch 939/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7271 - accuracy: 0.7018
Epoch 940/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7269 - accuracy: 0.7018
Epoch 941/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7266 - accuracy: 0.7018
Epoch 942/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7263 - accuracy: 0.7018
Epoch 943/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7260 - accuracy: 0.7018
Epoch 944/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7257 - accuracy: 0.7018
Epoch 945/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7254 - accuracy: 0.7018
Epoch 946/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7252 - accuracy: 0.7018
Epoch 947/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7249 - accuracy: 0.7018
Epoch 948/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7246 - accuracy: 0.7018
Epoch 949/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7243 - accuracy: 0.7018
Epoch 950/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7240 - accuracy: 0.7018
Epoch 951/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7237 - accuracy: 0.7018
Epoch 952/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7235 - accuracy: 0.7018
Epoch 953/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7232 - accuracy: 0.7018
Epoch 954/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7229 - accuracy: 0.7018
Epoch 955/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7226 - accuracy: 0.7018
Epoch 956/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7223 - accuracy: 0.7018
Epoch 957/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7221 - accuracy: 0.7018
Epoch 958/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7218 - accuracy: 0.7018
Epoch 959/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7215 - accuracy: 0.7018
Epoch 960/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7212 - accuracy: 0.7018
Epoch 961/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7209 - accuracy: 0.7018
Epoch 962/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7207 - accuracy: 0.7018
Epoch 963/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7204 - accuracy: 0.7018
Epoch 964/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7201 - accuracy: 0.7018
Epoch 965/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7198 - accuracy: 0.7018
Epoch 966/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7196 - accuracy: 0.7018
Epoch 967/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7193 - accuracy: 0.7018
Epoch 968/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7190 - accuracy: 0.7018
Epoch 969/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7187 - accuracy: 0.7018
Epoch 970/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7184 - accuracy: 0.7018
Epoch 971/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7182 - accuracy: 0.7018
Epoch 972/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7179 - accuracy: 0.7018
Epoch 973/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7176 - accuracy: 0.7018
Epoch 974/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7173 - accuracy: 0.7018
Epoch 975/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7171 - accuracy: 0.7018
Epoch 976/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7168 - accuracy: 0.7018
Epoch 977/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7165 - accuracy: 0.7018
Epoch 978/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7162 - accuracy: 0.7018
Epoch 979/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7160 - accuracy: 0.7018
Epoch 980/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7157 - accuracy: 0.7018
Epoch 981/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7154 - accuracy: 0.7018
Epoch 982/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7151 - accuracy: 0.7018
Epoch 983/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7149 - accuracy: 0.7018
Epoch 984/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7146 - accuracy: 0.7018
Epoch 985/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7143 - accuracy: 0.7018
Epoch 986/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7141 - accuracy: 0.7018
Epoch 987/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7138 - accuracy: 0.7018
Epoch 988/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7135 - accuracy: 0.7018
Epoch 989/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7132 - accuracy: 0.7018
Epoch 990/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.7130 - accuracy: 0.7018
Epoch 991/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7127 - accuracy: 0.7018
Epoch 992/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7124 - accuracy: 0.7018
Epoch 993/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7122 - accuracy: 0.7018
Epoch 994/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7119 - accuracy: 0.7018
Epoch 995/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7116 - accuracy: 0.7018
Epoch 996/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7114 - accuracy: 0.7018
Epoch 997/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7111 - accuracy: 0.7018
Epoch 998/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7108 - accuracy: 0.7018
Epoch 999/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7106 - accuracy: 0.7018
Epoch 1000/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7103 - accuracy: 0.7018
Epoch 1001/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7100 - accuracy: 0.7018
Epoch 1002/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7098 - accuracy: 0.7018
Epoch 1003/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7095 - accuracy: 0.7018
Epoch 1004/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7092 - accuracy: 0.7018
Epoch 1005/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7090 - accuracy: 0.7018
Epoch 1006/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.7087 - accuracy: 0.7018
Epoch 1007/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7084 - accuracy: 0.7018
Epoch 1008/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7082 - accuracy: 0.7018
Epoch 1009/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7079 - accuracy: 0.7018
Epoch 1010/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.7076 - accuracy: 0.7018
Epoch 1011/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7074 - accuracy: 0.7018
Epoch 1012/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7071 - accuracy: 0.7018
Epoch 1013/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7068 - accuracy: 0.7018
Epoch 1014/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7066 - accuracy: 0.7018
Epoch 1015/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7063 - accuracy: 0.7018
Epoch 1016/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7060 - accuracy: 0.7018
Epoch 1017/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7058 - accuracy: 0.7018
Epoch 1018/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7055 - accuracy: 0.7018
Epoch 1019/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.7053 - accuracy: 0.7018
Epoch 1020/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7050 - accuracy: 0.7018
Epoch 1021/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.7047 - accuracy: 0.7018
Epoch 1022/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7045 - accuracy: 0.7018
Epoch 1023/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7042 - accuracy: 0.7018
Epoch 1024/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7039 - accuracy: 0.7018
Epoch 1025/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7037 - accuracy: 0.7018
Epoch 1026/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7034 - accuracy: 0.7018
Epoch 1027/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7032 - accuracy: 0.7018
Epoch 1028/1900
1/1 [==============================] - 0s 8ms/step - loss: 0.7029 - accuracy: 0.7018
Epoch 1029/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7026 - accuracy: 0.7018
Epoch 1030/1900
1/1 [==============================] - 0s 8ms/step - loss: 0.7024 - accuracy: 0.7018
Epoch 1031/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7021 - accuracy: 0.7018
Epoch 1032/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.7019 - accuracy: 0.7018
Epoch 1033/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7016 - accuracy: 0.7018
Epoch 1034/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7013 - accuracy: 0.7018
Epoch 1035/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7011 - accuracy: 0.7018
Epoch 1036/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.7008 - accuracy: 0.7018
Epoch 1037/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7006 - accuracy: 0.7018
Epoch 1038/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.7003 - accuracy: 0.7018
Epoch 1039/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.7001 - accuracy: 0.7018
Epoch 1040/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6998 - accuracy: 0.7018
Epoch 1041/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6995 - accuracy: 0.7018
Epoch 1042/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6993 - accuracy: 0.7018
Epoch 1043/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6990 - accuracy: 0.7018
Epoch 1044/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6988 - accuracy: 0.7018
Epoch 1045/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6985 - accuracy: 0.7018
Epoch 1046/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6982 - accuracy: 0.7018
Epoch 1047/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6980 - accuracy: 0.7018
Epoch 1048/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6977 - accuracy: 0.7018
Epoch 1049/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6975 - accuracy: 0.7018
Epoch 1050/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6972 - accuracy: 0.7018
Epoch 1051/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6970 - accuracy: 0.7018
Epoch 1052/1900
1/1 [==============================] - 0s 8ms/step - loss: 0.6967 - accuracy: 0.7018
Epoch 1053/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6964 - accuracy: 0.7018
Epoch 1054/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6962 - accuracy: 0.7018
Epoch 1055/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6959 - accuracy: 0.7018
Epoch 1056/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6957 - accuracy: 0.7018
Epoch 1057/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6954 - accuracy: 0.7018
Epoch 1058/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.6951 - accuracy: 0.7018
Epoch 1059/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6949 - accuracy: 0.7018
Epoch 1060/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6946 - accuracy: 0.7076
Epoch 1061/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6944 - accuracy: 0.7076
Epoch 1062/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.6941 - accuracy: 0.7076
Epoch 1063/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6938 - accuracy: 0.7076
Epoch 1064/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6936 - accuracy: 0.7076
Epoch 1065/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6933 - accuracy: 0.7076
Epoch 1066/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6930 - accuracy: 0.7076
Epoch 1067/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6928 - accuracy: 0.7076
Epoch 1068/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6925 - accuracy: 0.7076
Epoch 1069/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6923 - accuracy: 0.7076
Epoch 1070/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6920 - accuracy: 0.7076
Epoch 1071/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6917 - accuracy: 0.7076
Epoch 1072/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6915 - accuracy: 0.7076
Epoch 1073/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6912 - accuracy: 0.7076
Epoch 1074/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6909 - accuracy: 0.7076
Epoch 1075/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6907 - accuracy: 0.7076
Epoch 1076/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6904 - accuracy: 0.7076
Epoch 1077/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6902 - accuracy: 0.7076
Epoch 1078/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6899 - accuracy: 0.7076
Epoch 1079/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6896 - accuracy: 0.7076
Epoch 1080/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6894 - accuracy: 0.7076
Epoch 1081/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6891 - accuracy: 0.7076
Epoch 1082/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6889 - accuracy: 0.7076
Epoch 1083/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6886 - accuracy: 0.7076
Epoch 1084/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6883 - accuracy: 0.7076
Epoch 1085/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6881 - accuracy: 0.7076
Epoch 1086/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6878 - accuracy: 0.7076
Epoch 1087/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6875 - accuracy: 0.7076
Epoch 1088/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6873 - accuracy: 0.7076
Epoch 1089/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6870 - accuracy: 0.7076
Epoch 1090/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6868 - accuracy: 0.7076
Epoch 1091/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6865 - accuracy: 0.7076
Epoch 1092/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6863 - accuracy: 0.7076
Epoch 1093/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6860 - accuracy: 0.7076
Epoch 1094/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6857 - accuracy: 0.7076
Epoch 1095/1900
1/1 [==============================] - ETA: 0s - loss: 0.6855 - accuracy: 0.70 - 0s 3ms/step - loss: 0.6855 - accuracy: 0.7076
Epoch 1096/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6852 - accuracy: 0.7076
Epoch 1097/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6850 - accuracy: 0.7076
Epoch 1098/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6847 - accuracy: 0.7076
Epoch 1099/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6844 - accuracy: 0.7076
Epoch 1100/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6842 - accuracy: 0.7076
Epoch 1101/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6839 - accuracy: 0.7076
Epoch 1102/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6837 - accuracy: 0.7135
Epoch 1103/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6834 - accuracy: 0.7135
Epoch 1104/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6831 - accuracy: 0.7135
Epoch 1105/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6829 - accuracy: 0.7135
Epoch 1106/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6826 - accuracy: 0.7135
Epoch 1107/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6823 - accuracy: 0.7135
Epoch 1108/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6821 - accuracy: 0.7135
Epoch 1109/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6818 - accuracy: 0.7135
Epoch 1110/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6815 - accuracy: 0.7135
Epoch 1111/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6813 - accuracy: 0.7135
Epoch 1112/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6810 - accuracy: 0.7135
Epoch 1113/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6807 - accuracy: 0.7135
Epoch 1114/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6805 - accuracy: 0.7135
Epoch 1115/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6802 - accuracy: 0.7135
Epoch 1116/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6799 - accuracy: 0.7135
Epoch 1117/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6797 - accuracy: 0.7135
Epoch 1118/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6794 - accuracy: 0.7135
Epoch 1119/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6791 - accuracy: 0.7135
Epoch 1120/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6789 - accuracy: 0.7135
Epoch 1121/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6786 - accuracy: 0.7135
Epoch 1122/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6783 - accuracy: 0.7135
Epoch 1123/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6781 - accuracy: 0.7135
Epoch 1124/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6778 - accuracy: 0.7135
Epoch 1125/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6775 - accuracy: 0.7135
Epoch 1126/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6773 - accuracy: 0.7135
Epoch 1127/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6770 - accuracy: 0.7135
Epoch 1128/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6767 - accuracy: 0.7135
Epoch 1129/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6765 - accuracy: 0.7135
Epoch 1130/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6762 - accuracy: 0.7135
Epoch 1131/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6759 - accuracy: 0.7135
Epoch 1132/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6757 - accuracy: 0.7193
Epoch 1133/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6754 - accuracy: 0.7193
Epoch 1134/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6751 - accuracy: 0.7193
Epoch 1135/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6748 - accuracy: 0.7193
Epoch 1136/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6746 - accuracy: 0.7193
Epoch 1137/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6743 - accuracy: 0.7193
Epoch 1138/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6740 - accuracy: 0.7193
Epoch 1139/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6738 - accuracy: 0.7193
Epoch 1140/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6735 - accuracy: 0.7193
Epoch 1141/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6732 - accuracy: 0.7135
Epoch 1142/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6730 - accuracy: 0.7135
Epoch 1143/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6727 - accuracy: 0.7193
Epoch 1144/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6724 - accuracy: 0.7193
Epoch 1145/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6721 - accuracy: 0.7193
Epoch 1146/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6719 - accuracy: 0.7193
Epoch 1147/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6716 - accuracy: 0.7193
Epoch 1148/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6713 - accuracy: 0.7193
Epoch 1149/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6711 - accuracy: 0.7193
Epoch 1150/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6708 - accuracy: 0.7193
Epoch 1151/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6705 - accuracy: 0.7193
Epoch 1152/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.6702 - accuracy: 0.7193
Epoch 1153/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.6700 - accuracy: 0.7193
Epoch 1154/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6697 - accuracy: 0.7193
Epoch 1155/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6694 - accuracy: 0.7251
Epoch 1156/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6692 - accuracy: 0.7251
Epoch 1157/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6689 - accuracy: 0.7251
Epoch 1158/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6686 - accuracy: 0.7251
Epoch 1159/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6684 - accuracy: 0.7251
Epoch 1160/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6681 - accuracy: 0.7251
Epoch 1161/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6678 - accuracy: 0.7251
Epoch 1162/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6676 - accuracy: 0.7251
Epoch 1163/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6673 - accuracy: 0.7251
Epoch 1164/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6670 - accuracy: 0.7251
Epoch 1165/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6668 - accuracy: 0.7310
Epoch 1166/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6665 - accuracy: 0.7310
Epoch 1167/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6662 - accuracy: 0.7310
Epoch 1168/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6660 - accuracy: 0.7310
Epoch 1169/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6657 - accuracy: 0.7310
Epoch 1170/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6654 - accuracy: 0.7310
Epoch 1171/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6652 - accuracy: 0.7310
Epoch 1172/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6649 - accuracy: 0.7310
Epoch 1173/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6646 - accuracy: 0.7310
Epoch 1174/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6644 - accuracy: 0.7310
Epoch 1175/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6641 - accuracy: 0.7310
Epoch 1176/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6638 - accuracy: 0.7368
Epoch 1177/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6636 - accuracy: 0.7368
Epoch 1178/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6633 - accuracy: 0.7368
Epoch 1179/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6630 - accuracy: 0.7368
Epoch 1180/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6628 - accuracy: 0.7368
Epoch 1181/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6625 - accuracy: 0.7368
Epoch 1182/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6622 - accuracy: 0.7368
Epoch 1183/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6620 - accuracy: 0.7368
Epoch 1184/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6617 - accuracy: 0.7368
Epoch 1185/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6615 - accuracy: 0.7368
Epoch 1186/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6612 - accuracy: 0.7368
Epoch 1187/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6609 - accuracy: 0.7368
Epoch 1188/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6607 - accuracy: 0.7368
Epoch 1189/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6604 - accuracy: 0.7368
Epoch 1190/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6601 - accuracy: 0.7368
Epoch 1191/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6599 - accuracy: 0.7368
Epoch 1192/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6596 - accuracy: 0.7368
Epoch 1193/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6593 - accuracy: 0.7368
Epoch 1194/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6591 - accuracy: 0.7368
Epoch 1195/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6588 - accuracy: 0.7368
Epoch 1196/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6585 - accuracy: 0.7368
Epoch 1197/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6582 - accuracy: 0.7368
Epoch 1198/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6579 - accuracy: 0.7368
Epoch 1199/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6576 - accuracy: 0.7368
Epoch 1200/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6574 - accuracy: 0.7368
Epoch 1201/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6571 - accuracy: 0.7368
Epoch 1202/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6568 - accuracy: 0.7368
Epoch 1203/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6565 - accuracy: 0.7368
Epoch 1204/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6562 - accuracy: 0.7368
Epoch 1205/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6559 - accuracy: 0.7368
Epoch 1206/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6555 - accuracy: 0.7368
Epoch 1207/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6552 - accuracy: 0.7368
Epoch 1208/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6549 - accuracy: 0.7368
Epoch 1209/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6546 - accuracy: 0.7368
Epoch 1210/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6543 - accuracy: 0.7368
Epoch 1211/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6540 - accuracy: 0.7368
Epoch 1212/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6536 - accuracy: 0.7368
Epoch 1213/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6533 - accuracy: 0.7368
Epoch 1214/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6530 - accuracy: 0.7368
Epoch 1215/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6527 - accuracy: 0.7368
Epoch 1216/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6523 - accuracy: 0.7368
Epoch 1217/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6520 - accuracy: 0.7368
Epoch 1218/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6517 - accuracy: 0.7368
Epoch 1219/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6514 - accuracy: 0.7368
Epoch 1220/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6510 - accuracy: 0.7368
Epoch 1221/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6507 - accuracy: 0.7427
Epoch 1222/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6504 - accuracy: 0.7427
Epoch 1223/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6501 - accuracy: 0.7427
Epoch 1224/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6498 - accuracy: 0.7427
Epoch 1225/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6495 - accuracy: 0.7427
Epoch 1226/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6491 - accuracy: 0.7427
Epoch 1227/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6488 - accuracy: 0.7427
Epoch 1228/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6485 - accuracy: 0.7427
Epoch 1229/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6482 - accuracy: 0.7427
Epoch 1230/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6479 - accuracy: 0.7427
Epoch 1231/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6476 - accuracy: 0.7427
Epoch 1232/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6473 - accuracy: 0.7427
Epoch 1233/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6470 - accuracy: 0.7427
Epoch 1234/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6466 - accuracy: 0.7427
Epoch 1235/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6463 - accuracy: 0.7427
Epoch 1236/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6460 - accuracy: 0.7427
Epoch 1237/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6457 - accuracy: 0.7427
Epoch 1238/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6454 - accuracy: 0.7427
Epoch 1239/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6451 - accuracy: 0.7427
Epoch 1240/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6448 - accuracy: 0.7427
Epoch 1241/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6445 - accuracy: 0.7427
Epoch 1242/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6442 - accuracy: 0.7427
Epoch 1243/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6439 - accuracy: 0.7427
Epoch 1244/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6436 - accuracy: 0.7427
Epoch 1245/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6433 - accuracy: 0.7427
Epoch 1246/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6429 - accuracy: 0.7427
Epoch 1247/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6426 - accuracy: 0.7427
Epoch 1248/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6423 - accuracy: 0.7427
Epoch 1249/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6420 - accuracy: 0.7427
Epoch 1250/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6417 - accuracy: 0.7427
Epoch 1251/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6414 - accuracy: 0.7427
Epoch 1252/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6411 - accuracy: 0.7427
Epoch 1253/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6407 - accuracy: 0.7427
Epoch 1254/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6404 - accuracy: 0.7427
Epoch 1255/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6401 - accuracy: 0.7427
Epoch 1256/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6398 - accuracy: 0.7427
Epoch 1257/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6395 - accuracy: 0.7427
Epoch 1258/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6392 - accuracy: 0.7427
Epoch 1259/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6388 - accuracy: 0.7427
Epoch 1260/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6385 - accuracy: 0.7427
Epoch 1261/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6382 - accuracy: 0.7427
Epoch 1262/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6379 - accuracy: 0.7427
Epoch 1263/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6376 - accuracy: 0.7427
Epoch 1264/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6373 - accuracy: 0.7427

Epoch 1265/1900
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1/1 [==============================] - 0s 4ms/step - loss: 0.6369 - accuracy: 0.7427
Epoch 1266/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6366 - accuracy: 0.7427
Epoch 1267/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6363 - accuracy: 0.7427
Epoch 1268/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6360 - accuracy: 0.7427
Epoch 1269/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6357 - accuracy: 0.7427
Epoch 1270/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6353 - accuracy: 0.7427
Epoch 1271/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6350 - accuracy: 0.7427
Epoch 1272/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6347 - accuracy: 0.7427
Epoch 1273/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6344 - accuracy: 0.7427
Epoch 1274/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6340 - accuracy: 0.7427
Epoch 1275/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6337 - accuracy: 0.7427
Epoch 1276/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6334 - accuracy: 0.7427
Epoch 1277/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6330 - accuracy: 0.7427
Epoch 1278/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6327 - accuracy: 0.7427
Epoch 1279/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6324 - accuracy: 0.7427
Epoch 1280/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6320 - accuracy: 0.7427
Epoch 1281/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6317 - accuracy: 0.7427
Epoch 1282/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6314 - accuracy: 0.7427
Epoch 1283/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6311 - accuracy: 0.7427
Epoch 1284/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6307 - accuracy: 0.7427
Epoch 1285/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6304 - accuracy: 0.7427
Epoch 1286/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6301 - accuracy: 0.7427
Epoch 1287/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6298 - accuracy: 0.7427
Epoch 1288/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6294 - accuracy: 0.7427
Epoch 1289/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6291 - accuracy: 0.7427
Epoch 1290/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6288 - accuracy: 0.7427
Epoch 1291/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6285 - accuracy: 0.7427
Epoch 1292/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6282 - accuracy: 0.7427
Epoch 1293/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6278 - accuracy: 0.7427
Epoch 1294/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6275 - accuracy: 0.7427
Epoch 1295/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6272 - accuracy: 0.7427
Epoch 1296/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6269 - accuracy: 0.7485
Epoch 1297/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6266 - accuracy: 0.7485
Epoch 1298/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6262 - accuracy: 0.7485
Epoch 1299/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6259 - accuracy: 0.7485
Epoch 1300/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6256 - accuracy: 0.7485
Epoch 1301/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6253 - accuracy: 0.7485
Epoch 1302/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6250 - accuracy: 0.7485
Epoch 1303/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6247 - accuracy: 0.7485
Epoch 1304/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6243 - accuracy: 0.7485
Epoch 1305/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6240 - accuracy: 0.7485
Epoch 1306/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6237 - accuracy: 0.7485
Epoch 1307/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6234 - accuracy: 0.7485
Epoch 1308/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6231 - accuracy: 0.7485
Epoch 1309/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6228 - accuracy: 0.7485
Epoch 1310/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6224 - accuracy: 0.7485
Epoch 1311/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6221 - accuracy: 0.7485
Epoch 1312/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6218 - accuracy: 0.7485
Epoch 1313/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6215 - accuracy: 0.7485
Epoch 1314/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6212 - accuracy: 0.7485
Epoch 1315/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6209 - accuracy: 0.7544
Epoch 1316/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6206 - accuracy: 0.7544
Epoch 1317/1900
1/1 [==============================] - ETA: 0s - loss: 0.6202 - accuracy: 0.75 - 0s 3ms/step - loss:
 0.6202 - accuracy: 0.7544
Epoch 1318/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6199 - accuracy: 0.7544
Epoch 1319/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6196 - accuracy: 0.7544
Epoch 1320/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6193 - accuracy: 0.7544
Epoch 1321/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6190 - accuracy: 0.7544
Epoch 1322/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6186 - accuracy: 0.7544
Epoch 1323/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6183 - accuracy: 0.7602
Epoch 1324/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6180 - accuracy: 0.7602
Epoch 1325/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6177 - accuracy: 0.7602
Epoch 1326/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6174 - accuracy: 0.7602
Epoch 1327/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6171 - accuracy: 0.7602
Epoch 1328/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6167 - accuracy: 0.7602
Epoch 1329/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6164 - accuracy: 0.7602
Epoch 1330/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6161 - accuracy: 0.7602
Epoch 1331/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6158 - accuracy: 0.7602
Epoch 1332/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6155 - accuracy: 0.7602
Epoch 1333/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6152 - accuracy: 0.7602
Epoch 1334/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6149 - accuracy: 0.7602
Epoch 1335/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6145 - accuracy: 0.7602
Epoch 1336/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6142 - accuracy: 0.7602
Epoch 1337/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6139 - accuracy: 0.7602
Epoch 1338/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6136 - accuracy: 0.7602
Epoch 1339/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6133 - accuracy: 0.7602
Epoch 1340/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6130 - accuracy: 0.7602
Epoch 1341/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6127 - accuracy: 0.7602
Epoch 1342/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6124 - accuracy: 0.7602
Epoch 1343/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6121 - accuracy: 0.7602
Epoch 1344/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6118 - accuracy: 0.7602
Epoch 1345/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6116 - accuracy: 0.7602
Epoch 1346/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6113 - accuracy: 0.7602
Epoch 1347/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6110 - accuracy: 0.7602
Epoch 1348/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6107 - accuracy: 0.7602
Epoch 1349/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6104 - accuracy: 0.7602
Epoch 1350/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6100 - accuracy: 0.7602
Epoch 1351/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6097 - accuracy: 0.7602
Epoch 1352/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6094 - accuracy: 0.7602
Epoch 1353/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6091 - accuracy: 0.7661
Epoch 1354/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6088 - accuracy: 0.7661
Epoch 1355/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6084 - accuracy: 0.7661
Epoch 1356/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6081 - accuracy: 0.7661
Epoch 1357/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6078 - accuracy: 0.7661
Epoch 1358/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6074 - accuracy: 0.7661
Epoch 1359/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6071 - accuracy: 0.7661
Epoch 1360/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.6068 - accuracy: 0.7661
Epoch 1361/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6064 - accuracy: 0.7661
Epoch 1362/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6061 - accuracy: 0.7661
Epoch 1363/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6058 - accuracy: 0.7661
Epoch 1364/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6055 - accuracy: 0.7661
Epoch 1365/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6051 - accuracy: 0.7661
Epoch 1366/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6048 - accuracy: 0.7661
Epoch 1367/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6045 - accuracy: 0.7661
Epoch 1368/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6042 - accuracy: 0.7661
Epoch 1369/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6038 - accuracy: 0.7661
Epoch 1370/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6035 - accuracy: 0.7661
Epoch 1371/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6032 - accuracy: 0.7661
Epoch 1372/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6029 - accuracy: 0.7661
Epoch 1373/1900
1/1 [==============================] - 0s 16ms/step - loss: 0.6026 - accuracy: 0.7661
Epoch 1374/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.6022 - accuracy: 0.7661
Epoch 1375/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6019 - accuracy: 0.7661
Epoch 1376/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6016 - accuracy: 0.7661
Epoch 1377/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.6013 - accuracy: 0.7661
Epoch 1378/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6010 - accuracy: 0.7661
Epoch 1379/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.6007 - accuracy: 0.7661
Epoch 1380/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6004 - accuracy: 0.7661
Epoch 1381/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.6001 - accuracy: 0.7661
Epoch 1382/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5998 - accuracy: 0.7719
Epoch 1383/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5995 - accuracy: 0.7719
Epoch 1384/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5992 - accuracy: 0.7719
Epoch 1385/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5989 - accuracy: 0.7719
Epoch 1386/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5986 - accuracy: 0.7719
Epoch 1387/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5983 - accuracy: 0.7719
Epoch 1388/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5980 - accuracy: 0.7719
Epoch 1389/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5977 - accuracy: 0.7719
Epoch 1390/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5974 - accuracy: 0.7661
Epoch 1391/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5971 - accuracy: 0.7661
Epoch 1392/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5968 - accuracy: 0.7661
Epoch 1393/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5965 - accuracy: 0.7661
Epoch 1394/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5962 - accuracy: 0.7661
Epoch 1395/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5959 - accuracy: 0.7661
Epoch 1396/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.5956 - accuracy: 0.7661
Epoch 1397/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5953 - accuracy: 0.7661
Epoch 1398/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5950 - accuracy: 0.7661
Epoch 1399/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5947 - accuracy: 0.7661
Epoch 1400/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5944 - accuracy: 0.7661
Epoch 1401/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5942 - accuracy: 0.7661
Epoch 1402/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5939 - accuracy: 0.7661
Epoch 1403/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5936 - accuracy: 0.7661
Epoch 1404/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5933 - accuracy: 0.7661
Epoch 1405/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5930 - accuracy: 0.7661
Epoch 1406/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5927 - accuracy: 0.7661
Epoch 1407/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5924 - accuracy: 0.7661
Epoch 1408/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5921 - accuracy: 0.7661
Epoch 1409/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5919 - accuracy: 0.7661
Epoch 1410/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5916 - accuracy: 0.7661
Epoch 1411/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5913 - accuracy: 0.7719
Epoch 1412/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5910 - accuracy: 0.7719
Epoch 1413/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5907 - accuracy: 0.7719
Epoch 1414/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5905 - accuracy: 0.7719
Epoch 1415/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5902 - accuracy: 0.7719
Epoch 1416/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5899 - accuracy: 0.7661
Epoch 1417/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5896 - accuracy: 0.7661
Epoch 1418/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5893 - accuracy: 0.7719
Epoch 1419/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5891 - accuracy: 0.7719
Epoch 1420/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5888 - accuracy: 0.7719
Epoch 1421/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5885 - accuracy: 0.7719
Epoch 1422/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5882 - accuracy: 0.7719
Epoch 1423/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5880 - accuracy: 0.7719
Epoch 1424/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5877 - accuracy: 0.7719
Epoch 1425/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5874 - accuracy: 0.7719
Epoch 1426/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5871 - accuracy: 0.7719
Epoch 1427/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5868 - accuracy: 0.7719
Epoch 1428/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5866 - accuracy: 0.7719
Epoch 1429/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5863 - accuracy: 0.7719
Epoch 1430/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5860 - accuracy: 0.7719
Epoch 1431/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5857 - accuracy: 0.7719
Epoch 1432/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5854 - accuracy: 0.7719
Epoch 1433/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.5852 - accuracy: 0.7719
Epoch 1434/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5849 - accuracy: 0.7719
Epoch 1435/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5846 - accuracy: 0.7719
Epoch 1436/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5843 - accuracy: 0.7719
Epoch 1437/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5841 - accuracy: 0.7719
Epoch 1438/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5838 - accuracy: 0.7719
Epoch 1439/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5835 - accuracy: 0.7719
Epoch 1440/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5832 - accuracy: 0.7661
Epoch 1441/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5829 - accuracy: 0.7661
Epoch 1442/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5827 - accuracy: 0.7661
Epoch 1443/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5824 - accuracy: 0.7661
Epoch 1444/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5821 - accuracy: 0.7661
Epoch 1445/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5818 - accuracy: 0.7661
Epoch 1446/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5816 - accuracy: 0.7661
Epoch 1447/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5813 - accuracy: 0.7661
Epoch 1448/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5810 - accuracy: 0.7661
Epoch 1449/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5807 - accuracy: 0.7661
Epoch 1450/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5805 - accuracy: 0.7661
Epoch 1451/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5802 - accuracy: 0.7661
Epoch 1452/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5799 - accuracy: 0.7661
Epoch 1453/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5797 - accuracy: 0.7661
Epoch 1454/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5794 - accuracy: 0.7661
Epoch 1455/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5791 - accuracy: 0.7661
Epoch 1456/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5789 - accuracy: 0.7661
Epoch 1457/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5786 - accuracy: 0.7661
Epoch 1458/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5783 - accuracy: 0.7661
Epoch 1459/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5781 - accuracy: 0.7661
Epoch 1460/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5778 - accuracy: 0.7661
Epoch 1461/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5775 - accuracy: 0.7661
Epoch 1462/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5773 - accuracy: 0.7661
Epoch 1463/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5770 - accuracy: 0.7719
Epoch 1464/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5768 - accuracy: 0.7719
Epoch 1465/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5765 - accuracy: 0.7719
Epoch 1466/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5762 - accuracy: 0.7719
Epoch 1467/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5760 - accuracy: 0.7719
Epoch 1468/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5757 - accuracy: 0.7719
Epoch 1469/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5754 - accuracy: 0.7719
Epoch 1470/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5752 - accuracy: 0.7719
Epoch 1471/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5749 - accuracy: 0.7719
Epoch 1472/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5747 - accuracy: 0.7719
Epoch 1473/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5744 - accuracy: 0.7719
Epoch 1474/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5741 - accuracy: 0.7719
Epoch 1475/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5739 - accuracy: 0.7719
Epoch 1476/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5736 - accuracy: 0.7719
Epoch 1477/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5734 - accuracy: 0.7719
Epoch 1478/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5731 - accuracy: 0.7719
Epoch 1479/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5728 - accuracy: 0.7719
Epoch 1480/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5726 - accuracy: 0.7719
Epoch 1481/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5723 - accuracy: 0.7719
Epoch 1482/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5721 - accuracy: 0.7719
Epoch 1483/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5718 - accuracy: 0.7719
Epoch 1484/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5715 - accuracy: 0.7719
Epoch 1485/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5713 - accuracy: 0.7719
Epoch 1486/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5710 - accuracy: 0.7719
Epoch 1487/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5708 - accuracy: 0.7719
Epoch 1488/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5705 - accuracy: 0.7719
Epoch 1489/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5703 - accuracy: 0.7719
Epoch 1490/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5700 - accuracy: 0.7719
Epoch 1491/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5697 - accuracy: 0.7719
Epoch 1492/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5695 - accuracy: 0.7719
Epoch 1493/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5692 - accuracy: 0.7719
Epoch 1494/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5690 - accuracy: 0.7719
Epoch 1495/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5687 - accuracy: 0.7719
Epoch 1496/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5684 - accuracy: 0.7719
Epoch 1497/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5682 - accuracy: 0.7719
Epoch 1498/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5679 - accuracy: 0.7719
Epoch 1499/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5677 - accuracy: 0.7719
Epoch 1500/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5674 - accuracy: 0.7719
Epoch 1501/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5671 - accuracy: 0.7719
Epoch 1502/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5669 - accuracy: 0.7719
Epoch 1503/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5666 - accuracy: 0.7719
Epoch 1504/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5664 - accuracy: 0.7719
Epoch 1505/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5661 - accuracy: 0.7719
Epoch 1506/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5659 - accuracy: 0.7719
Epoch 1507/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5656 - accuracy: 0.7719
Epoch 1508/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5653 - accuracy: 0.7719
Epoch 1509/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5651 - accuracy: 0.7719
Epoch 1510/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5648 - accuracy: 0.7719
Epoch 1511/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5646 - accuracy: 0.7719
Epoch 1512/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5643 - accuracy: 0.7719
Epoch 1513/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5641 - accuracy: 0.7719
Epoch 1514/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5638 - accuracy: 0.7719
Epoch 1515/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5635 - accuracy: 0.7719
Epoch 1516/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5633 - accuracy: 0.7719
Epoch 1517/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5630 - accuracy: 0.7719
Epoch 1518/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5628 - accuracy: 0.7719
Epoch 1519/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5625 - accuracy: 0.7719
Epoch 1520/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5623 - accuracy: 0.7719
Epoch 1521/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5620 - accuracy: 0.7719
Epoch 1522/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5618 - accuracy: 0.7719
Epoch 1523/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5615 - accuracy: 0.7719
Epoch 1524/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5612 - accuracy: 0.7719
Epoch 1525/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5610 - accuracy: 0.7719
Epoch 1526/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5607 - accuracy: 0.7719
Epoch 1527/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5605 - accuracy: 0.7719
Epoch 1528/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5602 - accuracy: 0.7719
Epoch 1529/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5599 - accuracy: 0.7719
Epoch 1530/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5597 - accuracy: 0.7719
Epoch 1531/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5594 - accuracy: 0.7719
Epoch 1532/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5591 - accuracy: 0.7719
Epoch 1533/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5589 - accuracy: 0.7719
Epoch 1534/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5586 - accuracy: 0.7719
Epoch 1535/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5583 - accuracy: 0.7719
Epoch 1536/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5581 - accuracy: 0.7719
Epoch 1537/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5578 - accuracy: 0.7719
Epoch 1538/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5575 - accuracy: 0.7719
Epoch 1539/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5573 - accuracy: 0.7719
Epoch 1540/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5570 - accuracy: 0.7719
Epoch 1541/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5567 - accuracy: 0.7719
Epoch 1542/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5565 - accuracy: 0.7719
Epoch 1543/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5562 - accuracy: 0.7719
Epoch 1544/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5559 - accuracy: 0.7719
Epoch 1545/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5557 - accuracy: 0.7719
Epoch 1546/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5554 - accuracy: 0.7719
Epoch 1547/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5551 - accuracy: 0.7719
Epoch 1548/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5549 - accuracy: 0.7719
Epoch 1549/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5546 - accuracy: 0.7719
Epoch 1550/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5543 - accuracy: 0.7719
Epoch 1551/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5541 - accuracy: 0.7719
Epoch 1552/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5538 - accuracy: 0.7719
Epoch 1553/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5535 - accuracy: 0.7719
Epoch 1554/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5533 - accuracy: 0.7719
Epoch 1555/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5530 - accuracy: 0.7719
Epoch 1556/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5527 - accuracy: 0.7719
Epoch 1557/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5525 - accuracy: 0.7719
Epoch 1558/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5522 - accuracy: 0.7719
Epoch 1559/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5519 - accuracy: 0.7719
Epoch 1560/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5517 - accuracy: 0.7719
Epoch 1561/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5514 - accuracy: 0.7719
Epoch 1562/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5511 - accuracy: 0.7719
Epoch 1563/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5509 - accuracy: 0.7719
Epoch 1564/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5506 - accuracy: 0.7719
Epoch 1565/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5503 - accuracy: 0.7719
Epoch 1566/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5500 - accuracy: 0.7719
Epoch 1567/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5498 - accuracy: 0.7719
Epoch 1568/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5495 - accuracy: 0.7719
Epoch 1569/1900
1/1 [==============================] - ETA: 0s - loss: 0.5492 - accuracy: 0.77 - 0s 4ms/step - loss:
 0.5492 - accuracy: 0.7719
Epoch 1570/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5490 - accuracy: 0.7719
Epoch 1571/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5487 - accuracy: 0.7719
Epoch 1572/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5485 - accuracy: 0.7719
Epoch 1573/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.5482 - accuracy: 0.7719
Epoch 1574/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5479 - accuracy: 0.7719
Epoch 1575/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5477 - accuracy: 0.7719
Epoch 1576/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5474 - accuracy: 0.7719
Epoch 1577/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5471 - accuracy: 0.7719
Epoch 1578/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5469 - accuracy: 0.7719
Epoch 1579/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5466 - accuracy: 0.7719
Epoch 1580/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5463 - accuracy: 0.7719
Epoch 1581/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5461 - accuracy: 0.7719
Epoch 1582/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5458 - accuracy: 0.7661
Epoch 1583/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5455 - accuracy: 0.7661
Epoch 1584/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5453 - accuracy: 0.7661
Epoch 1585/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5450 - accuracy: 0.7661
Epoch 1586/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5448 - accuracy: 0.7661
Epoch 1587/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5445 - accuracy: 0.7661
Epoch 1588/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5442 - accuracy: 0.7661
Epoch 1589/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5440 - accuracy: 0.7661
Epoch 1590/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5437 - accuracy: 0.7661
Epoch 1591/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5434 - accuracy: 0.7661
Epoch 1592/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5432 - accuracy: 0.7661
Epoch 1593/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5429 - accuracy: 0.7661
Epoch 1594/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5426 - accuracy: 0.7661
Epoch 1595/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5424 - accuracy: 0.7661
Epoch 1596/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5421 - accuracy: 0.7661
Epoch 1597/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5418 - accuracy: 0.7661
Epoch 1598/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5416 - accuracy: 0.7661
Epoch 1599/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5413 - accuracy: 0.7661
Epoch 1600/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5411 - accuracy: 0.7661
Epoch 1601/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5408 - accuracy: 0.7661
Epoch 1602/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5405 - accuracy: 0.7661
Epoch 1603/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5403 - accuracy: 0.7661
Epoch 1604/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5400 - accuracy: 0.7661
Epoch 1605/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5398 - accuracy: 0.7661
Epoch 1606/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5395 - accuracy: 0.7661
Epoch 1607/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5392 - accuracy: 0.7661
Epoch 1608/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5390 - accuracy: 0.7661
Epoch 1609/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5387 - accuracy: 0.7661
Epoch 1610/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5385 - accuracy: 0.7661
Epoch 1611/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5382 - accuracy: 0.7661
Epoch 1612/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5380 - accuracy: 0.7661
Epoch 1613/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5377 - accuracy: 0.7661
Epoch 1614/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5374 - accuracy: 0.7661
Epoch 1615/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5372 - accuracy: 0.7661
Epoch 1616/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5369 - accuracy: 0.7661
Epoch 1617/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5367 - accuracy: 0.7661
Epoch 1618/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5364 - accuracy: 0.7661
Epoch 1619/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5362 - accuracy: 0.7661
Epoch 1620/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5359 - accuracy: 0.7661
Epoch 1621/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5356 - accuracy: 0.7661
Epoch 1622/1900
1/1 [==============================] - ETA: 0s - loss: 0.5354 - accuracy: 0.76 - 0s 3ms/step - loss:
 0.5354 - accuracy: 0.7661
Epoch 1623/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5351 - accuracy: 0.7661
Epoch 1624/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5348 - accuracy: 0.7661
Epoch 1625/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5346 - accuracy: 0.7661
Epoch 1626/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5343 - accuracy: 0.7661
Epoch 1627/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5340 - accuracy: 0.7661
Epoch 1628/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5338 - accuracy: 0.7661
Epoch 1629/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5335 - accuracy: 0.7661
Epoch 1630/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5332 - accuracy: 0.7661
Epoch 1631/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5330 - accuracy: 0.7661
Epoch 1632/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5327 - accuracy: 0.7661
Epoch 1633/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5324 - accuracy: 0.7661
Epoch 1634/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5322 - accuracy: 0.7661
Epoch 1635/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5319 - accuracy: 0.7661
Epoch 1636/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5316 - accuracy: 0.7661
Epoch 1637/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5314 - accuracy: 0.7661
Epoch 1638/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5311 - accuracy: 0.7661
Epoch 1639/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5309 - accuracy: 0.7661
Epoch 1640/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.5306 - accuracy: 0.7661
Epoch 1641/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5303 - accuracy: 0.7661
Epoch 1642/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5301 - accuracy: 0.7661
Epoch 1643/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5298 - accuracy: 0.7661
Epoch 1644/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5295 - accuracy: 0.7661
Epoch 1645/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5293 - accuracy: 0.7661
Epoch 1646/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5290 - accuracy: 0.7661
Epoch 1647/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5287 - accuracy: 0.7661
Epoch 1648/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5285 - accuracy: 0.7661
Epoch 1649/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5282 - accuracy: 0.7661
Epoch 1650/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5279 - accuracy: 0.7661
Epoch 1651/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5277 - accuracy: 0.7661
Epoch 1652/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5274 - accuracy: 0.7661
Epoch 1653/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5272 - accuracy: 0.7661
Epoch 1654/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.5269 - accuracy: 0.7661
Epoch 1655/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5266 - accuracy: 0.7661
Epoch 1656/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5264 - accuracy: 0.7661
Epoch 1657/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5261 - accuracy: 0.7661
Epoch 1658/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5258 - accuracy: 0.7661
Epoch 1659/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5256 - accuracy: 0.7661
Epoch 1660/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5253 - accuracy: 0.7661
Epoch 1661/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5250 - accuracy: 0.7661
Epoch 1662/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5248 - accuracy: 0.7661
Epoch 1663/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5245 - accuracy: 0.7661
Epoch 1664/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5243 - accuracy: 0.7661
Epoch 1665/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5240 - accuracy: 0.7661
Epoch 1666/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5237 - accuracy: 0.7661
Epoch 1667/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5235 - accuracy: 0.7661
Epoch 1668/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5232 - accuracy: 0.7661
Epoch 1669/1900
1/1 [==============================] - ETA: 0s - loss: 0.5230 - accuracy: 0.76 - 0s 7ms/step - loss:
 0.5230 - accuracy: 0.7661
Epoch 1670/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5227 - accuracy: 0.7661
Epoch 1671/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5224 - accuracy: 0.7661
Epoch 1672/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.5222 - accuracy: 0.7661
Epoch 1673/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5219 - accuracy: 0.7661
Epoch 1674/1900
1/1 [==============================] - 0s 7ms/step - loss: 0.5217 - accuracy: 0.7661
Epoch 1675/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5214 - accuracy: 0.7661
Epoch 1676/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5211 - accuracy: 0.7661
Epoch 1677/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5209 - accuracy: 0.7661
Epoch 1678/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5206 - accuracy: 0.7661
Epoch 1679/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5203 - accuracy: 0.7661
Epoch 1680/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5201 - accuracy: 0.7661
Epoch 1681/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5198 - accuracy: 0.7661
Epoch 1682/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5196 - accuracy: 0.7661
Epoch 1683/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5193 - accuracy: 0.7778
Epoch 1684/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.5191 - accuracy: 0.7778
Epoch 1685/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5188 - accuracy: 0.7778

Epoch 1686/1900
```

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1/1 [==============================] - 0s 4ms/step - loss: 0.5186 - accuracy: 0.7778
Epoch 1687/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5183 - accuracy: 0.7778
Epoch 1688/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5181 - accuracy: 0.7778
Epoch 1689/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5178 - accuracy: 0.7778
Epoch 1690/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5175 - accuracy: 0.7778
Epoch 1691/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5173 - accuracy: 0.7778
Epoch 1692/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5170 - accuracy: 0.7778
Epoch 1693/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5168 - accuracy: 0.7778
Epoch 1694/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5165 - accuracy: 0.7778
Epoch 1695/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5163 - accuracy: 0.7778
Epoch 1696/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5160 - accuracy: 0.7778
Epoch 1697/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5158 - accuracy: 0.7778
Epoch 1698/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5155 - accuracy: 0.7778
Epoch 1699/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5153 - accuracy: 0.7778
Epoch 1700/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5150 - accuracy: 0.7778
Epoch 1701/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5148 - accuracy: 0.7778
Epoch 1702/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5145 - accuracy: 0.7778
Epoch 1703/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5143 - accuracy: 0.7778
Epoch 1704/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5140 - accuracy: 0.7778
Epoch 1705/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5138 - accuracy: 0.7778
Epoch 1706/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5135 - accuracy: 0.7778
Epoch 1707/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5133 - accuracy: 0.7778
Epoch 1708/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5130 - accuracy: 0.7778
Epoch 1709/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5128 - accuracy: 0.7778
Epoch 1710/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5125 - accuracy: 0.7778
Epoch 1711/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5123 - accuracy: 0.7778
Epoch 1712/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5120 - accuracy: 0.7778
Epoch 1713/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5118 - accuracy: 0.7778
Epoch 1714/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5115 - accuracy: 0.7778
Epoch 1715/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5113 - accuracy: 0.7778
Epoch 1716/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5110 - accuracy: 0.7778
Epoch 1717/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5108 - accuracy: 0.7778
Epoch 1718/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5105 - accuracy: 0.7778
Epoch 1719/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5103 - accuracy: 0.7778
Epoch 1720/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5101 - accuracy: 0.7778
Epoch 1721/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5098 - accuracy: 0.7778
Epoch 1722/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5096 - accuracy: 0.7778
Epoch 1723/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5093 - accuracy: 0.7778
Epoch 1724/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5091 - accuracy: 0.7778
Epoch 1725/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5088 - accuracy: 0.7778
Epoch 1726/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5086 - accuracy: 0.7778
Epoch 1727/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5083 - accuracy: 0.7778
Epoch 1728/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5081 - accuracy: 0.7778
Epoch 1729/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5078 - accuracy: 0.7778
Epoch 1730/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5076 - accuracy: 0.7778
Epoch 1731/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5073 - accuracy: 0.7778
Epoch 1732/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5071 - accuracy: 0.7778
Epoch 1733/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5068 - accuracy: 0.7778
Epoch 1734/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5066 - accuracy: 0.7778
Epoch 1735/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5063 - accuracy: 0.7778
Epoch 1736/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5061 - accuracy: 0.7778
Epoch 1737/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5058 - accuracy: 0.7778
Epoch 1738/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5056 - accuracy: 0.7778
Epoch 1739/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5053 - accuracy: 0.7778
Epoch 1740/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5051 - accuracy: 0.7778
Epoch 1741/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5048 - accuracy: 0.7778
Epoch 1742/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5046 - accuracy: 0.7778
Epoch 1743/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.5043 - accuracy: 0.7778
Epoch 1744/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5041 - accuracy: 0.7778
Epoch 1745/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5038 - accuracy: 0.7778
Epoch 1746/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5036 - accuracy: 0.7778
Epoch 1747/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5034 - accuracy: 0.7778
Epoch 1748/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5031 - accuracy: 0.7778
Epoch 1749/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5029 - accuracy: 0.7778
Epoch 1750/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5026 - accuracy: 0.7778
Epoch 1751/1900
1/1 [==============================] - 0s 2ms/step - loss: 0.5024 - accuracy: 0.7778
Epoch 1752/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5021 - accuracy: 0.7778
Epoch 1753/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5019 - accuracy: 0.7778
Epoch 1754/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5016 - accuracy: 0.7778
Epoch 1755/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5014 - accuracy: 0.7778
Epoch 1756/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5011 - accuracy: 0.7836
Epoch 1757/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5009 - accuracy: 0.7836
Epoch 1758/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.5006 - accuracy: 0.7836
Epoch 1759/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.5004 - accuracy: 0.7836
Epoch 1760/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.5001 - accuracy: 0.7836
Epoch 1761/1900
1/1 [==============================] - ETA: 0s - loss: 0.4999 - accuracy: 0.78 - 0s 3ms/step - loss:
 0.4999 - accuracy: 0.7836
Epoch 1762/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4997 - accuracy: 0.7836
Epoch 1763/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4994 - accuracy: 0.7836
Epoch 1764/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4992 - accuracy: 0.7836
Epoch 1765/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4989 - accuracy: 0.7895
Epoch 1766/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4987 - accuracy: 0.7895
Epoch 1767/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4984 - accuracy: 0.7895
Epoch 1768/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4982 - accuracy: 0.7895
Epoch 1769/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4979 - accuracy: 0.7895
Epoch 1770/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4977 - accuracy: 0.7895
Epoch 1771/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4974 - accuracy: 0.7895
Epoch 1772/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4972 - accuracy: 0.7895
Epoch 1773/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4970 - accuracy: 0.7895
Epoch 1774/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4967 - accuracy: 0.7895
Epoch 1775/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4965 - accuracy: 0.7895
Epoch 1776/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4962 - accuracy: 0.7895
Epoch 1777/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4960 - accuracy: 0.7895
Epoch 1778/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4957 - accuracy: 0.7895
Epoch 1779/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4955 - accuracy: 0.7895
Epoch 1780/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4952 - accuracy: 0.7895
Epoch 1781/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4950 - accuracy: 0.7895
Epoch 1782/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4948 - accuracy: 0.7895
Epoch 1783/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4945 - accuracy: 0.7895
Epoch 1784/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4943 - accuracy: 0.7895
Epoch 1785/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.4940 - accuracy: 0.7895
Epoch 1786/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4938 - accuracy: 0.7895
Epoch 1787/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.4935 - accuracy: 0.7895
Epoch 1788/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4933 - accuracy: 0.7895
Epoch 1789/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4930 - accuracy: 0.7895
Epoch 1790/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4928 - accuracy: 0.7895
Epoch 1791/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4925 - accuracy: 0.7953
Epoch 1792/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4923 - accuracy: 0.7953
Epoch 1793/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4921 - accuracy: 0.7953
Epoch 1794/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4918 - accuracy: 0.7953
Epoch 1795/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4916 - accuracy: 0.7953
Epoch 1796/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4913 - accuracy: 0.7953
Epoch 1797/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4911 - accuracy: 0.7953
Epoch 1798/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4908 - accuracy: 0.7953
Epoch 1799/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4906 - accuracy: 0.7953
Epoch 1800/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4904 - accuracy: 0.7953
Epoch 1801/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4901 - accuracy: 0.7953
Epoch 1802/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4899 - accuracy: 0.7953
Epoch 1803/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4896 - accuracy: 0.7953
Epoch 1804/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4894 - accuracy: 0.7953
Epoch 1805/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4891 - accuracy: 0.7953
Epoch 1806/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4889 - accuracy: 0.7953
Epoch 1807/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4887 - accuracy: 0.7953
Epoch 1808/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4884 - accuracy: 0.7953
Epoch 1809/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4882 - accuracy: 0.7953
Epoch 1810/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4879 - accuracy: 0.7953
Epoch 1811/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4877 - accuracy: 0.7953
Epoch 1812/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4874 - accuracy: 0.7953
Epoch 1813/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4872 - accuracy: 0.7953
Epoch 1814/1900
1/1 [==============================] - 0s 8ms/step - loss: 0.4870 - accuracy: 0.7953
Epoch 1815/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4867 - accuracy: 0.7953
Epoch 1816/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4865 - accuracy: 0.7953
Epoch 1817/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4862 - accuracy: 0.7953
Epoch 1818/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.4860 - accuracy: 0.7953
Epoch 1819/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4857 - accuracy: 0.7953
Epoch 1820/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4855 - accuracy: 0.7953
Epoch 1821/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4852 - accuracy: 0.7953
Epoch 1822/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4850 - accuracy: 0.7953
Epoch 1823/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4848 - accuracy: 0.7953
Epoch 1824/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4845 - accuracy: 0.7953
Epoch 1825/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4843 - accuracy: 0.7953
Epoch 1826/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4840 - accuracy: 0.7953
Epoch 1827/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.4838 - accuracy: 0.7953
Epoch 1828/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4835 - accuracy: 0.8012
Epoch 1829/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4833 - accuracy: 0.8012
Epoch 1830/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4830 - accuracy: 0.8012
Epoch 1831/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4828 - accuracy: 0.8012
Epoch 1832/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4826 - accuracy: 0.8012
Epoch 1833/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4823 - accuracy: 0.8012
Epoch 1834/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4821 - accuracy: 0.8012
Epoch 1835/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4818 - accuracy: 0.8012
Epoch 1836/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4816 - accuracy: 0.8012
Epoch 1837/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4813 - accuracy: 0.8012
Epoch 1838/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4811 - accuracy: 0.8012
Epoch 1839/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4808 - accuracy: 0.8012
Epoch 1840/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4806 - accuracy: 0.8012
Epoch 1841/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4803 - accuracy: 0.8012
Epoch 1842/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4801 - accuracy: 0.8012
Epoch 1843/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4798 - accuracy: 0.8012
Epoch 1844/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4796 - accuracy: 0.8012
Epoch 1845/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4794 - accuracy: 0.8012
Epoch 1846/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4791 - accuracy: 0.8012
Epoch 1847/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4789 - accuracy: 0.8012
Epoch 1848/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4786 - accuracy: 0.8012
Epoch 1849/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4784 - accuracy: 0.8012
Epoch 1850/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4781 - accuracy: 0.8012
Epoch 1851/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4779 - accuracy: 0.8012
Epoch 1852/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4776 - accuracy: 0.8012
Epoch 1853/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4774 - accuracy: 0.7953
Epoch 1854/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4771 - accuracy: 0.7953
Epoch 1855/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4769 - accuracy: 0.7953
Epoch 1856/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4766 - accuracy: 0.7953
Epoch 1857/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4764 - accuracy: 0.7953
Epoch 1858/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4761 - accuracy: 0.7953
Epoch 1859/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4759 - accuracy: 0.7953
Epoch 1860/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4756 - accuracy: 0.7953
Epoch 1861/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4754 - accuracy: 0.7953
Epoch 1862/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4751 - accuracy: 0.7953
Epoch 1863/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4749 - accuracy: 0.7953
Epoch 1864/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4746 - accuracy: 0.7953
Epoch 1865/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4744 - accuracy: 0.7953
Epoch 1866/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4741 - accuracy: 0.8070
Epoch 1867/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4739 - accuracy: 0.8012
Epoch 1868/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4736 - accuracy: 0.8012
Epoch 1869/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4734 - accuracy: 0.8012
Epoch 1870/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4731 - accuracy: 0.8070
Epoch 1871/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4729 - accuracy: 0.8070
Epoch 1872/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4726 - accuracy: 0.8070
Epoch 1873/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4724 - accuracy: 0.8070
Epoch 1874/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4721 - accuracy: 0.8070
Epoch 1875/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4719 - accuracy: 0.8070
Epoch 1876/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4716 - accuracy: 0.8070
Epoch 1877/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4714 - accuracy: 0.8070
Epoch 1878/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4711 - accuracy: 0.8070
Epoch 1879/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4708 - accuracy: 0.8070
Epoch 1880/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4706 - accuracy: 0.8070
Epoch 1881/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4703 - accuracy: 0.8070
Epoch 1882/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4701 - accuracy: 0.8070
Epoch 1883/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4698 - accuracy: 0.8070
Epoch 1884/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4696 - accuracy: 0.8070
Epoch 1885/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4693 - accuracy: 0.8070
Epoch 1886/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4691 - accuracy: 0.8070
Epoch 1887/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4688 - accuracy: 0.8070
Epoch 1888/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4686 - accuracy: 0.8070
Epoch 1889/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4683 - accuracy: 0.8070
Epoch 1890/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4681 - accuracy: 0.8070
Epoch 1891/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4678 - accuracy: 0.8070
Epoch 1892/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4675 - accuracy: 0.8070
Epoch 1893/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4673 - accuracy: 0.8070
Epoch 1894/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4670 - accuracy: 0.8070
Epoch 1895/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4668 - accuracy: 0.8070
Epoch 1896/1900
1/1 [==============================] - 0s 4ms/step - loss: 0.4665 - accuracy: 0.8070
Epoch 1897/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4663 - accuracy: 0.8070
Epoch 1898/1900
1/1 [==============================] - 0s 5ms/step - loss: 0.4660 - accuracy: 0.8129
Epoch 1899/1900
1/1 [==============================] - 0s 6ms/step - loss: 0.4658 - accuracy: 0.8129
Epoch 1900/1900
1/1 [==============================] - 0s 3ms/step - loss: 0.4655 - accuracy: 0.8129
```

Evaluate the Final model

In [40]:
```
final_model.evaluate(X_test, y_test)
```

```
2/2 [==============================] - 0s 2ms/step - loss: 0.8458 - accuracy: 0.8140
```

Out[40]:
```
[0.8457954525947571, 0.8139534592628479]
```

In [41]:
```
_, train_acc_final = final_model.evaluate(X_train, y_train, verbose=0)
_, test_acc_final = final_model.evaluate(X_test, y_test, verbose=0)

print ('Train accuracy:%.3f, Test Accuracy:%.3f' % (train_acc_final,test_acc_final))
```

```
Train accuracy:0.813, Test Accuracy:0.814
```

Accuracy

Results after each test run

Learning rate = 0.003, batch gradient descent(214) in size, epochs =2200

1. Train accuracy:0.778, Test Accuracy:0.767
2. Train accuracy:0.918, Test Accuracy:0.814

Changes made to Epochs size change = 1900, batch size = 214, and learning rate = 0.003

1. Train accuracy:0.842, Test Accuracy:0.814
2. Train accuracy:0.877, Test Accuracy:0.814
3. Train accuracy:0.895, Test Accuracy:0.814
4. Train accuracy:0.789, Test Accuracy:0.814
5. Train accuracy:0.789, Test Accuracy:0.814
6. Train accuracy:0.830, Test Accuracy:0.814
7. Train accuracy:0.819, Test Accuracy:0.814
8. Train accuracy:0.830, Test Accuracy:0.814
9. Train accuracy:0.813, Test Accuracy:0.837
10. Train accuracy:0.819, Test Accuracy:0.814
11. Train accuracy:0.825, Test Accuracy:0.814
12. Train accuracy:0.854, Test Accuracy:0.860
13. Train accuracy:0.854, Test Accuracy:0.837
14. Train accuracy:0.889, Test Accuracy:0.791
15. Train accuracy:0.877, Test Accuracy:0.884
16. Train accuracy:0.883, Test Accuracy:0.721
17. Train accuracy:0.871, Test Accuracy:0.860
18. Train accuracy:0.813, Test Accuracy:0.814
19. Train accuracy:0.801, Test Accuracy:0.837

The accuracy scores from numerous test runs show promise and I will now evaluate the results in a classification report.

Plot Loss and Accuracy from the Final ANN model

In [48]:
```
plt.figure(figsize=(15, 5))

plt.plot(Plot_History.history['loss'])

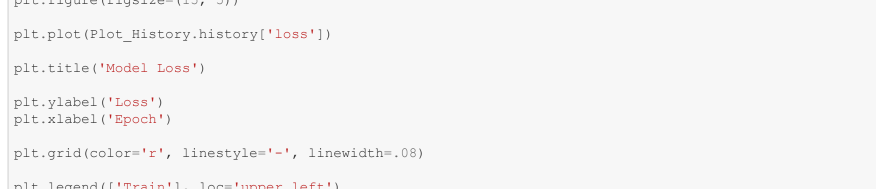
plt.title('Model Loss')

plt.ylabel('Loss')
plt.xlabel('Epoch')

plt.grid(color='r', linestyle='-', linewidth=.08)

plt.legend(['Train'], loc='upper left')

plt.show()
```



In [47]:
```
plt.figure(figsize=(15, 5))

plt.plot(Plot_History.history['accuracy'])

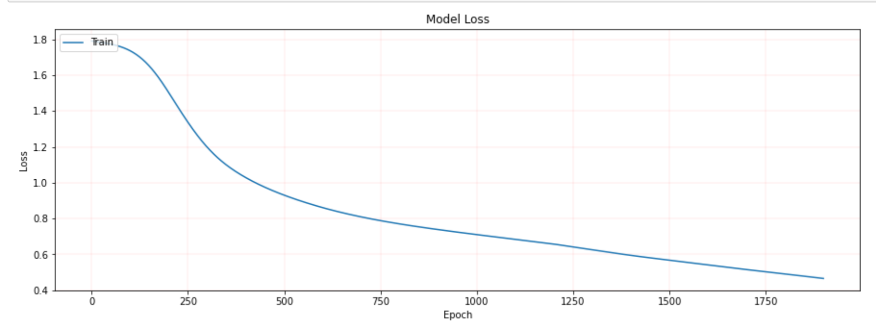
plt.title('Model accuracy')

plt.ylabel('Accuracy')
plt.xlabel('Epoch')

plt.grid(color='r', linestyle='-', linewidth=.08)

plt.legend(['Train'], loc='upper left')

plt.show()
```



Classification report

In [44]:
```
from sklearn.metrics import confusion_matrix, classification_report

y_pred_class = np.argmax(final_model.predict(X_test), axis=-1)

y_test_class = np.argmax(y_test, axis=1)

print(classification_report (y_test_class, y_pred_class))
```

```
              precision    recall  f1-score   support

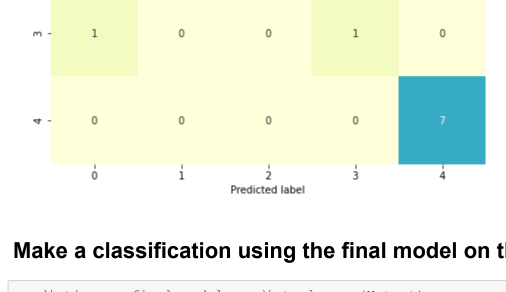
           0       0.75      0.86      0.80        14
           1       0.87      0.76      0.81        17
           3       0.67      0.67      0.67         3
           4       1.00      0.50      0.67         2
           5       0.88      1.00      0.93         7

    accuracy                           0.81        43
   macro avg       0.83      0.76      0.78        43
weighted avg       0.82      0.81      0.81        43
```

The classification report reveals feature 2 as unpredictable, as for the rest of the predictable features a optimal weighted average of 81 percent in positive recalls and 84 percent in percision is shown. The percentages do vary as the test run each time.

In [45]:
```
matrix = confusion_matrix (y_test_class, y_pred_class)
plt.subplots(figsize=(12,8))
sns.heatmap(matrix, cmap="YlGnBu",square=True, annot=True, cbar=False)
plt.xlabel('Predicted label')
plt.ylabel('True label')
```

Out[45]:
```
Text(204.36, 0.5, 'True label')
```



Make a classification using the final model on the test data

In [46]:
```
predictions = final_model.predict_classes(X_test)
for i in range(20):
    print('Predicted Glass type => %d (Expected Glass type %d)' % (encoder.inverse_transform([predictio
ns[i]]),
                                            encoder.inverse_transform([np.argmax(y_test[i])])))
```

```
Predicted Glass type => 1 (Expected Glass type 1)
Predicted Glass type => 7 (Expected Glass type 7)
Predicted Glass type => 2 (Expected Glass type 2)
Predicted Glass type => 1 (Expected Glass type 1)
Predicted Glass type => 1 (Expected Glass type 2)
Predicted Glass type => 2 (Expected Glass type 1)
Predicted Glass type => 5 (Expected Glass type 5)
Predicted Glass type => 1 (Expected Glass type 2)
Predicted Glass type => 2 (Expected Glass type 2)
Predicted Glass type => 2 (Expected Glass type 2)
Predicted Glass type => 5 (Expected Glass type 5)
Predicted Glass type => 1 (Expected Glass type 1)
Predicted Glass type => 1 (Expected Glass type 1)
Predicted Glass type => 6 (Expected Glass type 6)
Predicted Glass type => 1 (Expected Glass type 1)
Predicted Glass type => 2 (Expected Glass type 2)
Predicted Glass type => 2 (Expected Glass type 2)
Predicted Glass type => 7 (Expected Glass type 7)
Predicted Glass type => 7 (Expected Glass type 7)
Predicted Glass type => 1 (Expected Glass type 1)
```

```
C:\Users\USER\anaconda3\lib\site-packages\tensorflow\python\keras\engine\sequential.py:450: UserWarni
ng: `model.predict_classes()` is deprecated and will be removed after 2021-01-01. Please use instead:
* `np.argmax(model.predict(x), axis=-1)`,   if your model does multi-class classification   (e.g. if
it uses a `softmax` last-layer activation).* `(model.predict(x) > 0.5).astype("int32")`,   if your mo
del does binary classification   (e.g. if it uses a `sigmoid` last-layer activation).
  warnings.warn('`model.predict_classes()` is deprecated and '
```

Classification Review:

The classification reflects the accuracy achieved of the final model; we can see most values predicted to be accurate to the percentage of the model accuracy.

The model predictions are taken from the shuffled dataset values of the training and testing datapoints model and then reverted back to make predictions, this is the reason why the data points are different to the order of the datapoints in the original index of the dataset.

Review of accuracy ranges from the Final Model and others

The range of Accuracy from my final model is between 78% - 88% and I can see the Training and Testing difference in percentage is mostly close to each other. Due to the stochastic nature of the model the results can vary for each test run.

Challenges during the training phase various models I tried where to get the testing and training accuracy score as close as possible and reduce the sum squared error substantially in loss.

I began to see results as I introduced random_state values and learning rate step count for the model, to lower the impact in skewed learning from an imbalanced scale of data or magnitude of values while training. Doing so I was able to lower the loss and increase the prediction accuracy of the testing set data towards the Final model.

The distribution of weights where also a challenge as I had introduced hyperparameters like custom learning rate and trialling the model's accuracy in test each time to fit the model until the epochs and batch sizes where optimal fit.

A few glass types where dominant in the dataset, also the samples provided in the dataset where small to work with, by label-encoding and transforming the target data to categorical values I opted to use categorical cross entropy as my loss function mostly. If the values where to remain as integers in target I estimated the learning outcome would be of somewhat of an advanced method that could bring up the accuracy score between the training and testing test.

In many of my model training runs I had managed to reduce the loss substantially without overfitting the data and getting an agreeable accuracy level to make predictions as shown above in the predicted classifications.

References

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