

Keras implementation

Temperature and Humidity

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```
In [1]: import numpy as np
        from sklearn.preprocessing import MinMaxScaler, LabelEncoder
        from tensorflow.keras.models import Sequential
        from tensorflow.keras.layers import Dense
        from tensorflow.keras.optimizers import SGD
        import pandas as pd
```

```
In [2]: # Load your dataset
        df = pd.read_csv("data_Temperature_Humidity.csv")
        X = df[['Temperature', 'Humidity']].values
        y = LabelEncoder().fit_transform(df['Class']).reshape(-1, 1)
```

```
In [3]: # Normalize inputs
        X = MinMaxScaler().fit_transform(X)
```










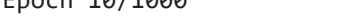
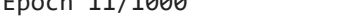


















```
In [4]: # Define the model
        model = Sequential([
            Dense(2, input_dim=2, activation='sigmoid'), # Layer L1
            Dense(1, activation='sigmoid')                # Output Layer L2
        ])
```


c:\Users\aldacoa\AppData\Local\python311\Lib\site-packages\keras\src\layers\core\dense.py:87: UserWarning: Do not pass an `input_shape`/`input_dim` argument to a layer. When using Sequential models, prefer using an `Input(shape)` object as the first layer in the model instead.


```
super().__init__(activity_regularizer=activity_regularizer, **kwargs)
```


```
In [5]: # Compile the model
        model.compile(optimizer=SGD(learning_rate=0.1), loss='binary_crossentropy', metrics=['accuracy'])
```


```
In [8]: # Train the model
        model.fit(X, y, epochs=1000, verbose=1)
```


Epoch 1/1000
1/1  0s 42ms/step - accuracy: 0.1000 - loss: 0.7108
Epoch 2/1000
1/1  0s 50ms/step - accuracy: 0.1000 - loss: 0.7107
Epoch 3/1000
1/1  0s 48ms/step - accuracy: 0.1000 - loss: 0.7106
Epoch 4/1000
1/1  0s 48ms/step - accuracy: 0.1000 - loss: 0.7104
Epoch 5/1000
1/1  0s 46ms/step - accuracy: 0.1000 - loss: 0.7103
Epoch 6/1000
1/1  0s 47ms/step - accuracy: 0.1000 - loss: 0.7101
Epoch 7/1000
1/1  0s 44ms/step - accuracy: 0.1000 - loss: 0.7100
Epoch 8/1000
1/1  0s 42ms/step - accuracy: 0.1000 - loss: 0.7099
Epoch 9/1000
1/1  0s 43ms/step - accuracy: 0.1000 - loss: 0.7097
Epoch 10/1000
1/1  0s 46ms/step - accuracy: 0.1000 - loss: 0.7096
Epoch 11/1000
1/1  0s 48ms/step - accuracy: 0.1000 - loss: 0.7095
Epoch 12/1000
1/1  0s 46ms/step - accuracy: 0.1000 - loss: 0.7093
Epoch 13/1000
1/1  0s 47ms/step - accuracy: 0.1000 - loss: 0.7092
Epoch 14/1000
1/1  0s 47ms/step - accuracy: 0.1000 - loss: 0.7090
Epoch 15/1000
1/1  0s 47ms/step - accuracy: 0.1000 - loss: 0.7089
Epoch 16/1000
1/1  0s 40ms/step - accuracy: 0.1000 - loss: 0.7088
Epoch 17/1000
1/1  0s 44ms/step - accuracy: 0.1000 - loss: 0.7086
Epoch 18/1000
1/1  0s 42ms/step - accuracy: 0.1000 - loss: 0.7085
Epoch 19/1000
1/1  0s 56ms/step - accuracy: 0.1000 - loss: 0.7084
Epoch 20/1000
1/1  0s 56ms/step - accuracy: 0.1000 - loss: 0.7083
Epoch 21/1000
1/1  0s 70ms/step - accuracy: 0.1000 - loss: 0.7081
Epoch 22/1000
1/1  0s 54ms/step - accuracy: 0.1000 - loss: 0.7080
Epoch 23/1000
1/1  0s 39ms/step - accuracy: 0.1000 - loss: 0.7079
Epoch 24/1000
1/1  0s 40ms/step - accuracy: 0.1000 - loss: 0.7077
Epoch 25/1000
1/1  0s 43ms/step - accuracy: 0.1000 - loss: 0.7076
Epoch 26/1000
1/1  0s 45ms/step - accuracy: 0.1000 - loss: 0.7075
Epoch 27/1000
1/1  0s 43ms/step - accuracy: 0.1000 - loss: 0.7074
Epoch 28/1000
1/1  0s 46ms/step - accuracy: 0.1000 - loss: 0.7072
Epoch 29/1000
1/1  0s 40ms/step - accuracy: 0.1000 - loss: 0.7071
Epoch 30/1000


1/1  0s 40ms/step - accuracy: 0.1000 - loss: 0.7070
Epoch 31/1000


1/1  0s 43ms/step - accuracy: 0.1000 - loss: 0.7069
Epoch 32/1000


1/1  0s 42ms/step - accuracy: 0.1000 - loss: 0.7067
Epoch 33/1000


1/1  0s 46ms/step - accuracy: 0.1000 - loss: 0.7066
Epoch 34/1000


1/1  0s 46ms/step - accuracy: 0.1000 - loss: 0.7065
Epoch 35/1000


1/1  0s 43ms/step - accuracy: 0.1000 - loss: 0.7064
Epoch 36/1000


1/1  0s 47ms/step - accuracy: 0.1000 - loss: 0.7063
Epoch 37/1000


1/1  0s 48ms/step - accuracy: 0.1000 - loss: 0.7061
Epoch 38/1000


1/1  0s 47ms/step - accuracy: 0.1000 - loss: 0.7060
Epoch 39/1000


1/1  0s 45ms/step - accuracy: 0.1000 - loss: 0.7059
Epoch 40/1000


1/1  0s 49ms/step - accuracy: 0.1000 - loss: 0.7058
Epoch 41/1000


1/1  0s 41ms/step - accuracy: 0.1000 - loss: 0.7057
Epoch 42/1000


1/1  0s 41ms/step - accuracy: 0.1000 - loss: 0.7055
Epoch 43/1000


1/1  0s 47ms/step - accuracy: 0.1000 - loss: 0.7054
Epoch 44/1000


1/1  0s 43ms/step - accuracy: 0.1000 - loss: 0.7053
Epoch 45/1000


1/1  0s 47ms/step - accuracy: 0.2000 - loss: 0.7052
Epoch 46/1000


1/1  0s 44ms/step - accuracy: 0.2000 - loss: 0.7051
Epoch 47/1000


1/1  0s 38ms/step - accuracy: 0.2000 - loss: 0.7050
Epoch 48/1000


1/1  0s 42ms/step - accuracy: 0.2000 - loss: 0.7048
Epoch 49/1000


1/1  0s 40ms/step - accuracy: 0.3000 - loss: 0.7047
Epoch 50/1000


1/1  0s 38ms/step - accuracy: 0.4000 - loss: 0.7046
Epoch 51/1000


1/1  0s 45ms/step - accuracy: 0.4000 - loss: 0.7045
Epoch 52/1000


1/1  0s 39ms/step - accuracy: 0.4000 - loss: 0.7044
Epoch 53/1000


1/1  0s 46ms/step - accuracy: 0.4000 - loss: 0.7043
Epoch 54/1000


1/1  0s 49ms/step - accuracy: 0.4000 - loss: 0.7042
Epoch 55/1000


1/1  0s 47ms/step - accuracy: 0.4000 - loss: 0.7040
Epoch 56/1000


1/1  0s 47ms/step - accuracy: 0.4000 - loss: 0.7039
Epoch 57/1000


1/1  0s 50ms/step - accuracy: 0.4000 - loss: 0.7038
Epoch 58/1000


1/1  0s 42ms/step - accuracy: 0.4000 - loss: 0.7037
Epoch 59/1000


1/1  0s 47ms/step - accuracy: 0.4000 - loss: 0.7036


Epoch 60/1000
1/1  0s 41ms/step - accuracy: 0.4000 - loss: 0.7035


Epoch 61/1000
1/1  0s 43ms/step - accuracy: 0.4000 - loss: 0.7034


Epoch 62/1000
1/1  0s 42ms/step - accuracy: 0.4000 - loss: 0.7033

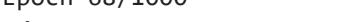
Epoch 63/1000
1/1  0s 44ms/step - accuracy: 0.4000 - loss: 0.7031

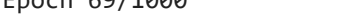
Epoch 64/1000
1/1  0s 40ms/step - accuracy: 0.4000 - loss: 0.7030

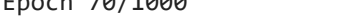
Epoch 65/1000
1/1  0s 47ms/step - accuracy: 0.4000 - loss: 0.7029


Epoch 66/1000
1/1  0s 47ms/step - accuracy: 0.4000 - loss: 0.7028


Epoch 67/1000
1/1  0s 40ms/step - accuracy: 0.4000 - loss: 0.7027


Epoch 68/1000
1/1  0s 54ms/step - accuracy: 0.4000 - loss: 0.7026


Epoch 69/1000
1/1  0s 45ms/step - accuracy: 0.4000 - loss: 0.7025


Epoch 70/1000
1/1  0s 51ms/step - accuracy: 0.4000 - loss: 0.7024


Epoch 71/1000
1/1  0s 47ms/step - accuracy: 0.4000 - loss: 0.7023


Epoch 72/1000
1/1  0s 46ms/step - accuracy: 0.4000 - loss: 0.7022


Epoch 73/1000
1/1  0s 47ms/step - accuracy: 0.4000 - loss: 0.7021


Epoch 74/1000
1/1  0s 38ms/step - accuracy: 0.4000 - loss: 0.7020


Epoch 75/1000
1/1  0s 42ms/step - accuracy: 0.4000 - loss: 0.7019


Epoch 76/1000
1/1  0s 39ms/step - accuracy: 0.4000 - loss: 0.7018


Epoch 77/1000
1/1  0s 80ms/step - accuracy: 0.4000 - loss: 0.7016


Epoch 78/1000
1/1  0s 54ms/step - accuracy: 0.4000 - loss: 0.7015


Epoch 79/1000
1/1  0s 50ms/step - accuracy: 0.4000 - loss: 0.7014


Epoch 80/1000
1/1  0s 51ms/step - accuracy: 0.4000 - loss: 0.7013


Epoch 81/1000
1/1  0s 48ms/step - accuracy: 0.4000 - loss: 0.7012


Epoch 82/1000
1/1  0s 40ms/step - accuracy: 0.4000 - loss: 0.7011


Epoch 83/1000
1/1  0s 50ms/step - accuracy: 0.4000 - loss: 0.7010

Epoch 84/1000
1/1  0s 54ms/step - accuracy: 0.4000 - loss: 0.7009


Epoch 85/1000
1/1  0s 59ms/step - accuracy: 0.5000 - loss: 0.7008


Epoch 86/1000
1/1  0s 43ms/step - accuracy: 0.5000 - loss: 0.7007


Epoch 87/1000
1/1  0s 47ms/step - accuracy: 0.5000 - loss: 0.7006


Epoch 88/1000
1/1  0s 53ms/step - accuracy: 0.5000 - loss: 0.7005


Epoch 89/1000


1/1  0s 42ms/step - accuracy: 0.5000 - loss: 0.7004
Epoch 90/1000


1/1  0s 43ms/step - accuracy: 0.5000 - loss: 0.7003
Epoch 91/1000


1/1  0s 45ms/step - accuracy: 0.5000 - loss: 0.7002
Epoch 92/1000


1/1  0s 48ms/step - accuracy: 0.5000 - loss: 0.7001
Epoch 93/1000


1/1  0s 49ms/step - accuracy: 0.5000 - loss: 0.7000
Epoch 94/1000


1/1  0s 49ms/step - accuracy: 0.5000 - loss: 0.6999
Epoch 95/1000


1/1  0s 50ms/step - accuracy: 0.5000 - loss: 0.6998
Epoch 96/1000


1/1  0s 47ms/step - accuracy: 0.5000 - loss: 0.6997
Epoch 97/1000


1/1  0s 48ms/step - accuracy: 0.5000 - loss: 0.6996
Epoch 98/1000


1/1  0s 42ms/step - accuracy: 0.5000 - loss: 0.6995
Epoch 99/1000


1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6994
Epoch 100/1000


1/1  0s 43ms/step - accuracy: 0.5000 - loss: 0.6993
Epoch 101/1000


1/1  0s 44ms/step - accuracy: 0.5000 - loss: 0.6992
Epoch 102/1000


1/1  0s 44ms/step - accuracy: 0.5000 - loss: 0.6991
Epoch 103/1000


1/1  0s 40ms/step - accuracy: 0.5000 - loss: 0.6990
Epoch 104/1000


1/1  0s 40ms/step - accuracy: 0.5000 - loss: 0.6989
Epoch 105/1000


1/1  0s 48ms/step - accuracy: 0.5000 - loss: 0.6988
Epoch 106/1000


1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6987
Epoch 107/1000


1/1  0s 49ms/step - accuracy: 0.5000 - loss: 0.6986
Epoch 108/1000


1/1  0s 42ms/step - accuracy: 0.5000 - loss: 0.6985
Epoch 109/1000


1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6984
Epoch 110/1000


1/1  0s 44ms/step - accuracy: 0.5000 - loss: 0.6983
Epoch 111/1000


1/1  0s 42ms/step - accuracy: 0.5000 - loss: 0.6982
Epoch 112/1000


1/1  0s 50ms/step - accuracy: 0.5000 - loss: 0.6981
Epoch 113/1000


1/1  0s 39ms/step - accuracy: 0.5000 - loss: 0.6980
Epoch 114/1000






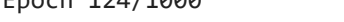













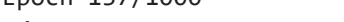
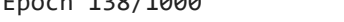








1/1  0s 36ms/step - accuracy: 0.5000 - loss: 0.6979
Epoch 115/1000


1/1  0s 45ms/step - accuracy: 0.5000 - loss: 0.6978
Epoch 116/1000


1/1  0s 43ms/step - accuracy: 0.5000 - loss: 0.6977
Epoch 117/1000


1/1  0s 45ms/step - accuracy: 0.5000 - loss: 0.6976
Epoch 118/1000


1/1  0s 48ms/step - accuracy: 0.5000 - loss: 0.6975


Epoch 119/1000
1/1  0s 58ms/step - accuracy: 0.5000 - loss: 0.6974
Epoch 120/1000
1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6973
Epoch 121/1000
1/1  0s 36ms/step - accuracy: 0.5000 - loss: 0.6972
Epoch 122/1000
1/1  0s 41ms/step - accuracy: 0.5000 - loss: 0.6972
Epoch 123/1000
1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6971
Epoch 124/1000
1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6970
Epoch 125/1000
1/1  0s 44ms/step - accuracy: 0.5000 - loss: 0.6969
Epoch 126/1000
1/1  0s 43ms/step - accuracy: 0.5000 - loss: 0.6968
Epoch 127/1000
1/1  0s 49ms/step - accuracy: 0.5000 - loss: 0.6967
Epoch 128/1000
1/1  0s 37ms/step - accuracy: 0.5000 - loss: 0.6966
Epoch 129/1000
1/1  0s 45ms/step - accuracy: 0.5000 - loss: 0.6965
Epoch 130/1000
1/1  0s 45ms/step - accuracy: 0.5000 - loss: 0.6964
Epoch 131/1000
1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6963
Epoch 132/1000
1/1  0s 78ms/step - accuracy: 0.5000 - loss: 0.6962
Epoch 133/1000
1/1  0s 51ms/step - accuracy: 0.5000 - loss: 0.6961
Epoch 134/1000
1/1  0s 42ms/step - accuracy: 0.5000 - loss: 0.6960
Epoch 135/1000
1/1  0s 51ms/step - accuracy: 0.5000 - loss: 0.6959
Epoch 136/1000
1/1  0s 38ms/step - accuracy: 0.5000 - loss: 0.6958
Epoch 137/1000
1/1  0s 51ms/step - accuracy: 0.5000 - loss: 0.6957
Epoch 138/1000
1/1  0s 44ms/step - accuracy: 0.5000 - loss: 0.6956
Epoch 139/1000
1/1  0s 38ms/step - accuracy: 0.5000 - loss: 0.6955
Epoch 140/1000
1/1  0s 45ms/step - accuracy: 0.5000 - loss: 0.6954
Epoch 141/1000
1/1  0s 41ms/step - accuracy: 0.5000 - loss: 0.6953
Epoch 142/1000
1/1  0s 45ms/step - accuracy: 0.5000 - loss: 0.6953
Epoch 143/1000
1/1  0s 42ms/step - accuracy: 0.5000 - loss: 0.6952
Epoch 144/1000
1/1  0s 44ms/step - accuracy: 0.5000 - loss: 0.6951
Epoch 145/1000
1/1  0s 50ms/step - accuracy: 0.5000 - loss: 0.6950
Epoch 146/1000
1/1  0s 45ms/step - accuracy: 0.5000 - loss: 0.6949
Epoch 147/1000
1/1  0s 41ms/step - accuracy: 0.5000 - loss: 0.6948
Epoch 148/1000


1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6947
Epoch 149/1000


1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6946
Epoch 150/1000


1/1  0s 54ms/step - accuracy: 0.5000 - loss: 0.6945
Epoch 151/1000


1/1  0s 38ms/step - accuracy: 0.5000 - loss: 0.6944
Epoch 152/1000


1/1  0s 38ms/step - accuracy: 0.5000 - loss: 0.6943
Epoch 153/1000


1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6942
Epoch 154/1000


1/1  0s 45ms/step - accuracy: 0.5000 - loss: 0.6941
Epoch 155/1000


1/1  0s 38ms/step - accuracy: 0.5000 - loss: 0.6940
Epoch 156/1000


1/1  0s 48ms/step - accuracy: 0.5000 - loss: 0.6939
Epoch 157/1000


1/1  0s 54ms/step - accuracy: 0.5000 - loss: 0.6938
Epoch 158/1000


1/1  0s 52ms/step - accuracy: 0.5000 - loss: 0.6938
Epoch 159/1000


1/1  0s 62ms/step - accuracy: 0.5000 - loss: 0.6937
Epoch 160/1000


1/1  0s 37ms/step - accuracy: 0.5000 - loss: 0.6936
Epoch 161/1000


1/1  0s 44ms/step - accuracy: 0.5000 - loss: 0.6935
Epoch 162/1000


1/1  0s 48ms/step - accuracy: 0.5000 - loss: 0.6934
Epoch 163/1000


1/1  0s 49ms/step - accuracy: 0.5000 - loss: 0.6933
Epoch 164/1000


1/1  0s 46ms/step - accuracy: 0.5000 - loss: 0.6932
Epoch 165/1000


1/1  0s 45ms/step - accuracy: 0.5000 - loss: 0.6931
Epoch 166/1000


1/1  0s 49ms/step - accuracy: 0.5000 - loss: 0.6930
Epoch 167/1000


1/1  0s 43ms/step - accuracy: 0.5000 - loss: 0.6929
Epoch 168/1000


1/1  0s 41ms/step - accuracy: 0.5000 - loss: 0.6928
Epoch 169/1000


1/1  0s 32ms/step - accuracy: 0.5000 - loss: 0.6927
Epoch 170/1000


1/1  0s 38ms/step - accuracy: 0.5000 - loss: 0.6926
Epoch 171/1000


1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6925
Epoch 172/1000


1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6924
Epoch 173/1000









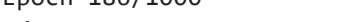
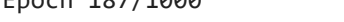
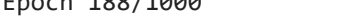


















1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6923
Epoch 174/1000


1/1  0s 33ms/step - accuracy: 0.5000 - loss: 0.6923
Epoch 175/1000


1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6922
Epoch 176/1000


1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6921
Epoch 177/1000


1/1  0s 32ms/step - accuracy: 0.5000 - loss: 0.6920


Epoch 178/1000
1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6919
Epoch 179/1000
1/1  0s 36ms/step - accuracy: 0.5000 - loss: 0.6918
Epoch 180/1000
1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6917
Epoch 181/1000
1/1  0s 38ms/step - accuracy: 0.5000 - loss: 0.6916
Epoch 182/1000
1/1  0s 33ms/step - accuracy: 0.5000 - loss: 0.6915
Epoch 183/1000
1/1  0s 33ms/step - accuracy: 0.5000 - loss: 0.6914
Epoch 184/1000
1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6913
Epoch 185/1000
1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6912
Epoch 186/1000
1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6911
Epoch 187/1000
1/1  0s 50ms/step - accuracy: 0.5000 - loss: 0.6910
Epoch 188/1000
1/1  0s 37ms/step - accuracy: 0.5000 - loss: 0.6909
Epoch 189/1000
1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6908
Epoch 190/1000
1/1  0s 40ms/step - accuracy: 0.5000 - loss: 0.6907
Epoch 191/1000
1/1  0s 33ms/step - accuracy: 0.5000 - loss: 0.6906
Epoch 192/1000
1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6905
Epoch 193/1000
1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6905
Epoch 194/1000
1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6904
Epoch 195/1000
1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6903
Epoch 196/1000
1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6902
Epoch 197/1000
1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6901
Epoch 198/1000
1/1  0s 38ms/step - accuracy: 0.5000 - loss: 0.6900
Epoch 199/1000
1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6899
Epoch 200/1000
1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6898
Epoch 201/1000
1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6897
Epoch 202/1000
1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6896
Epoch 203/1000
1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6895
Epoch 204/1000
1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6894
Epoch 205/1000
1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6893
Epoch 206/1000
1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6892
Epoch 207/1000


1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6891
Epoch 208/1000


1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6890
Epoch 209/1000


1/1  0s 37ms/step - accuracy: 0.5000 - loss: 0.6889
Epoch 210/1000


1/1  0s 36ms/step - accuracy: 0.5000 - loss: 0.6888
Epoch 211/1000


1/1  0s 36ms/step - accuracy: 0.5000 - loss: 0.6887
Epoch 212/1000


1/1  0s 35ms/step - accuracy: 0.5000 - loss: 0.6886
Epoch 213/1000


1/1  0s 33ms/step - accuracy: 0.5000 - loss: 0.6885
Epoch 214/1000


1/1  0s 34ms/step - accuracy: 0.5000 - loss: 0.6884
Epoch 215/1000


1/1  0s 34ms/step - accuracy: 0.6000 - loss: 0.6883
Epoch 216/1000


1/1  0s 36ms/step - accuracy: 0.6000 - loss: 0.6882
Epoch 217/1000


1/1  0s 35ms/step - accuracy: 0.6000 - loss: 0.6881
Epoch 218/1000


1/1  0s 34ms/step - accuracy: 0.6000 - loss: 0.6880
Epoch 219/1000


1/1  0s 34ms/step - accuracy: 0.6000 - loss: 0.6879
Epoch 220/1000


1/1  0s 35ms/step - accuracy: 0.6000 - loss: 0.6878
Epoch 221/1000


1/1  0s 54ms/step - accuracy: 0.6000 - loss: 0.6877
Epoch 222/1000


1/1  0s 37ms/step - accuracy: 0.6000 - loss: 0.6876
Epoch 223/1000


1/1  0s 35ms/step - accuracy: 0.6000 - loss: 0.6875
Epoch 224/1000


1/1  0s 34ms/step - accuracy: 0.6000 - loss: 0.6874
Epoch 225/1000


1/1  0s 34ms/step - accuracy: 0.6000 - loss: 0.6873
Epoch 226/1000


1/1  0s 35ms/step - accuracy: 0.6000 - loss: 0.6872
Epoch 227/1000


1/1  0s 34ms/step - accuracy: 0.6000 - loss: 0.6871
Epoch 228/1000


1/1  0s 38ms/step - accuracy: 0.6000 - loss: 0.6870
Epoch 229/1000


1/1  0s 39ms/step - accuracy: 0.6000 - loss: 0.6869
Epoch 230/1000


1/1  0s 33ms/step - accuracy: 0.6000 - loss: 0.6868
Epoch 231/1000


1/1  0s 34ms/step - accuracy: 0.6000 - loss: 0.6867
Epoch 232/1000






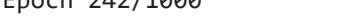













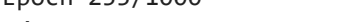
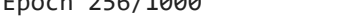








1/1  0s 34ms/step - accuracy: 0.6000 - loss: 0.6866
Epoch 233/1000


1/1  0s 34ms/step - accuracy: 0.7000 - loss: 0.6865
Epoch 234/1000


1/1  0s 36ms/step - accuracy: 0.7000 - loss: 0.6864
Epoch 235/1000


1/1  0s 36ms/step - accuracy: 0.7000 - loss: 0.6863
Epoch 236/1000


1/1  0s 34ms/step - accuracy: 0.7000 - loss: 0.6862


Epoch 237/1000
1/1  0s 37ms/step - accuracy: 0.7000 - loss: 0.6861
Epoch 238/1000
1/1  0s 36ms/step - accuracy: 0.7000 - loss: 0.6860
Epoch 239/1000
1/1  0s 33ms/step - accuracy: 0.7000 - loss: 0.6858
Epoch 240/1000
1/1  0s 35ms/step - accuracy: 0.7000 - loss: 0.6857
Epoch 241/1000
1/1  0s 34ms/step - accuracy: 0.7000 - loss: 0.6856
Epoch 242/1000
1/1  0s 33ms/step - accuracy: 0.8000 - loss: 0.6855
Epoch 243/1000
1/1  0s 38ms/step - accuracy: 0.8000 - loss: 0.6854
Epoch 244/1000
1/1  0s 35ms/step - accuracy: 0.8000 - loss: 0.6853
Epoch 245/1000
1/1  0s 34ms/step - accuracy: 0.8000 - loss: 0.6852
Epoch 246/1000
1/1  0s 36ms/step - accuracy: 0.8000 - loss: 0.6851
Epoch 247/1000
1/1  0s 36ms/step - accuracy: 0.8000 - loss: 0.6850
Epoch 248/1000
1/1  0s 34ms/step - accuracy: 0.8000 - loss: 0.6849
Epoch 249/1000
1/1  0s 37ms/step - accuracy: 0.8000 - loss: 0.6848
Epoch 250/1000
1/1  0s 37ms/step - accuracy: 0.8000 - loss: 0.6847
Epoch 251/1000
1/1  0s 45ms/step - accuracy: 0.8000 - loss: 0.6846
Epoch 252/1000
1/1  0s 36ms/step - accuracy: 0.8000 - loss: 0.6844
Epoch 253/1000
1/1  0s 36ms/step - accuracy: 0.8000 - loss: 0.6843
Epoch 254/1000
1/1  0s 33ms/step - accuracy: 0.9000 - loss: 0.6842
Epoch 255/1000
1/1  0s 35ms/step - accuracy: 0.9000 - loss: 0.6841
Epoch 256/1000
1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6840
Epoch 257/1000
1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6839
Epoch 258/1000
1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6838
Epoch 259/1000
1/1  0s 37ms/step - accuracy: 0.9000 - loss: 0.6837
Epoch 260/1000
1/1  0s 36ms/step - accuracy: 0.9000 - loss: 0.6836
Epoch 261/1000
1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6834
Epoch 262/1000
1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6833
Epoch 263/1000
1/1  0s 38ms/step - accuracy: 0.9000 - loss: 0.6832
Epoch 264/1000
1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6831
Epoch 265/1000
1/1  0s 37ms/step - accuracy: 0.9000 - loss: 0.6830
Epoch 266/1000


1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6829
Epoch 267/1000


1/1  0s 36ms/step - accuracy: 0.9000 - loss: 0.6828
Epoch 268/1000


1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6826
Epoch 269/1000


1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6825
Epoch 270/1000


1/1  0s 35ms/step - accuracy: 0.9000 - loss: 0.6824
Epoch 271/1000


1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6823
Epoch 272/1000


1/1  0s 35ms/step - accuracy: 0.9000 - loss: 0.6822
Epoch 273/1000


1/1  0s 37ms/step - accuracy: 0.9000 - loss: 0.6821
Epoch 274/1000


1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6819
Epoch 275/1000


1/1  0s 34ms/step - accuracy: 0.9000 - loss: 0.6818
Epoch 276/1000


1/1  0s 36ms/step - accuracy: 0.9000 - loss: 0.6817
Epoch 277/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6816
Epoch 278/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6815
Epoch 279/1000


1/1  0s 55ms/step - accuracy: 1.0000 - loss: 0.6813
Epoch 280/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6812
Epoch 281/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6811
Epoch 282/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6810
Epoch 283/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6808
Epoch 284/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6807
Epoch 285/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6806
Epoch 286/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6805
Epoch 287/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6803
Epoch 288/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6802
Epoch 289/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6801
Epoch 290/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6800
Epoch 291/1000






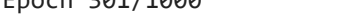













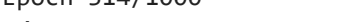
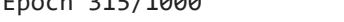








1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6798
Epoch 292/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6797
Epoch 293/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6796
Epoch 294/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6795
Epoch 295/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6793


Epoch 296/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6792
Epoch 297/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6791
Epoch 298/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6789
Epoch 299/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6788
Epoch 300/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6787
Epoch 301/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6785
Epoch 302/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6784
Epoch 303/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6783
Epoch 304/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6781
Epoch 305/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6780
Epoch 306/1000
1/1  0s 51ms/step - accuracy: 1.0000 - loss: 0.6779
Epoch 307/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6777
Epoch 308/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6776
Epoch 309/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6775
Epoch 310/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6773
Epoch 311/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6772
Epoch 312/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6770
Epoch 313/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6769
Epoch 314/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6768
Epoch 315/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6766
Epoch 316/1000
1/1  0s 33ms/step - accuracy: 1.0000 - loss: 0.6765
Epoch 317/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6763
Epoch 318/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6762
Epoch 319/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6760
Epoch 320/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6759
Epoch 321/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6758
Epoch 322/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6756
Epoch 323/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6755
Epoch 324/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6753
Epoch 325/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6752
Epoch 326/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6750
Epoch 327/1000


1/1  0s 33ms/step - accuracy: 1.0000 - loss: 0.6749
Epoch 328/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6747
Epoch 329/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6746
Epoch 330/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6744
Epoch 331/1000


1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.6743
Epoch 332/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6741
Epoch 333/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6740
Epoch 334/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6738
Epoch 335/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6736
Epoch 336/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6735
Epoch 337/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6733
Epoch 338/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6732
Epoch 339/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6730
Epoch 340/1000


1/1  0s 33ms/step - accuracy: 1.0000 - loss: 0.6729
Epoch 341/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6727
Epoch 342/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6725
Epoch 343/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6724
Epoch 344/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6722
Epoch 345/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6721
Epoch 346/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6719
Epoch 347/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6717
Epoch 348/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6716
Epoch 349/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6714
Epoch 350/1000






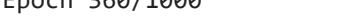













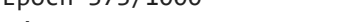
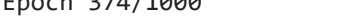








1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6712
Epoch 351/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6711
Epoch 352/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6709
Epoch 353/1000


1/1  0s 49ms/step - accuracy: 1.0000 - loss: 0.6707
Epoch 354/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6705


Epoch 355/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6704
Epoch 356/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.6702
Epoch 357/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6700
Epoch 358/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6699
Epoch 359/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6697
Epoch 360/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6695
Epoch 361/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6693
Epoch 362/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6692
Epoch 363/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6690
Epoch 364/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6688
Epoch 365/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6686
Epoch 366/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6684
Epoch 367/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6682
Epoch 368/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6681
Epoch 369/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6679
Epoch 370/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6677
Epoch 371/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6675
Epoch 372/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6673
Epoch 373/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6671
Epoch 374/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6669
Epoch 375/1000
1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.6668
Epoch 376/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6666
Epoch 377/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6664
Epoch 378/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6662
Epoch 379/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6660
Epoch 380/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6658
Epoch 381/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6656
Epoch 382/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6654
Epoch 383/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6652
Epoch 384/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6650
Epoch 385/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6648
Epoch 386/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6646
Epoch 387/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6644
Epoch 388/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6642
Epoch 389/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6640
Epoch 390/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6638
Epoch 391/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6636
Epoch 392/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6634
Epoch 393/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6632
Epoch 394/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6630
Epoch 395/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6627
Epoch 396/1000


1/1  0s 55ms/step - accuracy: 1.0000 - loss: 0.6625
Epoch 397/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6623
Epoch 398/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6621
Epoch 399/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6619
Epoch 400/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6617
Epoch 401/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6615
Epoch 402/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6612
Epoch 403/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6610
Epoch 404/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6608
Epoch 405/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6606
Epoch 406/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6604
Epoch 407/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6601
Epoch 408/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6599
Epoch 409/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6597
Epoch 410/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6595
Epoch 411/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6592
Epoch 412/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6590
Epoch 413/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6588

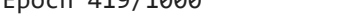
Epoch 414/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6585


Epoch 415/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6583


Epoch 416/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6581


Epoch 417/1000
1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.6578


Epoch 418/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.6576


Epoch 419/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6574


Epoch 420/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6571


Epoch 421/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6569


Epoch 422/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6566


Epoch 423/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6564


Epoch 424/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6561


Epoch 425/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.6559


Epoch 426/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6557


Epoch 427/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6554

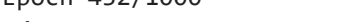
Epoch 428/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6552

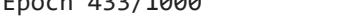
Epoch 429/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6549


Epoch 430/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6546


Epoch 431/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6544


Epoch 432/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6541


Epoch 433/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6539


Epoch 434/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6536


Epoch 435/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6534


Epoch 436/1000
1/1  0s 33ms/step - accuracy: 1.0000 - loss: 0.6531


Epoch 437/1000
1/1  0s 48ms/step - accuracy: 1.0000 - loss: 0.6528

Epoch 438/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6526


Epoch 439/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6523


Epoch 440/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6520


Epoch 441/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6518


Epoch 442/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6515


Epoch 443/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6512
Epoch 444/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6510
Epoch 445/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6507
Epoch 446/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6504
Epoch 447/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6501
Epoch 448/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6499
Epoch 449/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.6496
Epoch 450/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6493
Epoch 451/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6490
Epoch 452/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6487
Epoch 453/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6485
Epoch 454/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6482
Epoch 455/1000


1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.6479
Epoch 456/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6476
Epoch 457/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6473
Epoch 458/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6470
Epoch 459/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6467
Epoch 460/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6464
Epoch 461/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6461
Epoch 462/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6458
Epoch 463/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6455
Epoch 464/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6452
Epoch 465/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6449
Epoch 466/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6446
Epoch 467/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6443
Epoch 468/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6440
Epoch 469/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6437
Epoch 470/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6434
Epoch 471/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6431
Epoch 472/1000


1/1  0s 55ms/step - accuracy: 1.0000 - loss: 0.6428

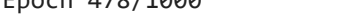
Epoch 473/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6425


Epoch 474/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6421


Epoch 475/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6418


Epoch 476/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6415


Epoch 477/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6412


Epoch 478/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6409


Epoch 479/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6405


Epoch 480/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6402


Epoch 481/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6399


Epoch 482/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6395


Epoch 483/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6392


Epoch 484/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6389


Epoch 485/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6385


Epoch 486/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6382

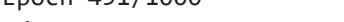
Epoch 487/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6379

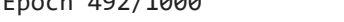
Epoch 488/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6375


Epoch 489/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.6372


Epoch 490/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6369


Epoch 491/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6365


Epoch 492/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6362


Epoch 493/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6358


Epoch 494/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6355


Epoch 495/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.6351


Epoch 496/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6348

Epoch 497/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6344


Epoch 498/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6340


Epoch 499/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6337


Epoch 500/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6333


Epoch 501/1000
1/1  0s 79ms/step - accuracy: 1.0000 - loss: 0.6330


Epoch 502/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6326
Epoch 503/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6322
Epoch 504/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6319
Epoch 505/1000


1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.6315
Epoch 506/1000


1/1  0s 47ms/step - accuracy: 1.0000 - loss: 0.6311
Epoch 507/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6308
Epoch 508/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6304
Epoch 509/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6300
Epoch 510/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6296
Epoch 511/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6293
Epoch 512/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6289
Epoch 513/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6285
Epoch 514/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6281
Epoch 515/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6277
Epoch 516/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6273
Epoch 517/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6269
Epoch 518/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.6265
Epoch 519/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6261
Epoch 520/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6258
Epoch 521/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6254
Epoch 522/1000


1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.6250
Epoch 523/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6246
Epoch 524/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6241
Epoch 525/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.6237
Epoch 526/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6233
Epoch 527/1000






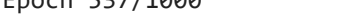













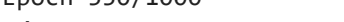
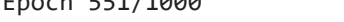








1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.6229
Epoch 528/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6225
Epoch 529/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6221
Epoch 530/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6217
Epoch 531/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6213


Epoch 532/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6208
Epoch 533/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6204
Epoch 534/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6200
Epoch 535/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6196
Epoch 536/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6192
Epoch 537/1000
1/1  0s 53ms/step - accuracy: 1.0000 - loss: 0.6187
Epoch 538/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6183
Epoch 539/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6179
Epoch 540/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6174
Epoch 541/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6170
Epoch 542/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6166
Epoch 543/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6161
Epoch 544/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6157
Epoch 545/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6152
Epoch 546/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6148
Epoch 547/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6143
Epoch 548/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6139
Epoch 549/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6134
Epoch 550/1000
1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.6130
Epoch 551/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6125
Epoch 552/1000
1/1  0s 47ms/step - accuracy: 1.0000 - loss: 0.6121
Epoch 553/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6116
Epoch 554/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6111
Epoch 555/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6107
Epoch 556/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.6102
Epoch 557/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.6097
Epoch 558/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6093
Epoch 559/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6088
Epoch 560/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6083
Epoch 561/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.6078
Epoch 562/1000


1/1  0s 63ms/step - accuracy: 1.0000 - loss: 0.6074
Epoch 563/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.6069
Epoch 564/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.6064
Epoch 565/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.6059
Epoch 566/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.6054
Epoch 567/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.6049
Epoch 568/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6044
Epoch 569/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6040
Epoch 570/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6035
Epoch 571/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.6030
Epoch 572/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6025
Epoch 573/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6020
Epoch 574/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.6015
Epoch 575/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.6010
Epoch 576/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.6004
Epoch 577/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5999
Epoch 578/1000


1/1  0s 52ms/step - accuracy: 1.0000 - loss: 0.5994
Epoch 579/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.5989
Epoch 580/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5984
Epoch 581/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.5979
Epoch 582/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5974
Epoch 583/1000


1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.5968
Epoch 584/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5963
Epoch 585/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5958
Epoch 586/1000






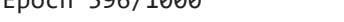













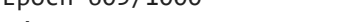
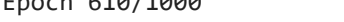








1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5952
Epoch 587/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5947
Epoch 588/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5942
Epoch 589/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5937
Epoch 590/1000


1/1  0s 52ms/step - accuracy: 1.0000 - loss: 0.5931


Epoch 591/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5926
Epoch 592/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5920
Epoch 593/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5915
Epoch 594/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5909
Epoch 595/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.5904
Epoch 596/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5898
Epoch 597/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5893
Epoch 598/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5887
Epoch 599/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5882
Epoch 600/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5876
Epoch 601/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5871
Epoch 602/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5865
Epoch 603/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5859
Epoch 604/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5854
Epoch 605/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.5848
Epoch 606/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.5842
Epoch 607/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5837
Epoch 608/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5831
Epoch 609/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5825
Epoch 610/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.5819
Epoch 611/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5813
Epoch 612/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5808
Epoch 613/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5802
Epoch 614/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5796
Epoch 615/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5790
Epoch 616/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5784
Epoch 617/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5778
Epoch 618/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5772
Epoch 619/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5766
Epoch 620/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5760
Epoch 621/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5754
Epoch 622/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5748
Epoch 623/1000


1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.5742
Epoch 624/1000


1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.5736
Epoch 625/1000


1/1  0s 53ms/step - accuracy: 1.0000 - loss: 0.5730
Epoch 626/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5724
Epoch 627/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.5717
Epoch 628/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5711
Epoch 629/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5705
Epoch 630/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5699
Epoch 631/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5693
Epoch 632/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5686
Epoch 633/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5680
Epoch 634/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5674
Epoch 635/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.5667
Epoch 636/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5661
Epoch 637/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5655
Epoch 638/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5648
Epoch 639/1000


1/1  0s 55ms/step - accuracy: 1.0000 - loss: 0.5642
Epoch 640/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5635
Epoch 641/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5629
Epoch 642/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5623
Epoch 643/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5616
Epoch 644/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5610
Epoch 645/1000






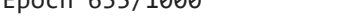













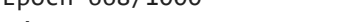
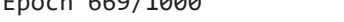








1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5603
Epoch 646/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5596
Epoch 647/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5590
Epoch 648/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5583
Epoch 649/1000


1/1  0s 47ms/step - accuracy: 1.0000 - loss: 0.5577


Epoch 650/1000
1/1  0s 48ms/step - accuracy: 1.0000 - loss: 0.5570
Epoch 651/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5563
Epoch 652/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5557
Epoch 653/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5550
Epoch 654/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5543
Epoch 655/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5537
Epoch 656/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5530
Epoch 657/1000
1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.5523
Epoch 658/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5516
Epoch 659/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5509
Epoch 660/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5503
Epoch 661/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5496
Epoch 662/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.5489
Epoch 663/1000
1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.5482
Epoch 664/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.5475
Epoch 665/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5468
Epoch 666/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5461
Epoch 667/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5454
Epoch 668/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5447
Epoch 669/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.5440
Epoch 670/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5433
Epoch 671/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.5426
Epoch 672/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5419
Epoch 673/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5412
Epoch 674/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5405
Epoch 675/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5398
Epoch 676/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.5391
Epoch 677/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5384
Epoch 678/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5376
Epoch 679/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5369
Epoch 680/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5362
Epoch 681/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.5355
Epoch 682/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.5348
Epoch 683/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5340
Epoch 684/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.5333
Epoch 685/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5326
Epoch 686/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5318
Epoch 687/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5311
Epoch 688/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5304
Epoch 689/1000


1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.5296
Epoch 690/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5289
Epoch 691/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.5282
Epoch 692/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5274
Epoch 693/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5267
Epoch 694/1000


1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.5259
Epoch 695/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5252
Epoch 696/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5244
Epoch 697/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5237
Epoch 698/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5229
Epoch 699/1000


1/1  0s 49ms/step - accuracy: 1.0000 - loss: 0.5222
Epoch 700/1000


1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.5214
Epoch 701/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5207
Epoch 702/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5199
Epoch 703/1000


1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.5192
Epoch 704/1000






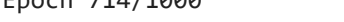













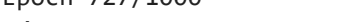
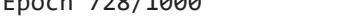








1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5184
Epoch 705/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5176
Epoch 706/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5169
Epoch 707/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5161
Epoch 708/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.5153


Epoch 709/1000
1/1  0s 56ms/step - accuracy: 1.0000 - loss: 0.5146
Epoch 710/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5138
Epoch 711/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.5130
Epoch 712/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.5123
Epoch 713/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.5115
Epoch 714/1000
1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.5107
Epoch 715/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.5099
Epoch 716/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5092
Epoch 717/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.5084
Epoch 718/1000
1/1  0s 48ms/step - accuracy: 1.0000 - loss: 0.5076
Epoch 719/1000
1/1  0s 46ms/step - accuracy: 1.0000 - loss: 0.5068
Epoch 720/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5060
Epoch 721/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5052
Epoch 722/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5045
Epoch 723/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.5037
Epoch 724/1000
1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.5029
Epoch 725/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.5021
Epoch 726/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.5013
Epoch 727/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.5005
Epoch 728/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4997
Epoch 729/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4989
Epoch 730/1000
1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.4981
Epoch 731/1000
1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.4973
Epoch 732/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4965
Epoch 733/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4957
Epoch 734/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4949
Epoch 735/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4941
Epoch 736/1000
1/1  0s 83ms/step - accuracy: 1.0000 - loss: 0.4933
Epoch 737/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4925
Epoch 738/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.4917
Epoch 739/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.4909
Epoch 740/1000


1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.4901
Epoch 741/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.4893
Epoch 742/1000


1/1  0s 52ms/step - accuracy: 1.0000 - loss: 0.4885
Epoch 743/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.4877
Epoch 744/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4869
Epoch 745/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4861
Epoch 746/1000


1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.4852
Epoch 747/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4844
Epoch 748/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.4836
Epoch 749/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4828
Epoch 750/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4820
Epoch 751/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4812
Epoch 752/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4804
Epoch 753/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4795
Epoch 754/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4787
Epoch 755/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4779
Epoch 756/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.4771
Epoch 757/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.4763
Epoch 758/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4754
Epoch 759/1000


1/1  0s 49ms/step - accuracy: 1.0000 - loss: 0.4746
Epoch 760/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4738
Epoch 761/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.4730
Epoch 762/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4721
Epoch 763/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4713
Epoch 764/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4705
Epoch 765/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4696
Epoch 766/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4688
Epoch 767/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4680

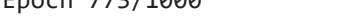
Epoch 768/1000
1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.4672


Epoch 769/1000
1/1  0s 51ms/step - accuracy: 1.0000 - loss: 0.4663


Epoch 770/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4655


Epoch 771/1000
1/1  0s 49ms/step - accuracy: 1.0000 - loss: 0.4647


Epoch 772/1000
1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.4638


Epoch 773/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4630


Epoch 774/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.4622


Epoch 775/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4613


Epoch 776/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4605


Epoch 777/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4597


Epoch 778/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.4588


Epoch 779/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.4580


Epoch 780/1000
1/1  0s 54ms/step - accuracy: 1.0000 - loss: 0.4572


Epoch 781/1000
1/1  0s 48ms/step - accuracy: 1.0000 - loss: 0.4563

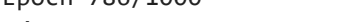
Epoch 782/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.4555

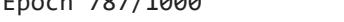
Epoch 783/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4547


Epoch 784/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.4538


Epoch 785/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.4530


Epoch 786/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4522


Epoch 787/1000
1/1  0s 34ms/step - accuracy: 1.0000 - loss: 0.4513


Epoch 788/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4505


Epoch 789/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4496


Epoch 790/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4488


Epoch 791/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4480

Epoch 792/1000
1/1  0s 55ms/step - accuracy: 1.0000 - loss: 0.4471


Epoch 793/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4463


Epoch 794/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4455


Epoch 795/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4446


Epoch 796/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4438


Epoch 797/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4429
Epoch 798/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.4421
Epoch 799/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4413
Epoch 800/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4404
Epoch 801/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4396
Epoch 802/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.4388
Epoch 803/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4379
Epoch 804/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4371
Epoch 805/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4362
Epoch 806/1000


1/1  0s 51ms/step - accuracy: 1.0000 - loss: 0.4354
Epoch 807/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4346
Epoch 808/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4337
Epoch 809/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4329
Epoch 810/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4320
Epoch 811/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4312
Epoch 812/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4304
Epoch 813/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4295
Epoch 814/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4287
Epoch 815/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4279
Epoch 816/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4270
Epoch 817/1000


1/1  0s 47ms/step - accuracy: 1.0000 - loss: 0.4262
Epoch 818/1000


1/1  0s 47ms/step - accuracy: 1.0000 - loss: 0.4253
Epoch 819/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4245
Epoch 820/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4237
Epoch 821/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.4228
Epoch 822/1000






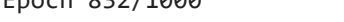













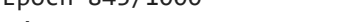
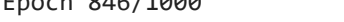








1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.4220
Epoch 823/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4212
Epoch 824/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4203
Epoch 825/1000


1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.4195
Epoch 826/1000


1/1  0s 48ms/step - accuracy: 1.0000 - loss: 0.4187


Epoch 827/1000
1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.4178
Epoch 828/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.4170
Epoch 829/1000
1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.4162
Epoch 830/1000
1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.4153
Epoch 831/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.4145
Epoch 832/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4137
Epoch 833/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4128
Epoch 834/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.4120
Epoch 835/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4112
Epoch 836/1000
1/1  0s 51ms/step - accuracy: 1.0000 - loss: 0.4103
Epoch 837/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.4095
Epoch 838/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4087
Epoch 839/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4079
Epoch 840/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.4070
Epoch 841/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.4062
Epoch 842/1000
1/1  0s 65ms/step - accuracy: 1.0000 - loss: 0.4054
Epoch 843/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.4046
Epoch 844/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.4037
Epoch 845/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.4029
Epoch 846/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.4021
Epoch 847/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.4013
Epoch 848/1000
1/1  0s 47ms/step - accuracy: 1.0000 - loss: 0.4004
Epoch 849/1000
1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.3996
Epoch 850/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3988
Epoch 851/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.3980
Epoch 852/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.3972
Epoch 853/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3963
Epoch 854/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.3955
Epoch 855/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.3947
Epoch 856/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3939
Epoch 857/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.3931
Epoch 858/1000


1/1  0s 35ms/step - accuracy: 1.0000 - loss: 0.3923
Epoch 859/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.3914
Epoch 860/1000


1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.3906
Epoch 861/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3898
Epoch 862/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3890
Epoch 863/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.3882
Epoch 864/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3874
Epoch 865/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3866
Epoch 866/1000


1/1  0s 71ms/step - accuracy: 1.0000 - loss: 0.3858
Epoch 867/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3850
Epoch 868/1000


1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.3841
Epoch 869/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3833
Epoch 870/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.3825
Epoch 871/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3817
Epoch 872/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3809
Epoch 873/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3801
Epoch 874/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3793
Epoch 875/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3785
Epoch 876/1000


1/1  0s 46ms/step - accuracy: 1.0000 - loss: 0.3777
Epoch 877/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3769
Epoch 878/1000


1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.3761
Epoch 879/1000


1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.3753
Epoch 880/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3745
Epoch 881/1000






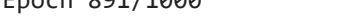













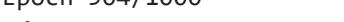
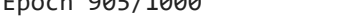








1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3738
Epoch 882/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3730
Epoch 883/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3722
Epoch 884/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3714
Epoch 885/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3706


Epoch 886/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.3698
Epoch 887/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3690
Epoch 888/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3682
Epoch 889/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.3674
Epoch 890/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.3667
Epoch 891/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3659
Epoch 892/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.3651
Epoch 893/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3643
Epoch 894/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3635
Epoch 895/1000
1/1  0s 53ms/step - accuracy: 1.0000 - loss: 0.3628
Epoch 896/1000
1/1  0s 48ms/step - accuracy: 1.0000 - loss: 0.3620
Epoch 897/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.3612
Epoch 898/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.3604
Epoch 899/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3597
Epoch 900/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3589
Epoch 901/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3581
Epoch 902/1000
1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.3574
Epoch 903/1000
1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.3566
Epoch 904/1000
1/1  0s 46ms/step - accuracy: 1.0000 - loss: 0.3558
Epoch 905/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3551
Epoch 906/1000
1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.3543
Epoch 907/1000
1/1  0s 55ms/step - accuracy: 1.0000 - loss: 0.3535
Epoch 908/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3528
Epoch 909/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3520
Epoch 910/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3512
Epoch 911/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3505
Epoch 912/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3497
Epoch 913/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3490
Epoch 914/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.3482
Epoch 915/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3475
Epoch 916/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.3467
Epoch 917/1000


1/1  0s 50ms/step - accuracy: 1.0000 - loss: 0.3460
Epoch 918/1000


1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.3452
Epoch 919/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3445
Epoch 920/1000


1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.3437
Epoch 921/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3430
Epoch 922/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.3422
Epoch 923/1000


1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.3415
Epoch 924/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3408
Epoch 925/1000


1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3400
Epoch 926/1000


1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3393
Epoch 927/1000


1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3386
Epoch 928/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3378
Epoch 929/1000


1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.3371
Epoch 930/1000


1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.3364
Epoch 931/1000


1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.3356
Epoch 932/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3349
Epoch 933/1000


1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.3342
Epoch 934/1000


1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.3334
Epoch 935/1000


1/1  0s 46ms/step - accuracy: 1.0000 - loss: 0.3327
Epoch 936/1000


1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.3320
Epoch 937/1000


1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.3313
Epoch 938/1000


1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.3306
Epoch 939/1000


1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3298
Epoch 940/1000






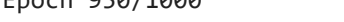













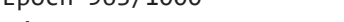
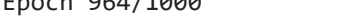








1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.3291
Epoch 941/1000

1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.3284
Epoch 942/1000




























1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3277
Epoch 943/1000

1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3270
Epoch 944/1000

1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3263

Epoch 945/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3256
Epoch 946/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.3248
Epoch 947/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3241
Epoch 948/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3234
Epoch 949/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3227
Epoch 950/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3220
Epoch 951/1000
1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.3213
Epoch 952/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3206
Epoch 953/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.3199
Epoch 954/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3192
Epoch 955/1000
1/1  0s 49ms/step - accuracy: 1.0000 - loss: 0.3185
Epoch 956/1000
1/1  0s 49ms/step - accuracy: 1.0000 - loss: 0.3178
Epoch 957/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.3172
Epoch 958/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3165
Epoch 959/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.3158
Epoch 960/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3151
Epoch 961/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3144
Epoch 962/1000
1/1  0s 77ms/step - accuracy: 1.0000 - loss: 0.3137
Epoch 963/1000
1/1  0s 37ms/step - accuracy: 1.0000 - loss: 0.3130
Epoch 964/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.3123
Epoch 965/1000
1/1  0s 49ms/step - accuracy: 1.0000 - loss: 0.3117
Epoch 966/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.3110
Epoch 967/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3103
Epoch 968/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.3096
Epoch 969/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.3090
Epoch 970/1000
1/1  0s 36ms/step - accuracy: 1.0000 - loss: 0.3083
Epoch 971/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3076
Epoch 972/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.3070
Epoch 973/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3063
Epoch 974/1000

```

1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3056
Epoch 975/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3050
Epoch 976/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3043
Epoch 977/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3036
Epoch 978/1000
1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.3030
Epoch 979/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.3023
Epoch 980/1000
1/1  0s 46ms/step - accuracy: 1.0000 - loss: 0.3017
Epoch 981/1000
1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.3010
Epoch 982/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.3004
Epoch 983/1000
1/1  0s 59ms/step - accuracy: 1.0000 - loss: 0.2997
Epoch 984/1000
1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.2990
Epoch 985/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.2984
Epoch 986/1000
1/1  0s 45ms/step - accuracy: 1.0000 - loss: 0.2978
Epoch 987/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.2971
Epoch 988/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.2965
Epoch 989/1000
1/1  0s 44ms/step - accuracy: 1.0000 - loss: 0.2958
Epoch 990/1000
1/1  0s 42ms/step - accuracy: 1.0000 - loss: 0.2952
Epoch 991/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.2945
Epoch 992/1000
1/1  0s 57ms/step - accuracy: 1.0000 - loss: 0.2939
Epoch 993/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.2933
Epoch 994/1000
1/1  0s 39ms/step - accuracy: 1.0000 - loss: 0.2926
Epoch 995/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.2920
Epoch 996/1000
1/1  0s 38ms/step - accuracy: 1.0000 - loss: 0.2914
Epoch 997/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.2907
Epoch 998/1000
1/1  0s 40ms/step - accuracy: 1.0000 - loss: 0.2901
Epoch 999/1000
1/1  0s 43ms/step - accuracy: 1.0000 - loss: 0.2895
Epoch 1000/1000
1/1  0s 41ms/step - accuracy: 1.0000 - loss: 0.2889

```

```
Out[8]: <keras.src.callbacks.history.History at 0x194f33acd10>
```

```

In [10]: # Predict
y_pred = model.predict(X[:8])
print(y_pred)

```

1/1  0s 41ms/step

```
[[0.3042369 ]  
 [0.2777259 ]  
 [0.1379456 ]  
 [0.31083974]  
 [0.19762327]  
 [0.74816   ]  
 [0.5905119 ]  
 [0.85029966]]
```