

# IN3050/IN4050 Mandatory Assignment 2, 2025: Supervised Learning

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## Rules

Before you begin the exercise, review the rules at this website:

<https://www.uio.no/english/studies/examinations/compulsory-activities/mn-ifi-mandatory.html> , in particular the paragraph on cooperation. This is an individual assignment. You are not allowed to deliver together or copy/share source-code/answers with others. Read also the "Routines for handling suspicion of cheating and attempted cheating at the University of Oslo":

<https://www.uio.no/english/studies/examinations/cheating/index.html> We do not entirely prohibit the use of generative language models ("smart assistants" like ChatGPT, Llama, Claude or Copilot), but you must clearly acknowledge this at all times, following the UiO guidelines:

[https://www.uio.no/english/studies/resources/ai\\_student.html](https://www.uio.no/english/studies/resources/ai_student.html) Note also that you must fully understand *all* the parts of your submissions, even if you got some help from a generative model. This will be tested during your peer review sessions (<https://www.uio.no/studier/emner/matnat/ifi/IN3050/v25/Peer%20review/>). By submitting this assignment, you confirm that you are familiar with the rules and the consequences of breaking them.

## Delivery

**Deadline:** Friday, March 28, 2025, 23:59

Your submission should be delivered in Devilry. You may redeliver in Devilry before the deadline, but include all files in the last delivery, as only the last delivery will be read. You are recommended to upload preliminary versions hours (or days) before the final deadline.

## What to deliver?

You are recommended to solve the exercise in a Jupyter notebook, but you might solve it in a regular Python script if you prefer.

## Alternative 1

If you prefer not to use notebooks, you should deliver the code, your run results, and a PDF report where you answer all the questions and explain your work.

## Alternative 2

If you choose Jupyter, you should deliver the notebook. You should answer all questions and explain what you are doing in Markdown. Still, the code should be properly commented. The notebook should contain results of your runs. In addition, you should make a PDF of your solution which shows the results of the runs. (If you can't export: notebook -> latex -> pdf on your own machine, you may do this on the IFI linux machines.)

Here is a list of *absolutely necessary* (but not sufficient) conditions to get the assignment marked as passed:

- You must deliver your code (Python script or Jupyter notebook) you used to solve the assignment.
- The code used for making the output and plots must be included in the assignment.
- You must include example runs that clearly shows how to run all implemented functions and methods.
- All the code (in notebook cells or python main-blocks) must be runnable. If you have unfinished code that crashes, please comment it out and document what you think causes it to crash.
- You must also deliver a PDF of the code, outputs, comments and plots as explained above.

Your report/notebook should contain your name and username.

Deliver one single compressed folder (.zip, .tgz or .tar.gz) which contains your complete solution.

Important: if you weren't able to finish the assignment, use the PDF report/Markdown to elaborate on what you've tried and what problems you encountered. Students who have made an effort and attempted all parts of the assignment will get a second chance even if they fail initially. This exercise will be graded PASS/FAIL.

## Goals of the assignment

The goal of this assignment is to get a better understanding of supervised learning with gradient descent. It will, in particular, consider the similarities and differences between linear classifiers and multi-layer feed forward neural networks (multi-layer perceptrons, MLP) and the differences and similarities between binary and multi-class classification.

## Tools

The aim of the exercises is to give you a look inside the learning algorithms. You may freely use code from the weekly exercises and the published solutions. You should not use machine learning libraries like Scikit-Learn or PyTorch, because the point of this assignment is for you to implement things from scratch. You, however, are

encouraged to use tools like NumPy, Pandas and Matplotlib, which are not ML-specific.

The given precode uses NumPy. You are recommended to use NumPy since it results in more compact code, but feel free to use pure Python if you prefer.

If anything is unclear, do not hesitate to ask. Also, if you think some assumptions are missing, make your own and explain them!

## Initialization

```
In [246... import numpy as np
import matplotlib.pyplot as plt
import sklearn # This is only to generate a dataset
```

## Datasets

We start by making a synthetic dataset of 5000 instances and ten classes, with 500 instances in each class. (See [https://scikit-learn.org/stable/modules/generated/sklearn.datasets.make\\_blobs.html](https://scikit-learn.org/stable/modules/generated/sklearn.datasets.make_blobs.html) regarding how the data are generated.) We choose to use a synthetic dataset---and not a set of natural occurring data---because we are mostly interested in properties of the various learning algorithms, in particular the differences between linear classifiers and multi-layer neural networks together with the difference between binary and multi-class data. In addition, we would like a dataset with instances represented with only two numerical features, so that it is easy to visualize the data. It would be rather difficult (although not impossible) to find a real-world dataset of the same nature. Anyway, you surely can use the code in this assignment for training machine learning models on real-world datasets.

When we are doing experiments in supervised learning, and the data are not already split into training and test sets, we should start by splitting the data. Sometimes there are natural ways to split the data, say training, on data from one year and testing on data from a later year, but if that is not the case, we should shuffle the data randomly before splitting. (OK, that is not necessary with this particular synthetic data set, since it is already shuffled by default by Scikit-Learn, but that will not be the case with real-world data) We should split the data so that we keep the alignment between  $X$  (features) and  $t$  (class labels), which may be achieved by shuffling the indices. We split into 60% for training, 20% for validation, and 20% for final testing. The set for final testing *must not be used* till the end of the assignment in part 3.

We fix the seed both for data set generation and for shuffling, so that we work on the same datasets when we rerun the experiments. This is done by the `random_state` argument and the `rng = np.random.RandomState(424242)`.

```
In [247... # Generating the dataset
from sklearn.datasets import make_blobs
X, t_multi = make_blobs(n_samples=[500, 500, 500, 500, 500, 500, 500, 500]
                        n_features=2, random_state=424242, cluster_std=[1.0, 2.
```

```
In [248... # Shuffling the dataset
indices = np.arange(X.shape[0])
rng = np.random.RandomState(424242)
rng.shuffle(indices)
indices[:10]
```

```
Out[248... array([3560, 4674,  49, 1257,  661, 3066, 3834, 4792,  570, 3855])
```

```
In [249... # Splitting into train, dev and test
X_train = X[indices[:3000],:]
X_val = X[indices[3000:4000],:]
X_test = X[indices[4000:],:]
t_multi_train = t_multi[indices[:3000]]
t_multi_val = t_multi[indices[3000:4000]]
t_multi_test = t_multi[indices[4000:]]
```

Next, we will make a second dataset with only two classes by merging the existing labels in (X,t), so that 0–5 become the new 0 and 6–9 become the new 1. Let's call the new set (X, t2). This will be a binary set. We now have two datasets:

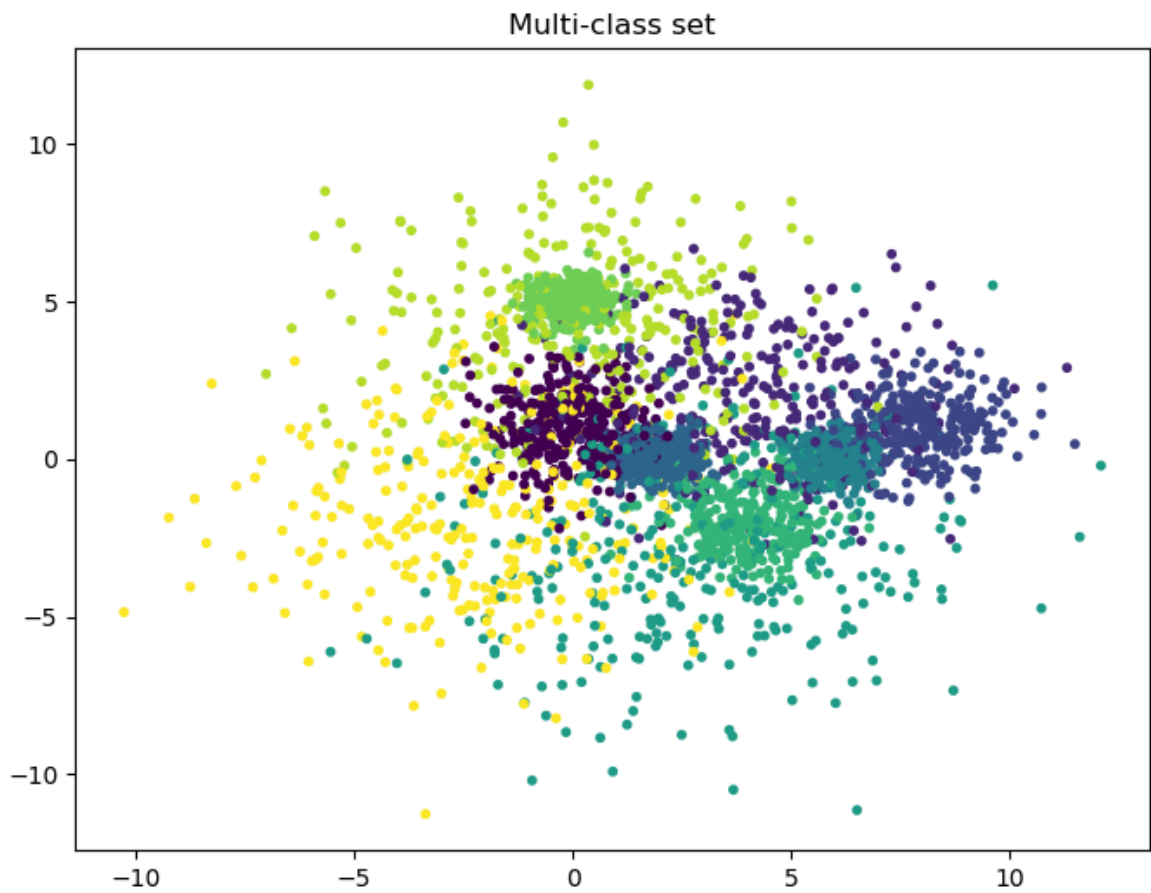
- Binary set: (X, t2)
- Multi-class set: (X, t\_multi)

```
In [250... t2_train = t_multi_train >= 6
t2_train = t2_train.astype("int")
t2_val = (t_multi_val >= 6).astype("int")
t2_test = (t_multi_test >= 6).astype("int")
```

We can plot the two training sets.

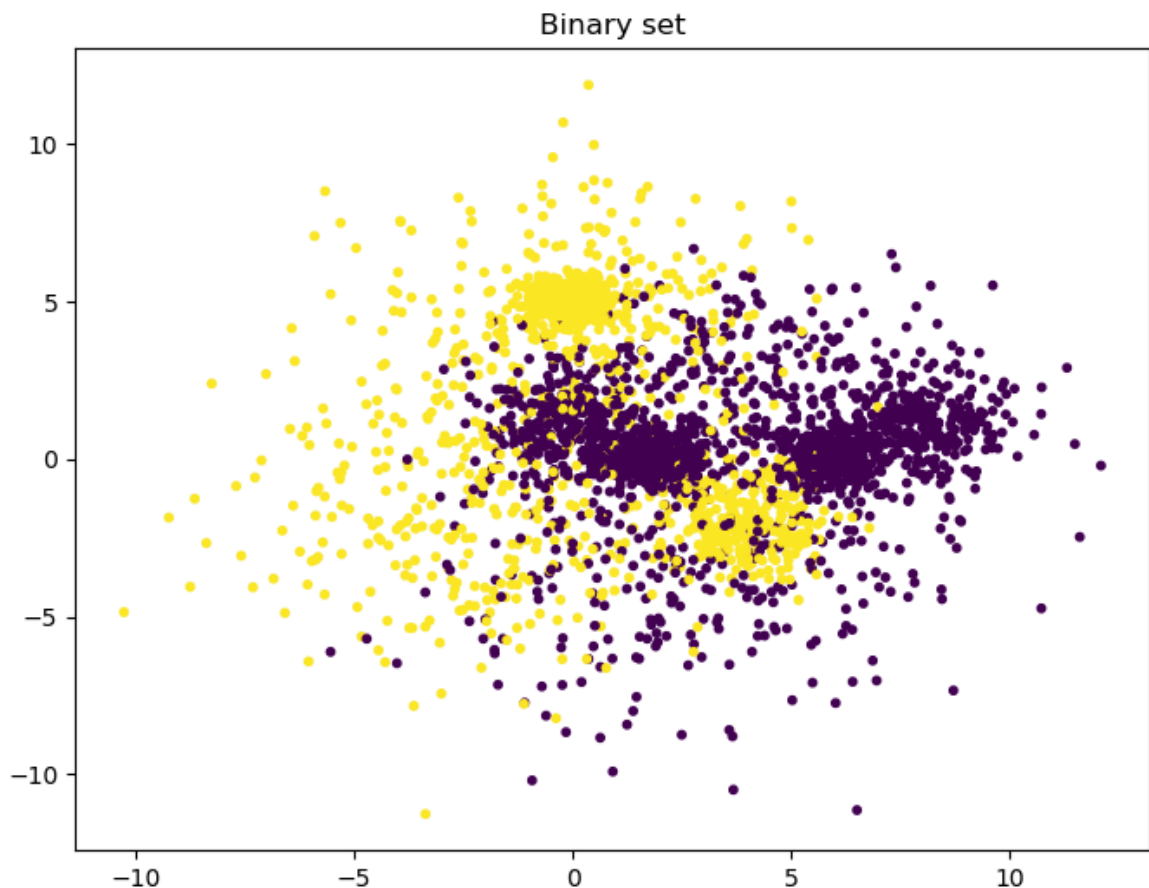
```
In [251... plt.figure(figsize=(8,6)) # You may adjust the size
plt.scatter(X_train[:, 0], X_train[:, 1], c=t_multi_train, s=10.0)
plt.title("Multi-class set")
```

```
Out[251... Text(0.5, 1.0, 'Multi-class set')
```



```
In [252... plt.figure(figsize=(8,6))
plt.scatter(X_train[:, 0], X_train[:, 1], c=t2_train, s=10.0)
plt.title("Binary set")
```

```
Out[252... Text(0.5, 1.0, 'Binary set')
```



## Part 1: Linear classifiers

### Linear regression

We see that even the binary set  $(X, t_2)$  is far from linearly separable, and we will explore how various classifiers are able to handle this. We start with linear regression with the Mean Squared Error (MSE) loss, although it is not the most widely used approach for classification tasks: but we are interested. You may make your own implementation from scratch or start with the solution to the weekly exercise set 6. We include it here with a little added flexibility.

```
In [253... def add_bias(X, bias):
    """X is a NxM matrix: N datapoints, M features
    bias is a bias term, -1 or 1, or any other scalar. Use 0 for no bias
    Return a Nx(M+1) matrix with added bias in position zero
    """
    N = X.shape[0]
    biases = np.ones((N, 1)) * bias # Make a N*1 matrix of biases
    # Concatenate the column of biases in front of the columns of X.
    return np.concatenate((biases, X), axis = 1)
```

```
In [254... class NumpyClassifier():
    """Common methods to all Numpy classifiers --- if any"""
```

```
In [255... class NumpyLinRegClass(NumpyClassifier):
```

```

def __init__(self, bias=-1):
    self.bias=bias

def fit(self, X_train, t_train, lr = 0.1, epochs=10):
    """X_train is a NxM matrix, N data points, M features
    t_train is a vector of length N,
    the target class values for the training data
    lr is our learning rate
    """

    if self.bias:
        X_train = add_bias(X_train, self.bias)

    (N, M) = X_train.shape

    self.weights = weights = np.zeros(M)

    for epoch in range(epochs):
        # print("Epoch", epoch)
        weights -= lr / N * X_train.T @ (X_train @ weights - t_train)

def predict(self, X, threshold=0.5):
    """X is a KxM matrix for some K>=1
    predict the value for each point in X"""
    if self.bias:
        X = add_bias(X, self.bias)
    ys = X @ self.weights
    return ys > threshold

```

We can train and test a first classifier (on the binary dataset).

```

In [256... def accuracy(predicted, gold):
            return np.mean(predicted == gold)

```

```

In [257... cl = NumpyLinRegClass()
            cl.fit(X_train, t2_train, epochs=10)
            accuracy(cl.predict(X_val), t2_val)

```

```

Out[257... 0.638

```

The following is a small procedure which plots the data set together with the decision boundaries. You may modify the colors and the rest of the graphics as you like. The procedure will also work for multi-class classifiers

```

In [258... def plot_decision_regions(X, t, clf=[], size=(8,6)):
    """Plot the data set (X,t) together with the decision boundary of the
    # The region of the plane to consider determined by X
    x_min, x_max = X[:, 0].min() - 1, X[:, 0].max() + 1
    y_min, y_max = X[:, 1].min() - 1, X[:, 1].max() + 1

    # Make a prediction of the whole region
    h = 0.02 # step size in the mesh
    xx, yy = np.meshgrid(np.arange(x_min, x_max, h), np.arange(y_min, y_max, h))
    Z = clf.predict(np.c_[xx.ravel(), yy.ravel()])
    # Classify each meshpoint.
    Z = Z.reshape(xx.shape)

    plt.figure(figsize=size) # You may adjust this

```

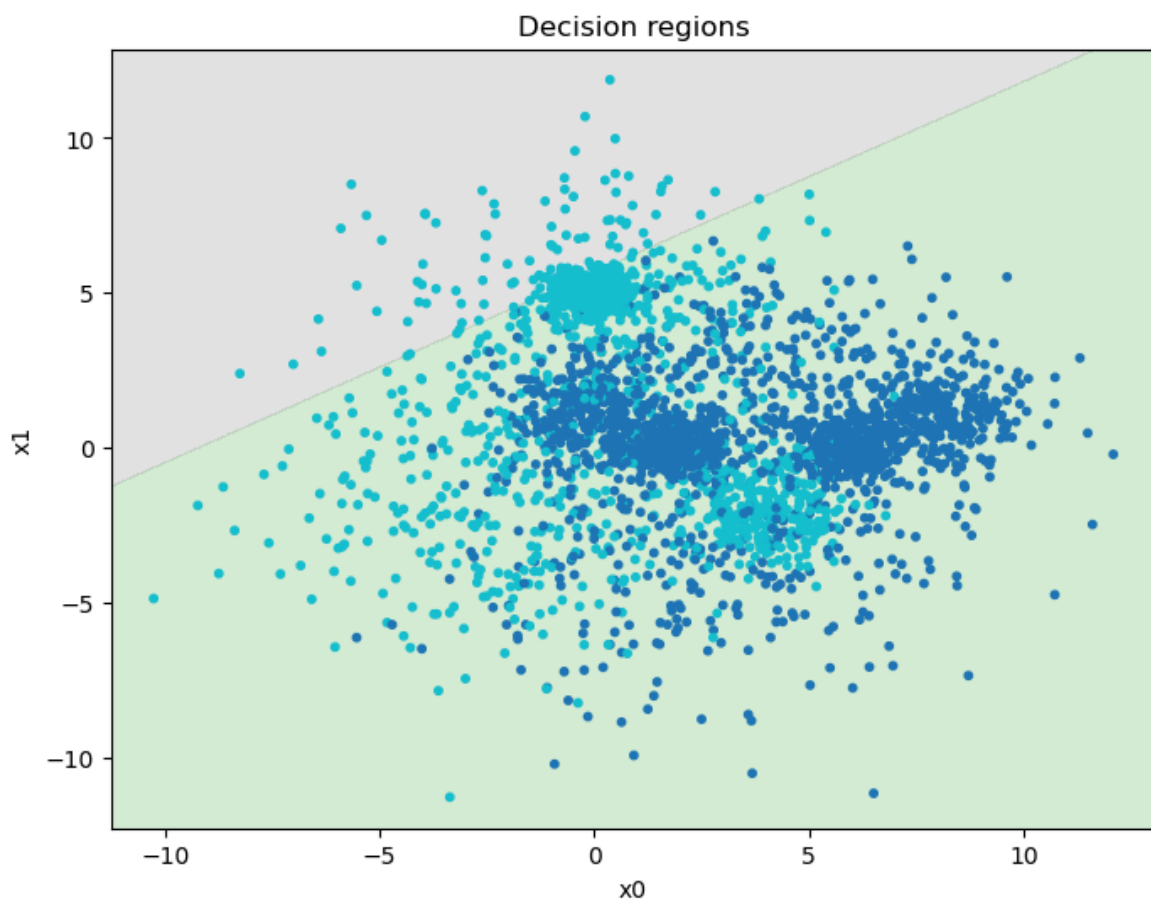
```
# Put the result into a color plot
plt.contourf(xx, yy, Z, alpha=0.2, cmap = 'tab10')

plt.scatter(X[:,0], X[:,1], c=t, s=10.0, cmap='tab10')

plt.xlim(xx.min(), xx.max())
plt.ylim(yy.min(), yy.max())
plt.title("Decision regions")
plt.xlabel("x0")
plt.ylabel("x1")

# plt.show()
```

In [259... plot\_decision\_regions(X\_train, t2\_train, cl)



## Task: Tuning

The result is far from impressive. Remember that a classifier which always chooses the majority class will have an accuracy of 0.6 on this data set.

Your task is to try various settings for the two training hyper-parameters, learning rate and the number of epochs, to get the best accuracy on the validation set.

Report how the accuracy varies with the hyper-parameter settings. It is not sufficient to give the final hyperparameters. You must also show how you found them and the results for alternative values you tried out.



When you are satisfied with the result, you may plot the decision boundaries, as above.

```
In [260... ### Trying various settings: trying smaller and slightly bigger learning

l_rates = [0.001, 0.005, 0.01, 0.05, 0.1, 0.5, 1.0, 5.0]
epoch_values = [10, 50, 100, 150, 500]

best_accuracy = 0
best_hyperparameters : tuple[float,int]

for lr in l_rates:
    print("lr=",lr)
    for epoch in epoch_values:
        hyperparametres=lr,epoch
        print("\tepo ch = ",epoch, end="")

        cl.fit(X_train, t2_train, lr, epoch)

        acc=accuracy(cl.predict(X_val), t2_val)
        print("\taccuracy=", acc)

        if acc>=best_accuracy:
            best_accuracy=acc
            best_hyperparameters=hyperparametres

print("\nThe best accuracy reached was ", best_accuracy, "\n with lr=", b
```

```

lr= 0.001
    epoch = 10    accuracy= 0.597
    epoch = 50    accuracy= 0.597
    epoch = 100   accuracy= 0.597
    epoch = 150   accuracy= 0.597
    epoch = 500   accuracy= 0.612
lr= 0.005
    epoch = 10    accuracy= 0.597
    epoch = 50    accuracy= 0.598
    epoch = 100   accuracy= 0.612
    epoch = 150   accuracy= 0.618
    epoch = 500   accuracy= 0.771
lr= 0.01
    epoch = 10    accuracy= 0.597
    epoch = 50    accuracy= 0.612
    epoch = 100   accuracy= 0.634
    epoch = 150   accuracy= 0.717
    epoch = 500   accuracy= 0.762
lr= 0.05
    epoch = 10    accuracy= 0.612
    epoch = 50    accuracy= 0.771
    epoch = 100   accuracy= 0.762
    epoch = 150   accuracy= 0.752
    epoch = 500   accuracy= 0.755
lr= 0.1
    epoch = 10    accuracy= 0.638
    epoch = 50    accuracy= 0.761
    epoch = 100   accuracy= 0.753
    epoch = 150   accuracy= 0.755
    epoch = 500   accuracy= 0.755
lr= 0.5
    epoch = 10    accuracy= 0.673
    epoch = 50    accuracy= 0.673
    epoch = 100   accuracy= 0.673
    epoch = 150   accuracy= 0.673
    epoch = 500   accuracy= 0.597
lr= 1.0
    epoch = 10    accuracy= 0.673
    epoch = 50    accuracy= 0.673
    epoch = 100   accuracy= 0.673
    epoch = 150   accuracy= 0.673
    epoch = 500   accuracy= 0.597
lr= 5.0
    epoch = 10    accuracy= 0.673
    epoch = 50    accuracy= 0.673
    epoch = 100   accuracy= 0.673
    epoch = 150   accuracy= 0.673
    epoch = 500   accuracy= 0.597

```

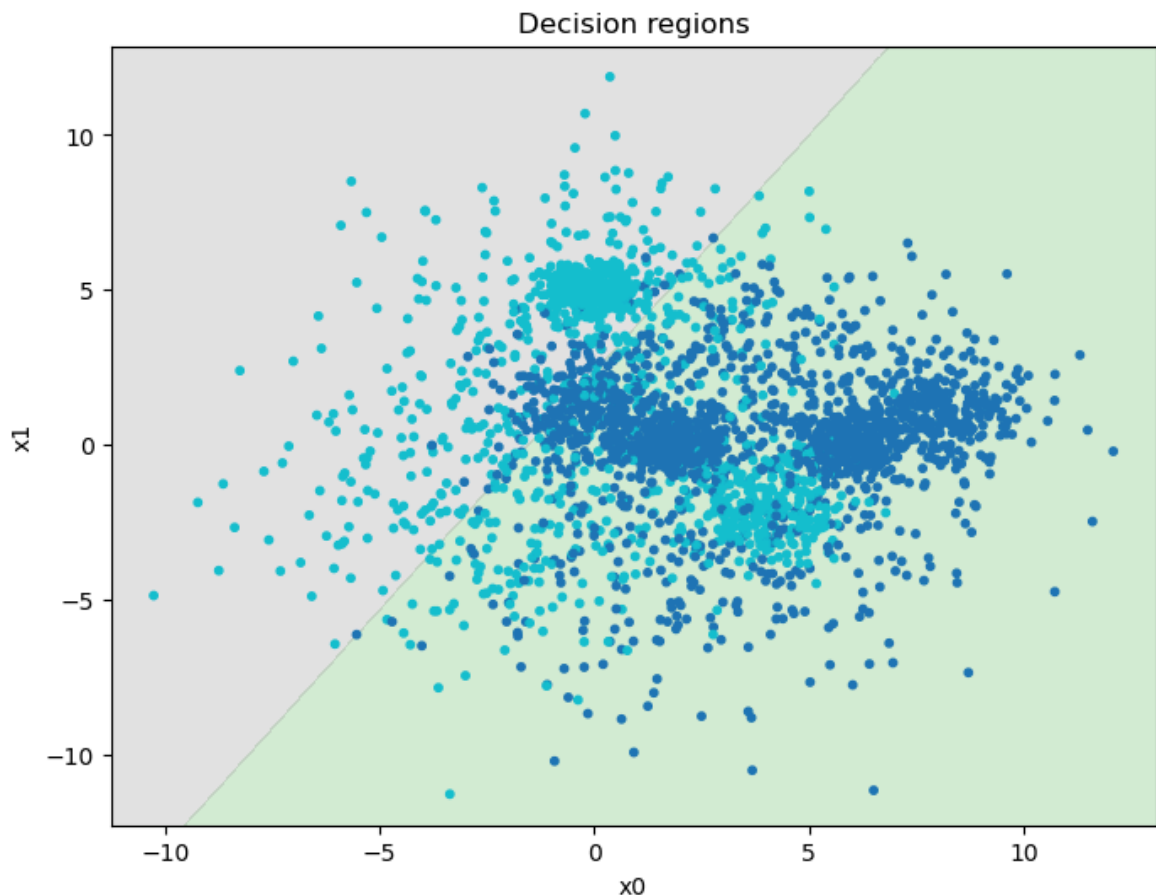
The best accuracy reached was 0.771  
 with lr= 0.05  
 epoch= 50

```

/var/folders/4j/7lhn2f8s1t50d9y3vrkcytq80000gn/T/ipykernel_80938/181236213
7.py:22: RuntimeWarning: overflow encountered in matmul
  weights -= lr / N * X_train.T @ (X_train @ weights - t_train)
/var/folders/4j/7lhn2f8s1t50d9y3vrkcytq80000gn/T/ipykernel_80938/181236213
7.py:22: RuntimeWarning: invalid value encountered in matmul
  weights -= lr / N * X_train.T @ (X_train @ weights - t_train)

```

```
In [261... cl.fit(X_train, t2_train, best_hyperparameters[0], best_hyperparameters[1])
plot_decision_regions(X_train, t2_train, cl)
```



## Task: Scaling

We have seen in the lectures that scaling the data may improve training speed and sometimes the performance.

- Implement the standard scaler (normalizer); you can also try other scaling techniques
- Scale the data
- Train the model on the scaled data
- Experiment with hyper-parameter settings and see whether you can speed up or improve the training.
- Report final hyper-parameter settings and show how you found them.

```
In [262... ### Standard scaler (normalizer):

def standard_scaler(X):
    """Standardizing the dataset (zero mean, unit variance)"""
    mean = np.mean(X, axis=0)
    std = np.std(X, axis=0)
    return (X - mean) / std, mean, std

X_train_scaled, mean, std = standard_scaler(X_train) #normalize training

X_val_scaled = (X_val - mean) / std #normalize validation data (same mean
```

```

### Training the model on the scaled data:

model = NumpyLinRegClass(bias=-1) # initializing and training the model
model.fit(X_train_scaled, t2_train, lr=0.1, epochs=100)

pred = model.predict(X_val_scaled) #prediction on validation set

val_accuracy = accuracy(pred, t2_val)
print("Accuracy=", val_accuracy)

### Experimenting with different hyper-parameter settings

l_rates = [0.001, 0.005, 0.01, 0.05, 0.1, 0.5, 1.0, 5.0]
epoch_values = [10, 50, 100, 150, 500]

best_accuracy = 0
best_hyperparameters : tuple[float,int]

for lr in l_rates:
    print("lr=",lr)
    for epoch in epoch_values:
        hyperparametres=lr,epoch
        print("\tePOCH = ",epoch, end="")

        model.fit(X_train, t2_train, lr, epoch)

        acc=accuracy(cl.predict(X_val_scaled), t2_val)
        print("\taccuracy=", acc)

        if acc>=best_accuracy:
            best_accuracy=acc
            best_hyperparameters=hyperparametres

print("\nThe best accuracy reached was ", best_accuracy, "\n with lr=", b

```

Accuracy= 0.755

lr= 0.001

epoch = 10	accuracy= 0.73
epoch = 50	accuracy= 0.73
epoch = 100	accuracy= 0.73
epoch = 150	accuracy= 0.73
epoch = 500	accuracy= 0.73

lr= 0.005

epoch = 10	accuracy= 0.73
epoch = 50	accuracy= 0.73
epoch = 100	accuracy= 0.73
epoch = 150	accuracy= 0.73
epoch = 500	accuracy= 0.73

lr= 0.01

epoch = 10	accuracy= 0.73
epoch = 50	accuracy= 0.73
epoch = 100	accuracy= 0.73
epoch = 150	accuracy= 0.73
epoch = 500	accuracy= 0.73

lr= 0.05

epoch = 10	accuracy= 0.73
epoch = 50	accuracy= 0.73
epoch = 100	accuracy= 0.73
epoch = 150	accuracy= 0.73
epoch = 500	accuracy= 0.73

lr= 0.1

epoch = 10	accuracy= 0.73
epoch = 50	accuracy= 0.73
epoch = 100	accuracy= 0.73
epoch = 150	accuracy= 0.73
epoch = 500	accuracy= 0.73

lr= 0.5

epoch = 10	accuracy= 0.73
epoch = 50	accuracy= 0.73
epoch = 100	accuracy= 0.73
epoch = 150	accuracy= 0.73
epoch = 500	accuracy= 0.73

lr= 1.0

epoch = 10	accuracy= 0.73
epoch = 50	accuracy= 0.73
epoch = 100	accuracy= 0.73
epoch = 150	accuracy= 0.73
epoch = 500	accuracy= 0.73

lr= 5.0

epoch = 10	accuracy= 0.73
epoch = 50	accuracy= 0.73
epoch = 100	accuracy= 0.73
epoch = 150	accuracy= 0.73
epoch = 500	accuracy= 0.73

The best accuracy reached was 0.73

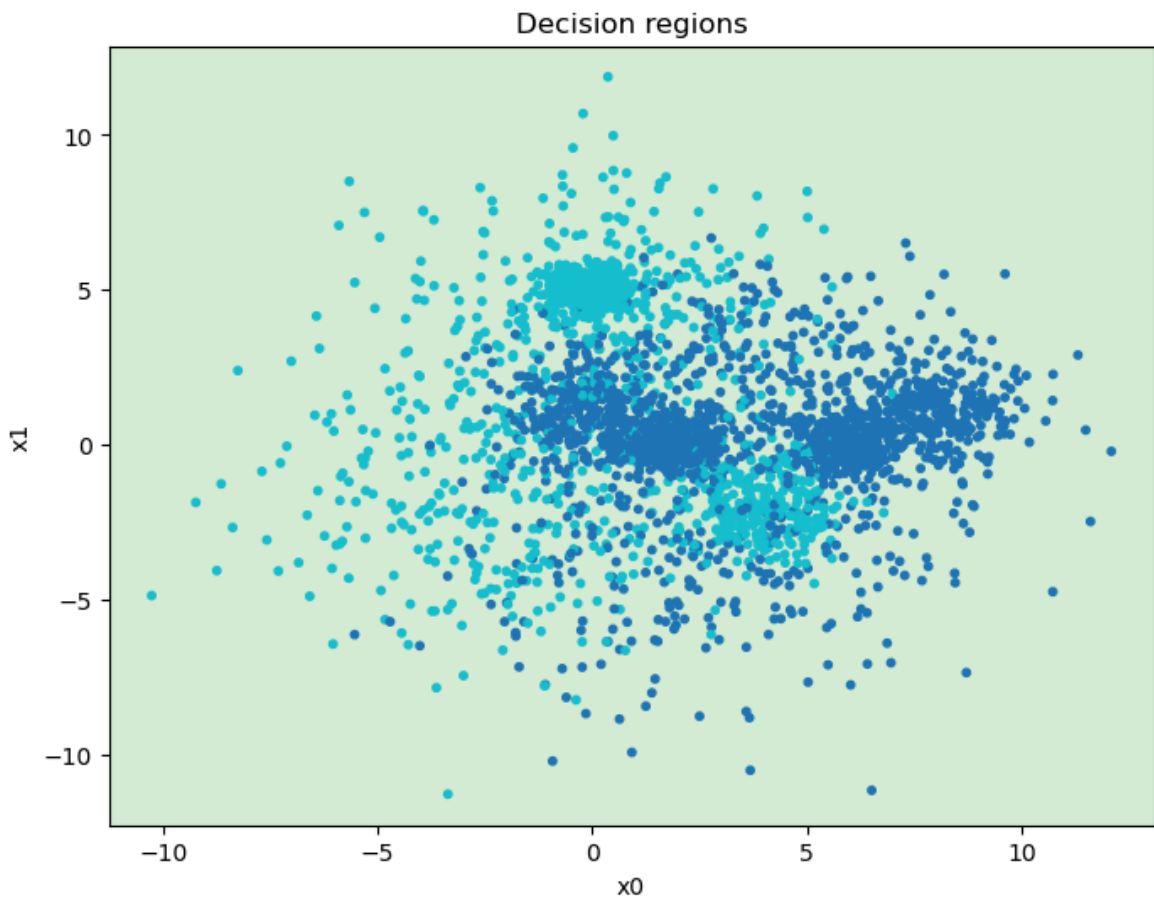
with lr= 5.0

epoch= 500

```
/var/folders/4j/7lhn2f8s1t50d9y3vrkcytq80000gn/T/ipykernel_80938/181236213
7.py:22: RuntimeWarning: overflow encountered in matmul
  weights -= lr / N * X_train.T @ (X_train @ weights - t_train)
/var/folders/4j/7lhn2f8s1t50d9y3vrkcytq80000gn/T/ipykernel_80938/181236213
7.py:22: RuntimeWarning: invalid value encountered in matmul
  weights -= lr / N * X_train.T @ (X_train @ weights - t_train)
```

```
In [263... cl.fit(X_train, t2_train, best_hyperparameters[0], best_hyperparameters[1]
plot_decision_regions(X_train, t2_train, cl)
```

```
/var/folders/4j/7lhn2f8s1t50d9y3vrkcytq80000gn/T/ipykernel_80938/181236213
7.py:22: RuntimeWarning: overflow encountered in matmul
  weights -= lr / N * X_train.T @ (X_train @ weights - t_train)
/var/folders/4j/7lhn2f8s1t50d9y3vrkcytq80000gn/T/ipykernel_80938/181236213
7.py:22: RuntimeWarning: invalid value encountered in matmul
  weights -= lr / N * X_train.T @ (X_train @ weights - t_train)
```



## Logistic regression

a) You should now implement a logistic regression classifier similarly to the classifier based on linear regression. You may use the code from the solution to weekly exercise set week06.

b) In addition to the method `predict()` which predicts a class for the data, include a method `predict_probabilities()` which predicts the probability of the data belonging to the positive class.

c) So far, we have not calculated the loss explicitly in the code. Extend the code to calculate the loss on the training set for each epoch and to store the losses such that the losses can be inspected after training. The preferred loss for logistic regression is binary cross-entropy, but you can also try mean squared error. The most important is that your implementation of the loss corresponds to your implementation of the gradient descent. Also, calculate and store accuracies after each epoch.

d) In addition, extend the `fit()` method with optional arguments for a validation set (`X_val`, `t_val`). If a validation set is included in the call to `fit()`, calculate the loss and the accuracy for the validation set after each epoch.

e) The training runs for a number of epochs. We cannot know beforehand for how many epochs it is reasonable to run the training. One possibility is to run the training until the learning does not improve much. Extend the `fit()` method with two keyword arguments, `tol` (tolerance) and `n_epochs_no_update` and stop training when the loss has not improved with more than `tol` after `n_epochs_no_update` (to save compute and potentially avoid over-fitting). A possible default value for `n_epochs_no_update` is 2. Also, add an attribute to the classifier which tells us after fitting how many epochs it was trained for.

f) Train classifiers with various learning rates, and with varying values for `tol` for finding the optimal values. Also consider the effect of scaling the data.

g) After a successful training, for your best model, plot both training loss and validation loss as functions of the number of epochs in one figure, and both training and validation accuracies as functions of the number of epochs in another figure. Comment on what you see. Are the curves monotone? Is this as expected?

functions (steps a-e)

```
In [264... ### logistic regression classifier - code from weekly exercise was used
def logistic(x):
    """sigmoid function"""
    return 1 / (1 + np.exp(-x))

def binary_cross_entropy(y_true, y_pred):
    """Binary cross-entropy loss function"""
    epsilon = 1e-10 # to prevent log(0) errors
    y_pred = np.clip(y_pred, epsilon, 1 - epsilon)
    return -np.mean(y_true * np.log(y_pred) + (1 - y_true) * np.log(1 - y

class NumpyLogReg(NumpyClassifier):
    def __init__(self, bias=-1):
        self.bias=bias

    def fit(self, X_train, t_train, lr=0.1, epochs=100, X_val=None, t_val
        """X_train is a Nxm matrix, N data points,
        m features t_train is a vector of length N,
        the targets values for the training data

        Added parameters:
        - X_val, t_val: Optional validation set
        - tol: Tolerance for early stopping
        - n_epochs_no_update: Stop if no improvement for n epochs
        - scale_data: Scaling the data orr not
        """

        # scale data if scale_data
        if scale_data:
            X_train,mean, std = standard_scaler(X_train)
            if X_val is not None:
                X_val = (X_val - mean) / std
```

```

#initialization
X_train = add_bias(X_train, self.bias)
(N, m) = X_train.shape
self.weights = np.zeros(m)

# Store losses & accuracies
self.train_losses = []
self.val_losses = []
self.train_accuracies = []
self.val_accuracies = []

best_loss = float('inf')
epochs_without_improvement = 0
self.trained_epochs = 0 # tracking how many epochs trained

for e in range(epochs):
    #forward pass
    y_pred = self.forward(X_train)
    loss = binary_cross_entropy(t_train, y_pred)

    # weights with gradient descent
    self.weights -= lr / N * X_train.T @ (y_pred - t_train)

    # Compute & store training loss & accuracy
    train_acc = np.mean((y_pred > 0.5) == t_train)
    self.train_losses.append(loss)
    self.train_accuracies.append(train_acc)

    # If validation set given, compute validation loss & accuracy
    if X_val is not None and t_val is not None:
        X_val_b = add_bias(X_val, self.bias)
        val_pred = self.forward(X_val_b)
        val_loss = binary_cross_entropy(t_val, val_pred)
        val_acc = np.mean((val_pred > 0.5) == t_val)

        self.val_losses.append(val_loss)
        self.val_accuracies.append(val_acc)

        print(f"Epoch {e+1}/{epochs}: Loss={loss:.4f}, Val Loss={val_loss:.4f}")

        # Early stop check based on validation loss
        if val_loss < best_loss - tol:
            best_loss = val_loss
            epochs_without_improvement = 0
        else:
            epochs_without_improvement += 1

        if epochs_without_improvement >= n_epochs_no_update:
            print(f"Early stop at epoch {e+1}")
            break
    else:
        print(f"Epoch {e+1}/{epochs}: Loss={loss:.4f}, Acc={train_acc:.4f}")

    self.trained_epochs = e + 1 # Store number of epochs trained

def forward(self, X):
    return logistic(X @ self.weights)

def predict(self, x, threshold=0.5):

```



```

        """X is a Kxm matrix for some K>=1
        predict the value for each point in X"""
        z = add_bias(x, self.bias)
        return (self.forward(z) > threshold).astype("int")

    def predict_probabilities(self, X):
        """predicts the probability of the data belonging to the positive
        X = add_bias(X, self.bias)
        return self.forward(X)

```

step f)

```

In [265... l_rates = [0.001, 0.005, 0.01, 0.05, 0.1, 0.5, 1.0, 5.0]
epoch_values = [10, 50, 100, 150, 500]
tolerances = [1e-4, 1e-3, 1e-2]

best_accuracy = 0
best_hyperparameters : tuple

for lr in l_rates:
    # print("lr=",lr)
    for epoch in epoch_values:
        for tol in tolerances:
            for scale_data in [True, False]:
                hyperparametres=lr,epoch,tol,scale_data
                # print("\tepoche = ",epoch, end="")
                model = NumpyLogReg()
                model.fit(X_train, t2_train, lr=lr, epochs=epoch, X_val=X_val)

                acc=accuracy(cl.predict(X_val), t2_val)
                print("\taccuracy=", acc)

                if acc>=best_accuracy:
                    best_accuracy=acc
                    best_hyperparameters=hyperparametres

print("\nThe best accuracy reached was ", best_accuracy, "\n with lr=", b

```

Epoch 1/10: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6928, Val Loss=0.6927, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6927, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6926, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6926, Val Loss=0.6925, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6925, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/10: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/10: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/10: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/10: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/10: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/10: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/10: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/10: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/10: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/10: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/10: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/10: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/10: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/10: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6928, Val Loss=0.6927, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6927, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6926, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6926, Val Loss=0.6925, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6925, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6924, Val Loss=0.6923, Acc=0.7487, Val Acc=0.7460  
Epoch 12/50: Loss=0.6923, Val Loss=0.6923, Acc=0.7487, Val Acc=0.7460

Epoch 13/50: Loss=0.6923, Val Loss=0.6922, Acc=0.7487, Val Acc=0.7460  
Epoch 14/50: Loss=0.6922, Val Loss=0.6921, Acc=0.7487, Val Acc=0.7460  
Epoch 15/50: Loss=0.6921, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 16/50: Loss=0.6920, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
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Epoch 19/50: Loss=0.6918, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 20/50: Loss=0.6918, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
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Epoch 22/50: Loss=0.6916, Val Loss=0.6915, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.6915, Val Loss=0.6914, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.6915, Val Loss=0.6914, Acc=0.7487, Val Acc=0.7460  
Epoch 25/50: Loss=0.6914, Val Loss=0.6913, Acc=0.7487, Val Acc=0.7460  
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Epoch 46/50: Loss=0.6899, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
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Epoch 49/50: Loss=0.6896, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 50/50: Loss=0.6896, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/50: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/50: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/50: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
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Epoch 9/50: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/50: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/50: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/50: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/50: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/50: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/50: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/50: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/50: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/50: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/50: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/50: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/50: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700

Epoch 22/50: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/50: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/50: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/50: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/50: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/50: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/50: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/50: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/50: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/50: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/50: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/50: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/50: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/50: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/50: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/50: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/50: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/50: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/50: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/50: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/50: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/50: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/50: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/50: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/50: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/50: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/50: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/50: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/50: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3

accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/50: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/50: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/50: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/50: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/50: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/50: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/50: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/50: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
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Epoch 13/50: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/50: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
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Epoch 16/50: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
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Epoch 19/50: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/50: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/50: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/50: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/50: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/50: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/50: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700

Epoch 26/50: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/50: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/50: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/50: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/50: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/50: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/50: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/50: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/50: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/50: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/50: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/50: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/50: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/50: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/50: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/50: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/50: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/50: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/50: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/50: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/50: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/50: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/50: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/50: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/50: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6928, Val Loss=0.6927, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6927, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6926, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6926, Val Loss=0.6925, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6925, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6924, Val Loss=0.6923, Acc=0.7487, Val Acc=0.7460  
Epoch 12/100: Loss=0.6923, Val Loss=0.6923, Acc=0.7487, Val Acc=0.7460  
Epoch 13/100: Loss=0.6923, Val Loss=0.6922, Acc=0.7487, Val Acc=0.7460  
Epoch 14/100: Loss=0.6922, Val Loss=0.6921, Acc=0.7487, Val Acc=0.7460  
Epoch 15/100: Loss=0.6921, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 16/100: Loss=0.6920, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 17/100: Loss=0.6920, Val Loss=0.6919, Acc=0.7487, Val Acc=0.7460  
Epoch 18/100: Loss=0.6919, Val Loss=0.6918, Acc=0.7487, Val Acc=0.7460  
Epoch 19/100: Loss=0.6918, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 20/100: Loss=0.6918, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 21/100: Loss=0.6917, Val Loss=0.6916, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.6916, Val Loss=0.6915, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.6915, Val Loss=0.6914, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.6915, Val Loss=0.6914, Acc=0.7487, Val Acc=0.7460

[illegible]

Epoch 85/100: Loss=0.6871, Val Loss=0.6870, Acc=0.7487, Val Acc=0.7460  
Epoch 86/100: Loss=0.6870, Val Loss=0.6869, Acc=0.7487, Val Acc=0.7460  
Epoch 87/100: Loss=0.6869, Val Loss=0.6868, Acc=0.7487, Val Acc=0.7460  
Epoch 88/100: Loss=0.6869, Val Loss=0.6868, Acc=0.7487, Val Acc=0.7460  
Epoch 89/100: Loss=0.6868, Val Loss=0.6867, Acc=0.7487, Val Acc=0.7460  
Epoch 90/100: Loss=0.6867, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 91/100: Loss=0.6867, Val Loss=0.6865, Acc=0.7487, Val Acc=0.7460  
Epoch 92/100: Loss=0.6866, Val Loss=0.6865, Acc=0.7487, Val Acc=0.7460  
Epoch 93/100: Loss=0.6865, Val Loss=0.6864, Acc=0.7487, Val Acc=0.7460  
Epoch 94/100: Loss=0.6864, Val Loss=0.6863, Acc=0.7487, Val Acc=0.7460  
Epoch 95/100: Loss=0.6864, Val Loss=0.6863, Acc=0.7487, Val Acc=0.7460  
Epoch 96/100: Loss=0.6863, Val Loss=0.6862, Acc=0.7487, Val Acc=0.7460  
Epoch 97/100: Loss=0.6862, Val Loss=0.6861, Acc=0.7487, Val Acc=0.7460  
Epoch 98/100: Loss=0.6862, Val Loss=0.6860, Acc=0.7487, Val Acc=0.7460  
Epoch 99/100: Loss=0.6861, Val Loss=0.6860, Acc=0.7487, Val Acc=0.7460  
Epoch 100/100: Loss=0.6860, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460

accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/100: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/100: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/100: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/100: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/100: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/100: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/100: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/100: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/100: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/100: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/100: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/100: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/100: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/100: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/100: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/100: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/100: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/100: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/100: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/100: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/100: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/100: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/100: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/100: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/100: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/100: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/100: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/100: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/100: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/100: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/100: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/100: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/100: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/100: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/100: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/100: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/100: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/100: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/100: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/100: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710

Epoch 44/100: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/100: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/100: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/100: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/100: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/100: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/100: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
Epoch 51/100: Loss=0.6459, Val Loss=0.6448, Acc=0.7610, Val Acc=0.7710  
Epoch 52/100: Loss=0.6452, Val Loss=0.6440, Acc=0.7610, Val Acc=0.7710  
Epoch 53/100: Loss=0.6445, Val Loss=0.6433, Acc=0.7613, Val Acc=0.7710  
Epoch 54/100: Loss=0.6437, Val Loss=0.6426, Acc=0.7613, Val Acc=0.7710  
Epoch 55/100: Loss=0.6430, Val Loss=0.6418, Acc=0.7613, Val Acc=0.7710  
Epoch 56/100: Loss=0.6423, Val Loss=0.6411, Acc=0.7617, Val Acc=0.7710  
Epoch 57/100: Loss=0.6415, Val Loss=0.6404, Acc=0.7617, Val Acc=0.7710  
Epoch 58/100: Loss=0.6408, Val Loss=0.6397, Acc=0.7620, Val Acc=0.7710  
Epoch 59/100: Loss=0.6401, Val Loss=0.6390, Acc=0.7620, Val Acc=0.7710  
Epoch 60/100: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/100: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/100: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/100: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/100: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/100: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/100: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/100: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/100: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/100: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/100: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/100: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/100: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/100: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/100: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/100: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/100: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/100: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/100: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700  
Epoch 79/100: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/100: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/100: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/100: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/100: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/100: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/100: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/100: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/100: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/100: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/100: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/100: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/100: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/100: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/100: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/100: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/100: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700  
Epoch 96/100: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/100: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/100: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/100: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/100: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460



Epoch 3/100: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460

Early stop at epoch 3

accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/100: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/100: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/100: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/100: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/100: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/100: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/100: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/100: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/100: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/100: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/100: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/100: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/100: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/100: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/100: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/100: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/100: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/100: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/100: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/100: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/100: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/100: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/100: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/100: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/100: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/100: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/100: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/100: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/100: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/100: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/100: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/100: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/100: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/100: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/100: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/100: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/100: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/100: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/100: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/100: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/100: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/100: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/100: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/100: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/100: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/100: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/100: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
Epoch 51/100: Loss=0.6459, Val Loss=0.6448, Acc=0.7610, Val Acc=0.7710  
Epoch 52/100: Loss=0.6452, Val Loss=0.6440, Acc=0.7610, Val Acc=0.7710  
Epoch 53/100: Loss=0.6445, Val Loss=0.6433, Acc=0.7613, Val Acc=0.7710  
Epoch 54/100: Loss=0.6437, Val Loss=0.6426, Acc=0.7613, Val Acc=0.7710  
Epoch 55/100: Loss=0.6430, Val Loss=0.6418, Acc=0.7613, Val Acc=0.7710  
Epoch 56/100: Loss=0.6423, Val Loss=0.6411, Acc=0.7617, Val Acc=0.7710  
Epoch 57/100: Loss=0.6415, Val Loss=0.6404, Acc=0.7617, Val Acc=0.7710

Epoch 58/100: Loss=0.6408, Val Loss=0.6397, Acc=0.7620, Val Acc=0.7710  
Epoch 59/100: Loss=0.6401, Val Loss=0.6390, Acc=0.7620, Val Acc=0.7710  
Epoch 60/100: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/100: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/100: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/100: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/100: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/100: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/100: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/100: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/100: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/100: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/100: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/100: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/100: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/100: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/100: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/100: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/100: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/100: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/100: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700  
Epoch 79/100: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/100: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/100: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/100: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/100: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/100: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/100: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/100: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/100: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/100: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/100: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/100: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/100: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/100: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/100: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/100: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/100: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700  
Epoch 96/100: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/100: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/100: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/100: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/100: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6928, Val Loss=0.6927, Acc=0.7487, Val Acc=0.7460

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[illegible]

Epoch 127/150: Loss=0.6842, Val Loss=0.6840, Acc=0.7487, Val Acc=0.7460  
Epoch 128/150: Loss=0.6841, Val Loss=0.6839, Acc=0.7487, Val Acc=0.7460  
Epoch 129/150: Loss=0.6840, Val Loss=0.6839, Acc=0.7487, Val Acc=0.7460  
Epoch 130/150: Loss=0.6839, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 131/150: Loss=0.6839, Val Loss=0.6837, Acc=0.7487, Val Acc=0.7460  
Epoch 132/150: Loss=0.6838, Val Loss=0.6837, Acc=0.7487, Val Acc=0.7460  
Epoch 133/150: Loss=0.6837, Val Loss=0.6836, Acc=0.7487, Val Acc=0.7460  
Epoch 134/150: Loss=0.6837, Val Loss=0.6835, Acc=0.7487, Val Acc=0.7460  
Epoch 135/150: Loss=0.6836, Val Loss=0.6835, Acc=0.7487, Val Acc=0.7460  
Epoch 136/150: Loss=0.6835, Val Loss=0.6834, Acc=0.7487, Val Acc=0.7460  
Epoch 137/150: Loss=0.6835, Val Loss=0.6833, Acc=0.7487, Val Acc=0.7460  
Epoch 138/150: Loss=0.6834, Val Loss=0.6833, Acc=0.7487, Val Acc=0.7460  
Epoch 139/150: Loss=0.6833, Val Loss=0.6832, Acc=0.7487, Val Acc=0.7460  
Epoch 140/150: Loss=0.6833, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 141/150: Loss=0.6832, Val Loss=0.6830, Acc=0.7487, Val Acc=0.7460  
Epoch 142/150: Loss=0.6831, Val Loss=0.6830, Acc=0.7487, Val Acc=0.7460  
Epoch 143/150: Loss=0.6831, Val Loss=0.6829, Acc=0.7487, Val Acc=0.7460  
Epoch 144/150: Loss=0.6830, Val Loss=0.6828, Acc=0.7487, Val Acc=0.7460  
Epoch 145/150: Loss=0.6829, Val Loss=0.6828, Acc=0.7487, Val Acc=0.7460  
Epoch 146/150: Loss=0.6828, Val Loss=0.6827, Acc=0.7487, Val Acc=0.7460  
Epoch 147/150: Loss=0.6828, Val Loss=0.6826, Acc=0.7487, Val Acc=0.7460  
Epoch 148/150: Loss=0.6827, Val Loss=0.6826, Acc=0.7487, Val Acc=0.7460  
Epoch 149/150: Loss=0.6826, Val Loss=0.6825, Acc=0.7487, Val Acc=0.7460  
Epoch 150/150: Loss=0.6826, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/150: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/150: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/150: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/150: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/150: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/150: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/150: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/150: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/150: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/150: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/150: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/150: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/150: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/150: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/150: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/150: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/150: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/150: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/150: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/150: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/150: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/150: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/150: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/150: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/150: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/150: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/150: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/150: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/150: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/150: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/150: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/150: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710

Epoch 36/150: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/150: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/150: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/150: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/150: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/150: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/150: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/150: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/150: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/150: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/150: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/150: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/150: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/150: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/150: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
Epoch 51/150: Loss=0.6459, Val Loss=0.6448, Acc=0.7610, Val Acc=0.7710  
Epoch 52/150: Loss=0.6452, Val Loss=0.6440, Acc=0.7610, Val Acc=0.7710  
Epoch 53/150: Loss=0.6445, Val Loss=0.6433, Acc=0.7613, Val Acc=0.7710  
Epoch 54/150: Loss=0.6437, Val Loss=0.6426, Acc=0.7613, Val Acc=0.7710  
Epoch 55/150: Loss=0.6430, Val Loss=0.6418, Acc=0.7613, Val Acc=0.7710  
Epoch 56/150: Loss=0.6423, Val Loss=0.6411, Acc=0.7617, Val Acc=0.7710  
Epoch 57/150: Loss=0.6415, Val Loss=0.6404, Acc=0.7617, Val Acc=0.7710  
Epoch 58/150: Loss=0.6408, Val Loss=0.6397, Acc=0.7620, Val Acc=0.7710  
Epoch 59/150: Loss=0.6401, Val Loss=0.6390, Acc=0.7620, Val Acc=0.7710  
Epoch 60/150: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/150: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/150: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/150: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/150: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/150: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/150: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/150: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/150: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/150: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/150: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/150: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/150: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/150: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/150: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/150: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/150: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/150: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/150: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700  
Epoch 79/150: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/150: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/150: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/150: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/150: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/150: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/150: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/150: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/150: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/150: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/150: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/150: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/150: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/150: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/150: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/150: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/150: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700

Epoch 96/150: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/150: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/150: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/150: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/150: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
Epoch 101/150: Loss=0.6151, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7700  
Epoch 102/150: Loss=0.6146, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7710  
Epoch 103/150: Loss=0.6141, Val Loss=0.6133, Acc=0.7630, Val Acc=0.7710  
Epoch 104/150: Loss=0.6136, Val Loss=0.6128, Acc=0.7630, Val Acc=0.7710  
Epoch 105/150: Loss=0.6131, Val Loss=0.6123, Acc=0.7627, Val Acc=0.7710  
Epoch 106/150: Loss=0.6126, Val Loss=0.6119, Acc=0.7627, Val Acc=0.7710  
Epoch 107/150: Loss=0.6121, Val Loss=0.6114, Acc=0.7627, Val Acc=0.7710  
Epoch 108/150: Loss=0.6117, Val Loss=0.6109, Acc=0.7630, Val Acc=0.7710  
Epoch 109/150: Loss=0.6112, Val Loss=0.6105, Acc=0.7630, Val Acc=0.7710  
Epoch 110/150: Loss=0.6107, Val Loss=0.6100, Acc=0.7630, Val Acc=0.7710  
Epoch 111/150: Loss=0.6103, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 112/150: Loss=0.6098, Val Loss=0.6091, Acc=0.7630, Val Acc=0.7710  
Epoch 113/150: Loss=0.6094, Val Loss=0.6087, Acc=0.7633, Val Acc=0.7710  
Epoch 114/150: Loss=0.6089, Val Loss=0.6082, Acc=0.7633, Val Acc=0.7710  
Epoch 115/150: Loss=0.6085, Val Loss=0.6078, Acc=0.7633, Val Acc=0.7710  
Epoch 116/150: Loss=0.6080, Val Loss=0.6073, Acc=0.7633, Val Acc=0.7710  
Epoch 117/150: Loss=0.6076, Val Loss=0.6069, Acc=0.7633, Val Acc=0.7710  
Epoch 118/150: Loss=0.6071, Val Loss=0.6065, Acc=0.7633, Val Acc=0.7710  
Epoch 119/150: Loss=0.6067, Val Loss=0.6061, Acc=0.7633, Val Acc=0.7710  
Epoch 120/150: Loss=0.6063, Val Loss=0.6056, Acc=0.7633, Val Acc=0.7710  
Epoch 121/150: Loss=0.6058, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 122/150: Loss=0.6054, Val Loss=0.6048, Acc=0.7633, Val Acc=0.7710  
Epoch 123/150: Loss=0.6050, Val Loss=0.6044, Acc=0.7633, Val Acc=0.7710  
Epoch 124/150: Loss=0.6046, Val Loss=0.6040, Acc=0.7633, Val Acc=0.7710  
Epoch 125/150: Loss=0.6041, Val Loss=0.6036, Acc=0.7633, Val Acc=0.7710  
Epoch 126/150: Loss=0.6037, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 127/150: Loss=0.6033, Val Loss=0.6028, Acc=0.7633, Val Acc=0.7710  
Epoch 128/150: Loss=0.6029, Val Loss=0.6024, Acc=0.7633, Val Acc=0.7710  
Epoch 129/150: Loss=0.6025, Val Loss=0.6020, Acc=0.7633, Val Acc=0.7710  
Epoch 130/150: Loss=0.6021, Val Loss=0.6016, Acc=0.7633, Val Acc=0.7710  
Epoch 131/150: Loss=0.6017, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 132/150: Loss=0.6013, Val Loss=0.6008, Acc=0.7633, Val Acc=0.7710  
Epoch 133/150: Loss=0.6009, Val Loss=0.6004, Acc=0.7633, Val Acc=0.7710  
Epoch 134/150: Loss=0.6005, Val Loss=0.6001, Acc=0.7630, Val Acc=0.7710  
Epoch 135/150: Loss=0.6002, Val Loss=0.5997, Acc=0.7630, Val Acc=0.7710  
Epoch 136/150: Loss=0.5998, Val Loss=0.5993, Acc=0.7630, Val Acc=0.7710  
Epoch 137/150: Loss=0.5994, Val Loss=0.5990, Acc=0.7630, Val Acc=0.7710  
Epoch 138/150: Loss=0.5990, Val Loss=0.5986, Acc=0.7630, Val Acc=0.7710  
Epoch 139/150: Loss=0.5986, Val Loss=0.5982, Acc=0.7630, Val Acc=0.7720  
Epoch 140/150: Loss=0.5983, Val Loss=0.5979, Acc=0.7630, Val Acc=0.7720  
Epoch 141/150: Loss=0.5979, Val Loss=0.5975, Acc=0.7630, Val Acc=0.7720  
Epoch 142/150: Loss=0.5975, Val Loss=0.5972, Acc=0.7630, Val Acc=0.7720  
Epoch 143/150: Loss=0.5972, Val Loss=0.5968, Acc=0.7630, Val Acc=0.7720  
Epoch 144/150: Loss=0.5968, Val Loss=0.5965, Acc=0.7630, Val Acc=0.7720  
Epoch 145/150: Loss=0.5965, Val Loss=0.5961, Acc=0.7633, Val Acc=0.7720  
Epoch 146/150: Loss=0.5961, Val Loss=0.5958, Acc=0.7633, Val Acc=0.7720  
Epoch 147/150: Loss=0.5958, Val Loss=0.5954, Acc=0.7633, Val Acc=0.7720  
Epoch 148/150: Loss=0.5954, Val Loss=0.5951, Acc=0.7630, Val Acc=0.7720  
Epoch 149/150: Loss=0.5951, Val Loss=0.5948, Acc=0.7630, Val Acc=0.7720  
Epoch 150/150: Loss=0.5947, Val Loss=0.5944, Acc=0.7630, Val Acc=0.7720  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3

accuracy= 0.597

Epoch 1/150:	Loss=0.6931,	Val Loss=0.6920,	Acc=0.6060,	Val Acc=0.7690
Epoch 2/150:	Loss=0.6920,	Val Loss=0.6908,	Acc=0.7613,	Val Acc=0.7690
Epoch 3/150:	Loss=0.6908,	Val Loss=0.6897,	Acc=0.7617,	Val Acc=0.7690
Epoch 4/150:	Loss=0.6897,	Val Loss=0.6885,	Acc=0.7617,	Val Acc=0.7690
Epoch 5/150:	Loss=0.6886,	Val Loss=0.6874,	Acc=0.7617,	Val Acc=0.7690
Epoch 6/150:	Loss=0.6874,	Val Loss=0.6862,	Acc=0.7617,	Val Acc=0.7690
Epoch 7/150:	Loss=0.6863,	Val Loss=0.6851,	Acc=0.7617,	Val Acc=0.7690
Epoch 8/150:	Loss=0.6852,	Val Loss=0.6840,	Acc=0.7617,	Val Acc=0.7690
Epoch 9/150:	Loss=0.6841,	Val Loss=0.6829,	Acc=0.7617,	Val Acc=0.7690
Epoch 10/150:	Loss=0.6831,	Val Loss=0.6819,	Acc=0.7617,	Val Acc=0.7690
Epoch 11/150:	Loss=0.6820,	Val Loss=0.6808,	Acc=0.7617,	Val Acc=0.7690
Epoch 12/150:	Loss=0.6809,	Val Loss=0.6797,	Acc=0.7617,	Val Acc=0.7690
Epoch 13/150:	Loss=0.6799,	Val Loss=0.6787,	Acc=0.7617,	Val Acc=0.7700
Epoch 14/150:	Loss=0.6788,	Val Loss=0.6776,	Acc=0.7617,	Val Acc=0.7700
Epoch 15/150:	Loss=0.6778,	Val Loss=0.6766,	Acc=0.7617,	Val Acc=0.7700
Epoch 16/150:	Loss=0.6768,	Val Loss=0.6755,	Acc=0.7620,	Val Acc=0.7700
Epoch 17/150:	Loss=0.6758,	Val Loss=0.6745,	Acc=0.7620,	Val Acc=0.7700
Epoch 18/150:	Loss=0.6748,	Val Loss=0.6735,	Acc=0.7620,	Val Acc=0.7700
Epoch 19/150:	Loss=0.6738,	Val Loss=0.6725,	Acc=0.7620,	Val Acc=0.7700
Epoch 20/150:	Loss=0.6728,	Val Loss=0.6715,	Acc=0.7620,	Val Acc=0.7700
Epoch 21/150:	Loss=0.6718,	Val Loss=0.6705,	Acc=0.7620,	Val Acc=0.7700
Epoch 22/150:	Loss=0.6708,	Val Loss=0.6696,	Acc=0.7620,	Val Acc=0.7700
Epoch 23/150:	Loss=0.6698,	Val Loss=0.6686,	Acc=0.7620,	Val Acc=0.7700
Epoch 24/150:	Loss=0.6689,	Val Loss=0.6676,	Acc=0.7620,	Val Acc=0.7700
Epoch 25/150:	Loss=0.6679,	Val Loss=0.6667,	Acc=0.7620,	Val Acc=0.7700
Epoch 26/150:	Loss=0.6670,	Val Loss=0.6658,	Acc=0.7620,	Val Acc=0.7710
Epoch 27/150:	Loss=0.6661,	Val Loss=0.6648,	Acc=0.7617,	Val Acc=0.7710
Epoch 28/150:	Loss=0.6651,	Val Loss=0.6639,	Acc=0.7620,	Val Acc=0.7710
Epoch 29/150:	Loss=0.6642,	Val Loss=0.6630,	Acc=0.7620,	Val Acc=0.7710
Epoch 30/150:	Loss=0.6633,	Val Loss=0.6621,	Acc=0.7620,	Val Acc=0.7710
Epoch 31/150:	Loss=0.6624,	Val Loss=0.6612,	Acc=0.7617,	Val Acc=0.7710
Epoch 32/150:	Loss=0.6615,	Val Loss=0.6603,	Acc=0.7617,	Val Acc=0.7710
Epoch 33/150:	Loss=0.6606,	Val Loss=0.6594,	Acc=0.7617,	Val Acc=0.7710
Epoch 34/150:	Loss=0.6598,	Val Loss=0.6585,	Acc=0.7617,	Val Acc=0.7710
Epoch 35/150:	Loss=0.6589,	Val Loss=0.6577,	Acc=0.7617,	Val Acc=0.7710
Epoch 36/150:	Loss=0.6580,	Val Loss=0.6568,	Acc=0.7617,	Val Acc=0.7710
Epoch 37/150:	Loss=0.6572,	Val Loss=0.6560,	Acc=0.7613,	Val Acc=0.7710
Epoch 38/150:	Loss=0.6563,	Val Loss=0.6551,	Acc=0.7613,	Val Acc=0.7710
Epoch 39/150:	Loss=0.6555,	Val Loss=0.6543,	Acc=0.7613,	Val Acc=0.7710
Epoch 40/150:	Loss=0.6547,	Val Loss=0.6534,	Acc=0.7613,	Val Acc=0.7710
Epoch 41/150:	Loss=0.6538,	Val Loss=0.6526,	Acc=0.7613,	Val Acc=0.7710
Epoch 42/150:	Loss=0.6530,	Val Loss=0.6518,	Acc=0.7613,	Val Acc=0.7710
Epoch 43/150:	Loss=0.6522,	Val Loss=0.6510,	Acc=0.7613,	Val Acc=0.7710
Epoch 44/150:	Loss=0.6514,	Val Loss=0.6502,	Acc=0.7613,	Val Acc=0.7710
Epoch 45/150:	Loss=0.6506,	Val Loss=0.6494,	Acc=0.7613,	Val Acc=0.7710
Epoch 46/150:	Loss=0.6498,	Val Loss=0.6486,	Acc=0.7613,	Val Acc=0.7710
Epoch 47/150:	Loss=0.6490,	Val Loss=0.6478,	Acc=0.7610,	Val Acc=0.7710
Epoch 48/150:	Loss=0.6482,	Val Loss=0.6471,	Acc=0.7610,	Val Acc=0.7710
Epoch 49/150:	Loss=0.6475,	Val Loss=0.6463,	Acc=0.7610,	Val Acc=0.7710
Epoch 50/150:	Loss=0.6467,	Val Loss=0.6455,	Acc=0.7610,	Val Acc=0.7710
Epoch 51/150:	Loss=0.6459,	Val Loss=0.6448,	Acc=0.7610,	Val Acc=0.7710
Epoch 52/150:	Loss=0.6452,	Val Loss=0.6440,	Acc=0.7610,	Val Acc=0.7710
Epoch 53/150:	Loss=0.6445,	Val Loss=0.6433,	Acc=0.7613,	Val Acc=0.7710
Epoch 54/150:	Loss=0.6437,	Val Loss=0.6426,	Acc=0.7613,	Val Acc=0.7710
Epoch 55/150:	Loss=0.6430,	Val Loss=0.6418,	Acc=0.7613,	Val Acc=0.7710
Epoch 56/150:	Loss=0.6423,	Val Loss=0.6411,	Acc=0.7617,	Val Acc=0.7710
Epoch 57/150:	Loss=0.6415,	Val Loss=0.6404,	Acc=0.7617,	Val Acc=0.7710
Epoch 58/150:	Loss=0.6408,	Val Loss=0.6397,	Acc=0.7620,	Val Acc=0.7710
Epoch 59/150:	Loss=0.6401,	Val Loss=0.6390,	Acc=0.7620,	Val Acc=0.7710



Epoch 60/150: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/150: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/150: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/150: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/150: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/150: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/150: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/150: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/150: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/150: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/150: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/150: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/150: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/150: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/150: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/150: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/150: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/150: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/150: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700  
Epoch 79/150: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/150: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/150: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/150: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/150: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/150: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/150: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/150: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/150: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/150: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/150: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/150: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/150: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/150: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/150: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/150: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/150: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700  
Epoch 96/150: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/150: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/150: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/150: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/150: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
Epoch 101/150: Loss=0.6151, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7700  
Early stop at epoch 101  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6928, Val Loss=0.6927, Acc=0.7487, Val Acc=0.7460

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[illegible]



[illegible]

Epoch 487/500: Loss=0.6615, Val Loss=0.6613, Acc=0.7490, Val Acc=0.7460  
Epoch 488/500: Loss=0.6615, Val Loss=0.6612, Acc=0.7490, Val Acc=0.7460  
Epoch 489/500: Loss=0.6614, Val Loss=0.6612, Acc=0.7490, Val Acc=0.7460  
Epoch 490/500: Loss=0.6614, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 491/500: Loss=0.6613, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 492/500: Loss=0.6612, Val Loss=0.6610, Acc=0.7490, Val Acc=0.7460  
Epoch 493/500: Loss=0.6612, Val Loss=0.6610, Acc=0.7490, Val Acc=0.7460  
Epoch 494/500: Loss=0.6611, Val Loss=0.6609, Acc=0.7490, Val Acc=0.7460  
Epoch 495/500: Loss=0.6611, Val Loss=0.6608, Acc=0.7490, Val Acc=0.7460  
Epoch 496/500: Loss=0.6610, Val Loss=0.6608, Acc=0.7490, Val Acc=0.7460  
Epoch 497/500: Loss=0.6610, Val Loss=0.6607, Acc=0.7490, Val Acc=0.7460  
Epoch 498/500: Loss=0.6609, Val Loss=0.6607, Acc=0.7490, Val Acc=0.7460  
Epoch 499/500: Loss=0.6609, Val Loss=0.6606, Acc=0.7490, Val Acc=0.7460  
Epoch 500/500: Loss=0.6608, Val Loss=0.6606, Acc=0.7490, Val Acc=0.7460  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/500: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/500: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/500: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/500: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/500: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/500: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/500: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/500: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/500: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/500: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/500: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/500: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/500: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/500: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/500: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/500: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/500: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/500: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/500: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/500: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/500: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/500: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/500: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/500: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/500: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/500: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/500: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/500: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/500: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/500: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/500: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/500: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/500: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/500: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/500: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/500: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/500: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/500: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/500: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/500: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/500: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/500: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710

Epoch 46/500: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/500: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/500: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/500: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/500: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
Epoch 51/500: Loss=0.6459, Val Loss=0.6448, Acc=0.7610, Val Acc=0.7710  
Epoch 52/500: Loss=0.6452, Val Loss=0.6440, Acc=0.7610, Val Acc=0.7710  
Epoch 53/500: Loss=0.6445, Val Loss=0.6433, Acc=0.7613, Val Acc=0.7710  
Epoch 54/500: Loss=0.6437, Val Loss=0.6426, Acc=0.7613, Val Acc=0.7710  
Epoch 55/500: Loss=0.6430, Val Loss=0.6418, Acc=0.7613, Val Acc=0.7710  
Epoch 56/500: Loss=0.6423, Val Loss=0.6411, Acc=0.7617, Val Acc=0.7710  
Epoch 57/500: Loss=0.6415, Val Loss=0.6404, Acc=0.7617, Val Acc=0.7710  
Epoch 58/500: Loss=0.6408, Val Loss=0.6397, Acc=0.7620, Val Acc=0.7710  
Epoch 59/500: Loss=0.6401, Val Loss=0.6390, Acc=0.7620, Val Acc=0.7710  
Epoch 60/500: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/500: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/500: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/500: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/500: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/500: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/500: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/500: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/500: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/500: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/500: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/500: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/500: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/500: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/500: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/500: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/500: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/500: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/500: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700  
Epoch 79/500: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/500: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/500: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/500: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/500: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/500: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/500: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/500: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/500: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/500: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/500: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/500: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/500: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/500: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/500: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/500: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/500: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700  
Epoch 96/500: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/500: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/500: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/500: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/500: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
Epoch 101/500: Loss=0.6151, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7700  
Epoch 102/500: Loss=0.6146, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7710  
Epoch 103/500: Loss=0.6141, Val Loss=0.6133, Acc=0.7630, Val Acc=0.7710  
Epoch 104/500: Loss=0.6136, Val Loss=0.6128, Acc=0.7630, Val Acc=0.7710  
Epoch 105/500: Loss=0.6131, Val Loss=0.6123, Acc=0.7627, Val Acc=0.7710

Epoch 106/500: Loss=0.6126, Val Loss=0.6119, Acc=0.7627, Val Acc=0.7710  
Epoch 107/500: Loss=0.6121, Val Loss=0.6114, Acc=0.7627, Val Acc=0.7710  
Epoch 108/500: Loss=0.6117, Val Loss=0.6109, Acc=0.7630, Val Acc=0.7710  
Epoch 109/500: Loss=0.6112, Val Loss=0.6105, Acc=0.7630, Val Acc=0.7710  
Epoch 110/500: Loss=0.6107, Val Loss=0.6100, Acc=0.7630, Val Acc=0.7710  
Epoch 111/500: Loss=0.6103, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 112/500: Loss=0.6098, Val Loss=0.6091, Acc=0.7630, Val Acc=0.7710  
Epoch 113/500: Loss=0.6094, Val Loss=0.6087, Acc=0.7633, Val Acc=0.7710  
Epoch 114/500: Loss=0.6089, Val Loss=0.6082, Acc=0.7633, Val Acc=0.7710  
Epoch 115/500: Loss=0.6085, Val Loss=0.6078, Acc=0.7633, Val Acc=0.7710  
Epoch 116/500: Loss=0.6080, Val Loss=0.6073, Acc=0.7633, Val Acc=0.7710  
Epoch 117/500: Loss=0.6076, Val Loss=0.6069, Acc=0.7633, Val Acc=0.7710  
Epoch 118/500: Loss=0.6071, Val Loss=0.6065, Acc=0.7633, Val Acc=0.7710  
Epoch 119/500: Loss=0.6067, Val Loss=0.6061, Acc=0.7633, Val Acc=0.7710  
Epoch 120/500: Loss=0.6063, Val Loss=0.6056, Acc=0.7633, Val Acc=0.7710  
Epoch 121/500: Loss=0.6058, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 122/500: Loss=0.6054, Val Loss=0.6048, Acc=0.7633, Val Acc=0.7710  
Epoch 123/500: Loss=0.6050, Val Loss=0.6044, Acc=0.7633, Val Acc=0.7710  
Epoch 124/500: Loss=0.6046, Val Loss=0.6040, Acc=0.7633, Val Acc=0.7710  
Epoch 125/500: Loss=0.6041, Val Loss=0.6036, Acc=0.7633, Val Acc=0.7710  
Epoch 126/500: Loss=0.6037, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 127/500: Loss=0.6033, Val Loss=0.6028, Acc=0.7633, Val Acc=0.7710  
Epoch 128/500: Loss=0.6029, Val Loss=0.6024, Acc=0.7633, Val Acc=0.7710  
Epoch 129/500: Loss=0.6025, Val Loss=0.6020, Acc=0.7633, Val Acc=0.7710  
Epoch 130/500: Loss=0.6021, Val Loss=0.6016, Acc=0.7633, Val Acc=0.7710  
Epoch 131/500: Loss=0.6017, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 132/500: Loss=0.6013, Val Loss=0.6008, Acc=0.7633, Val Acc=0.7710  
Epoch 133/500: Loss=0.6009, Val Loss=0.6004, Acc=0.7633, Val Acc=0.7710  
Epoch 134/500: Loss=0.6005, Val Loss=0.6001, Acc=0.7630, Val Acc=0.7710  
Epoch 135/500: Loss=0.6002, Val Loss=0.5997, Acc=0.7630, Val Acc=0.7710  
Epoch 136/500: Loss=0.5998, Val Loss=0.5993, Acc=0.7630, Val Acc=0.7710  
Epoch 137/500: Loss=0.5994, Val Loss=0.5990, Acc=0.7630, Val Acc=0.7710  
Epoch 138/500: Loss=0.5990, Val Loss=0.5986, Acc=0.7630, Val Acc=0.7710  
Epoch 139/500: Loss=0.5986, Val Loss=0.5982, Acc=0.7630, Val Acc=0.7720  
Epoch 140/500: Loss=0.5983, Val Loss=0.5979, Acc=0.7630, Val Acc=0.7720  
Epoch 141/500: Loss=0.5979, Val Loss=0.5975, Acc=0.7630, Val Acc=0.7720  
Epoch 142/500: Loss=0.5975, Val Loss=0.5972, Acc=0.7630, Val Acc=0.7720  
Epoch 143/500: Loss=0.5972, Val Loss=0.5968, Acc=0.7630, Val Acc=0.7720  
Epoch 144/500: Loss=0.5968, Val Loss=0.5965, Acc=0.7630, Val Acc=0.7720  
Epoch 145/500: Loss=0.5965, Val Loss=0.5961, Acc=0.7633, Val Acc=0.7720  
Epoch 146/500: Loss=0.5961, Val Loss=0.5958, Acc=0.7633, Val Acc=0.7720  
Epoch 147/500: Loss=0.5958, Val Loss=0.5954, Acc=0.7633, Val Acc=0.7720  
Epoch 148/500: Loss=0.5954, Val Loss=0.5951, Acc=0.7630, Val Acc=0.7720  
Epoch 149/500: Loss=0.5951, Val Loss=0.5948, Acc=0.7630, Val Acc=0.7720  
Epoch 150/500: Loss=0.5947, Val Loss=0.5944, Acc=0.7630, Val Acc=0.7720  
Epoch 151/500: Loss=0.5944, Val Loss=0.5941, Acc=0.7630, Val Acc=0.7720  
Epoch 152/500: Loss=0.5940, Val Loss=0.5938, Acc=0.7630, Val Acc=0.7720  
Epoch 153/500: Loss=0.5937, Val Loss=0.5934, Acc=0.7630, Val Acc=0.7720  
Epoch 154/500: Loss=0.5934, Val Loss=0.5931, Acc=0.7630, Val Acc=0.7720  
Epoch 155/500: Loss=0.5930, Val Loss=0.5928, Acc=0.7630, Val Acc=0.7720  
Epoch 156/500: Loss=0.5927, Val Loss=0.5925, Acc=0.7630, Val Acc=0.7720  
Epoch 157/500: Loss=0.5924, Val Loss=0.5922, Acc=0.7630, Val Acc=0.7720  
Epoch 158/500: Loss=0.5920, Val Loss=0.5918, Acc=0.7633, Val Acc=0.7720  
Epoch 159/500: Loss=0.5917, Val Loss=0.5915, Acc=0.7633, Val Acc=0.7730  
Epoch 160/500: Loss=0.5914, Val Loss=0.5912, Acc=0.7633, Val Acc=0.7730  
Epoch 161/500: Loss=0.5911, Val Loss=0.5909, Acc=0.7633, Val Acc=0.7730  
Epoch 162/500: Loss=0.5908, Val Loss=0.5906, Acc=0.7633, Val Acc=0.7730  
Epoch 163/500: Loss=0.5905, Val Loss=0.5903, Acc=0.7633, Val Acc=0.7730  
Epoch 164/500: Loss=0.5901, Val Loss=0.5900, Acc=0.7633, Val Acc=0.7730  
Epoch 165/500: Loss=0.5898, Val Loss=0.5897, Acc=0.7633, Val Acc=0.7730

Epoch 166/500:	Loss=0.5895,	Val Loss=0.5894,	Acc=0.7633,	Val Acc=0.7730
Epoch 167/500:	Loss=0.5892,	Val Loss=0.5891,	Acc=0.7633,	Val Acc=0.7730
Epoch 168/500:	Loss=0.5889,	Val Loss=0.5888,	Acc=0.7633,	Val Acc=0.7730
Epoch 169/500:	Loss=0.5886,	Val Loss=0.5886,	Acc=0.7633,	Val Acc=0.7730
Epoch 170/500:	Loss=0.5883,	Val Loss=0.5883,	Acc=0.7637,	Val Acc=0.7730
Epoch 171/500:	Loss=0.5880,	Val Loss=0.5880,	Acc=0.7637,	Val Acc=0.7730
Epoch 172/500:	Loss=0.5877,	Val Loss=0.5877,	Acc=0.7637,	Val Acc=0.7730
Epoch 173/500:	Loss=0.5874,	Val Loss=0.5874,	Acc=0.7637,	Val Acc=0.7730
Epoch 174/500:	Loss=0.5872,	Val Loss=0.5871,	Acc=0.7637,	Val Acc=0.7730
Epoch 175/500:	Loss=0.5869,	Val Loss=0.5869,	Acc=0.7640,	Val Acc=0.7730
Epoch 176/500:	Loss=0.5866,	Val Loss=0.5866,	Acc=0.7640,	Val Acc=0.7730
Epoch 177/500:	Loss=0.5863,	Val Loss=0.5863,	Acc=0.7640,	Val Acc=0.7730
Epoch 178/500:	Loss=0.5860,	Val Loss=0.5861,	Acc=0.7637,	Val Acc=0.7730
Epoch 179/500:	Loss=0.5857,	Val Loss=0.5858,	Acc=0.7637,	Val Acc=0.7730
Epoch 180/500:	Loss=0.5855,	Val Loss=0.5855,	Acc=0.7637,	Val Acc=0.7730
Epoch 181/500:	Loss=0.5852,	Val Loss=0.5853,	Acc=0.7637,	Val Acc=0.7730
Epoch 182/500:	Loss=0.5849,	Val Loss=0.5850,	Acc=0.7637,	Val Acc=0.7730
Epoch 183/500:	Loss=0.5846,	Val Loss=0.5847,	Acc=0.7637,	Val Acc=0.7730
Epoch 184/500:	Loss=0.5844,	Val Loss=0.5845,	Acc=0.7640,	Val Acc=0.7730
Epoch 185/500:	Loss=0.5841,	Val Loss=0.5842,	Acc=0.7640,	Val Acc=0.7720
Epoch 186/500:	Loss=0.5838,	Val Loss=0.5840,	Acc=0.7640,	Val Acc=0.7720
Epoch 187/500:	Loss=0.5836,	Val Loss=0.5837,	Acc=0.7640,	Val Acc=0.7720
Epoch 188/500:	Loss=0.5833,	Val Loss=0.5835,	Acc=0.7640,	Val Acc=0.7720
Epoch 189/500:	Loss=0.5831,	Val Loss=0.5832,	Acc=0.7643,	Val Acc=0.7720
Epoch 190/500:	Loss=0.5828,	Val Loss=0.5830,	Acc=0.7643,	Val Acc=0.7720
Epoch 191/500:	Loss=0.5825,	Val Loss=0.5827,	Acc=0.7643,	Val Acc=0.7720
Epoch 192/500:	Loss=0.5823,	Val Loss=0.5825,	Acc=0.7643,	Val Acc=0.7720
Epoch 193/500:	Loss=0.5820,	Val Loss=0.5822,	Acc=0.7643,	Val Acc=0.7720
Epoch 194/500:	Loss=0.5818,	Val Loss=0.5820,	Acc=0.7643,	Val Acc=0.7720
Epoch 195/500:	Loss=0.5815,	Val Loss=0.5818,	Acc=0.7643,	Val Acc=0.7720
Epoch 196/500:	Loss=0.5813,	Val Loss=0.5815,	Acc=0.7643,	Val Acc=0.7720
Epoch 197/500:	Loss=0.5810,	Val Loss=0.5813,	Acc=0.7643,	Val Acc=0.7710
Epoch 198/500:	Loss=0.5808,	Val Loss=0.5811,	Acc=0.7643,	Val Acc=0.7710
Epoch 199/500:	Loss=0.5806,	Val Loss=0.5808,	Acc=0.7640,	Val Acc=0.7710
Epoch 200/500:	Loss=0.5803,	Val Loss=0.5806,	Acc=0.7640,	Val Acc=0.7710
Epoch 201/500:	Loss=0.5801,	Val Loss=0.5804,	Acc=0.7640,	Val Acc=0.7710
Epoch 202/500:	Loss=0.5798,	Val Loss=0.5802,	Acc=0.7640,	Val Acc=0.7710
Epoch 203/500:	Loss=0.5796,	Val Loss=0.5799,	Acc=0.7640,	Val Acc=0.7710
Epoch 204/500:	Loss=0.5794,	Val Loss=0.5797,	Acc=0.7640,	Val Acc=0.7710
Epoch 205/500:	Loss=0.5791,	Val Loss=0.5795,	Acc=0.7640,	Val Acc=0.7710
Epoch 206/500:	Loss=0.5789,	Val Loss=0.5793,	Acc=0.7640,	Val Acc=0.7710
Epoch 207/500:	Loss=0.5787,	Val Loss=0.5790,	Acc=0.7643,	Val Acc=0.7710
Epoch 208/500:	Loss=0.5784,	Val Loss=0.5788,	Acc=0.7643,	Val Acc=0.7710
Epoch 209/500:	Loss=0.5782,	Val Loss=0.5786,	Acc=0.7643,	Val Acc=0.7710
Epoch 210/500:	Loss=0.5780,	Val Loss=0.5784,	Acc=0.7643,	Val Acc=0.7710
Epoch 211/500:	Loss=0.5778,	Val Loss=0.5782,	Acc=0.7643,	Val Acc=0.7710
Epoch 212/500:	Loss=0.5776,	Val Loss=0.5780,	Acc=0.7643,	Val Acc=0.7710
Epoch 213/500:	Loss=0.5773,	Val Loss=0.5778,	Acc=0.7643,	Val Acc=0.7700
Epoch 214/500:	Loss=0.5771,	Val Loss=0.5776,	Acc=0.7643,	Val Acc=0.7700
Epoch 215/500:	Loss=0.5769,	Val Loss=0.5774,	Acc=0.7643,	Val Acc=0.7700
Epoch 216/500:	Loss=0.5767,	Val Loss=0.5772,	Acc=0.7643,	Val Acc=0.7700
Epoch 217/500:	Loss=0.5765,	Val Loss=0.5770,	Acc=0.7643,	Val Acc=0.7690
Epoch 218/500:	Loss=0.5763,	Val Loss=0.5768,	Acc=0.7643,	Val Acc=0.7690
Epoch 219/500:	Loss=0.5760,	Val Loss=0.5766,	Acc=0.7643,	Val Acc=0.7690
Epoch 220/500:	Loss=0.5758,	Val Loss=0.5764,	Acc=0.7643,	Val Acc=0.7690
Epoch 221/500:	Loss=0.5756,	Val Loss=0.5762,	Acc=0.7643,	Val Acc=0.7690
Epoch 222/500:	Loss=0.5754,	Val Loss=0.5760,	Acc=0.7643,	Val Acc=0.7690
Epoch 223/500:	Loss=0.5752,	Val Loss=0.5758,	Acc=0.7643,	Val Acc=0.7690
Epoch 224/500:	Loss=0.5750,	Val Loss=0.5756,	Acc=0.7643,	Val Acc=0.7690
Epoch 225/500:	Loss=0.5748,	Val Loss=0.5754,	Acc=0.7647,	Val Acc=0.7690

[illegible]

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[illegible]



Epoch 406/500: Loss=0.5527, Val Loss=0.5552, Acc=0.7663, Val Acc=0.7700  
Epoch 407/500: Loss=0.5526, Val Loss=0.5552, Acc=0.7663, Val Acc=0.7700  
Epoch 408/500: Loss=0.5526, Val Loss=0.5551, Acc=0.7660, Val Acc=0.7700  
Epoch 409/500: Loss=0.5525, Val Loss=0.5551, Acc=0.7660, Val Acc=0.7690  
Epoch 410/500: Loss=0.5524, Val Loss=0.5550, Acc=0.7660, Val Acc=0.7690  
Epoch 411/500: Loss=0.5524, Val Loss=0.5549, Acc=0.7660, Val Acc=0.7690  
Epoch 412/500: Loss=0.5523, Val Loss=0.5549, Acc=0.7660, Val Acc=0.7690  
Epoch 413/500: Loss=0.5522, Val Loss=0.5548, Acc=0.7660, Val Acc=0.7690  
Epoch 414/500: Loss=0.5522, Val Loss=0.5548, Acc=0.7660, Val Acc=0.7690  
Epoch 415/500: Loss=0.5521, Val Loss=0.5547, Acc=0.7660, Val Acc=0.7690  
Epoch 416/500: Loss=0.5520, Val Loss=0.5547, Acc=0.7660, Val Acc=0.7690  
Epoch 417/500: Loss=0.5520, Val Loss=0.5546, Acc=0.7660, Val Acc=0.7680  
Epoch 418/500: Loss=0.5519, Val Loss=0.5545, Acc=0.7660, Val Acc=0.7680  
Epoch 419/500: Loss=0.5518, Val Loss=0.5545, Acc=0.7657, Val Acc=0.7680  
Epoch 420/500: Loss=0.5518, Val Loss=0.5544, Acc=0.7657, Val Acc=0.7680  
Epoch 421/500: Loss=0.5517, Val Loss=0.5544, Acc=0.7657, Val Acc=0.7680  
Epoch 422/500: Loss=0.5517, Val Loss=0.5543, Acc=0.7657, Val Acc=0.7680  
Epoch 423/500: Loss=0.5516, Val Loss=0.5543, Acc=0.7657, Val Acc=0.7680  
Epoch 424/500: Loss=0.5515, Val Loss=0.5542, Acc=0.7657, Val Acc=0.7680  
Epoch 425/500: Loss=0.5515, Val Loss=0.5542, Acc=0.7657, Val Acc=0.7680  
Epoch 426/500: Loss=0.5514, Val Loss=0.5541, Acc=0.7657, Val Acc=0.7680  
Epoch 427/500: Loss=0.5513, Val Loss=0.5540, Acc=0.7657, Val Acc=0.7680  
Epoch 428/500: Loss=0.5513, Val Loss=0.5540, Acc=0.7657, Val Acc=0.7680  
Epoch 429/500: Loss=0.5512, Val Loss=0.5539, Acc=0.7657, Val Acc=0.7680  
Epoch 430/500: Loss=0.5512, Val Loss=0.5539, Acc=0.7657, Val Acc=0.7680  
Epoch 431/500: Loss=0.5511, Val Loss=0.5538, Acc=0.7657, Val Acc=0.7680  
Epoch 432/500: Loss=0.5510, Val Loss=0.5538, Acc=0.7653, Val Acc=0.7680  
Epoch 433/500: Loss=0.5510, Val Loss=0.5537, Acc=0.7653, Val Acc=0.7680  
Epoch 434/500: Loss=0.5509, Val Loss=0.5537, Acc=0.7653, Val Acc=0.7680  
Epoch 435/500: Loss=0.5508, Val Loss=0.5536, Acc=0.7653, Val Acc=0.7680  
Epoch 436/500: Loss=0.5508, Val Loss=0.5536, Acc=0.7653, Val Acc=0.7680  
Epoch 437/500: Loss=0.5507, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7680  
Epoch 438/500: Loss=0.5507, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7680  
Epoch 439/500: Loss=0.5506, Val Loss=0.5534, Acc=0.7653, Val Acc=0.7680  
Epoch 440/500: Loss=0.5506, Val Loss=0.5534, Acc=0.7653, Val Acc=0.7680  
Early stop at epoch 440

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/500: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/500: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/500: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/500: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/500: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/500: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/500: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/500: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/500: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/500: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/500: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/500: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/500: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/500: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/500: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700

Epoch 19/500: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/500: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/500: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/500: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/500: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/500: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/500: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/500: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/500: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/500: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/500: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/500: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/500: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/500: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/500: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/500: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/500: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/500: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/500: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/500: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/500: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/500: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/500: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/500: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/500: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/500: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/500: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/500: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/500: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/500: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/500: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/500: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
Epoch 51/500: Loss=0.6459, Val Loss=0.6448, Acc=0.7610, Val Acc=0.7710  
Epoch 52/500: Loss=0.6452, Val Loss=0.6440, Acc=0.7610, Val Acc=0.7710  
Epoch 53/500: Loss=0.6445, Val Loss=0.6433, Acc=0.7613, Val Acc=0.7710  
Epoch 54/500: Loss=0.6437, Val Loss=0.6426, Acc=0.7613, Val Acc=0.7710  
Epoch 55/500: Loss=0.6430, Val Loss=0.6418, Acc=0.7613, Val Acc=0.7710  
Epoch 56/500: Loss=0.6423, Val Loss=0.6411, Acc=0.7617, Val Acc=0.7710  
Epoch 57/500: Loss=0.6415, Val Loss=0.6404, Acc=0.7617, Val Acc=0.7710  
Epoch 58/500: Loss=0.6408, Val Loss=0.6397, Acc=0.7620, Val Acc=0.7710  
Epoch 59/500: Loss=0.6401, Val Loss=0.6390, Acc=0.7620, Val Acc=0.7710  
Epoch 60/500: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/500: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/500: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/500: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/500: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/500: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/500: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/500: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/500: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/500: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/500: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/500: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/500: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/500: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/500: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/500: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/500: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/500: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/500: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700

Epoch 79/500: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/500: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/500: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/500: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/500: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/500: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/500: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/500: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/500: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/500: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/500: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/500: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/500: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/500: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/500: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/500: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/500: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700  
Epoch 96/500: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/500: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/500: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/500: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/500: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
Epoch 101/500: Loss=0.6151, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7700  
Early stop at epoch 101  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6920, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6917, Val Loss=0.6913, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6913, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6909, Val Loss=0.6906, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6906, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6902, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6899, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/10: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/10: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/10: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/10: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/10: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/10: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/10: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460

Early stop at epoch 3

accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/10: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/10: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/10: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/10: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/10: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/10: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/10: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710

accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460

Early stop at epoch 3

accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/10: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/10: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700

Early stop at epoch 5

accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6920, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6917, Val Loss=0.6913, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6913, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6909, Val Loss=0.6906, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6906, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6902, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6899, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6895, Val Loss=0.6891, Acc=0.7487, Val Acc=0.7460  
Epoch 12/50: Loss=0.6891, Val Loss=0.6888, Acc=0.7487, Val Acc=0.7460  
Epoch 13/50: Loss=0.6888, Val Loss=0.6884, Acc=0.7487, Val Acc=0.7460  
Epoch 14/50: Loss=0.6884, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 15/50: Loss=0.6881, Val Loss=0.6877, Acc=0.7487, Val Acc=0.7460  
Epoch 16/50: Loss=0.6877, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 17/50: Loss=0.6874, Val Loss=0.6870, Acc=0.7487, Val Acc=0.7460  
Epoch 18/50: Loss=0.6870, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 19/50: Loss=0.6867, Val Loss=0.6863, Acc=0.7487, Val Acc=0.7460  
Epoch 20/50: Loss=0.6863, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 21/50: Loss=0.6860, Val Loss=0.6855, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.6856, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.6853, Val Loss=0.6848, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.6849, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 25/50: Loss=0.6846, Val Loss=0.6841, Acc=0.7487, Val Acc=0.7460  
Epoch 26/50: Loss=0.6842, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 27/50: Loss=0.6839, Val Loss=0.6835, Acc=0.7487, Val Acc=0.7460  
Epoch 28/50: Loss=0.6835, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 29/50: Loss=0.6832, Val Loss=0.6828, Acc=0.7487, Val Acc=0.7460  
Epoch 30/50: Loss=0.6828, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 31/50: Loss=0.6825, Val Loss=0.6821, Acc=0.7487, Val Acc=0.7460  
Epoch 32/50: Loss=0.6822, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 33/50: Loss=0.6818, Val Loss=0.6814, Acc=0.7487, Val Acc=0.7460  
Epoch 34/50: Loss=0.6815, Val Loss=0.6811, Acc=0.7487, Val Acc=0.7460  
Epoch 35/50: Loss=0.6811, Val Loss=0.6807, Acc=0.7487, Val Acc=0.7460

Epoch 36/50: Loss=0.6808, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 37/50: Loss=0.6805, Val Loss=0.6800, Acc=0.7487, Val Acc=0.7460  
Epoch 38/50: Loss=0.6801, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 39/50: Loss=0.6798, Val Loss=0.6794, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6795, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6791, Val Loss=0.6787, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.6788, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.6785, Val Loss=0.6780, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.6781, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 45/50: Loss=0.6778, Val Loss=0.6774, Acc=0.7487, Val Acc=0.7460  
Epoch 46/50: Loss=0.6775, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 47/50: Loss=0.6772, Val Loss=0.6767, Acc=0.7487, Val Acc=0.7460  
Epoch 48/50: Loss=0.6768, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 49/50: Loss=0.6765, Val Loss=0.6761, Acc=0.7487, Val Acc=0.7460  
Epoch 50/50: Loss=0.6762, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/50: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/50: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/50: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/50: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/50: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/50: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/50: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/50: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/50: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/50: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/50: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/50: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/50: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/50: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/50: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/50: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/50: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/50: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/50: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/50: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/50: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/50: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/50: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/50: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/50: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/50: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/50: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/50: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/50: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/50: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/50: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/50: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/50: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/50: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/50: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/50: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/50: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/50: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/50: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/50: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/50: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690

Epoch 45/50: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/50: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/50: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/50: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/50: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/50: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/50: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/50: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/50: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/50: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/50: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/50: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/50: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/50: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/50: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/50: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/50: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/50: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/50: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/50: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/50: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/50: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/50: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/50: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/50: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/50: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/50: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/50: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/50: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/50: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/50: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/50: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/50: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/50: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/50: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/50: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/50: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/50: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/50: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/50: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/50: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/50: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/50: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/50: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/50: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/50: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/50: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/50: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/50: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/50: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/50: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690

Epoch 49/50: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/50: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/50: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/50: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6920, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6917, Val Loss=0.6913, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6913, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6909, Val Loss=0.6906, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6906, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6902, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6899, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6895, Val Loss=0.6891, Acc=0.7487, Val Acc=0.7460  
Epoch 12/100: Loss=0.6891, Val Loss=0.6888, Acc=0.7487, Val Acc=0.7460  
Epoch 13/100: Loss=0.6888, Val Loss=0.6884, Acc=0.7487, Val Acc=0.7460  
Epoch 14/100: Loss=0.6884, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 15/100: Loss=0.6881, Val Loss=0.6877, Acc=0.7487, Val Acc=0.7460  
Epoch 16/100: Loss=0.6877, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 17/100: Loss=0.6874, Val Loss=0.6870, Acc=0.7487, Val Acc=0.7460  
Epoch 18/100: Loss=0.6870, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 19/100: Loss=0.6867, Val Loss=0.6863, Acc=0.7487, Val Acc=0.7460  
Epoch 20/100: Loss=0.6863, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 21/100: Loss=0.6860, Val Loss=0.6855, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.6856, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.6853, Val Loss=0.6848, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.6849, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 25/100: Loss=0.6846, Val Loss=0.6841, Acc=0.7487, Val Acc=0.7460  
Epoch 26/100: Loss=0.6842, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 27/100: Loss=0.6839, Val Loss=0.6835, Acc=0.7487, Val Acc=0.7460  
Epoch 28/100: Loss=0.6835, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 29/100: Loss=0.6832, Val Loss=0.6828, Acc=0.7487, Val Acc=0.7460  
Epoch 30/100: Loss=0.6828, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 31/100: Loss=0.6825, Val Loss=0.6821, Acc=0.7487, Val Acc=0.7460  
Epoch 32/100: Loss=0.6822, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 33/100: Loss=0.6818, Val Loss=0.6814, Acc=0.7487, Val Acc=0.7460  
Epoch 34/100: Loss=0.6815, Val Loss=0.6811, Acc=0.7487, Val Acc=0.7460  
Epoch 35/100: Loss=0.6811, Val Loss=0.6807, Acc=0.7487, Val Acc=0.7460  
Epoch 36/100: Loss=0.6808, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 37/100: Loss=0.6805, Val Loss=0.6800, Acc=0.7487, Val Acc=0.7460  
Epoch 38/100: Loss=0.6801, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 39/100: Loss=0.6798, Val Loss=0.6794, Acc=0.7487, Val Acc=0.7460  
Epoch 40/100: Loss=0.6795, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 41/100: Loss=0.6791, Val Loss=0.6787, Acc=0.7487, Val Acc=0.7460  
Epoch 42/100: Loss=0.6788, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 43/100: Loss=0.6785, Val Loss=0.6780, Acc=0.7487, Val Acc=0.7460  
Epoch 44/100: Loss=0.6781, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 45/100: Loss=0.6778, Val Loss=0.6774, Acc=0.7487, Val Acc=0.7460

Epoch 46/100: Loss=0.6775, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 47/100: Loss=0.6772, Val Loss=0.6767, Acc=0.7487, Val Acc=0.7460  
Epoch 48/100: Loss=0.6768, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 49/100: Loss=0.6765, Val Loss=0.6761, Acc=0.7487, Val Acc=0.7460  
Epoch 50/100: Loss=0.6762, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 51/100: Loss=0.6759, Val Loss=0.6754, Acc=0.7487, Val Acc=0.7460  
Epoch 52/100: Loss=0.6755, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 53/100: Loss=0.6752, Val Loss=0.6748, Acc=0.7487, Val Acc=0.7460  
Epoch 54/100: Loss=0.6749, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 55/100: Loss=0.6746, Val Loss=0.6741, Acc=0.7487, Val Acc=0.7460  
Epoch 56/100: Loss=0.6743, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 57/100: Loss=0.6739, Val Loss=0.6735, Acc=0.7487, Val Acc=0.7460  
Epoch 58/100: Loss=0.6736, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 59/100: Loss=0.6733, Val Loss=0.6729, Acc=0.7487, Val Acc=0.7460  
Epoch 60/100: Loss=0.6730, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 61/100: Loss=0.6727, Val Loss=0.6722, Acc=0.7487, Val Acc=0.7460  
Epoch 62/100: Loss=0.6724, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 63/100: Loss=0.6720, Val Loss=0.6716, Acc=0.7487, Val Acc=0.7460  
Epoch 64/100: Loss=0.6717, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 65/100: Loss=0.6714, Val Loss=0.6710, Acc=0.7487, Val Acc=0.7460  
Epoch 66/100: Loss=0.6711, Val Loss=0.6707, Acc=0.7487, Val Acc=0.7460  
Epoch 67/100: Loss=0.6708, Val Loss=0.6703, Acc=0.7487, Val Acc=0.7460  
Epoch 68/100: Loss=0.6705, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 69/100: Loss=0.6702, Val Loss=0.6697, Acc=0.7487, Val Acc=0.7460  
Epoch 70/100: Loss=0.6699, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 71/100: Loss=0.6696, Val Loss=0.6691, Acc=0.7487, Val Acc=0.7460  
Epoch 72/100: Loss=0.6693, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 73/100: Loss=0.6690, Val Loss=0.6685, Acc=0.7487, Val Acc=0.7460  
Epoch 74/100: Loss=0.6686, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 75/100: Loss=0.6683, Val Loss=0.6679, Acc=0.7487, Val Acc=0.7460  
Epoch 76/100: Loss=0.6680, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 77/100: Loss=0.6677, Val Loss=0.6673, Acc=0.7487, Val Acc=0.7460  
Epoch 78/100: Loss=0.6674, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 79/100: Loss=0.6671, Val Loss=0.6667, Acc=0.7487, Val Acc=0.7460  
Epoch 80/100: Loss=0.6668, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 81/100: Loss=0.6665, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 82/100: Loss=0.6662, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 83/100: Loss=0.6659, Val Loss=0.6655, Acc=0.7487, Val Acc=0.7460  
Epoch 84/100: Loss=0.6656, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 85/100: Loss=0.6653, Val Loss=0.6649, Acc=0.7487, Val Acc=0.7460  
Epoch 86/100: Loss=0.6651, Val Loss=0.6646, Acc=0.7490, Val Acc=0.7460  
Epoch 87/100: Loss=0.6648, Val Loss=0.6643, Acc=0.7490, Val Acc=0.7460  
Epoch 88/100: Loss=0.6645, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 89/100: Loss=0.6642, Val Loss=0.6637, Acc=0.7490, Val Acc=0.7460  
Epoch 90/100: Loss=0.6639, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 91/100: Loss=0.6636, Val Loss=0.6631, Acc=0.7490, Val Acc=0.7460  
Epoch 92/100: Loss=0.6633, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 93/100: Loss=0.6630, Val Loss=0.6625, Acc=0.7490, Val Acc=0.7460  
Epoch 94/100: Loss=0.6627, Val Loss=0.6623, Acc=0.7490, Val Acc=0.7460  
Epoch 95/100: Loss=0.6624, Val Loss=0.6620, Acc=0.7490, Val Acc=0.7460  
Epoch 96/100: Loss=0.6621, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 97/100: Loss=0.6619, Val Loss=0.6614, Acc=0.7490, Val Acc=0.7460  
Epoch 98/100: Loss=0.6616, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 99/100: Loss=0.6613, Val Loss=0.6608, Acc=0.7490, Val Acc=0.7460  
Epoch 100/100: Loss=0.6610, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/100: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700



Epoch 5/100: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/100: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/100: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/100: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/100: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/100: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/100: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/100: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/100: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/100: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/100: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/100: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/100: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/100: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/100: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/100: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/100: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/100: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/100: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/100: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/100: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/100: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/100: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/100: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/100: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/100: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/100: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/100: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/100: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/100: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/100: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/100: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/100: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/100: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/100: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/100: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/100: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/100: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/100: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/100: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/100: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/100: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/100: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/100: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/100: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/100: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/100: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/100: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690  
Epoch 53/100: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/100: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/100: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/100: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/100: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/100: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/100: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/100: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/100: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/100: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/100: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/100: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690

Epoch 65/100: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/100: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Epoch 67/100: Loss=0.5589, Val Loss=0.5603, Acc=0.7653, Val Acc=0.7710  
Epoch 68/100: Loss=0.5584, Val Loss=0.5599, Acc=0.7653, Val Acc=0.7710  
Epoch 69/100: Loss=0.5579, Val Loss=0.5594, Acc=0.7657, Val Acc=0.7700  
Epoch 70/100: Loss=0.5574, Val Loss=0.5590, Acc=0.7660, Val Acc=0.7700  
Epoch 71/100: Loss=0.5569, Val Loss=0.5586, Acc=0.7660, Val Acc=0.7700  
Epoch 72/100: Loss=0.5565, Val Loss=0.5582, Acc=0.7660, Val Acc=0.7700  
Epoch 73/100: Loss=0.5560, Val Loss=0.5578, Acc=0.7660, Val Acc=0.7700  
Epoch 74/100: Loss=0.5556, Val Loss=0.5575, Acc=0.7663, Val Acc=0.7700  
Epoch 75/100: Loss=0.5552, Val Loss=0.5571, Acc=0.7660, Val Acc=0.7700  
Epoch 76/100: Loss=0.5548, Val Loss=0.5567, Acc=0.7660, Val Acc=0.7690  
Epoch 77/100: Loss=0.5544, Val Loss=0.5564, Acc=0.7660, Val Acc=0.7690  
Epoch 78/100: Loss=0.5540, Val Loss=0.5561, Acc=0.7660, Val Acc=0.7690  
Epoch 79/100: Loss=0.5536, Val Loss=0.5557, Acc=0.7663, Val Acc=0.7690  
Epoch 80/100: Loss=0.5532, Val Loss=0.5554, Acc=0.7663, Val Acc=0.7690  
Epoch 81/100: Loss=0.5529, Val Loss=0.5551, Acc=0.7660, Val Acc=0.7700  
Epoch 82/100: Loss=0.5525, Val Loss=0.5548, Acc=0.7663, Val Acc=0.7690  
Epoch 83/100: Loss=0.5522, Val Loss=0.5545, Acc=0.7660, Val Acc=0.7690  
Epoch 84/100: Loss=0.5519, Val Loss=0.5543, Acc=0.7660, Val Acc=0.7680  
Epoch 85/100: Loss=0.5515, Val Loss=0.5540, Acc=0.7657, Val Acc=0.7680  
Epoch 86/100: Loss=0.5512, Val Loss=0.5537, Acc=0.7657, Val Acc=0.7680  
Epoch 87/100: Loss=0.5509, Val Loss=0.5535, Acc=0.7657, Val Acc=0.7680  
Epoch 88/100: Loss=0.5506, Val Loss=0.5532, Acc=0.7653, Val Acc=0.7680  
Epoch 89/100: Loss=0.5503, Val Loss=0.5530, Acc=0.7653, Val Acc=0.7670  
Epoch 90/100: Loss=0.5501, Val Loss=0.5528, Acc=0.7650, Val Acc=0.7670  
Epoch 91/100: Loss=0.5498, Val Loss=0.5525, Acc=0.7650, Val Acc=0.7670  
Epoch 92/100: Loss=0.5495, Val Loss=0.5523, Acc=0.7653, Val Acc=0.7670  
Epoch 93/100: Loss=0.5492, Val Loss=0.5521, Acc=0.7653, Val Acc=0.7670  
Epoch 94/100: Loss=0.5490, Val Loss=0.5519, Acc=0.7653, Val Acc=0.7670  
Epoch 95/100: Loss=0.5487, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 96/100: Loss=0.5485, Val Loss=0.5515, Acc=0.7653, Val Acc=0.7670  
Epoch 97/100: Loss=0.5483, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 98/100: Loss=0.5480, Val Loss=0.5511, Acc=0.7653, Val Acc=0.7670  
Epoch 99/100: Loss=0.5478, Val Loss=0.5509, Acc=0.7653, Val Acc=0.7670  
Epoch 100/100: Loss=0.5476, Val Loss=0.5508, Acc=0.7653, Val Acc=0.7670

accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460

Early stop at epoch 3

accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/100: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/100: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/100: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/100: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/100: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/100: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/100: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/100: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/100: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/100: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/100: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/100: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/100: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/100: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/100: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700

Epoch 19/100: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/100: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/100: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/100: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/100: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/100: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/100: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/100: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/100: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/100: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/100: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/100: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/100: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/100: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/100: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/100: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/100: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/100: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/100: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/100: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/100: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/100: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/100: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/100: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/100: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/100: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/100: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/100: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/100: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/100: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/100: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/100: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/100: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/100: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690  
Epoch 53/100: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/100: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/100: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/100: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/100: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/100: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/100: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/100: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/100: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/100: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/100: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/100: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690  
Epoch 65/100: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/100: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Early stop at epoch 66  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/100: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/100: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700

Early stop at epoch 5

accuracy= 0.597

Epoch 1/150:	Loss=0.6931,	Val Loss=0.6928,	Acc=0.6060,	Val Acc=0.7460
Epoch 2/150:	Loss=0.6928,	Val Loss=0.6924,	Acc=0.7487,	Val Acc=0.7460
Epoch 3/150:	Loss=0.6924,	Val Loss=0.6920,	Acc=0.7487,	Val Acc=0.7460
Epoch 4/150:	Loss=0.6920,	Val Loss=0.6917,	Acc=0.7487,	Val Acc=0.7460
Epoch 5/150:	Loss=0.6917,	Val Loss=0.6913,	Acc=0.7487,	Val Acc=0.7460
Epoch 6/150:	Loss=0.6913,	Val Loss=0.6909,	Acc=0.7487,	Val Acc=0.7460
Epoch 7/150:	Loss=0.6909,	Val Loss=0.6906,	Acc=0.7487,	Val Acc=0.7460
Epoch 8/150:	Loss=0.6906,	Val Loss=0.6902,	Acc=0.7487,	Val Acc=0.7460
Epoch 9/150:	Loss=0.6902,	Val Loss=0.6898,	Acc=0.7487,	Val Acc=0.7460
Epoch 10/150:	Loss=0.6899,	Val Loss=0.6895,	Acc=0.7487,	Val Acc=0.7460
Epoch 11/150:	Loss=0.6895,	Val Loss=0.6891,	Acc=0.7487,	Val Acc=0.7460
Epoch 12/150:	Loss=0.6891,	Val Loss=0.6888,	Acc=0.7487,	Val Acc=0.7460
Epoch 13/150:	Loss=0.6888,	Val Loss=0.6884,	Acc=0.7487,	Val Acc=0.7460
Epoch 14/150:	Loss=0.6884,	Val Loss=0.6880,	Acc=0.7487,	Val Acc=0.7460
Epoch 15/150:	Loss=0.6881,	Val Loss=0.6877,	Acc=0.7487,	Val Acc=0.7460
Epoch 16/150:	Loss=0.6877,	Val Loss=0.6873,	Acc=0.7487,	Val Acc=0.7460
Epoch 17/150:	Loss=0.6874,	Val Loss=0.6870,	Acc=0.7487,	Val Acc=0.7460
Epoch 18/150:	Loss=0.6870,	Val Loss=0.6866,	Acc=0.7487,	Val Acc=0.7460
Epoch 19/150:	Loss=0.6867,	Val Loss=0.6863,	Acc=0.7487,	Val Acc=0.7460
Epoch 20/150:	Loss=0.6863,	Val Loss=0.6859,	Acc=0.7487,	Val Acc=0.7460
Epoch 21/150:	Loss=0.6860,	Val Loss=0.6855,	Acc=0.7487,	Val Acc=0.7460
Epoch 22/150:	Loss=0.6856,	Val Loss=0.6852,	Acc=0.7487,	Val Acc=0.7460
Epoch 23/150:	Loss=0.6853,	Val Loss=0.6848,	Acc=0.7487,	Val Acc=0.7460
Epoch 24/150:	Loss=0.6849,	Val Loss=0.6845,	Acc=0.7487,	Val Acc=0.7460
Epoch 25/150:	Loss=0.6846,	Val Loss=0.6841,	Acc=0.7487,	Val Acc=0.7460
Epoch 26/150:	Loss=0.6842,	Val Loss=0.6838,	Acc=0.7487,	Val Acc=0.7460
Epoch 27/150:	Loss=0.6839,	Val Loss=0.6835,	Acc=0.7487,	Val Acc=0.7460
Epoch 28/150:	Loss=0.6835,	Val Loss=0.6831,	Acc=0.7487,	Val Acc=0.7460
Epoch 29/150:	Loss=0.6832,	Val Loss=0.6828,	Acc=0.7487,	Val Acc=0.7460
Epoch 30/150:	Loss=0.6828,	Val Loss=0.6824,	Acc=0.7487,	Val Acc=0.7460
Epoch 31/150:	Loss=0.6825,	Val Loss=0.6821,	Acc=0.7487,	Val Acc=0.7460
Epoch 32/150:	Loss=0.6822,	Val Loss=0.6817,	Acc=0.7487,	Val Acc=0.7460
Epoch 33/150:	Loss=0.6818,	Val Loss=0.6814,	Acc=0.7487,	Val Acc=0.7460
Epoch 34/150:	Loss=0.6815,	Val Loss=0.6811,	Acc=0.7487,	Val Acc=0.7460
Epoch 35/150:	Loss=0.6811,	Val Loss=0.6807,	Acc=0.7487,	Val Acc=0.7460
Epoch 36/150:	Loss=0.6808,	Val Loss=0.6804,	Acc=0.7487,	Val Acc=0.7460
Epoch 37/150:	Loss=0.6805,	Val Loss=0.6800,	Acc=0.7487,	Val Acc=0.7460
Epoch 38/150:	Loss=0.6801,	Val Loss=0.6797,	Acc=0.7487,	Val Acc=0.7460
Epoch 39/150:	Loss=0.6798,	Val Loss=0.6794,	Acc=0.7487,	Val Acc=0.7460
Epoch 40/150:	Loss=0.6795,	Val Loss=0.6790,	Acc=0.7487,	Val Acc=0.7460
Epoch 41/150:	Loss=0.6791,	Val Loss=0.6787,	Acc=0.7487,	Val Acc=0.7460
Epoch 42/150:	Loss=0.6788,	Val Loss=0.6784,	Acc=0.7487,	Val Acc=0.7460
Epoch 43/150:	Loss=0.6785,	Val Loss=0.6780,	Acc=0.7487,	Val Acc=0.7460
Epoch 44/150:	Loss=0.6781,	Val Loss=0.6777,	Acc=0.7487,	Val Acc=0.7460
Epoch 45/150:	Loss=0.6778,	Val Loss=0.6774,	Acc=0.7487,	Val Acc=0.7460
Epoch 46/150:	Loss=0.6775,	Val Loss=0.6770,	Acc=0.7487,	Val Acc=0.7460
Epoch 47/150:	Loss=0.6772,	Val Loss=0.6767,	Acc=0.7487,	Val Acc=0.7460
Epoch 48/150:	Loss=0.6768,	Val Loss=0.6764,	Acc=0.7487,	Val Acc=0.7460
Epoch 49/150:	Loss=0.6765,	Val Loss=0.6761,	Acc=0.7487,	Val Acc=0.7460
Epoch 50/150:	Loss=0.6762,	Val Loss=0.6757,	Acc=0.7487,	Val Acc=0.7460
Epoch 51/150:	Loss=0.6759,	Val Loss=0.6754,	Acc=0.7487,	Val Acc=0.7460
Epoch 52/150:	Loss=0.6755,	Val Loss=0.6751,	Acc=0.7487,	Val Acc=0.7460
Epoch 53/150:	Loss=0.6752,	Val Loss=0.6748,	Acc=0.7487,	Val Acc=0.7460
Epoch 54/150:	Loss=0.6749,	Val Loss=0.6744,	Acc=0.7487,	Val Acc=0.7460
Epoch 55/150:	Loss=0.6746,	Val Loss=0.6741,	Acc=0.7487,	Val Acc=0.7460
Epoch 56/150:	Loss=0.6743,	Val Loss=0.6738,	Acc=0.7487,	Val Acc=0.7460
Epoch 57/150:	Loss=0.6739,	Val Loss=0.6735,	Acc=0.7487,	Val Acc=0.7460
Epoch 58/150:	Loss=0.6736,	Val Loss=0.6732,	Acc=0.7487,	Val Acc=0.7460

Epoch 59/150: Loss=0.6733, Val Loss=0.6729, Acc=0.7487, Val Acc=0.7460  
Epoch 60/150: Loss=0.6730, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 61/150: Loss=0.6727, Val Loss=0.6722, Acc=0.7487, Val Acc=0.7460  
Epoch 62/150: Loss=0.6724, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 63/150: Loss=0.6720, Val Loss=0.6716, Acc=0.7487, Val Acc=0.7460  
Epoch 64/150: Loss=0.6717, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 65/150: Loss=0.6714, Val Loss=0.6710, Acc=0.7487, Val Acc=0.7460  
Epoch 66/150: Loss=0.6711, Val Loss=0.6707, Acc=0.7487, Val Acc=0.7460  
Epoch 67/150: Loss=0.6708, Val Loss=0.6703, Acc=0.7487, Val Acc=0.7460  
Epoch 68/150: Loss=0.6705, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 69/150: Loss=0.6702, Val Loss=0.6697, Acc=0.7487, Val Acc=0.7460  
Epoch 70/150: Loss=0.6699, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 71/150: Loss=0.6696, Val Loss=0.6691, Acc=0.7487, Val Acc=0.7460  
Epoch 72/150: Loss=0.6693, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 73/150: Loss=0.6690, Val Loss=0.6685, Acc=0.7487, Val Acc=0.7460  
Epoch 74/150: Loss=0.6686, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 75/150: Loss=0.6683, Val Loss=0.6679, Acc=0.7487, Val Acc=0.7460  
Epoch 76/150: Loss=0.6680, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 77/150: Loss=0.6677, Val Loss=0.6673, Acc=0.7487, Val Acc=0.7460  
Epoch 78/150: Loss=0.6674, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 79/150: Loss=0.6671, Val Loss=0.6667, Acc=0.7487, Val Acc=0.7460  
Epoch 80/150: Loss=0.6668, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 81/150: Loss=0.6665, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 82/150: Loss=0.6662, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 83/150: Loss=0.6659, Val Loss=0.6655, Acc=0.7487, Val Acc=0.7460  
Epoch 84/150: Loss=0.6656, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 85/150: Loss=0.6653, Val Loss=0.6649, Acc=0.7487, Val Acc=0.7460  
Epoch 86/150: Loss=0.6651, Val Loss=0.6646, Acc=0.7490, Val Acc=0.7460  
Epoch 87/150: Loss=0.6648, Val Loss=0.6643, Acc=0.7490, Val Acc=0.7460  
Epoch 88/150: Loss=0.6645, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 89/150: Loss=0.6642, Val Loss=0.6637, Acc=0.7490, Val Acc=0.7460  
Epoch 90/150: Loss=0.6639, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 91/150: Loss=0.6636, Val Loss=0.6631, Acc=0.7490, Val Acc=0.7460  
Epoch 92/150: Loss=0.6633, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 93/150: Loss=0.6630, Val Loss=0.6625, Acc=0.7490, Val Acc=0.7460  
Epoch 94/150: Loss=0.6627, Val Loss=0.6623, Acc=0.7490, Val Acc=0.7460  
Epoch 95/150: Loss=0.6624, Val Loss=0.6620, Acc=0.7490, Val Acc=0.7460  
Epoch 96/150: Loss=0.6621, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 97/150: Loss=0.6619, Val Loss=0.6614, Acc=0.7490, Val Acc=0.7460  
Epoch 98/150: Loss=0.6616, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 99/150: Loss=0.6613, Val Loss=0.6608, Acc=0.7490, Val Acc=0.7460  
Epoch 100/150: Loss=0.6610, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 101/150: Loss=0.6607, Val Loss=0.6603, Acc=0.7490, Val Acc=0.7460  
Epoch 102/150: Loss=0.6604, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 103/150: Loss=0.6602, Val Loss=0.6597, Acc=0.7490, Val Acc=0.7460  
Epoch 104/150: Loss=0.6599, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 105/150: Loss=0.6596, Val Loss=0.6591, Acc=0.7490, Val Acc=0.7460  
Epoch 106/150: Loss=0.6593, Val Loss=0.6589, Acc=0.7490, Val Acc=0.7460  
Epoch 107/150: Loss=0.6590, Val Loss=0.6586, Acc=0.7490, Val Acc=0.7460  
Epoch 108/150: Loss=0.6588, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 109/150: Loss=0.6585, Val Loss=0.6580, Acc=0.7493, Val Acc=0.7460  
Epoch 110/150: Loss=0.6582, Val Loss=0.6577, Acc=0.7493, Val Acc=0.7460  
Epoch 111/150: Loss=0.6579, Val Loss=0.6575, Acc=0.7493, Val Acc=0.7460  
Epoch 112/150: Loss=0.6577, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 113/150: Loss=0.6574, Val Loss=0.6569, Acc=0.7493, Val Acc=0.7460  
Epoch 114/150: Loss=0.6571, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 115/150: Loss=0.6568, Val Loss=0.6564, Acc=0.7493, Val Acc=0.7460  
Epoch 116/150: Loss=0.6566, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 117/150: Loss=0.6563, Val Loss=0.6558, Acc=0.7493, Val Acc=0.7460  
Epoch 118/150: Loss=0.6560, Val Loss=0.6556, Acc=0.7493, Val Acc=0.7460

Epoch 119/150: Loss=0.6557, Val Loss=0.6553, Acc=0.7493, Val Acc=0.7460  
Epoch 120/150: Loss=0.6555, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 121/150: Loss=0.6552, Val Loss=0.6547, Acc=0.7493, Val Acc=0.7460  
Epoch 122/150: Loss=0.6549, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 123/150: Loss=0.6547, Val Loss=0.6542, Acc=0.7493, Val Acc=0.7460  
Epoch 124/150: Loss=0.6544, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 125/150: Loss=0.6541, Val Loss=0.6537, Acc=0.7493, Val Acc=0.7460  
Epoch 126/150: Loss=0.6539, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 127/150: Loss=0.6536, Val Loss=0.6531, Acc=0.7493, Val Acc=0.7460  
Epoch 128/150: Loss=0.6533, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 129/150: Loss=0.6531, Val Loss=0.6526, Acc=0.7493, Val Acc=0.7460  
Epoch 130/150: Loss=0.6528, Val Loss=0.6524, Acc=0.7493, Val Acc=0.7460  
Epoch 131/150: Loss=0.6526, Val Loss=0.6521, Acc=0.7493, Val Acc=0.7460  
Epoch 132/150: Loss=0.6523, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 133/150: Loss=0.6520, Val Loss=0.6516, Acc=0.7493, Val Acc=0.7460  
Epoch 134/150: Loss=0.6518, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 135/150: Loss=0.6515, Val Loss=0.6511, Acc=0.7493, Val Acc=0.7460  
Epoch 136/150: Loss=0.6513, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 137/150: Loss=0.6510, Val Loss=0.6505, Acc=0.7493, Val Acc=0.7460  
Epoch 138/150: Loss=0.6507, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 139/150: Loss=0.6505, Val Loss=0.6500, Acc=0.7493, Val Acc=0.7460  
Epoch 140/150: Loss=0.6502, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 141/150: Loss=0.6500, Val Loss=0.6495, Acc=0.7493, Val Acc=0.7460  
Epoch 142/150: Loss=0.6497, Val Loss=0.6493, Acc=0.7493, Val Acc=0.7460  
Epoch 143/150: Loss=0.6495, Val Loss=0.6490, Acc=0.7493, Val Acc=0.7460  
Epoch 144/150: Loss=0.6492, Val Loss=0.6488, Acc=0.7493, Val Acc=0.7460  
Epoch 145/150: Loss=0.6490, Val Loss=0.6485, Acc=0.7493, Val Acc=0.7460  
Epoch 146/150: Loss=0.6487, Val Loss=0.6483, Acc=0.7493, Val Acc=0.7460  
Epoch 147/150: Loss=0.6485, Val Loss=0.6480, Acc=0.7493, Val Acc=0.7460  
Epoch 148/150: Loss=0.6482, Val Loss=0.6478, Acc=0.7493, Val Acc=0.7460  
Epoch 149/150: Loss=0.6480, Val Loss=0.6475, Acc=0.7493, Val Acc=0.7460  
Epoch 150/150: Loss=0.6477, Val Loss=0.6473, Acc=0.7493, Val Acc=0.7460  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/150: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/150: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/150: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/150: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/150: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/150: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/150: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/150: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/150: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/150: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/150: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/150: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/150: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/150: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/150: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/150: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/150: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/150: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/150: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/150: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/150: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/150: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/150: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/150: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710

Epoch 28/150: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/150: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/150: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/150: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/150: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/150: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/150: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/150: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/150: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/150: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/150: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/150: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/150: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/150: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/150: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/150: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/150: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/150: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/150: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/150: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/150: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/150: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/150: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/150: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/150: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690  
Epoch 53/150: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/150: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/150: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/150: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/150: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/150: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/150: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/150: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/150: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/150: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/150: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/150: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690  
Epoch 65/150: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/150: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Epoch 67/150: Loss=0.5589, Val Loss=0.5603, Acc=0.7653, Val Acc=0.7710  
Epoch 68/150: Loss=0.5584, Val Loss=0.5599, Acc=0.7653, Val Acc=0.7710  
Epoch 69/150: Loss=0.5579, Val Loss=0.5594, Acc=0.7657, Val Acc=0.7700  
Epoch 70/150: Loss=0.5574, Val Loss=0.5590, Acc=0.7660, Val Acc=0.7700  
Epoch 71/150: Loss=0.5569, Val Loss=0.5586, Acc=0.7660, Val Acc=0.7700  
Epoch 72/150: Loss=0.5565, Val Loss=0.5582, Acc=0.7660, Val Acc=0.7700  
Epoch 73/150: Loss=0.5560, Val Loss=0.5578, Acc=0.7660, Val Acc=0.7700  
Epoch 74/150: Loss=0.5556, Val Loss=0.5575, Acc=0.7663, Val Acc=0.7700  
Epoch 75/150: Loss=0.5552, Val Loss=0.5571, Acc=0.7660, Val Acc=0.7700  
Epoch 76/150: Loss=0.5548, Val Loss=0.5567, Acc=0.7660, Val Acc=0.7690  
Epoch 77/150: Loss=0.5544, Val Loss=0.5564, Acc=0.7660, Val Acc=0.7690  
Epoch 78/150: Loss=0.5540, Val Loss=0.5561, Acc=0.7660, Val Acc=0.7690  
Epoch 79/150: Loss=0.5536, Val Loss=0.5557, Acc=0.7663, Val Acc=0.7690  
Epoch 80/150: Loss=0.5532, Val Loss=0.5554, Acc=0.7663, Val Acc=0.7690  
Epoch 81/150: Loss=0.5529, Val Loss=0.5551, Acc=0.7660, Val Acc=0.7700  
Epoch 82/150: Loss=0.5525, Val Loss=0.5548, Acc=0.7663, Val Acc=0.7690  
Epoch 83/150: Loss=0.5522, Val Loss=0.5545, Acc=0.7660, Val Acc=0.7690  
Epoch 84/150: Loss=0.5519, Val Loss=0.5543, Acc=0.7660, Val Acc=0.7680  
Epoch 85/150: Loss=0.5515, Val Loss=0.5540, Acc=0.7657, Val Acc=0.7680  
Epoch 86/150: Loss=0.5512, Val Loss=0.5537, Acc=0.7657, Val Acc=0.7680  
Epoch 87/150: Loss=0.5509, Val Loss=0.5535, Acc=0.7657, Val Acc=0.7680

Epoch 88/150: Loss=0.5506, Val Loss=0.5532, Acc=0.7653, Val Acc=0.7680  
Epoch 89/150: Loss=0.5503, Val Loss=0.5530, Acc=0.7653, Val Acc=0.7670  
Epoch 90/150: Loss=0.5501, Val Loss=0.5528, Acc=0.7650, Val Acc=0.7670  
Epoch 91/150: Loss=0.5498, Val Loss=0.5525, Acc=0.7650, Val Acc=0.7670  
Epoch 92/150: Loss=0.5495, Val Loss=0.5523, Acc=0.7653, Val Acc=0.7670  
Epoch 93/150: Loss=0.5492, Val Loss=0.5521, Acc=0.7653, Val Acc=0.7670  
Epoch 94/150: Loss=0.5490, Val Loss=0.5519, Acc=0.7653, Val Acc=0.7670  
Epoch 95/150: Loss=0.5487, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 96/150: Loss=0.5485, Val Loss=0.5515, Acc=0.7653, Val Acc=0.7670  
Epoch 97/150: Loss=0.5483, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 98/150: Loss=0.5480, Val Loss=0.5511, Acc=0.7653, Val Acc=0.7670  
Epoch 99/150: Loss=0.5478, Val Loss=0.5509, Acc=0.7653, Val Acc=0.7670  
Epoch 100/150: Loss=0.5476, Val Loss=0.5508, Acc=0.7653, Val Acc=0.7670  
Epoch 101/150: Loss=0.5474, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7660  
Epoch 102/150: Loss=0.5472, Val Loss=0.5504, Acc=0.7653, Val Acc=0.7680  
Epoch 103/150: Loss=0.5470, Val Loss=0.5503, Acc=0.7653, Val Acc=0.7680  
Epoch 104/150: Loss=0.5468, Val Loss=0.5501, Acc=0.7653, Val Acc=0.7680  
Epoch 105/150: Loss=0.5466, Val Loss=0.5500, Acc=0.7653, Val Acc=0.7680  
Epoch 106/150: Loss=0.5464, Val Loss=0.5498, Acc=0.7653, Val Acc=0.7680  
Epoch 107/150: Loss=0.5462, Val Loss=0.5497, Acc=0.7650, Val Acc=0.7680  
Epoch 108/150: Loss=0.5460, Val Loss=0.5495, Acc=0.7650, Val Acc=0.7680  
Epoch 109/150: Loss=0.5458, Val Loss=0.5494, Acc=0.7650, Val Acc=0.7680  
Epoch 110/150: Loss=0.5457, Val Loss=0.5493, Acc=0.7650, Val Acc=0.7680  
Epoch 111/150: Loss=0.5455, Val Loss=0.5491, Acc=0.7650, Val Acc=0.7680  
Epoch 112/150: Loss=0.5453, Val Loss=0.5490, Acc=0.7647, Val Acc=0.7680  
Epoch 113/150: Loss=0.5452, Val Loss=0.5489, Acc=0.7647, Val Acc=0.7680  
Epoch 114/150: Loss=0.5450, Val Loss=0.5488, Acc=0.7650, Val Acc=0.7680  
Epoch 115/150: Loss=0.5449, Val Loss=0.5486, Acc=0.7650, Val Acc=0.7680  
Epoch 116/150: Loss=0.5447, Val Loss=0.5485, Acc=0.7650, Val Acc=0.7680  
Epoch 117/150: Loss=0.5446, Val Loss=0.5484, Acc=0.7650, Val Acc=0.7680  
Epoch 118/150: Loss=0.5444, Val Loss=0.5483, Acc=0.7650, Val Acc=0.7680  
Epoch 119/150: Loss=0.5443, Val Loss=0.5482, Acc=0.7650, Val Acc=0.7680  
Epoch 120/150: Loss=0.5441, Val Loss=0.5481, Acc=0.7650, Val Acc=0.7680  
Epoch 121/150: Loss=0.5440, Val Loss=0.5480, Acc=0.7650, Val Acc=0.7690  
Epoch 122/150: Loss=0.5439, Val Loss=0.5479, Acc=0.7640, Val Acc=0.7690  
Epoch 123/150: Loss=0.5438, Val Loss=0.5478, Acc=0.7637, Val Acc=0.7690  
Epoch 124/150: Loss=0.5436, Val Loss=0.5477, Acc=0.7640, Val Acc=0.7680  
Epoch 125/150: Loss=0.5435, Val Loss=0.5476, Acc=0.7640, Val Acc=0.7680  
Epoch 126/150: Loss=0.5434, Val Loss=0.5476, Acc=0.7640, Val Acc=0.7680  
Epoch 127/150: Loss=0.5433, Val Loss=0.5475, Acc=0.7637, Val Acc=0.7680  
Epoch 128/150: Loss=0.5432, Val Loss=0.5474, Acc=0.7637, Val Acc=0.7680  
Epoch 129/150: Loss=0.5430, Val Loss=0.5473, Acc=0.7637, Val Acc=0.7690  
Epoch 130/150: Loss=0.5429, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 131/150: Loss=0.5428, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 132/150: Loss=0.5427, Val Loss=0.5471, Acc=0.7637, Val Acc=0.7680  
Epoch 133/150: Loss=0.5426, Val Loss=0.5470, Acc=0.7640, Val Acc=0.7680  
Epoch 134/150: Loss=0.5425, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 135/150: Loss=0.5424, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 136/150: Loss=0.5423, Val Loss=0.5468, Acc=0.7640, Val Acc=0.7680  
Epoch 137/150: Loss=0.5422, Val Loss=0.5467, Acc=0.7640, Val Acc=0.7680  
Epoch 138/150: Loss=0.5421, Val Loss=0.5467, Acc=0.7647, Val Acc=0.7680  
Epoch 139/150: Loss=0.5420, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7680  
Epoch 140/150: Loss=0.5420, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7680  
Epoch 141/150: Loss=0.5419, Val Loss=0.5465, Acc=0.7647, Val Acc=0.7690  
Epoch 142/150: Loss=0.5418, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 143/150: Loss=0.5417, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 144/150: Loss=0.5416, Val Loss=0.5463, Acc=0.7643, Val Acc=0.7690  
Epoch 145/150: Loss=0.5415, Val Loss=0.5463, Acc=0.7643, Val Acc=0.7690  
Epoch 146/150: Loss=0.5415, Val Loss=0.5462, Acc=0.7640, Val Acc=0.7690  
Epoch 147/150: Loss=0.5414, Val Loss=0.5462, Acc=0.7637, Val Acc=0.7690



Epoch 148/150: Loss=0.5413, Val Loss=0.5461, Acc=0.7633, Val Acc=0.7690  
Early stop at epoch 148  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/150: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/150: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/150: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/150: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/150: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/150: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/150: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/150: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/150: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/150: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/150: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/150: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/150: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/150: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/150: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/150: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/150: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/150: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/150: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/150: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/150: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/150: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/150: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/150: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/150: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/150: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/150: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/150: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/150: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/150: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/150: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/150: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/150: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/150: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/150: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/150: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/150: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/150: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/150: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/150: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/150: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/150: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/150: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/150: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/150: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/150: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/150: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/150: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/150: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690

Epoch 53/150: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/150: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/150: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/150: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/150: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/150: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/150: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/150: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/150: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/150: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/150: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/150: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690  
Epoch 65/150: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/150: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Early stop at epoch 66  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/150: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/150: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6920, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6917, Val Loss=0.6913, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6913, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6909, Val Loss=0.6906, Acc=0.7487, Val Acc=0.7460  
Epoch 8/500: Loss=0.6906, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 9/500: Loss=0.6902, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
Epoch 10/500: Loss=0.6899, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 11/500: Loss=0.6895, Val Loss=0.6891, Acc=0.7487, Val Acc=0.7460  
Epoch 12/500: Loss=0.6891, Val Loss=0.6888, Acc=0.7487, Val Acc=0.7460  
Epoch 13/500: Loss=0.6888, Val Loss=0.6884, Acc=0.7487, Val Acc=0.7460  
Epoch 14/500: Loss=0.6884, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 15/500: Loss=0.6881, Val Loss=0.6877, Acc=0.7487, Val Acc=0.7460  
Epoch 16/500: Loss=0.6877, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 17/500: Loss=0.6874, Val Loss=0.6870, Acc=0.7487, Val Acc=0.7460  
Epoch 18/500: Loss=0.6870, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 19/500: Loss=0.6867, Val Loss=0.6863, Acc=0.7487, Val Acc=0.7460  
Epoch 20/500: Loss=0.6863, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 21/500: Loss=0.6860, Val Loss=0.6855, Acc=0.7487, Val Acc=0.7460  
Epoch 22/500: Loss=0.6856, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 23/500: Loss=0.6853, Val Loss=0.6848, Acc=0.7487, Val Acc=0.7460  
Epoch 24/500: Loss=0.6849, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 25/500: Loss=0.6846, Val Loss=0.6841, Acc=0.7487, Val Acc=0.7460  
Epoch 26/500: Loss=0.6842, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 27/500: Loss=0.6839, Val Loss=0.6835, Acc=0.7487, Val Acc=0.7460  
Epoch 28/500: Loss=0.6835, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 29/500: Loss=0.6832, Val Loss=0.6828, Acc=0.7487, Val Acc=0.7460  
Epoch 30/500: Loss=0.6828, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 31/500: Loss=0.6825, Val Loss=0.6821, Acc=0.7487, Val Acc=0.7460  
Epoch 32/500: Loss=0.6822, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460

Epoch 33/500: Loss=0.6818, Val Loss=0.6814, Acc=0.7487, Val Acc=0.7460  
Epoch 34/500: Loss=0.6815, Val Loss=0.6811, Acc=0.7487, Val Acc=0.7460  
Epoch 35/500: Loss=0.6811, Val Loss=0.6807, Acc=0.7487, Val Acc=0.7460  
Epoch 36/500: Loss=0.6808, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 37/500: Loss=0.6805, Val Loss=0.6800, Acc=0.7487, Val Acc=0.7460  
Epoch 38/500: Loss=0.6801, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 39/500: Loss=0.6798, Val Loss=0.6794, Acc=0.7487, Val Acc=0.7460  
Epoch 40/500: Loss=0.6795, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 41/500: Loss=0.6791, Val Loss=0.6787, Acc=0.7487, Val Acc=0.7460  
Epoch 42/500: Loss=0.6788, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 43/500: Loss=0.6785, Val Loss=0.6780, Acc=0.7487, Val Acc=0.7460  
Epoch 44/500: Loss=0.6781, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 45/500: Loss=0.6778, Val Loss=0.6774, Acc=0.7487, Val Acc=0.7460  
Epoch 46/500: Loss=0.6775, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 47/500: Loss=0.6772, Val Loss=0.6767, Acc=0.7487, Val Acc=0.7460  
Epoch 48/500: Loss=0.6768, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 49/500: Loss=0.6765, Val Loss=0.6761, Acc=0.7487, Val Acc=0.7460  
Epoch 50/500: Loss=0.6762, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 51/500: Loss=0.6759, Val Loss=0.6754, Acc=0.7487, Val Acc=0.7460  
Epoch 52/500: Loss=0.6755, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 53/500: Loss=0.6752, Val Loss=0.6748, Acc=0.7487, Val Acc=0.7460  
Epoch 54/500: Loss=0.6749, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 55/500: Loss=0.6746, Val Loss=0.6741, Acc=0.7487, Val Acc=0.7460  
Epoch 56/500: Loss=0.6743, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 57/500: Loss=0.6739, Val Loss=0.6735, Acc=0.7487, Val Acc=0.7460  
Epoch 58/500: Loss=0.6736, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 59/500: Loss=0.6733, Val Loss=0.6729, Acc=0.7487, Val Acc=0.7460  
Epoch 60/500: Loss=0.6730, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 61/500: Loss=0.6727, Val Loss=0.6722, Acc=0.7487, Val Acc=0.7460  
Epoch 62/500: Loss=0.6724, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 63/500: Loss=0.6720, Val Loss=0.6716, Acc=0.7487, Val Acc=0.7460  
Epoch 64/500: Loss=0.6717, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 65/500: Loss=0.6714, Val Loss=0.6710, Acc=0.7487, Val Acc=0.7460  
Epoch 66/500: Loss=0.6711, Val Loss=0.6707, Acc=0.7487, Val Acc=0.7460  
Epoch 67/500: Loss=0.6708, Val Loss=0.6703, Acc=0.7487, Val Acc=0.7460  
Epoch 68/500: Loss=0.6705, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 69/500: Loss=0.6702, Val Loss=0.6697, Acc=0.7487, Val Acc=0.7460  
Epoch 70/500: Loss=0.6699, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 71/500: Loss=0.6696, Val Loss=0.6691, Acc=0.7487, Val Acc=0.7460  
Epoch 72/500: Loss=0.6693, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 73/500: Loss=0.6690, Val Loss=0.6685, Acc=0.7487, Val Acc=0.7460  
Epoch 74/500: Loss=0.6686, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 75/500: Loss=0.6683, Val Loss=0.6679, Acc=0.7487, Val Acc=0.7460  
Epoch 76/500: Loss=0.6680, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 77/500: Loss=0.6677, Val Loss=0.6673, Acc=0.7487, Val Acc=0.7460  
Epoch 78/500: Loss=0.6674, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 79/500: Loss=0.6671, Val Loss=0.6667, Acc=0.7487, Val Acc=0.7460  
Epoch 80/500: Loss=0.6668, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 81/500: Loss=0.6665, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 82/500: Loss=0.6662, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 83/500: Loss=0.6659, Val Loss=0.6655, Acc=0.7487, Val Acc=0.7460  
Epoch 84/500: Loss=0.6656, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 85/500: Loss=0.6653, Val Loss=0.6649, Acc=0.7487, Val Acc=0.7460  
Epoch 86/500: Loss=0.6651, Val Loss=0.6646, Acc=0.7490, Val Acc=0.7460  
Epoch 87/500: Loss=0.6648, Val Loss=0.6643, Acc=0.7490, Val Acc=0.7460  
Epoch 88/500: Loss=0.6645, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 89/500: Loss=0.6642, Val Loss=0.6637, Acc=0.7490, Val Acc=0.7460  
Epoch 90/500: Loss=0.6639, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 91/500: Loss=0.6636, Val Loss=0.6631, Acc=0.7490, Val Acc=0.7460  
Epoch 92/500: Loss=0.6633, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460

Epoch 93/500: Loss=0.6630, Val Loss=0.6625, Acc=0.7490, Val Acc=0.7460  
Epoch 94/500: Loss=0.6627, Val Loss=0.6623, Acc=0.7490, Val Acc=0.7460  
Epoch 95/500: Loss=0.6624, Val Loss=0.6620, Acc=0.7490, Val Acc=0.7460  
Epoch 96/500: Loss=0.6621, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 97/500: Loss=0.6619, Val Loss=0.6614, Acc=0.7490, Val Acc=0.7460  
Epoch 98/500: Loss=0.6616, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 99/500: Loss=0.6613, Val Loss=0.6608, Acc=0.7490, Val Acc=0.7460  
Epoch 100/500: Loss=0.6610, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 101/500: Loss=0.6607, Val Loss=0.6603, Acc=0.7490, Val Acc=0.7460  
Epoch 102/500: Loss=0.6604, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 103/500: Loss=0.6602, Val Loss=0.6597, Acc=0.7490, Val Acc=0.7460  
Epoch 104/500: Loss=0.6599, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 105/500: Loss=0.6596, Val Loss=0.6591, Acc=0.7490, Val Acc=0.7460  
Epoch 106/500: Loss=0.6593, Val Loss=0.6589, Acc=0.7490, Val Acc=0.7460  
Epoch 107/500: Loss=0.6590, Val Loss=0.6586, Acc=0.7490, Val Acc=0.7460  
Epoch 108/500: Loss=0.6588, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 109/500: Loss=0.6585, Val Loss=0.6580, Acc=0.7493, Val Acc=0.7460  
Epoch 110/500: Loss=0.6582, Val Loss=0.6577, Acc=0.7493, Val Acc=0.7460  
Epoch 111/500: Loss=0.6579, Val Loss=0.6575, Acc=0.7493, Val Acc=0.7460  
Epoch 112/500: Loss=0.6577, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 113/500: Loss=0.6574, Val Loss=0.6569, Acc=0.7493, Val Acc=0.7460  
Epoch 114/500: Loss=0.6571, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 115/500: Loss=0.6568, Val Loss=0.6564, Acc=0.7493, Val Acc=0.7460  
Epoch 116/500: Loss=0.6566, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 117/500: Loss=0.6563, Val Loss=0.6558, Acc=0.7493, Val Acc=0.7460  
Epoch 118/500: Loss=0.6560, Val Loss=0.6556, Acc=0.7493, Val Acc=0.7460  
Epoch 119/500: Loss=0.6557, Val Loss=0.6553, Acc=0.7493, Val Acc=0.7460  
Epoch 120/500: Loss=0.6555, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 121/500: Loss=0.6552, Val Loss=0.6547, Acc=0.7493, Val Acc=0.7460  
Epoch 122/500: Loss=0.6549, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 123/500: Loss=0.6547, Val Loss=0.6542, Acc=0.7493, Val Acc=0.7460  
Epoch 124/500: Loss=0.6544, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 125/500: Loss=0.6541, Val Loss=0.6537, Acc=0.7493, Val Acc=0.7460  
Epoch 126/500: Loss=0.6539, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 127/500: Loss=0.6536, Val Loss=0.6531, Acc=0.7493, Val Acc=0.7460  
Epoch 128/500: Loss=0.6533, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 129/500: Loss=0.6531, Val Loss=0.6526, Acc=0.7493, Val Acc=0.7460  
Epoch 130/500: Loss=0.6528, Val Loss=0.6524, Acc=0.7493, Val Acc=0.7460  
Epoch 131/500: Loss=0.6526, Val Loss=0.6521, Acc=0.7493, Val Acc=0.7460  
Epoch 132/500: Loss=0.6523, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 133/500: Loss=0.6520, Val Loss=0.6516, Acc=0.7493, Val Acc=0.7460  
Epoch 134/500: Loss=0.6518, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 135/500: Loss=0.6515, Val Loss=0.6511, Acc=0.7493, Val Acc=0.7460  
Epoch 136/500: Loss=0.6513, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 137/500: Loss=0.6510, Val Loss=0.6505, Acc=0.7493, Val Acc=0.7460  
Epoch 138/500: Loss=0.6507, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 139/500: Loss=0.6505, Val Loss=0.6500, Acc=0.7493, Val Acc=0.7460  
Epoch 140/500: Loss=0.6502, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 141/500: Loss=0.6500, Val Loss=0.6495, Acc=0.7493, Val Acc=0.7460  
Epoch 142/500: Loss=0.6497, Val Loss=0.6493, Acc=0.7493, Val Acc=0.7460  
Epoch 143/500: Loss=0.6495, Val Loss=0.6490, Acc=0.7493, Val Acc=0.7460  
Epoch 144/500: Loss=0.6492, Val Loss=0.6488, Acc=0.7493, Val Acc=0.7460  
Epoch 145/500: Loss=0.6490, Val Loss=0.6485, Acc=0.7493, Val Acc=0.7460  
Epoch 146/500: Loss=0.6487, Val Loss=0.6483, Acc=0.7493, Val Acc=0.7460  
Epoch 147/500: Loss=0.6485, Val Loss=0.6480, Acc=0.7493, Val Acc=0.7460  
Epoch 148/500: Loss=0.6482, Val Loss=0.6478, Acc=0.7493, Val Acc=0.7460  
Epoch 149/500: Loss=0.6480, Val Loss=0.6475, Acc=0.7493, Val Acc=0.7460  
Epoch 150/500: Loss=0.6477, Val Loss=0.6473, Acc=0.7493, Val Acc=0.7460  
Epoch 151/500: Loss=0.6475, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 152/500: Loss=0.6472, Val Loss=0.6468, Acc=0.7493, Val Acc=0.7460

[illegible]

[illegible]

[illegible]

[illegible]



[illegible]

Epoch 453/500: Loss=0.5950, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 454/500: Loss=0.5949, Val Loss=0.5950, Acc=0.7487, Val Acc=0.7460  
Epoch 455/500: Loss=0.5948, Val Loss=0.5949, Acc=0.7487, Val Acc=0.7460  
Epoch 456/500: Loss=0.5947, Val Loss=0.5948, Acc=0.7487, Val Acc=0.7460  
Epoch 457/500: Loss=0.5946, Val Loss=0.5947, Acc=0.7487, Val Acc=0.7460  
Epoch 458/500: Loss=0.5945, Val Loss=0.5946, Acc=0.7487, Val Acc=0.7460  
Epoch 459/500: Loss=0.5943, Val Loss=0.5945, Acc=0.7487, Val Acc=0.7460  
Epoch 460/500: Loss=0.5942, Val Loss=0.5944, Acc=0.7487, Val Acc=0.7460  
Epoch 461/500: Loss=0.5941, Val Loss=0.5942, Acc=0.7487, Val Acc=0.7460  
Epoch 462/500: Loss=0.5940, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 463/500: Loss=0.5939, Val Loss=0.5940, Acc=0.7487, Val Acc=0.7460  
Epoch 464/500: Loss=0.5938, Val Loss=0.5939, Acc=0.7487, Val Acc=0.7460  
Epoch 465/500: Loss=0.5936, Val Loss=0.5938, Acc=0.7487, Val Acc=0.7460  
Epoch 466/500: Loss=0.5935, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 467/500: Loss=0.5934, Val Loss=0.5936, Acc=0.7487, Val Acc=0.7460  
Epoch 468/500: Loss=0.5933, Val Loss=0.5935, Acc=0.7487, Val Acc=0.7470  
Epoch 469/500: Loss=0.5932, Val Loss=0.5933, Acc=0.7487, Val Acc=0.7470  
Epoch 470/500: Loss=0.5931, Val Loss=0.5932, Acc=0.7487, Val Acc=0.7470  
Epoch 471/500: Loss=0.5930, Val Loss=0.5931, Acc=0.7487, Val Acc=0.7480  
Epoch 472/500: Loss=0.5929, Val Loss=0.5930, Acc=0.7487, Val Acc=0.7480  
Epoch 473/500: Loss=0.5927, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7480  
Epoch 474/500: Loss=0.5926, Val Loss=0.5928, Acc=0.7487, Val Acc=0.7480  
Epoch 475/500: Loss=0.5925, Val Loss=0.5927, Acc=0.7487, Val Acc=0.7480  
Epoch 476/500: Loss=0.5924, Val Loss=0.5926, Acc=0.7487, Val Acc=0.7480  
Epoch 477/500: Loss=0.5923, Val Loss=0.5925, Acc=0.7487, Val Acc=0.7480  
Epoch 478/500: Loss=0.5922, Val Loss=0.5924, Acc=0.7487, Val Acc=0.7480  
Epoch 479/500: Loss=0.5921, Val Loss=0.5923, Acc=0.7487, Val Acc=0.7480  
Epoch 480/500: Loss=0.5920, Val Loss=0.5921, Acc=0.7487, Val Acc=0.7480  
Epoch 481/500: Loss=0.5919, Val Loss=0.5920, Acc=0.7487, Val Acc=0.7480  
Epoch 482/500: Loss=0.5917, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 483/500: Loss=0.5916, Val Loss=0.5918, Acc=0.7487, Val Acc=0.7480  
Epoch 484/500: Loss=0.5915, Val Loss=0.5917, Acc=0.7487, Val Acc=0.7480  
Epoch 485/500: Loss=0.5914, Val Loss=0.5916, Acc=0.7487, Val Acc=0.7480  
Epoch 486/500: Loss=0.5913, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7480  
Epoch 487/500: Loss=0.5912, Val Loss=0.5914, Acc=0.7487, Val Acc=0.7480  
Epoch 488/500: Loss=0.5911, Val Loss=0.5913, Acc=0.7487, Val Acc=0.7480  
Epoch 489/500: Loss=0.5910, Val Loss=0.5912, Acc=0.7487, Val Acc=0.7480  
Epoch 490/500: Loss=0.5909, Val Loss=0.5911, Acc=0.7487, Val Acc=0.7480  
Epoch 491/500: Loss=0.5908, Val Loss=0.5910, Acc=0.7487, Val Acc=0.7480  
Epoch 492/500: Loss=0.5907, Val Loss=0.5909, Acc=0.7487, Val Acc=0.7480  
Epoch 493/500: Loss=0.5906, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 494/500: Loss=0.5904, Val Loss=0.5907, Acc=0.7487, Val Acc=0.7480  
Epoch 495/500: Loss=0.5903, Val Loss=0.5906, Acc=0.7487, Val Acc=0.7480  
Epoch 496/500: Loss=0.5902, Val Loss=0.5905, Acc=0.7487, Val Acc=0.7480  
Epoch 497/500: Loss=0.5901, Val Loss=0.5904, Acc=0.7487, Val Acc=0.7480  
Epoch 498/500: Loss=0.5900, Val Loss=0.5903, Acc=0.7487, Val Acc=0.7480  
Epoch 499/500: Loss=0.5899, Val Loss=0.5901, Acc=0.7487, Val Acc=0.7480  
Epoch 500/500: Loss=0.5898, Val Loss=0.5900, Acc=0.7487, Val Acc=0.7480  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/500: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/500: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/500: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/500: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/500: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/500: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/500: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/500: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710

Epoch 12/500: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/500: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/500: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/500: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/500: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/500: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/500: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/500: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/500: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/500: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/500: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/500: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/500: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/500: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/500: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/500: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/500: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/500: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/500: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/500: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/500: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/500: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/500: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/500: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/500: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/500: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/500: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/500: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/500: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/500: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/500: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/500: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/500: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/500: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/500: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/500: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/500: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/500: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/500: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/500: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/500: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690  
Epoch 53/500: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/500: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/500: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/500: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/500: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/500: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/500: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/500: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/500: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/500: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/500: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/500: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690  
Epoch 65/500: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/500: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Epoch 67/500: Loss=0.5589, Val Loss=0.5603, Acc=0.7653, Val Acc=0.7710  
Epoch 68/500: Loss=0.5584, Val Loss=0.5599, Acc=0.7653, Val Acc=0.7710  
Epoch 69/500: Loss=0.5579, Val Loss=0.5594, Acc=0.7657, Val Acc=0.7700  
Epoch 70/500: Loss=0.5574, Val Loss=0.5590, Acc=0.7660, Val Acc=0.7700  
Epoch 71/500: Loss=0.5569, Val Loss=0.5586, Acc=0.7660, Val Acc=0.7700

Epoch 72/500: Loss=0.5565, Val Loss=0.5582, Acc=0.7660, Val Acc=0.7700  
Epoch 73/500: Loss=0.5560, Val Loss=0.5578, Acc=0.7660, Val Acc=0.7700  
Epoch 74/500: Loss=0.5556, Val Loss=0.5575, Acc=0.7663, Val Acc=0.7700  
Epoch 75/500: Loss=0.5552, Val Loss=0.5571, Acc=0.7660, Val Acc=0.7700  
Epoch 76/500: Loss=0.5548, Val Loss=0.5567, Acc=0.7660, Val Acc=0.7690  
Epoch 77/500: Loss=0.5544, Val Loss=0.5564, Acc=0.7660, Val Acc=0.7690  
Epoch 78/500: Loss=0.5540, Val Loss=0.5561, Acc=0.7660, Val Acc=0.7690  
Epoch 79/500: Loss=0.5536, Val Loss=0.5557, Acc=0.7663, Val Acc=0.7690  
Epoch 80/500: Loss=0.5532, Val Loss=0.5554, Acc=0.7663, Val Acc=0.7690  
Epoch 81/500: Loss=0.5529, Val Loss=0.5551, Acc=0.7660, Val Acc=0.7700  
Epoch 82/500: Loss=0.5525, Val Loss=0.5548, Acc=0.7663, Val Acc=0.7690  
Epoch 83/500: Loss=0.5522, Val Loss=0.5545, Acc=0.7660, Val Acc=0.7690  
Epoch 84/500: Loss=0.5519, Val Loss=0.5543, Acc=0.7660, Val Acc=0.7680  
Epoch 85/500: Loss=0.5515, Val Loss=0.5540, Acc=0.7657, Val Acc=0.7680  
Epoch 86/500: Loss=0.5512, Val Loss=0.5537, Acc=0.7657, Val Acc=0.7680  
Epoch 87/500: Loss=0.5509, Val Loss=0.5535, Acc=0.7657, Val Acc=0.7680  
Epoch 88/500: Loss=0.5506, Val Loss=0.5532, Acc=0.7653, Val Acc=0.7680  
Epoch 89/500: Loss=0.5503, Val Loss=0.5530, Acc=0.7653, Val Acc=0.7670  
Epoch 90/500: Loss=0.5501, Val Loss=0.5528, Acc=0.7650, Val Acc=0.7670  
Epoch 91/500: Loss=0.5498, Val Loss=0.5525, Acc=0.7650, Val Acc=0.7670  
Epoch 92/500: Loss=0.5495, Val Loss=0.5523, Acc=0.7653, Val Acc=0.7670  
Epoch 93/500: Loss=0.5492, Val Loss=0.5521, Acc=0.7653, Val Acc=0.7670  
Epoch 94/500: Loss=0.5490, Val Loss=0.5519, Acc=0.7653, Val Acc=0.7670  
Epoch 95/500: Loss=0.5487, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 96/500: Loss=0.5485, Val Loss=0.5515, Acc=0.7653, Val Acc=0.7670  
Epoch 97/500: Loss=0.5483, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 98/500: Loss=0.5480, Val Loss=0.5511, Acc=0.7653, Val Acc=0.7670  
Epoch 99/500: Loss=0.5478, Val Loss=0.5509, Acc=0.7653, Val Acc=0.7670  
Epoch 100/500: Loss=0.5476, Val Loss=0.5508, Acc=0.7653, Val Acc=0.7670  
Epoch 101/500: Loss=0.5474, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7660  
Epoch 102/500: Loss=0.5472, Val Loss=0.5504, Acc=0.7653, Val Acc=0.7680  
Epoch 103/500: Loss=0.5470, Val Loss=0.5503, Acc=0.7653, Val Acc=0.7680  
Epoch 104/500: Loss=0.5468, Val Loss=0.5501, Acc=0.7653, Val Acc=0.7680  
Epoch 105/500: Loss=0.5466, Val Loss=0.5500, Acc=0.7653, Val Acc=0.7680  
Epoch 106/500: Loss=0.5464, Val Loss=0.5498, Acc=0.7653, Val Acc=0.7680  
Epoch 107/500: Loss=0.5462, Val Loss=0.5497, Acc=0.7650, Val Acc=0.7680  
Epoch 108/500: Loss=0.5460, Val Loss=0.5495, Acc=0.7650, Val Acc=0.7680  
Epoch 109/500: Loss=0.5458, Val Loss=0.5494, Acc=0.7650, Val Acc=0.7680  
Epoch 110/500: Loss=0.5457, Val Loss=0.5493, Acc=0.7650, Val Acc=0.7680  
Epoch 111/500: Loss=0.5455, Val Loss=0.5491, Acc=0.7650, Val Acc=0.7680  
Epoch 112/500: Loss=0.5453, Val Loss=0.5490, Acc=0.7647, Val Acc=0.7680  
Epoch 113/500: Loss=0.5452, Val Loss=0.5489, Acc=0.7647, Val Acc=0.7680  
Epoch 114/500: Loss=0.5450, Val Loss=0.5488, Acc=0.7650, Val Acc=0.7680  
Epoch 115/500: Loss=0.5449, Val Loss=0.5486, Acc=0.7650, Val Acc=0.7680  
Epoch 116/500: Loss=0.5447, Val Loss=0.5485, Acc=0.7650, Val Acc=0.7680  
Epoch 117/500: Loss=0.5446, Val Loss=0.5484, Acc=0.7650, Val Acc=0.7680  
Epoch 118/500: Loss=0.5444, Val Loss=0.5483, Acc=0.7650, Val Acc=0.7680  
Epoch 119/500: Loss=0.5443, Val Loss=0.5482, Acc=0.7650, Val Acc=0.7680  
Epoch 120/500: Loss=0.5441, Val Loss=0.5481, Acc=0.7650, Val Acc=0.7680  
Epoch 121/500: Loss=0.5440, Val Loss=0.5480, Acc=0.7650, Val Acc=0.7690  
Epoch 122/500: Loss=0.5439, Val Loss=0.5479, Acc=0.7640, Val Acc=0.7690  
Epoch 123/500: Loss=0.5438, Val Loss=0.5478, Acc=0.7637, Val Acc=0.7690  
Epoch 124/500: Loss=0.5436, Val Loss=0.5477, Acc=0.7640, Val Acc=0.7680  
Epoch 125/500: Loss=0.5435, Val Loss=0.5476, Acc=0.7640, Val Acc=0.7680  
Epoch 126/500: Loss=0.5434, Val Loss=0.5476, Acc=0.7640, Val Acc=0.7680  
Epoch 127/500: Loss=0.5433, Val Loss=0.5475, Acc=0.7637, Val Acc=0.7680  
Epoch 128/500: Loss=0.5432, Val Loss=0.5474, Acc=0.7637, Val Acc=0.7680  
Epoch 129/500: Loss=0.5430, Val Loss=0.5473, Acc=0.7637, Val Acc=0.7690  
Epoch 130/500: Loss=0.5429, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 131/500: Loss=0.5428, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690

Epoch 132/500: Loss=0.5427, Val Loss=0.5471, Acc=0.7637, Val Acc=0.7680  
Epoch 133/500: Loss=0.5426, Val Loss=0.5470, Acc=0.7640, Val Acc=0.7680  
Epoch 134/500: Loss=0.5425, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 135/500: Loss=0.5424, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 136/500: Loss=0.5423, Val Loss=0.5468, Acc=0.7640, Val Acc=0.7680  
Epoch 137/500: Loss=0.5422, Val Loss=0.5467, Acc=0.7640, Val Acc=0.7680  
Epoch 138/500: Loss=0.5421, Val Loss=0.5467, Acc=0.7647, Val Acc=0.7680  
Epoch 139/500: Loss=0.5420, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7680  
Epoch 140/500: Loss=0.5420, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7680  
Epoch 141/500: Loss=0.5419, Val Loss=0.5465, Acc=0.7647, Val Acc=0.7690  
Epoch 142/500: Loss=0.5418, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 143/500: Loss=0.5417, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 144/500: Loss=0.5416, Val Loss=0.5463, Acc=0.7643, Val Acc=0.7690  
Epoch 145/500: Loss=0.5415, Val Loss=0.5463, Acc=0.7643, Val Acc=0.7690  
Epoch 146/500: Loss=0.5415, Val Loss=0.5462, Acc=0.7640, Val Acc=0.7690  
Epoch 147/500: Loss=0.5414, Val Loss=0.5462, Acc=0.7637, Val Acc=0.7690  
Epoch 148/500: Loss=0.5413, Val Loss=0.5461, Acc=0.7633, Val Acc=0.7690  
Early stop at epoch 148

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/500: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/500: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/500: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/500: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/500: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/500: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/500: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/500: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/500: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/500: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/500: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/500: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/500: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/500: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/500: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/500: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/500: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/500: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/500: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/500: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/500: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/500: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/500: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/500: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/500: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/500: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/500: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/500: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/500: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/500: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/500: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/500: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/500: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730

Epoch 37/500: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/500: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/500: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/500: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/500: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/500: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/500: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/500: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/500: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/500: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/500: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/500: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/500: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/500: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/500: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/500: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690  
Epoch 53/500: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/500: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/500: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/500: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/500: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/500: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/500: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/500: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/500: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/500: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/500: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/500: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690  
Epoch 65/500: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/500: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Early stop at epoch 66  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/500: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/500: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/10: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/10: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710

Epoch 6/10: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/10: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/10: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/10: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/10: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/10: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/10: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/10: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/10: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/10: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/10: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/10: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/10: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/10: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/10: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/10: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/10: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/10: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/10: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/50: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/50: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/50: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/50: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/50: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460

Epoch 17/50: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/50: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/50: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/50: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/50: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/50: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/50: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/50: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/50: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/50: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/50: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/50: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/50: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/50: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/50: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/50: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/50: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/50: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/50: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/50: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/50: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/50: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/50: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/50: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/50: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/50: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/50: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/50: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/50: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/50: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/50: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/50: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/50: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/50: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/50: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/50: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/50: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/50: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/50: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/50: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/50: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/50: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/50: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/50: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/50: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/50: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/50: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/50: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690



Epoch 26/50: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/50: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/50: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/50: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/50: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/50: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/50: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/50: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/50: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/50: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/50: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/50: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/50: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/50: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/50: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/50: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/50: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/50: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/50: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/50: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/50: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Epoch 47/50: Loss=0.5491, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 48/50: Loss=0.5486, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 49/50: Loss=0.5481, Val Loss=0.5510, Acc=0.7653, Val Acc=0.7670  
Epoch 50/50: Loss=0.5476, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7670  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/50: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/50: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/50: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/50: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/50: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/50: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/50: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/50: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/50: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/50: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/50: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/50: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/50: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/50: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/50: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/50: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/50: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/50: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/50: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/50: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460

Epoch 35/50: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/50: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/50: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/50: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/50: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/50: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/50: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/50: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/50: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/50: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/50: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460

accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/50: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/50: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/50: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/50: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/50: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/50: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/50: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/50: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/50: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/50: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/50: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/50: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/50: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/50: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/50: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/50: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/50: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/50: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/50: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/50: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/50: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/50: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/50: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/50: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/50: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/50: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/50: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/50: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/50: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/50: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/50: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/50: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/50: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/50: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/50: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/50: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/50: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/50: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/50: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/50: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680

Epoch 44/50: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/50: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/50: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Early stop at epoch 46  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/50: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/50: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/50: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/50: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/50: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/50: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/50: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/50: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/50: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Early stop at epoch 12  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/100: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/100: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/100: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/100: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/100: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/100: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/100: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/100: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/100: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/100: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/100: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/100: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/100: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/100: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/100: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/100: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/100: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/100: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/100: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/100: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/100: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/100: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460

Epoch 37/100: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/100: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/100: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/100: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/100: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/100: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/100: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/100: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/100: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/100: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/100: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/100: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/100: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/100: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/100: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/100: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/100: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/100: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/100: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/100: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/100: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/100: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/100: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/100: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/100: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/100: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 63/100: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/100: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/100: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/100: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/100: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/100: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/100: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/100: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/100: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/100: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/100: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/100: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/100: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Epoch 76/100: Loss=0.6474, Val Loss=0.6467, Acc=0.7493, Val Acc=0.7460  
Epoch 77/100: Loss=0.6469, Val Loss=0.6462, Acc=0.7493, Val Acc=0.7460  
Epoch 78/100: Loss=0.6464, Val Loss=0.6458, Acc=0.7493, Val Acc=0.7460  
Epoch 79/100: Loss=0.6460, Val Loss=0.6453, Acc=0.7493, Val Acc=0.7460  
Epoch 80/100: Loss=0.6455, Val Loss=0.6448, Acc=0.7493, Val Acc=0.7460  
Epoch 81/100: Loss=0.6450, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 82/100: Loss=0.6445, Val Loss=0.6438, Acc=0.7493, Val Acc=0.7460  
Epoch 83/100: Loss=0.6440, Val Loss=0.6433, Acc=0.7493, Val Acc=0.7460  
Epoch 84/100: Loss=0.6435, Val Loss=0.6429, Acc=0.7493, Val Acc=0.7460  
Epoch 85/100: Loss=0.6431, Val Loss=0.6424, Acc=0.7490, Val Acc=0.7460  
Epoch 86/100: Loss=0.6426, Val Loss=0.6419, Acc=0.7490, Val Acc=0.7460  
Epoch 87/100: Loss=0.6421, Val Loss=0.6415, Acc=0.7490, Val Acc=0.7460  
Epoch 88/100: Loss=0.6417, Val Loss=0.6410, Acc=0.7490, Val Acc=0.7460  
Epoch 89/100: Loss=0.6412, Val Loss=0.6405, Acc=0.7490, Val Acc=0.7460  
Epoch 90/100: Loss=0.6407, Val Loss=0.6401, Acc=0.7490, Val Acc=0.7460  
Epoch 91/100: Loss=0.6403, Val Loss=0.6396, Acc=0.7490, Val Acc=0.7460  
Epoch 92/100: Loss=0.6398, Val Loss=0.6392, Acc=0.7490, Val Acc=0.7460  
Epoch 93/100: Loss=0.6393, Val Loss=0.6387, Acc=0.7490, Val Acc=0.7460  
Epoch 94/100: Loss=0.6389, Val Loss=0.6383, Acc=0.7490, Val Acc=0.7460  
Epoch 95/100: Loss=0.6384, Val Loss=0.6378, Acc=0.7490, Val Acc=0.7460  
Epoch 96/100: Loss=0.6380, Val Loss=0.6374, Acc=0.7490, Val Acc=0.7460

Epoch 97/100: Loss=0.6375, Val Loss=0.6369, Acc=0.7490, Val Acc=0.7460  
Epoch 98/100: Loss=0.6371, Val Loss=0.6365, Acc=0.7490, Val Acc=0.7460  
Epoch 99/100: Loss=0.6367, Val Loss=0.6360, Acc=0.7490, Val Acc=0.7460  
Epoch 100/100: Loss=0.6362, Val Loss=0.6356, Acc=0.7490, Val Acc=0.7460  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/100: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/100: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/100: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/100: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/100: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/100: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/100: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/100: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/100: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/100: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/100: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/100: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/100: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/100: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/100: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/100: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/100: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/100: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/100: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/100: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/100: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/100: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/100: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/100: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/100: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/100: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/100: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/100: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/100: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/100: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/100: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/100: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/100: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/100: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/100: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/100: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/100: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/100: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/100: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/100: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/100: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/100: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/100: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Epoch 47/100: Loss=0.5491, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 48/100: Loss=0.5486, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 49/100: Loss=0.5481, Val Loss=0.5510, Acc=0.7653, Val Acc=0.7670  
Epoch 50/100: Loss=0.5476, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7670  
Epoch 51/100: Loss=0.5472, Val Loss=0.5503, Acc=0.7653, Val Acc=0.7680  
Epoch 52/100: Loss=0.5468, Val Loss=0.5500, Acc=0.7653, Val Acc=0.7680  
Epoch 53/100: Loss=0.5464, Val Loss=0.5497, Acc=0.7653, Val Acc=0.7680  
Epoch 54/100: Loss=0.5460, Val Loss=0.5494, Acc=0.7650, Val Acc=0.7680  
Epoch 55/100: Loss=0.5457, Val Loss=0.5491, Acc=0.7650, Val Acc=0.7680

Epoch 56/100: Loss=0.5454, Val Loss=0.5489, Acc=0.7650, Val Acc=0.7680  
Epoch 57/100: Loss=0.5450, Val Loss=0.5487, Acc=0.7647, Val Acc=0.7680  
Epoch 58/100: Loss=0.5447, Val Loss=0.5484, Acc=0.7650, Val Acc=0.7680  
Epoch 59/100: Loss=0.5444, Val Loss=0.5482, Acc=0.7650, Val Acc=0.7680  
Epoch 60/100: Loss=0.5442, Val Loss=0.5480, Acc=0.7650, Val Acc=0.7680  
Epoch 61/100: Loss=0.5439, Val Loss=0.5478, Acc=0.7650, Val Acc=0.7690  
Epoch 62/100: Loss=0.5436, Val Loss=0.5477, Acc=0.7637, Val Acc=0.7680  
Epoch 63/100: Loss=0.5434, Val Loss=0.5475, Acc=0.7640, Val Acc=0.7680  
Epoch 64/100: Loss=0.5432, Val Loss=0.5473, Acc=0.7637, Val Acc=0.7680  
Epoch 65/100: Loss=0.5429, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 66/100: Loss=0.5427, Val Loss=0.5470, Acc=0.7637, Val Acc=0.7680  
Epoch 67/100: Loss=0.5425, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 68/100: Loss=0.5423, Val Loss=0.5467, Acc=0.7640, Val Acc=0.7680  
Epoch 69/100: Loss=0.5421, Val Loss=0.5466, Acc=0.7640, Val Acc=0.7680  
Epoch 70/100: Loss=0.5420, Val Loss=0.5465, Acc=0.7647, Val Acc=0.7680  
Epoch 71/100: Loss=0.5418, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 72/100: Loss=0.5416, Val Loss=0.5463, Acc=0.7647, Val Acc=0.7690  
Epoch 73/100: Loss=0.5415, Val Loss=0.5462, Acc=0.7643, Val Acc=0.7690  
Epoch 74/100: Loss=0.5413, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7690  
Epoch 75/100: Loss=0.5412, Val Loss=0.5460, Acc=0.7633, Val Acc=0.7680  
Epoch 76/100: Loss=0.5410, Val Loss=0.5459, Acc=0.7630, Val Acc=0.7680  
Epoch 77/100: Loss=0.5409, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680  
Epoch 78/100: Loss=0.5408, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680  
Epoch 79/100: Loss=0.5406, Val Loss=0.5457, Acc=0.7630, Val Acc=0.7680  
Epoch 80/100: Loss=0.5405, Val Loss=0.5456, Acc=0.7637, Val Acc=0.7680  
Epoch 81/100: Loss=0.5404, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7680  
Epoch 82/100: Loss=0.5403, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7660  
Epoch 83/100: Loss=0.5402, Val Loss=0.5454, Acc=0.7633, Val Acc=0.7660  
Epoch 84/100: Loss=0.5401, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7650  
Epoch 85/100: Loss=0.5400, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 86/100: Loss=0.5399, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 87/100: Loss=0.5398, Val Loss=0.5452, Acc=0.7630, Val Acc=0.7650  
Early stop at epoch 87  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/100: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/100: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/100: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/100: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/100: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/100: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/100: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/100: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/100: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/100: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/100: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/100: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460

Epoch 27/100: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/100: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/100: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/100: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/100: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/100: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/100: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/100: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/100: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/100: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/100: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/100: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/100: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/100: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/100: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/100: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/100: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/100: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/100: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/100: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/100: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/100: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/100: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/100: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/100: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/100: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/100: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/100: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/100: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/100: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/100: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/100: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/100: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/100: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/100: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/100: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 63/100: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/100: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/100: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/100: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/100: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/100: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/100: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/100: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/100: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/100: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/100: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/100: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/100: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 75  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/100: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/100: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/100: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/100: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/100: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/100: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700

Epoch 10/100: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/100: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/100: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/100: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/100: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/100: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/100: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/100: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/100: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/100: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/100: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/100: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/100: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/100: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/100: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/100: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/100: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/100: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/100: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/100: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/100: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/100: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/100: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/100: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/100: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/100: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/100: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/100: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/100: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/100: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/100: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/100: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/100: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/100: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/100: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/100: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/100: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Early stop at epoch 46

accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460

Early stop at epoch 3

accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/100: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/100: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/100: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/100: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/100: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/100: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/100: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/100: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/100: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710

Early stop at epoch 12

accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460



Epoch 3/150: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/150: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/150: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/150: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/150: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/150: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/150: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/150: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/150: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/150: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/150: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/150: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/150: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/150: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/150: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/150: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/150: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/150: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/150: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/150: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/150: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/150: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/150: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/150: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/150: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/150: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/150: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/150: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/150: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/150: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/150: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/150: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/150: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/150: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/150: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/150: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/150: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/150: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/150: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/150: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/150: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/150: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/150: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/150: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/150: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/150: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/150: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/150: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/150: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/150: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/150: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/150: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/150: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/150: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/150: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/150: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460

Epoch 63/150: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/150: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/150: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/150: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/150: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/150: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/150: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/150: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/150: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/150: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/150: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/150: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/150: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Epoch 76/150: Loss=0.6474, Val Loss=0.6467, Acc=0.7493, Val Acc=0.7460  
Epoch 77/150: Loss=0.6469, Val Loss=0.6462, Acc=0.7493, Val Acc=0.7460  
Epoch 78/150: Loss=0.6464, Val Loss=0.6458, Acc=0.7493, Val Acc=0.7460  
Epoch 79/150: Loss=0.6460, Val Loss=0.6453, Acc=0.7493, Val Acc=0.7460  
Epoch 80/150: Loss=0.6455, Val Loss=0.6448, Acc=0.7493, Val Acc=0.7460  
Epoch 81/150: Loss=0.6450, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 82/150: Loss=0.6445, Val Loss=0.6438, Acc=0.7493, Val Acc=0.7460  
Epoch 83/150: Loss=0.6440, Val Loss=0.6433, Acc=0.7493, Val Acc=0.7460  
Epoch 84/150: Loss=0.6435, Val Loss=0.6429, Acc=0.7493, Val Acc=0.7460  
Epoch 85/150: Loss=0.6431, Val Loss=0.6424, Acc=0.7490, Val Acc=0.7460  
Epoch 86/150: Loss=0.6426, Val Loss=0.6419, Acc=0.7490, Val Acc=0.7460  
Epoch 87/150: Loss=0.6421, Val Loss=0.6415, Acc=0.7490, Val Acc=0.7460  
Epoch 88/150: Loss=0.6417, Val Loss=0.6410, Acc=0.7490, Val Acc=0.7460  
Epoch 89/150: Loss=0.6412, Val Loss=0.6405, Acc=0.7490, Val Acc=0.7460  
Epoch 90/150: Loss=0.6407, Val Loss=0.6401, Acc=0.7490, Val Acc=0.7460  
Epoch 91/150: Loss=0.6403, Val Loss=0.6396, Acc=0.7490, Val Acc=0.7460  
Epoch 92/150: Loss=0.6398, Val Loss=0.6392, Acc=0.7490, Val Acc=0.7460  
Epoch 93/150: Loss=0.6393, Val Loss=0.6387, Acc=0.7490, Val Acc=0.7460  
Epoch 94/150: Loss=0.6389, Val Loss=0.6383, Acc=0.7490, Val Acc=0.7460  
Epoch 95/150: Loss=0.6384, Val Loss=0.6378, Acc=0.7490, Val Acc=0.7460  
Epoch 96/150: Loss=0.6380, Val Loss=0.6374, Acc=0.7490, Val Acc=0.7460  
Epoch 97/150: Loss=0.6375, Val Loss=0.6369, Acc=0.7490, Val Acc=0.7460  
Epoch 98/150: Loss=0.6371, Val Loss=0.6365, Acc=0.7490, Val Acc=0.7460  
Epoch 99/150: Loss=0.6367, Val Loss=0.6360, Acc=0.7490, Val Acc=0.7460  
Epoch 100/150: Loss=0.6362, Val Loss=0.6356, Acc=0.7490, Val Acc=0.7460  
Epoch 101/150: Loss=0.6358, Val Loss=0.6352, Acc=0.7490, Val Acc=0.7460  
Epoch 102/150: Loss=0.6353, Val Loss=0.6347, Acc=0.7490, Val Acc=0.7460  
Epoch 103/150: Loss=0.6349, Val Loss=0.6343, Acc=0.7490, Val Acc=0.7460  
Epoch 104/150: Loss=0.6345, Val Loss=0.6339, Acc=0.7490, Val Acc=0.7460  
Epoch 105/150: Loss=0.6341, Val Loss=0.6335, Acc=0.7490, Val Acc=0.7460  
Epoch 106/150: Loss=0.6336, Val Loss=0.6330, Acc=0.7490, Val Acc=0.7460  
Epoch 107/150: Loss=0.6332, Val Loss=0.6326, Acc=0.7490, Val Acc=0.7460  
Epoch 108/150: Loss=0.6328, Val Loss=0.6322, Acc=0.7490, Val Acc=0.7460  
Epoch 109/150: Loss=0.6324, Val Loss=0.6318, Acc=0.7490, Val Acc=0.7460  
Epoch 110/150: Loss=0.6319, Val Loss=0.6314, Acc=0.7490, Val Acc=0.7460  
Epoch 111/150: Loss=0.6315, Val Loss=0.6310, Acc=0.7490, Val Acc=0.7460  
Epoch 112/150: Loss=0.6311, Val Loss=0.6305, Acc=0.7490, Val Acc=0.7460  
Epoch 113/150: Loss=0.6307, Val Loss=0.6301, Acc=0.7490, Val Acc=0.7450  
Epoch 114/150: Loss=0.6303, Val Loss=0.6297, Acc=0.7490, Val Acc=0.7450  
Epoch 115/150: Loss=0.6299, Val Loss=0.6293, Acc=0.7490, Val Acc=0.7450  
Epoch 116/150: Loss=0.6295, Val Loss=0.6289, Acc=0.7490, Val Acc=0.7450  
Epoch 117/150: Loss=0.6291, Val Loss=0.6285, Acc=0.7490, Val Acc=0.7450  
Epoch 118/150: Loss=0.6287, Val Loss=0.6281, Acc=0.7490, Val Acc=0.7450  
Epoch 119/150: Loss=0.6283, Val Loss=0.6277, Acc=0.7490, Val Acc=0.7450  
Epoch 120/150: Loss=0.6279, Val Loss=0.6273, Acc=0.7490, Val Acc=0.7450  
Epoch 121/150: Loss=0.6275, Val Loss=0.6270, Acc=0.7490, Val Acc=0.7450  
Epoch 122/150: Loss=0.6271, Val Loss=0.6266, Acc=0.7487, Val Acc=0.7450

Epoch 123/150: Loss=0.6267, Val Loss=0.6262, Acc=0.7487, Val Acc=0.7450  
Epoch 124/150: Loss=0.6263, Val Loss=0.6258, Acc=0.7487, Val Acc=0.7450  
Epoch 125/150: Loss=0.6259, Val Loss=0.6254, Acc=0.7487, Val Acc=0.7450  
Epoch 126/150: Loss=0.6255, Val Loss=0.6250, Acc=0.7487, Val Acc=0.7450  
Epoch 127/150: Loss=0.6252, Val Loss=0.6246, Acc=0.7487, Val Acc=0.7450  
Epoch 128/150: Loss=0.6248, Val Loss=0.6243, Acc=0.7487, Val Acc=0.7450  
Epoch 129/150: Loss=0.6244, Val Loss=0.6239, Acc=0.7487, Val Acc=0.7450  
Epoch 130/150: Loss=0.6240, Val Loss=0.6235, Acc=0.7487, Val Acc=0.7450  
Epoch 131/150: Loss=0.6236, Val Loss=0.6232, Acc=0.7487, Val Acc=0.7450  
Epoch 132/150: Loss=0.6233, Val Loss=0.6228, Acc=0.7487, Val Acc=0.7450  
Epoch 133/150: Loss=0.6229, Val Loss=0.6224, Acc=0.7487, Val Acc=0.7450  
Epoch 134/150: Loss=0.6225, Val Loss=0.6220, Acc=0.7487, Val Acc=0.7450  
Epoch 135/150: Loss=0.6222, Val Loss=0.6217, Acc=0.7487, Val Acc=0.7450  
Epoch 136/150: Loss=0.6218, Val Loss=0.6213, Acc=0.7490, Val Acc=0.7450  
Epoch 137/150: Loss=0.6214, Val Loss=0.6210, Acc=0.7490, Val Acc=0.7450  
Epoch 138/150: Loss=0.6211, Val Loss=0.6206, Acc=0.7490, Val Acc=0.7450  
Epoch 139/150: Loss=0.6207, Val Loss=0.6203, Acc=0.7490, Val Acc=0.7450  
Epoch 140/150: Loss=0.6203, Val Loss=0.6199, Acc=0.7490, Val Acc=0.7450  
Epoch 141/150: Loss=0.6200, Val Loss=0.6195, Acc=0.7490, Val Acc=0.7450  
Epoch 142/150: Loss=0.6196, Val Loss=0.6192, Acc=0.7490, Val Acc=0.7450  
Epoch 143/150: Loss=0.6193, Val Loss=0.6188, Acc=0.7490, Val Acc=0.7450  
Epoch 144/150: Loss=0.6189, Val Loss=0.6185, Acc=0.7490, Val Acc=0.7450  
Epoch 145/150: Loss=0.6186, Val Loss=0.6182, Acc=0.7490, Val Acc=0.7450  
Epoch 146/150: Loss=0.6182, Val Loss=0.6178, Acc=0.7490, Val Acc=0.7450  
Epoch 147/150: Loss=0.6179, Val Loss=0.6175, Acc=0.7490, Val Acc=0.7450  
Epoch 148/150: Loss=0.6175, Val Loss=0.6171, Acc=0.7490, Val Acc=0.7450  
Epoch 149/150: Loss=0.6172, Val Loss=0.6168, Acc=0.7487, Val Acc=0.7460  
Epoch 150/150: Loss=0.6169, Val Loss=0.6165, Acc=0.7487, Val Acc=0.7460

accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/150: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/150: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/150: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/150: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/150: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/150: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/150: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/150: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/150: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/150: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/150: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/150: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/150: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/150: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/150: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/150: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/150: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/150: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/150: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/150: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/150: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/150: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/150: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/150: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/150: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/150: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/150: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/150: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690

Epoch 32/150: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/150: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/150: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/150: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/150: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/150: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/150: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/150: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/150: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/150: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/150: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/150: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/150: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/150: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/150: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Epoch 47/150: Loss=0.5491, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 48/150: Loss=0.5486, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 49/150: Loss=0.5481, Val Loss=0.5510, Acc=0.7653, Val Acc=0.7670  
Epoch 50/150: Loss=0.5476, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7670  
Epoch 51/150: Loss=0.5472, Val Loss=0.5503, Acc=0.7653, Val Acc=0.7680  
Epoch 52/150: Loss=0.5468, Val Loss=0.5500, Acc=0.7653, Val Acc=0.7680  
Epoch 53/150: Loss=0.5464, Val Loss=0.5497, Acc=0.7653, Val Acc=0.7680  
Epoch 54/150: Loss=0.5460, Val Loss=0.5494, Acc=0.7650, Val Acc=0.7680  
Epoch 55/150: Loss=0.5457, Val Loss=0.5491, Acc=0.7650, Val Acc=0.7680  
Epoch 56/150: Loss=0.5454, Val Loss=0.5489, Acc=0.7650, Val Acc=0.7680  
Epoch 57/150: Loss=0.5450, Val Loss=0.5487, Acc=0.7647, Val Acc=0.7680  
Epoch 58/150: Loss=0.5447, Val Loss=0.5484, Acc=0.7650, Val Acc=0.7680  
Epoch 59/150: Loss=0.5444, Val Loss=0.5482, Acc=0.7650, Val Acc=0.7680  
Epoch 60/150: Loss=0.5442, Val Loss=0.5480, Acc=0.7650, Val Acc=0.7680  
Epoch 61/150: Loss=0.5439, Val Loss=0.5478, Acc=0.7650, Val Acc=0.7690  
Epoch 62/150: Loss=0.5436, Val Loss=0.5477, Acc=0.7637, Val Acc=0.7680  
Epoch 63/150: Loss=0.5434, Val Loss=0.5475, Acc=0.7640, Val Acc=0.7680  
Epoch 64/150: Loss=0.5432, Val Loss=0.5473, Acc=0.7637, Val Acc=0.7680  
Epoch 65/150: Loss=0.5429, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 66/150: Loss=0.5427, Val Loss=0.5470, Acc=0.7637, Val Acc=0.7680  
Epoch 67/150: Loss=0.5425, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 68/150: Loss=0.5423, Val Loss=0.5467, Acc=0.7640, Val Acc=0.7680  
Epoch 69/150: Loss=0.5421, Val Loss=0.5466, Acc=0.7640, Val Acc=0.7680  
Epoch 70/150: Loss=0.5420, Val Loss=0.5465, Acc=0.7647, Val Acc=0.7680  
Epoch 71/150: Loss=0.5418, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 72/150: Loss=0.5416, Val Loss=0.5463, Acc=0.7647, Val Acc=0.7690  
Epoch 73/150: Loss=0.5415, Val Loss=0.5462, Acc=0.7643, Val Acc=0.7690  
Epoch 74/150: Loss=0.5413, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7690  
Epoch 75/150: Loss=0.5412, Val Loss=0.5460, Acc=0.7633, Val Acc=0.7680  
Epoch 76/150: Loss=0.5410, Val Loss=0.5459, Acc=0.7630, Val Acc=0.7680  
Epoch 77/150: Loss=0.5409, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680  
Epoch 78/150: Loss=0.5408, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680  
Epoch 79/150: Loss=0.5406, Val Loss=0.5457, Acc=0.7630, Val Acc=0.7680  
Epoch 80/150: Loss=0.5405, Val Loss=0.5456, Acc=0.7637, Val Acc=0.7680  
Epoch 81/150: Loss=0.5404, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7680  
Epoch 82/150: Loss=0.5403, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7660  
Epoch 83/150: Loss=0.5402, Val Loss=0.5454, Acc=0.7633, Val Acc=0.7660  
Epoch 84/150: Loss=0.5401, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7650  
Epoch 85/150: Loss=0.5400, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 86/150: Loss=0.5399, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 87/150: Loss=0.5398, Val Loss=0.5452, Acc=0.7630, Val Acc=0.7650  
Early stop at epoch 87  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460

Epoch 3/150: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/150: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/150: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/150: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/150: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/150: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/150: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/150: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/150: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/150: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/150: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/150: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/150: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/150: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/150: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/150: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/150: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/150: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/150: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/150: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/150: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/150: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/150: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/150: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/150: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/150: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/150: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/150: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/150: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/150: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/150: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/150: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/150: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/150: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/150: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/150: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/150: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/150: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/150: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/150: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/150: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/150: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/150: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/150: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/150: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/150: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/150: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/150: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/150: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/150: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/150: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/150: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/150: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/150: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/150: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/150: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460

Epoch 63/150: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/150: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/150: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/150: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/150: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/150: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/150: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/150: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/150: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/150: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/150: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/150: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/150: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 75

accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/150: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/150: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/150: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/150: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/150: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/150: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/150: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/150: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/150: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/150: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/150: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/150: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/150: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/150: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/150: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/150: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/150: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/150: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/150: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/150: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/150: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/150: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/150: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/150: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/150: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/150: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/150: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/150: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/150: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/150: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/150: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/150: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/150: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/150: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/150: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/150: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/150: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/150: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/150: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/150: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/150: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/150: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670

Epoch 46/150: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Early stop at epoch 46  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/150: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/150: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/150: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/150: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/150: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/150: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/150: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/150: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/150: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Early stop at epoch 12  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/500: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/500: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/500: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/500: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/500: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/500: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/500: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/500: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/500: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/500: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/500: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/500: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/500: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/500: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/500: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/500: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/500: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/500: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/500: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/500: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/500: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/500: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/500: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/500: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/500: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/500: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/500: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/500: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/500: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/500: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/500: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460

Epoch 39/500: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/500: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/500: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/500: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/500: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/500: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/500: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/500: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/500: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/500: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/500: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/500: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/500: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/500: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/500: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/500: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/500: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/500: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/500: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/500: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/500: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/500: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/500: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/500: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 63/500: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/500: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/500: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/500: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/500: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/500: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/500: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/500: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/500: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/500: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/500: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/500: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/500: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Epoch 76/500: Loss=0.6474, Val Loss=0.6467, Acc=0.7493, Val Acc=0.7460  
Epoch 77/500: Loss=0.6469, Val Loss=0.6462, Acc=0.7493, Val Acc=0.7460  
Epoch 78/500: Loss=0.6464, Val Loss=0.6458, Acc=0.7493, Val Acc=0.7460  
Epoch 79/500: Loss=0.6460, Val Loss=0.6453, Acc=0.7493, Val Acc=0.7460  
Epoch 80/500: Loss=0.6455, Val Loss=0.6448, Acc=0.7493, Val Acc=0.7460  
Epoch 81/500: Loss=0.6450, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 82/500: Loss=0.6445, Val Loss=0.6438, Acc=0.7493, Val Acc=0.7460  
Epoch 83/500: Loss=0.6440, Val Loss=0.6433, Acc=0.7493, Val Acc=0.7460  
Epoch 84/500: Loss=0.6435, Val Loss=0.6429, Acc=0.7493, Val Acc=0.7460  
Epoch 85/500: Loss=0.6431, Val Loss=0.6424, Acc=0.7490, Val Acc=0.7460  
Epoch 86/500: Loss=0.6426, Val Loss=0.6419, Acc=0.7490, Val Acc=0.7460  
Epoch 87/500: Loss=0.6421, Val Loss=0.6415, Acc=0.7490, Val Acc=0.7460  
Epoch 88/500: Loss=0.6417, Val Loss=0.6410, Acc=0.7490, Val Acc=0.7460  
Epoch 89/500: Loss=0.6412, Val Loss=0.6405, Acc=0.7490, Val Acc=0.7460  
Epoch 90/500: Loss=0.6407, Val Loss=0.6401, Acc=0.7490, Val Acc=0.7460  
Epoch 91/500: Loss=0.6403, Val Loss=0.6396, Acc=0.7490, Val Acc=0.7460  
Epoch 92/500: Loss=0.6398, Val Loss=0.6392, Acc=0.7490, Val Acc=0.7460  
Epoch 93/500: Loss=0.6393, Val Loss=0.6387, Acc=0.7490, Val Acc=0.7460  
Epoch 94/500: Loss=0.6389, Val Loss=0.6383, Acc=0.7490, Val Acc=0.7460  
Epoch 95/500: Loss=0.6384, Val Loss=0.6378, Acc=0.7490, Val Acc=0.7460  
Epoch 96/500: Loss=0.6380, Val Loss=0.6374, Acc=0.7490, Val Acc=0.7460  
Epoch 97/500: Loss=0.6375, Val Loss=0.6369, Acc=0.7490, Val Acc=0.7460  
Epoch 98/500: Loss=0.6371, Val Loss=0.6365, Acc=0.7490, Val Acc=0.7460



Epoch 99/500: Loss=0.6367, Val Loss=0.6360, Acc=0.7490, Val Acc=0.7460  
Epoch 100/500: Loss=0.6362, Val Loss=0.6356, Acc=0.7490, Val Acc=0.7460  
Epoch 101/500: Loss=0.6358, Val Loss=0.6352, Acc=0.7490, Val Acc=0.7460  
Epoch 102/500: Loss=0.6353, Val Loss=0.6347, Acc=0.7490, Val Acc=0.7460  
Epoch 103/500: Loss=0.6349, Val Loss=0.6343, Acc=0.7490, Val Acc=0.7460  
Epoch 104/500: Loss=0.6345, Val Loss=0.6339, Acc=0.7490, Val Acc=0.7460  
Epoch 105/500: Loss=0.6341, Val Loss=0.6335, Acc=0.7490, Val Acc=0.7460  
Epoch 106/500: Loss=0.6336, Val Loss=0.6330, Acc=0.7490, Val Acc=0.7460  
Epoch 107/500: Loss=0.6332, Val Loss=0.6326, Acc=0.7490, Val Acc=0.7460  
Epoch 108/500: Loss=0.6328, Val Loss=0.6322, Acc=0.7490, Val Acc=0.7460  
Epoch 109/500: Loss=0.6324, Val Loss=0.6318, Acc=0.7490, Val Acc=0.7460  
Epoch 110/500: Loss=0.6319, Val Loss=0.6314, Acc=0.7490, Val Acc=0.7460  
Epoch 111/500: Loss=0.6315, Val Loss=0.6310, Acc=0.7490, Val Acc=0.7460  
Epoch 112/500: Loss=0.6311, Val Loss=0.6305, Acc=0.7490, Val Acc=0.7460  
Epoch 113/500: Loss=0.6307, Val Loss=0.6301, Acc=0.7490, Val Acc=0.7450  
Epoch 114/500: Loss=0.6303, Val Loss=0.6297, Acc=0.7490, Val Acc=0.7450  
Epoch 115/500: Loss=0.6299, Val Loss=0.6293, Acc=0.7490, Val Acc=0.7450  
Epoch 116/500: Loss=0.6295, Val Loss=0.6289, Acc=0.7490, Val Acc=0.7450  
Epoch 117/500: Loss=0.6291, Val Loss=0.6285, Acc=0.7490, Val Acc=0.7450  
Epoch 118/500: Loss=0.6287, Val Loss=0.6281, Acc=0.7490, Val Acc=0.7450  
Epoch 119/500: Loss=0.6283, Val Loss=0.6277, Acc=0.7490, Val Acc=0.7450  
Epoch 120/500: Loss=0.6279, Val Loss=0.6273, Acc=0.7490, Val Acc=0.7450  
Epoch 121/500: Loss=0.6275, Val Loss=0.6270, Acc=0.7490, Val Acc=0.7450  
Epoch 122/500: Loss=0.6271, Val Loss=0.6266, Acc=0.7487, Val Acc=0.7450  
Epoch 123/500: Loss=0.6267, Val Loss=0.6262, Acc=0.7487, Val Acc=0.7450  
Epoch 124/500: Loss=0.6263, Val Loss=0.6258, Acc=0.7487, Val Acc=0.7450  
Epoch 125/500: Loss=0.6259, Val Loss=0.6254, Acc=0.7487, Val Acc=0.7450  
Epoch 126/500: Loss=0.6255, Val Loss=0.6250, Acc=0.7487, Val Acc=0.7450  
Epoch 127/500: Loss=0.6252, Val Loss=0.6246, Acc=0.7487, Val Acc=0.7450  
Epoch 128/500: Loss=0.6248, Val Loss=0.6243, Acc=0.7487, Val Acc=0.7450  
Epoch 129/500: Loss=0.6244, Val Loss=0.6239, Acc=0.7487, Val Acc=0.7450  
Epoch 130/500: Loss=0.6240, Val Loss=0.6235, Acc=0.7487, Val Acc=0.7450  
Epoch 131/500: Loss=0.6236, Val Loss=0.6232, Acc=0.7487, Val Acc=0.7450  
Epoch 132/500: Loss=0.6233, Val Loss=0.6228, Acc=0.7487, Val Acc=0.7450  
Epoch 133/500: Loss=0.6229, Val Loss=0.6224, Acc=0.7487, Val Acc=0.7450  
Epoch 134/500: Loss=0.6225, Val Loss=0.6220, Acc=0.7487, Val Acc=0.7450  
Epoch 135/500: Loss=0.6222, Val Loss=0.6217, Acc=0.7487, Val Acc=0.7450  
Epoch 136/500: Loss=0.6218, Val Loss=0.6213, Acc=0.7490, Val Acc=0.7450  
Epoch 137/500: Loss=0.6214, Val Loss=0.6210, Acc=0.7490, Val Acc=0.7450  
Epoch 138/500: Loss=0.6211, Val Loss=0.6206, Acc=0.7490, Val Acc=0.7450  
Epoch 139/500: Loss=0.6207, Val Loss=0.6203, Acc=0.7490, Val Acc=0.7450  
Epoch 140/500: Loss=0.6203, Val Loss=0.6199, Acc=0.7490, Val Acc=0.7450  
Epoch 141/500: Loss=0.6200, Val Loss=0.6195, Acc=0.7490, Val Acc=0.7450  
Epoch 142/500: Loss=0.6196, Val Loss=0.6192, Acc=0.7490, Val Acc=0.7450  
Epoch 143/500: Loss=0.6193, Val Loss=0.6188, Acc=0.7490, Val Acc=0.7450  
Epoch 144/500: Loss=0.6189, Val Loss=0.6185, Acc=0.7490, Val Acc=0.7450  
Epoch 145/500: Loss=0.6186, Val Loss=0.6182, Acc=0.7490, Val Acc=0.7450  
Epoch 146/500: Loss=0.6182, Val Loss=0.6178, Acc=0.7490, Val Acc=0.7450  
Epoch 147/500: Loss=0.6179, Val Loss=0.6175, Acc=0.7490, Val Acc=0.7450  
Epoch 148/500: Loss=0.6175, Val Loss=0.6171, Acc=0.7490, Val Acc=0.7450  
Epoch 149/500: Loss=0.6172, Val Loss=0.6168, Acc=0.7487, Val Acc=0.7460  
Epoch 150/500: Loss=0.6169, Val Loss=0.6165, Acc=0.7487, Val Acc=0.7460  
Epoch 151/500: Loss=0.6165, Val Loss=0.6161, Acc=0.7487, Val Acc=0.7460  
Epoch 152/500: Loss=0.6162, Val Loss=0.6158, Acc=0.7487, Val Acc=0.7460  
Epoch 153/500: Loss=0.6158, Val Loss=0.6155, Acc=0.7487, Val Acc=0.7460  
Epoch 154/500: Loss=0.6155, Val Loss=0.6151, Acc=0.7487, Val Acc=0.7460  
Epoch 155/500: Loss=0.6152, Val Loss=0.6148, Acc=0.7487, Val Acc=0.7460  
Epoch 156/500: Loss=0.6148, Val Loss=0.6145, Acc=0.7487, Val Acc=0.7460  
Epoch 157/500: Loss=0.6145, Val Loss=0.6141, Acc=0.7487, Val Acc=0.7450  
Epoch 158/500: Loss=0.6142, Val Loss=0.6138, Acc=0.7487, Val Acc=0.7450

Epoch 159/500: Loss=0.6139, Val Loss=0.6135, Acc=0.7487, Val Acc=0.7450  
Epoch 160/500: Loss=0.6135, Val Loss=0.6132, Acc=0.7487, Val Acc=0.7450  
Epoch 161/500: Loss=0.6132, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 162/500: Loss=0.6129, Val Loss=0.6125, Acc=0.7487, Val Acc=0.7450  
Epoch 163/500: Loss=0.6126, Val Loss=0.6122, Acc=0.7487, Val Acc=0.7450  
Epoch 164/500: Loss=0.6122, Val Loss=0.6119, Acc=0.7487, Val Acc=0.7450  
Epoch 165/500: Loss=0.6119, Val Loss=0.6116, Acc=0.7487, Val Acc=0.7450  
Epoch 166/500: Loss=0.6116, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 167/500: Loss=0.6113, Val Loss=0.6110, Acc=0.7487, Val Acc=0.7450  
Epoch 168/500: Loss=0.6110, Val Loss=0.6107, Acc=0.7487, Val Acc=0.7450  
Epoch 169/500: Loss=0.6107, Val Loss=0.6104, Acc=0.7487, Val Acc=0.7450  
Epoch 170/500: Loss=0.6104, Val Loss=0.6101, Acc=0.7483, Val Acc=0.7450  
Epoch 171/500: Loss=0.6101, Val Loss=0.6098, Acc=0.7483, Val Acc=0.7450  
Epoch 172/500: Loss=0.6098, Val Loss=0.6095, Acc=0.7483, Val Acc=0.7450  
Epoch 173/500: Loss=0.6095, Val Loss=0.6092, Acc=0.7483, Val Acc=0.7450  
Epoch 174/500: Loss=0.6091, Val Loss=0.6089, Acc=0.7483, Val Acc=0.7450  
Epoch 175/500: Loss=0.6088, Val Loss=0.6086, Acc=0.7483, Val Acc=0.7450  
Epoch 176/500: Loss=0.6085, Val Loss=0.6083, Acc=0.7483, Val Acc=0.7450  
Epoch 177/500: Loss=0.6082, Val Loss=0.6080, Acc=0.7483, Val Acc=0.7450  
Epoch 178/500: Loss=0.6080, Val Loss=0.6077, Acc=0.7483, Val Acc=0.7450  
Epoch 179/500: Loss=0.6077, Val Loss=0.6074, Acc=0.7483, Val Acc=0.7450  
Epoch 180/500: Loss=0.6074, Val Loss=0.6071, Acc=0.7483, Val Acc=0.7450  
Epoch 181/500: Loss=0.6071, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 182/500: Loss=0.6068, Val Loss=0.6065, Acc=0.7483, Val Acc=0.7450  
Epoch 183/500: Loss=0.6065, Val Loss=0.6062, Acc=0.7483, Val Acc=0.7450  
Epoch 184/500: Loss=0.6062, Val Loss=0.6060, Acc=0.7483, Val Acc=0.7450  
Epoch 185/500: Loss=0.6059, Val Loss=0.6057, Acc=0.7483, Val Acc=0.7450  
Epoch 186/500: Loss=0.6056, Val Loss=0.6054, Acc=0.7487, Val Acc=0.7450  
Epoch 187/500: Loss=0.6053, Val Loss=0.6051, Acc=0.7487, Val Acc=0.7450  
Epoch 188/500: Loss=0.6051, Val Loss=0.6048, Acc=0.7487, Val Acc=0.7450  
Epoch 189/500: Loss=0.6048, Val Loss=0.6046, Acc=0.7487, Val Acc=0.7450  
Epoch 190/500: Loss=0.6045, Val Loss=0.6043, Acc=0.7487, Val Acc=0.7450  
Epoch 191/500: Loss=0.6042, Val Loss=0.6040, Acc=0.7487, Val Acc=0.7450  
Epoch 192/500: Loss=0.6039, Val Loss=0.6037, Acc=0.7487, Val Acc=0.7460  
Epoch 193/500: Loss=0.6037, Val Loss=0.6035, Acc=0.7487, Val Acc=0.7460  
Epoch 194/500: Loss=0.6034, Val Loss=0.6032, Acc=0.7487, Val Acc=0.7460  
Epoch 195/500: Loss=0.6031, Val Loss=0.6029, Acc=0.7487, Val Acc=0.7460  
Epoch 196/500: Loss=0.6028, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 197/500: Loss=0.6026, Val Loss=0.6024, Acc=0.7487, Val Acc=0.7460  
Epoch 198/500: Loss=0.6023, Val Loss=0.6021, Acc=0.7487, Val Acc=0.7460  
Epoch 199/500: Loss=0.6020, Val Loss=0.6019, Acc=0.7487, Val Acc=0.7460  
Epoch 200/500: Loss=0.6018, Val Loss=0.6016, Acc=0.7487, Val Acc=0.7460  
Epoch 201/500: Loss=0.6015, Val Loss=0.6014, Acc=0.7487, Val Acc=0.7460  
Epoch 202/500: Loss=0.6012, Val Loss=0.6011, Acc=0.7487, Val Acc=0.7460  
Epoch 203/500: Loss=0.6010, Val Loss=0.6008, Acc=0.7487, Val Acc=0.7460  
Epoch 204/500: Loss=0.6007, Val Loss=0.6006, Acc=0.7487, Val Acc=0.7460  
Epoch 205/500: Loss=0.6004, Val Loss=0.6003, Acc=0.7487, Val Acc=0.7460  
Epoch 206/500: Loss=0.6002, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 207/500: Loss=0.5999, Val Loss=0.5998, Acc=0.7487, Val Acc=0.7460  
Epoch 208/500: Loss=0.5997, Val Loss=0.5996, Acc=0.7487, Val Acc=0.7460  
Epoch 209/500: Loss=0.5994, Val Loss=0.5993, Acc=0.7487, Val Acc=0.7460  
Epoch 210/500: Loss=0.5992, Val Loss=0.5991, Acc=0.7487, Val Acc=0.7460  
Epoch 211/500: Loss=0.5989, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 212/500: Loss=0.5986, Val Loss=0.5986, Acc=0.7487, Val Acc=0.7460  
Epoch 213/500: Loss=0.5984, Val Loss=0.5983, Acc=0.7487, Val Acc=0.7460  
Epoch 214/500: Loss=0.5981, Val Loss=0.5981, Acc=0.7487, Val Acc=0.7460  
Epoch 215/500: Loss=0.5979, Val Loss=0.5978, Acc=0.7487, Val Acc=0.7460  
Epoch 216/500: Loss=0.5977, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 217/500: Loss=0.5974, Val Loss=0.5974, Acc=0.7487, Val Acc=0.7460  
Epoch 218/500: Loss=0.5972, Val Loss=0.5971, Acc=0.7487, Val Acc=0.7460

[illegible]

[illegible]

[illegible]

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Epoch 459/500: Loss=0.5610, Val Loss=0.5622, Acc=0.7490, Val Acc=0.7490  
Epoch 460/500: Loss=0.5609, Val Loss=0.5621, Acc=0.7490, Val Acc=0.7490  
Epoch 461/500: Loss=0.5608, Val Loss=0.5621, Acc=0.7490, Val Acc=0.7490  
Epoch 462/500: Loss=0.5607, Val Loss=0.5620, Acc=0.7490, Val Acc=0.7490  
Epoch 463/500: Loss=0.5606, Val Loss=0.5619, Acc=0.7490, Val Acc=0.7490  
Epoch 464/500: Loss=0.5605, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 465/500: Loss=0.5605, Val Loss=0.5617, Acc=0.7490, Val Acc=0.7490  
Epoch 466/500: Loss=0.5604, Val Loss=0.5617, Acc=0.7490, Val Acc=0.7490  
Epoch 467/500: Loss=0.5603, Val Loss=0.5616, Acc=0.7490, Val Acc=0.7490  
Epoch 468/500: Loss=0.5602, Val Loss=0.5615, Acc=0.7490, Val Acc=0.7490  
Epoch 469/500: Loss=0.5601, Val Loss=0.5614, Acc=0.7490, Val Acc=0.7490  
Epoch 470/500: Loss=0.5600, Val Loss=0.5613, Acc=0.7490, Val Acc=0.7490  
Epoch 471/500: Loss=0.5600, Val Loss=0.5613, Acc=0.7490, Val Acc=0.7490  
Epoch 472/500: Loss=0.5599, Val Loss=0.5612, Acc=0.7490, Val Acc=0.7490  
Epoch 473/500: Loss=0.5598, Val Loss=0.5611, Acc=0.7490, Val Acc=0.7490  
Epoch 474/500: Loss=0.5597, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 475/500: Loss=0.5596, Val Loss=0.5609, Acc=0.7490, Val Acc=0.7490  
Epoch 476/500: Loss=0.5595, Val Loss=0.5609, Acc=0.7490, Val Acc=0.7490  
Epoch 477/500: Loss=0.5595, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 478/500: Loss=0.5594, Val Loss=0.5607, Acc=0.7490, Val Acc=0.7490  
Epoch 479/500: Loss=0.5593, Val Loss=0.5606, Acc=0.7490, Val Acc=0.7490  
Epoch 480/500: Loss=0.5592, Val Loss=0.5606, Acc=0.7490, Val Acc=0.7490  
Epoch 481/500: Loss=0.5591, Val Loss=0.5605, Acc=0.7490, Val Acc=0.7490  
Epoch 482/500: Loss=0.5591, Val Loss=0.5604, Acc=0.7490, Val Acc=0.7490  
Epoch 483/500: Loss=0.5590, Val Loss=0.5603, Acc=0.7490, Val Acc=0.7490  
Epoch 484/500: Loss=0.5589, Val Loss=0.5603, Acc=0.7490, Val Acc=0.7490  
Epoch 485/500: Loss=0.5588, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 486/500: Loss=0.5587, Val Loss=0.5601, Acc=0.7490, Val Acc=0.7490  
Epoch 487/500: Loss=0.5587, Val Loss=0.5600, Acc=0.7490, Val Acc=0.7490  
Epoch 488/500: Loss=0.5586, Val Loss=0.5600, Acc=0.7490, Val Acc=0.7490  
Epoch 489/500: Loss=0.5585, Val Loss=0.5599, Acc=0.7490, Val Acc=0.7490  
Epoch 490/500: Loss=0.5584, Val Loss=0.5598, Acc=0.7490, Val Acc=0.7490  
Epoch 491/500: Loss=0.5584, Val Loss=0.5597, Acc=0.7490, Val Acc=0.7490  
Epoch 492/500: Loss=0.5583, Val Loss=0.5597, Acc=0.7490, Val Acc=0.7490  
Epoch 493/500: Loss=0.5582, Val Loss=0.5596, Acc=0.7490, Val Acc=0.7490  
Epoch 494/500: Loss=0.5581, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 495/500: Loss=0.5581, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 496/500: Loss=0.5580, Val Loss=0.5594, Acc=0.7490, Val Acc=0.7490  
Epoch 497/500: Loss=0.5579, Val Loss=0.5593, Acc=0.7490, Val Acc=0.7490  
Epoch 498/500: Loss=0.5578, Val Loss=0.5592, Acc=0.7490, Val Acc=0.7490  
Epoch 499/500: Loss=0.5578, Val Loss=0.5592, Acc=0.7490, Val Acc=0.7490  
Epoch 500/500: Loss=0.5577, Val Loss=0.5591, Acc=0.7493, Val Acc=0.7490

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/500: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/500: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/500: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/500: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/500: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/500: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/500: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/500: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/500: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/500: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/500: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/500: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/500: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/500: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730

Epoch 18/500: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/500: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/500: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/500: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/500: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/500: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/500: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/500: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/500: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/500: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/500: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/500: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/500: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/500: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/500: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/500: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/500: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/500: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/500: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/500: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/500: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/500: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/500: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/500: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/500: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/500: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/500: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/500: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/500: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Epoch 47/500: Loss=0.5491, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 48/500: Loss=0.5486, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 49/500: Loss=0.5481, Val Loss=0.5510, Acc=0.7653, Val Acc=0.7670  
Epoch 50/500: Loss=0.5476, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7670  
Epoch 51/500: Loss=0.5472, Val Loss=0.5503, Acc=0.7653, Val Acc=0.7680  
Epoch 52/500: Loss=0.5468, Val Loss=0.5500, Acc=0.7653, Val Acc=0.7680  
Epoch 53/500: Loss=0.5464, Val Loss=0.5497, Acc=0.7653, Val Acc=0.7680  
Epoch 54/500: Loss=0.5460, Val Loss=0.5494, Acc=0.7650, Val Acc=0.7680  
Epoch 55/500: Loss=0.5457, Val Loss=0.5491, Acc=0.7650, Val Acc=0.7680  
Epoch 56/500: Loss=0.5454, Val Loss=0.5489, Acc=0.7650, Val Acc=0.7680  
Epoch 57/500: Loss=0.5450, Val Loss=0.5487, Acc=0.7647, Val Acc=0.7680  
Epoch 58/500: Loss=0.5447, Val Loss=0.5484, Acc=0.7650, Val Acc=0.7680  
Epoch 59/500: Loss=0.5444, Val Loss=0.5482, Acc=0.7650, Val Acc=0.7680  
Epoch 60/500: Loss=0.5442, Val Loss=0.5480, Acc=0.7650, Val Acc=0.7680  
Epoch 61/500: Loss=0.5439, Val Loss=0.5478, Acc=0.7650, Val Acc=0.7690  
Epoch 62/500: Loss=0.5436, Val Loss=0.5477, Acc=0.7637, Val Acc=0.7680  
Epoch 63/500: Loss=0.5434, Val Loss=0.5475, Acc=0.7640, Val Acc=0.7680  
Epoch 64/500: Loss=0.5432, Val Loss=0.5473, Acc=0.7637, Val Acc=0.7680  
Epoch 65/500: Loss=0.5429, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 66/500: Loss=0.5427, Val Loss=0.5470, Acc=0.7637, Val Acc=0.7680  
Epoch 67/500: Loss=0.5425, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 68/500: Loss=0.5423, Val Loss=0.5467, Acc=0.7640, Val Acc=0.7680  
Epoch 69/500: Loss=0.5421, Val Loss=0.5466, Acc=0.7640, Val Acc=0.7680  
Epoch 70/500: Loss=0.5420, Val Loss=0.5465, Acc=0.7647, Val Acc=0.7680  
Epoch 71/500: Loss=0.5418, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 72/500: Loss=0.5416, Val Loss=0.5463, Acc=0.7647, Val Acc=0.7690  
Epoch 73/500: Loss=0.5415, Val Loss=0.5462, Acc=0.7643, Val Acc=0.7690  
Epoch 74/500: Loss=0.5413, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7690  
Epoch 75/500: Loss=0.5412, Val Loss=0.5460, Acc=0.7633, Val Acc=0.7680  
Epoch 76/500: Loss=0.5410, Val Loss=0.5459, Acc=0.7630, Val Acc=0.7680  
Epoch 77/500: Loss=0.5409, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680



Epoch 78/500: Loss=0.5408, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680  
Epoch 79/500: Loss=0.5406, Val Loss=0.5457, Acc=0.7630, Val Acc=0.7680  
Epoch 80/500: Loss=0.5405, Val Loss=0.5456, Acc=0.7637, Val Acc=0.7680  
Epoch 81/500: Loss=0.5404, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7680  
Epoch 82/500: Loss=0.5403, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7660  
Epoch 83/500: Loss=0.5402, Val Loss=0.5454, Acc=0.7633, Val Acc=0.7660  
Epoch 84/500: Loss=0.5401, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7650  
Epoch 85/500: Loss=0.5400, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 86/500: Loss=0.5399, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 87/500: Loss=0.5398, Val Loss=0.5452, Acc=0.7630, Val Acc=0.7650  
Early stop at epoch 87  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/500: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/500: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/500: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/500: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/500: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/500: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/500: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/500: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/500: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/500: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/500: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/500: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/500: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/500: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/500: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/500: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/500: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/500: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/500: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/500: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/500: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/500: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/500: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/500: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/500: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/500: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/500: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/500: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/500: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/500: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/500: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/500: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/500: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/500: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/500: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/500: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/500: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/500: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/500: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/500: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/500: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460

Epoch 49/500: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/500: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/500: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/500: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/500: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/500: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/500: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/500: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/500: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/500: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/500: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/500: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/500: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/500: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 63/500: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/500: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/500: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/500: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/500: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/500: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/500: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/500: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/500: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/500: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/500: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/500: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/500: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 75

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/500: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/500: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/500: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/500: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/500: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/500: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/500: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/500: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/500: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/500: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/500: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/500: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/500: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/500: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/500: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/500: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/500: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/500: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/500: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/500: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/500: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/500: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/500: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/500: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/500: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/500: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/500: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/500: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690

Epoch 32/500: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/500: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/500: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/500: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/500: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/500: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/500: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/500: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/500: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/500: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/500: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/500: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/500: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/500: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/500: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Early stop at epoch 46

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/500: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/500: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/500: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/500: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/500: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/500: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/500: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/500: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/500: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Early stop at epoch 12

accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460

accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/10: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/10: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/10: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/10: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/10: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/10: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/10: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670

accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460

Epoch 3/10: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/10: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/10: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/10: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/10: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/10: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/10: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/10: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/10: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/10: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/10: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/10: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/10: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Early stop at epoch 8  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/50: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/50: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/50: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/50: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/50: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/50: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/50: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/50: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/50: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/50: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/50: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/50: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/50: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/50: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450

Epoch 26/50: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/50: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/50: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/50: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/50: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/50: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/50: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/50: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/50: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/50: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/50: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/50: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/50: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/50: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/50: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/50: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/50: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/50: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/50: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/50: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/50: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/50: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/50: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/50: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/50: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/50: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/50: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/50: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/50: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/50: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/50: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/50: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Epoch 16/50: Loss=0.5405, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7670  
Epoch 17/50: Loss=0.5400, Val Loss=0.5451, Acc=0.7630, Val Acc=0.7650  
Epoch 18/50: Loss=0.5395, Val Loss=0.5449, Acc=0.7633, Val Acc=0.7650  
Epoch 19/50: Loss=0.5392, Val Loss=0.5448, Acc=0.7640, Val Acc=0.7640  
Epoch 20/50: Loss=0.5389, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 21/50: Loss=0.5386, Val Loss=0.5446, Acc=0.7630, Val Acc=0.7640  
Epoch 22/50: Loss=0.5384, Val Loss=0.5446, Acc=0.7623, Val Acc=0.7640  
Epoch 23/50: Loss=0.5382, Val Loss=0.5445, Acc=0.7623, Val Acc=0.7640  
Epoch 24/50: Loss=0.5381, Val Loss=0.5445, Acc=0.7620, Val Acc=0.7650  
Early stop at epoch 24  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460

Epoch 9/50: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/50: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/50: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/50: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/50: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/50: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/50: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/50: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/50: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/50: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/50: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/50: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/50: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/50: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/50: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/50: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/50: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/50: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/50: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/50: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/50: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/50: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/50: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/50: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/50: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/50: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/50: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/50: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/50: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/50: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/50: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/50: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/50: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/50: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/50: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/50: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/50: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/50: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/50: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/50: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/50: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/50: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/50: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/50: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/50: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/50: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/50: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Early stop at epoch 15  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/50: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/50: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/50: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/50: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/50: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Early stop at epoch 8  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/100: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/100: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/100: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/100: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/100: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/100: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/100: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/100: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/100: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/100: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/100: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/100: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/100: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/100: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/100: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/100: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/100: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/100: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/100: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/100: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/100: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/100: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/100: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/100: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/100: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/100: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/100: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/100: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/100: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/100: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/100: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/100: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/100: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/100: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460

Epoch 46/100: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/100: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/100: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/100: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/100: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/100: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/100: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/100: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/100: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/100: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/100: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/100: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/100: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/100: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/100: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/100: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/100: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/100: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/100: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/100: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/100: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/100: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/100: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/100: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/100: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/100: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/100: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/100: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/100: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/100: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/100: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/100: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/100: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/100: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/100: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/100: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/100: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/100: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/100: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/100: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Epoch 86/100: Loss=0.5638, Val Loss=0.5646, Acc=0.7493, Val Acc=0.7490  
Epoch 87/100: Loss=0.5634, Val Loss=0.5641, Acc=0.7493, Val Acc=0.7490  
Epoch 88/100: Loss=0.5629, Val Loss=0.5637, Acc=0.7493, Val Acc=0.7490  
Epoch 89/100: Loss=0.5624, Val Loss=0.5632, Acc=0.7490, Val Acc=0.7490  
Epoch 90/100: Loss=0.5619, Val Loss=0.5628, Acc=0.7490, Val Acc=0.7490  
Epoch 91/100: Loss=0.5615, Val Loss=0.5624, Acc=0.7490, Val Acc=0.7490  
Epoch 92/100: Loss=0.5611, Val Loss=0.5620, Acc=0.7490, Val Acc=0.7490  
Epoch 93/100: Loss=0.5606, Val Loss=0.5616, Acc=0.7490, Val Acc=0.7490  
Epoch 94/100: Loss=0.5602, Val Loss=0.5612, Acc=0.7490, Val Acc=0.7490  
Epoch 95/100: Loss=0.5598, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 96/100: Loss=0.5594, Val Loss=0.5604, Acc=0.7490, Val Acc=0.7490  
Epoch 97/100: Loss=0.5590, Val Loss=0.5600, Acc=0.7490, Val Acc=0.7490  
Epoch 98/100: Loss=0.5586, Val Loss=0.5597, Acc=0.7490, Val Acc=0.7490  
Epoch 99/100: Loss=0.5582, Val Loss=0.5593, Acc=0.7490, Val Acc=0.7490  
Epoch 100/100: Loss=0.5578, Val Loss=0.5590, Acc=0.7490, Val Acc=0.7490  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/100: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730



Epoch 5/100: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/100: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/100: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/100: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/100: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/100: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/100: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/100: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/100: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/100: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/100: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Epoch 16/100: Loss=0.5405, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7670  
Epoch 17/100: Loss=0.5400, Val Loss=0.5451, Acc=0.7630, Val Acc=0.7650  
Epoch 18/100: Loss=0.5395, Val Loss=0.5449, Acc=0.7633, Val Acc=0.7650  
Epoch 19/100: Loss=0.5392, Val Loss=0.5448, Acc=0.7640, Val Acc=0.7640  
Epoch 20/100: Loss=0.5389, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 21/100: Loss=0.5386, Val Loss=0.5446, Acc=0.7630, Val Acc=0.7640  
Epoch 22/100: Loss=0.5384, Val Loss=0.5446, Acc=0.7623, Val Acc=0.7640  
Epoch 23/100: Loss=0.5382, Val Loss=0.5445, Acc=0.7623, Val Acc=0.7640  
Epoch 24/100: Loss=0.5381, Val Loss=0.5445, Acc=0.7620, Val Acc=0.7650  
Early stop at epoch 24  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/100: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/100: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/100: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/100: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/100: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/100: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/100: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/100: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/100: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/100: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/100: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/100: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/100: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/100: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/100: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/100: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/100: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/100: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/100: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/100: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/100: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/100: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/100: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/100: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/100: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/100: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/100: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450

Epoch 39/100: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/100: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/100: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/100: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/100: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/100: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/100: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/100: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/100: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/100: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/100: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/100: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/100: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/100: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/100: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/100: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/100: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/100: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/100: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/100: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/100: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/100: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/100: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/100: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/100: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/100: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/100: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/100: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/100: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/100: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/100: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/100: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/100: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/100: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/100: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/100: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/100: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/100: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/100: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/100: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/100: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/100: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/100: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/100: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/100: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/100: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/100: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Early stop at epoch 85  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/100: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/100: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/100: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/100: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/100: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/100: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/100: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/100: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680

Epoch 12/100: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/100: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/100: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/100: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Early stop at epoch 15  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/100: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/100: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/100: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/100: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/100: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Early stop at epoch 8  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/150: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/150: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/150: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/150: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/150: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/150: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/150: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/150: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/150: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/150: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/150: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/150: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/150: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/150: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/150: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/150: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/150: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/150: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/150: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/150: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/150: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/150: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/150: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/150: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/150: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/150: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/150: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/150: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/150: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/150: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/150: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/150: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460

Epoch 40/150: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/150: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/150: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/150: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/150: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/150: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/150: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/150: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/150: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/150: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/150: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/150: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/150: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/150: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/150: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/150: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/150: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/150: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/150: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/150: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/150: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/150: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/150: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/150: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/150: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/150: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/150: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/150: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/150: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/150: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/150: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/150: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/150: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/150: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/150: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/150: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/150: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/150: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/150: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/150: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/150: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/150: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/150: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/150: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/150: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/150: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Epoch 86/150: Loss=0.5638, Val Loss=0.5646, Acc=0.7493, Val Acc=0.7490  
Epoch 87/150: Loss=0.5634, Val Loss=0.5641, Acc=0.7493, Val Acc=0.7490  
Epoch 88/150: Loss=0.5629, Val Loss=0.5637, Acc=0.7493, Val Acc=0.7490  
Epoch 89/150: Loss=0.5624, Val Loss=0.5632, Acc=0.7490, Val Acc=0.7490  
Epoch 90/150: Loss=0.5619, Val Loss=0.5628, Acc=0.7490, Val Acc=0.7490  
Epoch 91/150: Loss=0.5615, Val Loss=0.5624, Acc=0.7490, Val Acc=0.7490  
Epoch 92/150: Loss=0.5611, Val Loss=0.5620, Acc=0.7490, Val Acc=0.7490  
Epoch 93/150: Loss=0.5606, Val Loss=0.5616, Acc=0.7490, Val Acc=0.7490  
Epoch 94/150: Loss=0.5602, Val Loss=0.5612, Acc=0.7490, Val Acc=0.7490  
Epoch 95/150: Loss=0.5598, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 96/150: Loss=0.5594, Val Loss=0.5604, Acc=0.7490, Val Acc=0.7490  
Epoch 97/150: Loss=0.5590, Val Loss=0.5600, Acc=0.7490, Val Acc=0.7490  
Epoch 98/150: Loss=0.5586, Val Loss=0.5597, Acc=0.7490, Val Acc=0.7490  
Epoch 99/150: Loss=0.5582, Val Loss=0.5593, Acc=0.7490, Val Acc=0.7490

Epoch 100/150: Loss=0.5578, Val Loss=0.5590, Acc=0.7490, Val Acc=0.7490  
Epoch 101/150: Loss=0.5574, Val Loss=0.5586, Acc=0.7493, Val Acc=0.7490  
Epoch 102/150: Loss=0.5571, Val Loss=0.5583, Acc=0.7493, Val Acc=0.7500  
Epoch 103/150: Loss=0.5567, Val Loss=0.5579, Acc=0.7493, Val Acc=0.7500  
Epoch 104/150: Loss=0.5564, Val Loss=0.5576, Acc=0.7493, Val Acc=0.7500  
Epoch 105/150: Loss=0.5560, Val Loss=0.5573, Acc=0.7493, Val Acc=0.7500  
Epoch 106/150: Loss=0.5557, Val Loss=0.5570, Acc=0.7493, Val Acc=0.7500  
Epoch 107/150: Loss=0.5553, Val Loss=0.5567, Acc=0.7497, Val Acc=0.7500  
Epoch 108/150: Loss=0.5550, Val Loss=0.5564, Acc=0.7497, Val Acc=0.7500  
Epoch 109/150: Loss=0.5547, Val Loss=0.5561, Acc=0.7497, Val Acc=0.7500  
Epoch 110/150: Loss=0.5544, Val Loss=0.5558, Acc=0.7497, Val Acc=0.7500  
Epoch 111/150: Loss=0.5541, Val Loss=0.5555, Acc=0.7497, Val Acc=0.7500  
Epoch 112/150: Loss=0.5538, Val Loss=0.5552, Acc=0.7493, Val Acc=0.7500  
Epoch 113/150: Loss=0.5535, Val Loss=0.5550, Acc=0.7493, Val Acc=0.7500  
Epoch 114/150: Loss=0.5532, Val Loss=0.5547, Acc=0.7493, Val Acc=0.7500  
Epoch 115/150: Loss=0.5529, Val Loss=0.5544, Acc=0.7493, Val Acc=0.7500  
Epoch 116/150: Loss=0.5526, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 117/150: Loss=0.5523, Val Loss=0.5539, Acc=0.7490, Val Acc=0.7500  
Epoch 118/150: Loss=0.5521, Val Loss=0.5537, Acc=0.7490, Val Acc=0.7500  
Epoch 119/150: Loss=0.5518, Val Loss=0.5534, Acc=0.7490, Val Acc=0.7500  
Epoch 120/150: Loss=0.5515, Val Loss=0.5532, Acc=0.7490, Val Acc=0.7500  
Epoch 121/150: Loss=0.5513, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 122/150: Loss=0.5510, Val Loss=0.5527, Acc=0.7490, Val Acc=0.7500  
Epoch 123/150: Loss=0.5508, Val Loss=0.5525, Acc=0.7490, Val Acc=0.7500  
Epoch 124/150: Loss=0.5505, Val Loss=0.5523, Acc=0.7490, Val Acc=0.7500  
Epoch 125/150: Loss=0.5503, Val Loss=0.5521, Acc=0.7490, Val Acc=0.7500  
Epoch 126/150: Loss=0.5501, Val Loss=0.5518, Acc=0.7490, Val Acc=0.7500  
Epoch 127/150: Loss=0.5498, Val Loss=0.5516, Acc=0.7490, Val Acc=0.7500  
Epoch 128/150: Loss=0.5496, Val Loss=0.5514, Acc=0.7490, Val Acc=0.7500  
Epoch 129/150: Loss=0.5494, Val Loss=0.5512, Acc=0.7490, Val Acc=0.7500  
Epoch 130/150: Loss=0.5492, Val Loss=0.5510, Acc=0.7490, Val Acc=0.7500  
Epoch 131/150: Loss=0.5489, Val Loss=0.5508, Acc=0.7490, Val Acc=0.7500  
Epoch 132/150: Loss=0.5487, Val Loss=0.5506, Acc=0.7490, Val Acc=0.7500  
Epoch 133/150: Loss=0.5485, Val Loss=0.5505, Acc=0.7490, Val Acc=0.7500  
Epoch 134/150: Loss=0.5483, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 135/150: Loss=0.5481, Val Loss=0.5501, Acc=0.7490, Val Acc=0.7500  
Epoch 136/150: Loss=0.5479, Val Loss=0.5499, Acc=0.7493, Val Acc=0.7500  
Epoch 137/150: Loss=0.5477, Val Loss=0.5497, Acc=0.7490, Val Acc=0.7490  
Epoch 138/150: Loss=0.5475, Val Loss=0.5496, Acc=0.7490, Val Acc=0.7490  
Epoch 139/150: Loss=0.5473, Val Loss=0.5494, Acc=0.7490, Val Acc=0.7490  
Epoch 140/150: Loss=0.5472, Val Loss=0.5492, Acc=0.7490, Val Acc=0.7490  
Epoch 141/150: Loss=0.5470, Val Loss=0.5491, Acc=0.7490, Val Acc=0.7490  
Epoch 142/150: Loss=0.5468, Val Loss=0.5489, Acc=0.7490, Val Acc=0.7490  
Epoch 143/150: Loss=0.5466, Val Loss=0.5487, Acc=0.7490, Val Acc=0.7490  
Epoch 144/150: Loss=0.5464, Val Loss=0.5486, Acc=0.7490, Val Acc=0.7490  
Epoch 145/150: Loss=0.5463, Val Loss=0.5484, Acc=0.7490, Val Acc=0.7490  
Epoch 146/150: Loss=0.5461, Val Loss=0.5483, Acc=0.7487, Val Acc=0.7490  
Epoch 147/150: Loss=0.5459, Val Loss=0.5481, Acc=0.7487, Val Acc=0.7490  
Epoch 148/150: Loss=0.5458, Val Loss=0.5480, Acc=0.7487, Val Acc=0.7490  
Epoch 149/150: Loss=0.5456, Val Loss=0.5479, Acc=0.7493, Val Acc=0.7490  
Epoch 150/150: Loss=0.5455, Val Loss=0.5477, Acc=0.7493, Val Acc=0.7500  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/150: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/150: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/150: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/150: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/150: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690

Epoch 9/150: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/150: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/150: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/150: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/150: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/150: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/150: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Epoch 16/150: Loss=0.5405, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7670  
Epoch 17/150: Loss=0.5400, Val Loss=0.5451, Acc=0.7630, Val Acc=0.7650  
Epoch 18/150: Loss=0.5395, Val Loss=0.5449, Acc=0.7633, Val Acc=0.7650  
Epoch 19/150: Loss=0.5392, Val Loss=0.5448, Acc=0.7640, Val Acc=0.7640  
Epoch 20/150: Loss=0.5389, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 21/150: Loss=0.5386, Val Loss=0.5446, Acc=0.7630, Val Acc=0.7640  
Epoch 22/150: Loss=0.5384, Val Loss=0.5446, Acc=0.7623, Val Acc=0.7640  
Epoch 23/150: Loss=0.5382, Val Loss=0.5445, Acc=0.7623, Val Acc=0.7640  
Epoch 24/150: Loss=0.5381, Val Loss=0.5445, Acc=0.7620, Val Acc=0.7650

Early stop at epoch 24  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/150: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/150: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/150: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/150: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/150: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/150: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/150: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/150: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/150: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/150: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/150: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/150: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/150: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/150: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/150: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/150: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/150: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/150: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/150: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/150: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/150: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/150: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/150: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/150: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/150: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/150: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/150: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/150: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/150: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/150: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/150: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/150: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/150: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/150: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/150: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460

Epoch 43/150: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/150: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/150: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/150: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/150: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/150: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/150: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/150: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/150: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/150: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/150: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/150: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/150: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/150: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/150: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/150: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/150: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/150: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/150: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/150: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/150: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/150: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/150: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/150: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/150: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/150: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/150: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/150: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/150: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/150: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/150: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/150: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/150: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/150: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/150: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/150: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/150: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/150: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/150: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/150: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/150: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/150: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/150: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Early stop at epoch 85  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/150: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/150: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/150: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/150: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/150: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/150: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/150: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/150: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/150: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/150: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/150: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/150: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680

Early stop at epoch 15  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460

Early stop at epoch 3  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/150: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/150: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/150: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/150: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/150: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690

Early stop at epoch 8  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/500: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/500: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/500: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/500: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/500: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/500: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/500: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/500: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/500: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/500: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/500: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/500: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/500: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/500: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/500: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/500: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/500: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/500: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/500: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/500: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/500: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/500: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/500: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/500: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/500: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/500: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/500: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/500: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/500: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/500: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/500: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/500: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/500: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/500: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/500: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/500: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460



Epoch 44/500: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/500: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/500: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/500: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/500: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/500: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/500: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/500: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/500: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/500: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/500: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/500: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/500: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/500: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/500: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/500: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/500: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/500: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/500: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/500: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/500: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/500: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/500: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/500: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/500: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/500: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/500: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/500: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/500: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/500: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/500: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/500: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/500: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/500: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/500: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/500: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/500: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/500: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/500: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/500: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/500: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/500: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Epoch 86/500: Loss=0.5638, Val Loss=0.5646, Acc=0.7493, Val Acc=0.7490  
Epoch 87/500: Loss=0.5634, Val Loss=0.5641, Acc=0.7493, Val Acc=0.7490  
Epoch 88/500: Loss=0.5629, Val Loss=0.5637, Acc=0.7493, Val Acc=0.7490  
Epoch 89/500: Loss=0.5624, Val Loss=0.5632, Acc=0.7490, Val Acc=0.7490  
Epoch 90/500: Loss=0.5619, Val Loss=0.5628, Acc=0.7490, Val Acc=0.7490  
Epoch 91/500: Loss=0.5615, Val Loss=0.5624, Acc=0.7490, Val Acc=0.7490  
Epoch 92/500: Loss=0.5611, Val Loss=0.5620, Acc=0.7490, Val Acc=0.7490  
Epoch 93/500: Loss=0.5606, Val Loss=0.5616, Acc=0.7490, Val Acc=0.7490  
Epoch 94/500: Loss=0.5602, Val Loss=0.5612, Acc=0.7490, Val Acc=0.7490  
Epoch 95/500: Loss=0.5598, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 96/500: Loss=0.5594, Val Loss=0.5604, Acc=0.7490, Val Acc=0.7490  
Epoch 97/500: Loss=0.5590, Val Loss=0.5600, Acc=0.7490, Val Acc=0.7490  
Epoch 98/500: Loss=0.5586, Val Loss=0.5597, Acc=0.7490, Val Acc=0.7490  
Epoch 99/500: Loss=0.5582, Val Loss=0.5593, Acc=0.7490, Val Acc=0.7490  
Epoch 100/500: Loss=0.5578, Val Loss=0.5590, Acc=0.7490, Val Acc=0.7490  
Epoch 101/500: Loss=0.5574, Val Loss=0.5586, Acc=0.7493, Val Acc=0.7490  
Epoch 102/500: Loss=0.5571, Val Loss=0.5583, Acc=0.7493, Val Acc=0.7500  
Epoch 103/500: Loss=0.5567, Val Loss=0.5579, Acc=0.7493, Val Acc=0.7500

Epoch 104/500: Loss=0.5564, Val Loss=0.5576, Acc=0.7493, Val Acc=0.7500  
Epoch 105/500: Loss=0.5560, Val Loss=0.5573, Acc=0.7493, Val Acc=0.7500  
Epoch 106/500: Loss=0.5557, Val Loss=0.5570, Acc=0.7493, Val Acc=0.7500  
Epoch 107/500: Loss=0.5553, Val Loss=0.5567, Acc=0.7497, Val Acc=0.7500  
Epoch 108/500: Loss=0.5550, Val Loss=0.5564, Acc=0.7497, Val Acc=0.7500  
Epoch 109/500: Loss=0.5547, Val Loss=0.5561, Acc=0.7497, Val Acc=0.7500  
Epoch 110/500: Loss=0.5544, Val Loss=0.5558, Acc=0.7497, Val Acc=0.7500  
Epoch 111/500: Loss=0.5541, Val Loss=0.5555, Acc=0.7497, Val Acc=0.7500  
Epoch 112/500: Loss=0.5538, Val Loss=0.5552, Acc=0.7493, Val Acc=0.7500  
Epoch 113/500: Loss=0.5535, Val Loss=0.5550, Acc=0.7493, Val Acc=0.7500  
Epoch 114/500: Loss=0.5532, Val Loss=0.5547, Acc=0.7493, Val Acc=0.7500  
Epoch 115/500: Loss=0.5529, Val Loss=0.5544, Acc=0.7493, Val Acc=0.7500  
Epoch 116/500: Loss=0.5526, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 117/500: Loss=0.5523, Val Loss=0.5539, Acc=0.7490, Val Acc=0.7500  
Epoch 118/500: Loss=0.5521, Val Loss=0.5537, Acc=0.7490, Val Acc=0.7500  
Epoch 119/500: Loss=0.5518, Val Loss=0.5534, Acc=0.7490, Val Acc=0.7500  
Epoch 120/500: Loss=0.5515, Val Loss=0.5532, Acc=0.7490, Val Acc=0.7500  
Epoch 121/500: Loss=0.5513, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 122/500: Loss=0.5510, Val Loss=0.5527, Acc=0.7490, Val Acc=0.7500  
Epoch 123/500: Loss=0.5508, Val Loss=0.5525, Acc=0.7490, Val Acc=0.7500  
Epoch 124/500: Loss=0.5505, Val Loss=0.5523, Acc=0.7490, Val Acc=0.7500  
Epoch 125/500: Loss=0.5503, Val Loss=0.5521, Acc=0.7490, Val Acc=0.7500  
Epoch 126/500: Loss=0.5501, Val Loss=0.5518, Acc=0.7490, Val Acc=0.7500  
Epoch 127/500: Loss=0.5498, Val Loss=0.5516, Acc=0.7490, Val Acc=0.7500  
Epoch 128/500: Loss=0.5496, Val Loss=0.5514, Acc=0.7490, Val Acc=0.7500  
Epoch 129/500: Loss=0.5494, Val Loss=0.5512, Acc=0.7490, Val Acc=0.7500  
Epoch 130/500: Loss=0.5492, Val Loss=0.5510, Acc=0.7490, Val Acc=0.7500  
Epoch 131/500: Loss=0.5489, Val Loss=0.5508, Acc=0.7490, Val Acc=0.7500  
Epoch 132/500: Loss=0.5487, Val Loss=0.5506, Acc=0.7490, Val Acc=0.7500  
Epoch 133/500: Loss=0.5485, Val Loss=0.5505, Acc=0.7490, Val Acc=0.7500  
Epoch 134/500: Loss=0.5483, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 135/500: Loss=0.5481, Val Loss=0.5501, Acc=0.7490, Val Acc=0.7500  
Epoch 136/500: Loss=0.5479, Val Loss=0.5499, Acc=0.7493, Val Acc=0.7500  
Epoch 137/500: Loss=0.5477, Val Loss=0.5497, Acc=0.7490, Val Acc=0.7490  
Epoch 138/500: Loss=0.5475, Val Loss=0.5496, Acc=0.7490, Val Acc=0.7490  
Epoch 139/500: Loss=0.5473, Val Loss=0.5494, Acc=0.7490, Val Acc=0.7490  
Epoch 140/500: Loss=0.5472, Val Loss=0.5492, Acc=0.7490, Val Acc=0.7490  
Epoch 141/500: Loss=0.5470, Val Loss=0.5491, Acc=0.7490, Val Acc=0.7490  
Epoch 142/500: Loss=0.5468, Val Loss=0.5489, Acc=0.7490, Val Acc=0.7490  
Epoch 143/500: Loss=0.5466, Val Loss=0.5487, Acc=0.7490, Val Acc=0.7490  
Epoch 144/500: Loss=0.5464, Val Loss=0.5486, Acc=0.7490, Val Acc=0.7490  
Epoch 145/500: Loss=0.5463, Val Loss=0.5484, Acc=0.7490, Val Acc=0.7490  
Epoch 146/500: Loss=0.5461, Val Loss=0.5483, Acc=0.7487, Val Acc=0.7490  
Epoch 147/500: Loss=0.5459, Val Loss=0.5481, Acc=0.7487, Val Acc=0.7490  
Epoch 148/500: Loss=0.5458, Val Loss=0.5480, Acc=0.7487, Val Acc=0.7490  
Epoch 149/500: Loss=0.5456, Val Loss=0.5479, Acc=0.7493, Val Acc=0.7490  
Epoch 150/500: Loss=0.5455, Val Loss=0.5477, Acc=0.7493, Val Acc=0.7500  
Epoch 151/500: Loss=0.5453, Val Loss=0.5476, Acc=0.7493, Val Acc=0.7500  
Epoch 152/500: Loss=0.5452, Val Loss=0.5474, Acc=0.7500, Val Acc=0.7500  
Epoch 153/500: Loss=0.5450, Val Loss=0.5473, Acc=0.7497, Val Acc=0.7500  
Epoch 154/500: Loss=0.5449, Val Loss=0.5472, Acc=0.7497, Val Acc=0.7500  
Epoch 155/500: Loss=0.5447, Val Loss=0.5470, Acc=0.7497, Val Acc=0.7500  
Epoch 156/500: Loss=0.5446, Val Loss=0.5469, Acc=0.7497, Val Acc=0.7500  
Epoch 157/500: Loss=0.5444, Val Loss=0.5468, Acc=0.7497, Val Acc=0.7500  
Epoch 158/500: Loss=0.5443, Val Loss=0.5467, Acc=0.7500, Val Acc=0.7500  
Epoch 159/500: Loss=0.5442, Val Loss=0.5466, Acc=0.7500, Val Acc=0.7500  
Epoch 160/500: Loss=0.5440, Val Loss=0.5464, Acc=0.7500, Val Acc=0.7500  
Epoch 161/500: Loss=0.5439, Val Loss=0.5463, Acc=0.7500, Val Acc=0.7500  
Epoch 162/500: Loss=0.5438, Val Loss=0.5462, Acc=0.7500, Val Acc=0.7500  
Epoch 163/500: Loss=0.5436, Val Loss=0.5461, Acc=0.7500, Val Acc=0.7500

Epoch 164/500: Loss=0.5435, Val Loss=0.5460, Acc=0.7500, Val Acc=0.7500  
Epoch 165/500: Loss=0.5434, Val Loss=0.5459, Acc=0.7500, Val Acc=0.7500  
Epoch 166/500: Loss=0.5433, Val Loss=0.5458, Acc=0.7500, Val Acc=0.7500  
Epoch 167/500: Loss=0.5432, Val Loss=0.5457, Acc=0.7500, Val Acc=0.7500  
Epoch 168/500: Loss=0.5430, Val Loss=0.5456, Acc=0.7500, Val Acc=0.7500  
Epoch 169/500: Loss=0.5429, Val Loss=0.5455, Acc=0.7500, Val Acc=0.7500  
Epoch 170/500: Loss=0.5428, Val Loss=0.5454, Acc=0.7497, Val Acc=0.7500  
Epoch 171/500: Loss=0.5427, Val Loss=0.5453, Acc=0.7500, Val Acc=0.7500  
Epoch 172/500: Loss=0.5426, Val Loss=0.5452, Acc=0.7500, Val Acc=0.7500  
Epoch 173/500: Loss=0.5425, Val Loss=0.5451, Acc=0.7500, Val Acc=0.7500  
Epoch 174/500: Loss=0.5424, Val Loss=0.5450, Acc=0.7500, Val Acc=0.7500  
Epoch 175/500: Loss=0.5423, Val Loss=0.5449, Acc=0.7500, Val Acc=0.7500  
Epoch 176/500: Loss=0.5422, Val Loss=0.5448, Acc=0.7500, Val Acc=0.7500  
Epoch 177/500: Loss=0.5421, Val Loss=0.5447, Acc=0.7500, Val Acc=0.7500  
Epoch 178/500: Loss=0.5420, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 179/500: Loss=0.5419, Val Loss=0.5445, Acc=0.7500, Val Acc=0.7500  
Epoch 180/500: Loss=0.5418, Val Loss=0.5444, Acc=0.7500, Val Acc=0.7500  
Epoch 181/500: Loss=0.5417, Val Loss=0.5444, Acc=0.7500, Val Acc=0.7500  
Epoch 182/500: Loss=0.5416, Val Loss=0.5443, Acc=0.7500, Val Acc=0.7500  
Epoch 183/500: Loss=0.5415, Val Loss=0.5442, Acc=0.7497, Val Acc=0.7500  
Epoch 184/500: Loss=0.5414, Val Loss=0.5441, Acc=0.7497, Val Acc=0.7510  
Epoch 185/500: Loss=0.5413, Val Loss=0.5440, Acc=0.7497, Val Acc=0.7510  
Epoch 186/500: Loss=0.5412, Val Loss=0.5440, Acc=0.7497, Val Acc=0.7510  
Epoch 187/500: Loss=0.5411, Val Loss=0.5439, Acc=0.7493, Val Acc=0.7510  
Epoch 188/500: Loss=0.5410, Val Loss=0.5438, Acc=0.7493, Val Acc=0.7510  
Epoch 189/500: Loss=0.5410, Val Loss=0.5437, Acc=0.7493, Val Acc=0.7510  
Epoch 190/500: Loss=0.5409, Val Loss=0.5437, Acc=0.7493, Val Acc=0.7510  
Epoch 191/500: Loss=0.5408, Val Loss=0.5436, Acc=0.7493, Val Acc=0.7510  
Epoch 192/500: Loss=0.5407, Val Loss=0.5435, Acc=0.7493, Val Acc=0.7510  
Epoch 193/500: Loss=0.5406, Val Loss=0.5435, Acc=0.7493, Val Acc=0.7510  
Epoch 194/500: Loss=0.5405, Val Loss=0.5434, Acc=0.7493, Val Acc=0.7510  
Epoch 195/500: Loss=0.5405, Val Loss=0.5433, Acc=0.7493, Val Acc=0.7510  
Epoch 196/500: Loss=0.5404, Val Loss=0.5433, Acc=0.7497, Val Acc=0.7510  
Epoch 197/500: Loss=0.5403, Val Loss=0.5432, Acc=0.7497, Val Acc=0.7510  
Epoch 198/500: Loss=0.5402, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 199/500: Loss=0.5402, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 200/500: Loss=0.5401, Val Loss=0.5430, Acc=0.7497, Val Acc=0.7510  
Epoch 201/500: Loss=0.5400, Val Loss=0.5429, Acc=0.7497, Val Acc=0.7510  
Epoch 202/500: Loss=0.5400, Val Loss=0.5429, Acc=0.7497, Val Acc=0.7510  
Epoch 203/500: Loss=0.5399, Val Loss=0.5428, Acc=0.7497, Val Acc=0.7520  
Epoch 204/500: Loss=0.5398, Val Loss=0.5428, Acc=0.7497, Val Acc=0.7520  
Epoch 205/500: Loss=0.5397, Val Loss=0.5427, Acc=0.7497, Val Acc=0.7520  
Epoch 206/500: Loss=0.5397, Val Loss=0.5427, Acc=0.7497, Val Acc=0.7520  
Epoch 207/500: Loss=0.5396, Val Loss=0.5426, Acc=0.7493, Val Acc=0.7520  
Epoch 208/500: Loss=0.5396, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 209/500: Loss=0.5395, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 210/500: Loss=0.5394, Val Loss=0.5424, Acc=0.7493, Val Acc=0.7520  
Epoch 211/500: Loss=0.5394, Val Loss=0.5424, Acc=0.7490, Val Acc=0.7520  
Epoch 212/500: Loss=0.5393, Val Loss=0.5423, Acc=0.7490, Val Acc=0.7520  
Epoch 213/500: Loss=0.5392, Val Loss=0.5423, Acc=0.7490, Val Acc=0.7520  
Epoch 214/500: Loss=0.5392, Val Loss=0.5422, Acc=0.7490, Val Acc=0.7530  
Epoch 215/500: Loss=0.5391, Val Loss=0.5422, Acc=0.7490, Val Acc=0.7530  
Early stop at epoch 215  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/500: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/500: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/500: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690

Epoch 7/500: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/500: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/500: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/500: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/500: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/500: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/500: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/500: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/500: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Epoch 16/500: Loss=0.5405, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7670  
Epoch 17/500: Loss=0.5400, Val Loss=0.5451, Acc=0.7630, Val Acc=0.7650  
Epoch 18/500: Loss=0.5395, Val Loss=0.5449, Acc=0.7633, Val Acc=0.7650  
Epoch 19/500: Loss=0.5392, Val Loss=0.5448, Acc=0.7640, Val Acc=0.7640  
Epoch 20/500: Loss=0.5389, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 21/500: Loss=0.5386, Val Loss=0.5446, Acc=0.7630, Val Acc=0.7640  
Epoch 22/500: Loss=0.5384, Val Loss=0.5446, Acc=0.7623, Val Acc=0.7640  
Epoch 23/500: Loss=0.5382, Val Loss=0.5445, Acc=0.7623, Val Acc=0.7640  
Epoch 24/500: Loss=0.5381, Val Loss=0.5445, Acc=0.7620, Val Acc=0.7650

Early stop at epoch 24  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/500: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/500: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/500: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/500: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/500: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/500: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/500: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/500: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/500: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/500: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/500: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/500: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/500: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/500: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/500: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/500: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/500: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/500: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/500: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/500: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/500: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/500: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/500: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/500: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/500: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/500: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/500: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/500: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/500: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/500: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/500: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/500: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/500: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460

Epoch 41/500: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/500: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/500: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/500: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/500: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/500: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/500: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/500: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/500: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/500: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/500: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/500: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/500: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/500: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/500: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/500: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/500: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/500: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/500: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/500: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/500: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/500: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/500: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/500: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/500: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/500: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/500: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/500: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/500: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/500: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/500: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/500: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/500: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/500: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/500: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/500: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/500: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/500: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/500: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/500: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/500: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/500: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/500: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/500: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/500: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Early stop at epoch 85  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/500: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/500: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/500: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/500: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/500: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/500: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/500: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/500: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/500: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/500: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690

Epoch 14/500: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/500: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Early stop at epoch 15  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/500: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/500: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/500: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/500: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/500: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Early stop at epoch 8  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/10: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/10: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/10: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/10: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/10: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/10: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/10: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/10: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/10: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/10: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/10: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/10: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/10: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/10: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/10: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/10: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/10: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/10: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670

Epoch 9/10: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/10: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Early stop at epoch 10  
accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/10: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/10: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 9  
accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/10: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/10: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/50: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/50: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/50: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/50: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/50: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/50: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/50: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/50: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/50: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/50: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/50: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/50: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/50: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/50: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/50: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/50: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/50: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/50: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/50: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/50: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/50: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/50: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/50: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/50: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/50: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/50: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/50: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/50: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490

Epoch 39/50: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/50: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/50: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/50: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/50: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/50: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/50: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/50: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/50: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/50: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/50: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/50: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490

accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/50: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/50: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/50: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/50: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/50: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/50: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/50: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 11/50: Loss=0.5384, Val Loss=0.5446, Acc=0.7627, Val Acc=0.7640  
Epoch 12/50: Loss=0.5380, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7650  
Epoch 13/50: Loss=0.5378, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7640  
Epoch 14/50: Loss=0.5376, Val Loss=0.5445, Acc=0.7617, Val Acc=0.7650

Early stop at epoch 14

accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/50: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/50: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/50: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/50: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/50: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/50: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/50: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/50: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/50: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/50: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/50: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/50: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/50: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/50: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/50: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/50: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/50: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/50: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/50: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/50: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/50: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490



Epoch 32/50: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/50: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/50: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/50: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/50: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/50: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/50: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/50: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/50: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/50: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/50: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/50: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/50: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/50: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/50: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/50: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/50: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/50: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/50: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490

accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/50: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/50: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/50: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/50: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/50: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/50: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/50: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640

Early stop at epoch 10

accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/50: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/50: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460

Early stop at epoch 9

accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/50: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/50: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670

Early stop at epoch 5

accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/100: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/100: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/100: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460

Epoch 11/100:	Loss=0.6353,	Val Loss=0.6308,	Acc=0.7490,	Val Acc=0.7460
Epoch 12/100:	Loss=0.6310,	Val Loss=0.6268,	Acc=0.7490,	Val Acc=0.7450
Epoch 13/100:	Loss=0.6269,	Val Loss=0.6230,	Acc=0.7490,	Val Acc=0.7450
Epoch 14/100:	Loss=0.6231,	Val Loss=0.6193,	Acc=0.7487,	Val Acc=0.7450
Epoch 15/100:	Loss=0.6194,	Val Loss=0.6159,	Acc=0.7487,	Val Acc=0.7450
Epoch 16/100:	Loss=0.6159,	Val Loss=0.6126,	Acc=0.7490,	Val Acc=0.7460
Epoch 17/100:	Loss=0.6126,	Val Loss=0.6095,	Acc=0.7487,	Val Acc=0.7450
Epoch 18/100:	Loss=0.6095,	Val Loss=0.6065,	Acc=0.7487,	Val Acc=0.7450
Epoch 19/100:	Loss=0.6065,	Val Loss=0.6037,	Acc=0.7483,	Val Acc=0.7450
Epoch 20/100:	Loss=0.6036,	Val Loss=0.6010,	Acc=0.7483,	Val Acc=0.7460
Epoch 21/100:	Loss=0.6009,	Val Loss=0.5985,	Acc=0.7487,	Val Acc=0.7460
Epoch 22/100:	Loss=0.5983,	Val Loss=0.5960,	Acc=0.7487,	Val Acc=0.7460
Epoch 23/100:	Loss=0.5958,	Val Loss=0.5937,	Acc=0.7487,	Val Acc=0.7460
Epoch 24/100:	Loss=0.5935,	Val Loss=0.5915,	Acc=0.7487,	Val Acc=0.7470
Epoch 25/100:	Loss=0.5912,	Val Loss=0.5894,	Acc=0.7487,	Val Acc=0.7480
Epoch 26/100:	Loss=0.5891,	Val Loss=0.5874,	Acc=0.7487,	Val Acc=0.7480
Epoch 27/100:	Loss=0.5870,	Val Loss=0.5855,	Acc=0.7487,	Val Acc=0.7480
Epoch 28/100:	Loss=0.5851,	Val Loss=0.5837,	Acc=0.7487,	Val Acc=0.7480
Epoch 29/100:	Loss=0.5832,	Val Loss=0.5820,	Acc=0.7487,	Val Acc=0.7480
Epoch 30/100:	Loss=0.5814,	Val Loss=0.5803,	Acc=0.7487,	Val Acc=0.7480
Epoch 31/100:	Loss=0.5797,	Val Loss=0.5787,	Acc=0.7487,	Val Acc=0.7490
Epoch 32/100:	Loss=0.5781,	Val Loss=0.5772,	Acc=0.7490,	Val Acc=0.7480
Epoch 33/100:	Loss=0.5765,	Val Loss=0.5758,	Acc=0.7490,	Val Acc=0.7480
Epoch 34/100:	Loss=0.5750,	Val Loss=0.5744,	Acc=0.7493,	Val Acc=0.7480
Epoch 35/100:	Loss=0.5736,	Val Loss=0.5731,	Acc=0.7493,	Val Acc=0.7480
Epoch 36/100:	Loss=0.5722,	Val Loss=0.5718,	Acc=0.7497,	Val Acc=0.7480
Epoch 37/100:	Loss=0.5709,	Val Loss=0.5706,	Acc=0.7497,	Val Acc=0.7490
Epoch 38/100:	Loss=0.5697,	Val Loss=0.5694,	Acc=0.7493,	Val Acc=0.7490
Epoch 39/100:	Loss=0.5685,	Val Loss=0.5683,	Acc=0.7490,	Val Acc=0.7490
Epoch 40/100:	Loss=0.5673,	Val Loss=0.5673,	Acc=0.7490,	Val Acc=0.7490
Epoch 41/100:	Loss=0.5662,	Val Loss=0.5663,	Acc=0.7493,	Val Acc=0.7490
Epoch 42/100:	Loss=0.5651,	Val Loss=0.5653,	Acc=0.7493,	Val Acc=0.7490
Epoch 43/100:	Loss=0.5641,	Val Loss=0.5643,	Acc=0.7493,	Val Acc=0.7490
Epoch 44/100:	Loss=0.5631,	Val Loss=0.5634,	Acc=0.7493,	Val Acc=0.7490
Epoch 45/100:	Loss=0.5622,	Val Loss=0.5626,	Acc=0.7493,	Val Acc=0.7490
Epoch 46/100:	Loss=0.5613,	Val Loss=0.5618,	Acc=0.7490,	Val Acc=0.7490
Epoch 47/100:	Loss=0.5604,	Val Loss=0.5610,	Acc=0.7490,	Val Acc=0.7490
Epoch 48/100:	Loss=0.5596,	Val Loss=0.5602,	Acc=0.7490,	Val Acc=0.7490
Epoch 49/100:	Loss=0.5587,	Val Loss=0.5595,	Acc=0.7490,	Val Acc=0.7490
Epoch 50/100:	Loss=0.5580,	Val Loss=0.5588,	Acc=0.7490,	Val Acc=0.7490
Epoch 51/100:	Loss=0.5572,	Val Loss=0.5581,	Acc=0.7490,	Val Acc=0.7500
Epoch 52/100:	Loss=0.5565,	Val Loss=0.5574,	Acc=0.7493,	Val Acc=0.7500
Epoch 53/100:	Loss=0.5558,	Val Loss=0.5568,	Acc=0.7493,	Val Acc=0.7500
Epoch 54/100:	Loss=0.5551,	Val Loss=0.5562,	Acc=0.7493,	Val Acc=0.7500
Epoch 55/100:	Loss=0.5545,	Val Loss=0.5556,	Acc=0.7497,	Val Acc=0.7500
Epoch 56/100:	Loss=0.5539,	Val Loss=0.5551,	Acc=0.7497,	Val Acc=0.7500
Epoch 57/100:	Loss=0.5533,	Val Loss=0.5545,	Acc=0.7493,	Val Acc=0.7500
Epoch 58/100:	Loss=0.5527,	Val Loss=0.5540,	Acc=0.7493,	Val Acc=0.7500
Epoch 59/100:	Loss=0.5522,	Val Loss=0.5535,	Acc=0.7490,	Val Acc=0.7500
Epoch 60/100:	Loss=0.5516,	Val Loss=0.5530,	Acc=0.7490,	Val Acc=0.7500
Epoch 61/100:	Loss=0.5511,	Val Loss=0.5526,	Acc=0.7490,	Val Acc=0.7500
Epoch 62/100:	Loss=0.5506,	Val Loss=0.5521,	Acc=0.7490,	Val Acc=0.7500
Epoch 63/100:	Loss=0.5501,	Val Loss=0.5517,	Acc=0.7490,	Val Acc=0.7500
Epoch 64/100:	Loss=0.5497,	Val Loss=0.5513,	Acc=0.7490,	Val Acc=0.7500
Epoch 65/100:	Loss=0.5492,	Val Loss=0.5509,	Acc=0.7490,	Val Acc=0.7500
Epoch 66/100:	Loss=0.5488,	Val Loss=0.5505,	Acc=0.7490,	Val Acc=0.7500
Epoch 67/100:	Loss=0.5484,	Val Loss=0.5501,	Acc=0.7490,	Val Acc=0.7500
Epoch 68/100:	Loss=0.5480,	Val Loss=0.5498,	Acc=0.7490,	Val Acc=0.7500
Epoch 69/100:	Loss=0.5476,	Val Loss=0.5494,	Acc=0.7490,	Val Acc=0.7490
Epoch 70/100:	Loss=0.5472,	Val Loss=0.5491,	Acc=0.7490,	Val Acc=0.7490

Epoch 71/100: Loss=0.5468, Val Loss=0.5488, Acc=0.7490, Val Acc=0.7490  
Epoch 72/100: Loss=0.5465, Val Loss=0.5485, Acc=0.7490, Val Acc=0.7490  
Epoch 73/100: Loss=0.5461, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 74/100: Loss=0.5458, Val Loss=0.5479, Acc=0.7487, Val Acc=0.7490  
Epoch 75/100: Loss=0.5455, Val Loss=0.5476, Acc=0.7493, Val Acc=0.7500  
Epoch 76/100: Loss=0.5452, Val Loss=0.5473, Acc=0.7493, Val Acc=0.7500  
Epoch 77/100: Loss=0.5449, Val Loss=0.5471, Acc=0.7497, Val Acc=0.7500  
Epoch 78/100: Loss=0.5446, Val Loss=0.5468, Acc=0.7497, Val Acc=0.7500  
Epoch 79/100: Loss=0.5443, Val Loss=0.5466, Acc=0.7497, Val Acc=0.7500  
Epoch 80/100: Loss=0.5441, Val Loss=0.5463, Acc=0.7500, Val Acc=0.7500  
Epoch 81/100: Loss=0.5438, Val Loss=0.5461, Acc=0.7500, Val Acc=0.7500  
Epoch 82/100: Loss=0.5435, Val Loss=0.5459, Acc=0.7500, Val Acc=0.7500  
Epoch 83/100: Loss=0.5433, Val Loss=0.5457, Acc=0.7500, Val Acc=0.7500  
Epoch 84/100: Loss=0.5431, Val Loss=0.5455, Acc=0.7500, Val Acc=0.7500  
Epoch 85/100: Loss=0.5428, Val Loss=0.5453, Acc=0.7497, Val Acc=0.7500  
Epoch 86/100: Loss=0.5426, Val Loss=0.5451, Acc=0.7500, Val Acc=0.7500  
Epoch 87/100: Loss=0.5424, Val Loss=0.5449, Acc=0.7500, Val Acc=0.7500  
Epoch 88/100: Loss=0.5422, Val Loss=0.5447, Acc=0.7500, Val Acc=0.7500  
Epoch 89/100: Loss=0.5420, Val Loss=0.5445, Acc=0.7500, Val Acc=0.7500  
Epoch 90/100: Loss=0.5418, Val Loss=0.5444, Acc=0.7500, Val Acc=0.7500  
Epoch 91/100: Loss=0.5416, Val Loss=0.5442, Acc=0.7500, Val Acc=0.7500  
Epoch 92/100: Loss=0.5414, Val Loss=0.5441, Acc=0.7497, Val Acc=0.7510  
Epoch 93/100: Loss=0.5412, Val Loss=0.5439, Acc=0.7497, Val Acc=0.7510  
Epoch 94/100: Loss=0.5410, Val Loss=0.5437, Acc=0.7493, Val Acc=0.7510  
Epoch 95/100: Loss=0.5409, Val Loss=0.5436, Acc=0.7493, Val Acc=0.7510  
Epoch 96/100: Loss=0.5407, Val Loss=0.5435, Acc=0.7493, Val Acc=0.7510  
Epoch 97/100: Loss=0.5405, Val Loss=0.5433, Acc=0.7493, Val Acc=0.7510  
Epoch 98/100: Loss=0.5404, Val Loss=0.5432, Acc=0.7497, Val Acc=0.7510  
Epoch 99/100: Loss=0.5402, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 100/100: Loss=0.5401, Val Loss=0.5429, Acc=0.7497, Val Acc=0.7510  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/100: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/100: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/100: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/100: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/100: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/100: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/100: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 11/100: Loss=0.5384, Val Loss=0.5446, Acc=0.7627, Val Acc=0.7640  
Epoch 12/100: Loss=0.5380, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7650  
Epoch 13/100: Loss=0.5378, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7640  
Epoch 14/100: Loss=0.5376, Val Loss=0.5445, Acc=0.7617, Val Acc=0.7650  
Early stop at epoch 14  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/100: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/100: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/100: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/100: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/100: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/100: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450

Epoch 14/100: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/100: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/100: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/100: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/100: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/100: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/100: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/100: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/100: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/100: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/100: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/100: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/100: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/100: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/100: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/100: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/100: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/100: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/100: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/100: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/100: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/100: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/100: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/100: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/100: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/100: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/100: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/100: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/100: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/100: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/100: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/100: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/100: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/100: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/100: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/100: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/100: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/100: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/100: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/100: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/100: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/100: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/100: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/100: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/100: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 61  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/100: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/100: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/100: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/100: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/100: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/100: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/100: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640

Early stop at epoch 10  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/100: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/100: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 9

accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/100: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/100: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Early stop at epoch 5

accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/150: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/150: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/150: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/150: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/150: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/150: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/150: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/150: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/150: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/150: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/150: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/150: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/150: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/150: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/150: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/150: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/150: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/150: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/150: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/150: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/150: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/150: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/150: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/150: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/150: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/150: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/150: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/150: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/150: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/150: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/150: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/150: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/150: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490

Epoch 41/150: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/150: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/150: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/150: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/150: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/150: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/150: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/150: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/150: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/150: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/150: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/150: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/150: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/150: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/150: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/150: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/150: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/150: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/150: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/150: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/150: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Epoch 62/150: Loss=0.5506, Val Loss=0.5521, Acc=0.7490, Val Acc=0.7500  
Epoch 63/150: Loss=0.5501, Val Loss=0.5517, Acc=0.7490, Val Acc=0.7500  
Epoch 64/150: Loss=0.5497, Val Loss=0.5513, Acc=0.7490, Val Acc=0.7500  
Epoch 65/150: Loss=0.5492, Val Loss=0.5509, Acc=0.7490, Val Acc=0.7500  
Epoch 66/150: Loss=0.5488, Val Loss=0.5505, Acc=0.7490, Val Acc=0.7500  
Epoch 67/150: Loss=0.5484, Val Loss=0.5501, Acc=0.7490, Val Acc=0.7500  
Epoch 68/150: Loss=0.5480, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 69/150: Loss=0.5476, Val Loss=0.5494, Acc=0.7490, Val Acc=0.7490  
Epoch 70/150: Loss=0.5472, Val Loss=0.5491, Acc=0.7490, Val Acc=0.7490  
Epoch 71/150: Loss=0.5468, Val Loss=0.5488, Acc=0.7490, Val Acc=0.7490  
Epoch 72/150: Loss=0.5465, Val Loss=0.5485, Acc=0.7490, Val Acc=0.7490  
Epoch 73/150: Loss=0.5461, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 74/150: Loss=0.5458, Val Loss=0.5479, Acc=0.7487, Val Acc=0.7490  
Epoch 75/150: Loss=0.5455, Val Loss=0.5476, Acc=0.7493, Val Acc=0.7500  
Epoch 76/150: Loss=0.5452, Val Loss=0.5473, Acc=0.7493, Val Acc=0.7500  
Epoch 77/150: Loss=0.5449, Val Loss=0.5471, Acc=0.7497, Val Acc=0.7500  
Epoch 78/150: Loss=0.5446, Val Loss=0.5468, Acc=0.7497, Val Acc=0.7500  
Epoch 79/150: Loss=0.5443, Val Loss=0.5466, Acc=0.7497, Val Acc=0.7500  
Epoch 80/150: Loss=0.5441, Val Loss=0.5463, Acc=0.7500, Val Acc=0.7500  
Epoch 81/150: Loss=0.5438, Val Loss=0.5461, Acc=0.7500, Val Acc=0.7500  
Epoch 82/150: Loss=0.5435, Val Loss=0.5459, Acc=0.7500, Val Acc=0.7500  
Epoch 83/150: Loss=0.5433, Val Loss=0.5457, Acc=0.7500, Val Acc=0.7500  
Epoch 84/150: Loss=0.5431, Val Loss=0.5455, Acc=0.7500, Val Acc=0.7500  
Epoch 85/150: Loss=0.5428, Val Loss=0.5453, Acc=0.7497, Val Acc=0.7500  
Epoch 86/150: Loss=0.5426, Val Loss=0.5451, Acc=0.7500, Val Acc=0.7500  
Epoch 87/150: Loss=0.5424, Val Loss=0.5449, Acc=0.7500, Val Acc=0.7500  
Epoch 88/150: Loss=0.5422, Val Loss=0.5447, Acc=0.7500, Val Acc=0.7500  
Epoch 89/150: Loss=0.5420, Val Loss=0.5445, Acc=0.7500, Val Acc=0.7500  
Epoch 90/150: Loss=0.5418, Val Loss=0.5444, Acc=0.7500, Val Acc=0.7500  
Epoch 91/150: Loss=0.5416, Val Loss=0.5442, Acc=0.7500, Val Acc=0.7500  
Epoch 92/150: Loss=0.5414, Val Loss=0.5441, Acc=0.7497, Val Acc=0.7510  
Epoch 93/150: Loss=0.5412, Val Loss=0.5439, Acc=0.7497, Val Acc=0.7510  
Epoch 94/150: Loss=0.5410, Val Loss=0.5437, Acc=0.7493, Val Acc=0.7510  
Epoch 95/150: Loss=0.5409, Val Loss=0.5436, Acc=0.7493, Val Acc=0.7510  
Epoch 96/150: Loss=0.5407, Val Loss=0.5435, Acc=0.7493, Val Acc=0.7510  
Epoch 97/150: Loss=0.5405, Val Loss=0.5433, Acc=0.7493, Val Acc=0.7510  
Epoch 98/150: Loss=0.5404, Val Loss=0.5432, Acc=0.7497, Val Acc=0.7510  
Epoch 99/150: Loss=0.5402, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 100/150: Loss=0.5401, Val Loss=0.5429, Acc=0.7497, Val Acc=0.7510

Epoch 101/150: Loss=0.5400, Val Loss=0.5428, Acc=0.7497, Val Acc=0.7510  
Epoch 102/150: Loss=0.5398, Val Loss=0.5427, Acc=0.7497, Val Acc=0.7520  
Epoch 103/150: Loss=0.5397, Val Loss=0.5426, Acc=0.7497, Val Acc=0.7520  
Epoch 104/150: Loss=0.5396, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 105/150: Loss=0.5394, Val Loss=0.5424, Acc=0.7493, Val Acc=0.7520  
Epoch 106/150: Loss=0.5393, Val Loss=0.5423, Acc=0.7490, Val Acc=0.7520  
Epoch 107/150: Loss=0.5392, Val Loss=0.5422, Acc=0.7490, Val Acc=0.7530  
Epoch 108/150: Loss=0.5391, Val Loss=0.5421, Acc=0.7490, Val Acc=0.7530  
Epoch 109/150: Loss=0.5390, Val Loss=0.5420, Acc=0.7490, Val Acc=0.7530  
Epoch 110/150: Loss=0.5388, Val Loss=0.5419, Acc=0.7493, Val Acc=0.7530  
Epoch 111/150: Loss=0.5387, Val Loss=0.5418, Acc=0.7493, Val Acc=0.7530  
Epoch 112/150: Loss=0.5386, Val Loss=0.5417, Acc=0.7493, Val Acc=0.7530  
Epoch 113/150: Loss=0.5385, Val Loss=0.5416, Acc=0.7493, Val Acc=0.7530  
Epoch 114/150: Loss=0.5384, Val Loss=0.5416, Acc=0.7493, Val Acc=0.7530  
Epoch 115/150: Loss=0.5383, Val Loss=0.5415, Acc=0.7493, Val Acc=0.7530  
Epoch 116/150: Loss=0.5383, Val Loss=0.5414, Acc=0.7493, Val Acc=0.7530  
Epoch 117/150: Loss=0.5382, Val Loss=0.5413, Acc=0.7493, Val Acc=0.7530  
Epoch 118/150: Loss=0.5381, Val Loss=0.5413, Acc=0.7493, Val Acc=0.7530  
Epoch 119/150: Loss=0.5380, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 120/150: Loss=0.5379, Val Loss=0.5411, Acc=0.7493, Val Acc=0.7530  
Epoch 121/150: Loss=0.5378, Val Loss=0.5411, Acc=0.7493, Val Acc=0.7530  
Epoch 122/150: Loss=0.5377, Val Loss=0.5410, Acc=0.7493, Val Acc=0.7530  
Epoch 123/150: Loss=0.5377, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 124/150: Loss=0.5376, Val Loss=0.5409, Acc=0.7490, Val Acc=0.7550  
Epoch 125/150: Loss=0.5375, Val Loss=0.5408, Acc=0.7493, Val Acc=0.7550  
Epoch 126/150: Loss=0.5375, Val Loss=0.5408, Acc=0.7490, Val Acc=0.7550  
Epoch 127/150: Loss=0.5374, Val Loss=0.5407, Acc=0.7490, Val Acc=0.7550  
Epoch 128/150: Loss=0.5373, Val Loss=0.5407, Acc=0.7490, Val Acc=0.7550  
Epoch 129/150: Loss=0.5373, Val Loss=0.5406, Acc=0.7490, Val Acc=0.7540  
Epoch 130/150: Loss=0.5372, Val Loss=0.5406, Acc=0.7490, Val Acc=0.7540  
Epoch 131/150: Loss=0.5371, Val Loss=0.5405, Acc=0.7490, Val Acc=0.7540  
Epoch 132/150: Loss=0.5371, Val Loss=0.5405, Acc=0.7490, Val Acc=0.7540  
Early stop at epoch 132  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/150: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/150: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/150: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/150: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/150: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/150: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/150: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 11/150: Loss=0.5384, Val Loss=0.5446, Acc=0.7627, Val Acc=0.7640  
Epoch 12/150: Loss=0.5380, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7650  
Epoch 13/150: Loss=0.5378, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7640  
Epoch 14/150: Loss=0.5376, Val Loss=0.5445, Acc=0.7617, Val Acc=0.7650  
Early stop at epoch 14  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/150: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/150: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/150: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460

Epoch 11/150: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/150: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/150: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/150: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/150: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/150: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/150: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/150: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/150: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/150: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/150: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/150: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/150: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/150: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/150: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/150: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/150: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/150: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/150: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/150: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/150: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/150: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/150: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/150: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/150: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/150: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/150: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/150: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/150: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/150: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/150: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/150: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/150: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/150: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/150: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/150: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/150: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/150: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/150: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/150: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/150: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/150: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/150: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/150: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/150: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/150: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/150: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/150: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/150: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/150: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/150: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 61  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/150: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/150: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/150: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/150: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680



Epoch 8/150: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/150: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/150: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Early stop at epoch 10  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/150: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/150: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 9  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/150: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/150: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/500: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/500: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/500: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/500: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/500: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/500: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/500: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/500: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/500: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/500: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/500: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/500: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/500: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/500: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/500: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/500: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/500: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/500: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/500: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/500: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/500: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/500: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/500: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/500: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/500: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/500: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/500: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/500: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/500: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/500: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490

Epoch 38/500: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/500: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/500: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/500: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/500: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/500: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/500: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/500: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/500: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/500: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/500: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/500: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/500: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/500: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/500: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/500: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/500: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/500: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/500: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/500: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/500: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/500: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/500: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/500: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Epoch 62/500: Loss=0.5506, Val Loss=0.5521, Acc=0.7490, Val Acc=0.7500  
Epoch 63/500: Loss=0.5501, Val Loss=0.5517, Acc=0.7490, Val Acc=0.7500  
Epoch 64/500: Loss=0.5497, Val Loss=0.5513, Acc=0.7490, Val Acc=0.7500  
Epoch 65/500: Loss=0.5492, Val Loss=0.5509, Acc=0.7490, Val Acc=0.7500  
Epoch 66/500: Loss=0.5488, Val Loss=0.5505, Acc=0.7490, Val Acc=0.7500  
Epoch 67/500: Loss=0.5484, Val Loss=0.5501, Acc=0.7490, Val Acc=0.7500  
Epoch 68/500: Loss=0.5480, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 69/500: Loss=0.5476, Val Loss=0.5494, Acc=0.7490, Val Acc=0.7490  
Epoch 70/500: Loss=0.5472, Val Loss=0.5491, Acc=0.7490, Val Acc=0.7490  
Epoch 71/500: Loss=0.5468, Val Loss=0.5488, Acc=0.7490, Val Acc=0.7490  
Epoch 72/500: Loss=0.5465, Val Loss=0.5485, Acc=0.7490, Val Acc=0.7490  
Epoch 73/500: Loss=0.5461, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 74/500: Loss=0.5458, Val Loss=0.5479, Acc=0.7487, Val Acc=0.7490  
Epoch 75/500: Loss=0.5455, Val Loss=0.5476, Acc=0.7493, Val Acc=0.7500  
Epoch 76/500: Loss=0.5452, Val Loss=0.5473, Acc=0.7493, Val Acc=0.7500  
Epoch 77/500: Loss=0.5449, Val Loss=0.5471, Acc=0.7497, Val Acc=0.7500  
Epoch 78/500: Loss=0.5446, Val Loss=0.5468, Acc=0.7497, Val Acc=0.7500  
Epoch 79/500: Loss=0.5443, Val Loss=0.5466, Acc=0.7497, Val Acc=0.7500  
Epoch 80/500: Loss=0.5441, Val Loss=0.5463, Acc=0.7500, Val Acc=0.7500  
Epoch 81/500: Loss=0.5438, Val Loss=0.5461, Acc=0.7500, Val Acc=0.7500  
Epoch 82/500: Loss=0.5435, Val Loss=0.5459, Acc=0.7500, Val Acc=0.7500  
Epoch 83/500: Loss=0.5433, Val Loss=0.5457, Acc=0.7500, Val Acc=0.7500  
Epoch 84/500: Loss=0.5431, Val Loss=0.5455, Acc=0.7500, Val Acc=0.7500  
Epoch 85/500: Loss=0.5428, Val Loss=0.5453, Acc=0.7497, Val Acc=0.7500  
Epoch 86/500: Loss=0.5426, Val Loss=0.5451, Acc=0.7500, Val Acc=0.7500  
Epoch 87/500: Loss=0.5424, Val Loss=0.5449, Acc=0.7500, Val Acc=0.7500  
Epoch 88/500: Loss=0.5422, Val Loss=0.5447, Acc=0.7500, Val Acc=0.7500  
Epoch 89/500: Loss=0.5420, Val Loss=0.5445, Acc=0.7500, Val Acc=0.7500  
Epoch 90/500: Loss=0.5418, Val Loss=0.5444, Acc=0.7500, Val Acc=0.7500  
Epoch 91/500: Loss=0.5416, Val Loss=0.5442, Acc=0.7500, Val Acc=0.7500  
Epoch 92/500: Loss=0.5414, Val Loss=0.5441, Acc=0.7497, Val Acc=0.7510  
Epoch 93/500: Loss=0.5412, Val Loss=0.5439, Acc=0.7497, Val Acc=0.7510  
Epoch 94/500: Loss=0.5410, Val Loss=0.5437, Acc=0.7493, Val Acc=0.7510  
Epoch 95/500: Loss=0.5409, Val Loss=0.5436, Acc=0.7493, Val Acc=0.7510  
Epoch 96/500: Loss=0.5407, Val Loss=0.5435, Acc=0.7493, Val Acc=0.7510  
Epoch 97/500: Loss=0.5405, Val Loss=0.5433, Acc=0.7493, Val Acc=0.7510

Epoch 98/500: Loss=0.5404, Val Loss=0.5432, Acc=0.7497, Val Acc=0.7510  
Epoch 99/500: Loss=0.5402, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 100/500: Loss=0.5401, Val Loss=0.5429, Acc=0.7497, Val Acc=0.7510  
Epoch 101/500: Loss=0.5400, Val Loss=0.5428, Acc=0.7497, Val Acc=0.7510  
Epoch 102/500: Loss=0.5398, Val Loss=0.5427, Acc=0.7497, Val Acc=0.7520  
Epoch 103/500: Loss=0.5397, Val Loss=0.5426, Acc=0.7497, Val Acc=0.7520  
Epoch 104/500: Loss=0.5396, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 105/500: Loss=0.5394, Val Loss=0.5424, Acc=0.7493, Val Acc=0.7520  
Epoch 106/500: Loss=0.5393, Val Loss=0.5423, Acc=0.7490, Val Acc=0.7520  
Epoch 107/500: Loss=0.5392, Val Loss=0.5422, Acc=0.7490, Val Acc=0.7530  
Epoch 108/500: Loss=0.5391, Val Loss=0.5421, Acc=0.7490, Val Acc=0.7530  
Epoch 109/500: Loss=0.5390, Val Loss=0.5420, Acc=0.7490, Val Acc=0.7530  
Epoch 110/500: Loss=0.5388, Val Loss=0.5419, Acc=0.7493, Val Acc=0.7530  
Epoch 111/500: Loss=0.5387, Val Loss=0.5418, Acc=0.7493, Val Acc=0.7530  
Epoch 112/500: Loss=0.5386, Val Loss=0.5417, Acc=0.7493, Val Acc=0.7530  
Epoch 113/500: Loss=0.5385, Val Loss=0.5416, Acc=0.7493, Val Acc=0.7530  
Epoch 114/500: Loss=0.5384, Val Loss=0.5416, Acc=0.7493, Val Acc=0.7530  
Epoch 115/500: Loss=0.5383, Val Loss=0.5415, Acc=0.7493, Val Acc=0.7530  
Epoch 116/500: Loss=0.5383, Val Loss=0.5414, Acc=0.7493, Val Acc=0.7530  
Epoch 117/500: Loss=0.5382, Val Loss=0.5413, Acc=0.7493, Val Acc=0.7530  
Epoch 118/500: Loss=0.5381, Val Loss=0.5413, Acc=0.7493, Val Acc=0.7530  
Epoch 119/500: Loss=0.5380, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 120/500: Loss=0.5379, Val Loss=0.5411, Acc=0.7493, Val Acc=0.7530  
Epoch 121/500: Loss=0.5378, Val Loss=0.5411, Acc=0.7493, Val Acc=0.7530  
Epoch 122/500: Loss=0.5377, Val Loss=0.5410, Acc=0.7493, Val Acc=0.7530  
Epoch 123/500: Loss=0.5377, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 124/500: Loss=0.5376, Val Loss=0.5409, Acc=0.7490, Val Acc=0.7550  
Epoch 125/500: Loss=0.5375, Val Loss=0.5408, Acc=0.7493, Val Acc=0.7550  
Epoch 126/500: Loss=0.5375, Val Loss=0.5408, Acc=0.7490, Val Acc=0.7550  
Epoch 127/500: Loss=0.5374, Val Loss=0.5407, Acc=0.7490, Val Acc=0.7550  
Epoch 128/500: Loss=0.5373, Val Loss=0.5407, Acc=0.7490, Val Acc=0.7550  
Epoch 129/500: Loss=0.5373, Val Loss=0.5406, Acc=0.7490, Val Acc=0.7540  
Epoch 130/500: Loss=0.5372, Val Loss=0.5406, Acc=0.7490, Val Acc=0.7540  
Epoch 131/500: Loss=0.5371, Val Loss=0.5405, Acc=0.7490, Val Acc=0.7540  
Epoch 132/500: Loss=0.5371, Val Loss=0.5405, Acc=0.7490, Val Acc=0.7540  
Early stop at epoch 132

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/500: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/500: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/500: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/500: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/500: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/500: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/500: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 11/500: Loss=0.5384, Val Loss=0.5446, Acc=0.7627, Val Acc=0.7640  
Epoch 12/500: Loss=0.5380, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7650  
Epoch 13/500: Loss=0.5378, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7640  
Epoch 14/500: Loss=0.5376, Val Loss=0.5445, Acc=0.7617, Val Acc=0.7650  
Early stop at epoch 14

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460

Epoch 8/500: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/500: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/500: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/500: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/500: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/500: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/500: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/500: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/500: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/500: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/500: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/500: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/500: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/500: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/500: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/500: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/500: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/500: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/500: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/500: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/500: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/500: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/500: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/500: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/500: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/500: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/500: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/500: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/500: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/500: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/500: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/500: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/500: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/500: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/500: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/500: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/500: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/500: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/500: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/500: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/500: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/500: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/500: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/500: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/500: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/500: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/500: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/500: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/500: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/500: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/500: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/500: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/500: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/500: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 61  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/500: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700

Epoch 5/500: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/500: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/500: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/500: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/500: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/500: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Early stop at epoch 10  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/500: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/500: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 9  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/500: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/500: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/10: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/10: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/10: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/10: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/10: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/10: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/10: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/10: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/10: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/10: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Epoch 7/10: Loss=0.5364, Val Loss=0.5431, Acc=0.7587, Val Acc=0.7660  
Epoch 8/10: Loss=0.5362, Val Loss=0.5427, Acc=0.7577, Val Acc=0.7660  
Epoch 9/10: Loss=0.5360, Val Loss=0.5424, Acc=0.7583, Val Acc=0.7660  
Epoch 10/10: Loss=0.5359, Val Loss=0.5421, Acc=0.7580, Val Acc=0.7650  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/10: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/10: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/10: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/10: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/10: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/10: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690

Epoch 2/10: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/10: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/10: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/10: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/10: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Early stop at epoch 6  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/10: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/10: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/10: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/10: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/10: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/10: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/10: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/10: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Early stop at epoch 4  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/50: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/50: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/50: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/50: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/50: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/50: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/50: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/50: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/50: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/50: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/50: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/50: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/50: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/50: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/50: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/50: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/50: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/50: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Epoch 23/50: Loss=0.5383, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 24/50: Loss=0.5379, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 25/50: Loss=0.5375, Val Loss=0.5406, Acc=0.7493, Val Acc=0.7550  
Epoch 26/50: Loss=0.5371, Val Loss=0.5403, Acc=0.7490, Val Acc=0.7540  
Epoch 27/50: Loss=0.5369, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 28/50: Loss=0.5366, Val Loss=0.5400, Acc=0.7497, Val Acc=0.7530  
Epoch 29/50: Loss=0.5364, Val Loss=0.5398, Acc=0.7500, Val Acc=0.7530  
Epoch 30/50: Loss=0.5362, Val Loss=0.5397, Acc=0.7503, Val Acc=0.7530  
Epoch 31/50: Loss=0.5360, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7530  
Epoch 32/50: Loss=0.5359, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 33/50: Loss=0.5357, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 34/50: Loss=0.5356, Val Loss=0.5393, Acc=0.7497, Val Acc=0.7530  
Epoch 35/50: Loss=0.5355, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 36/50: Loss=0.5354, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530

Epoch 37/50: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7530  
Epoch 38/50: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7540  
Early stop at epoch 38  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/50: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/50: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/50: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/50: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Epoch 7/50: Loss=0.5364, Val Loss=0.5431, Acc=0.7587, Val Acc=0.7660  
Epoch 8/50: Loss=0.5362, Val Loss=0.5427, Acc=0.7577, Val Acc=0.7660  
Epoch 9/50: Loss=0.5360, Val Loss=0.5424, Acc=0.7583, Val Acc=0.7660  
Epoch 10/50: Loss=0.5359, Val Loss=0.5421, Acc=0.7580, Val Acc=0.7650  
Epoch 11/50: Loss=0.5357, Val Loss=0.5419, Acc=0.7573, Val Acc=0.7650  
Epoch 12/50: Loss=0.5356, Val Loss=0.5416, Acc=0.7563, Val Acc=0.7640  
Epoch 13/50: Loss=0.5355, Val Loss=0.5414, Acc=0.7550, Val Acc=0.7620  
Epoch 14/50: Loss=0.5354, Val Loss=0.5412, Acc=0.7550, Val Acc=0.7610  
Epoch 15/50: Loss=0.5353, Val Loss=0.5410, Acc=0.7550, Val Acc=0.7610  
Epoch 16/50: Loss=0.5353, Val Loss=0.5409, Acc=0.7540, Val Acc=0.7610  
Epoch 17/50: Loss=0.5352, Val Loss=0.5407, Acc=0.7533, Val Acc=0.7610  
Epoch 18/50: Loss=0.5351, Val Loss=0.5406, Acc=0.7533, Val Acc=0.7600  
Epoch 19/50: Loss=0.5351, Val Loss=0.5404, Acc=0.7527, Val Acc=0.7600  
Epoch 20/50: Loss=0.5350, Val Loss=0.5403, Acc=0.7520, Val Acc=0.7600  
Epoch 21/50: Loss=0.5350, Val Loss=0.5402, Acc=0.7517, Val Acc=0.7600  
Epoch 22/50: Loss=0.5350, Val Loss=0.5401, Acc=0.7507, Val Acc=0.7580  
Epoch 23/50: Loss=0.5349, Val Loss=0.5400, Acc=0.7507, Val Acc=0.7580  
Epoch 24/50: Loss=0.5349, Val Loss=0.5399, Acc=0.7503, Val Acc=0.7580  
Epoch 25/50: Loss=0.5349, Val Loss=0.5399, Acc=0.7513, Val Acc=0.7580  
Epoch 26/50: Loss=0.5349, Val Loss=0.5398, Acc=0.7517, Val Acc=0.7580  
Epoch 27/50: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7590  
Epoch 28/50: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7580  
Epoch 29/50: Loss=0.5348, Val Loss=0.5396, Acc=0.7513, Val Acc=0.7580  
Epoch 30/50: Loss=0.5348, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7590  
Epoch 31/50: Loss=0.5348, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7590  
Epoch 32/50: Loss=0.5348, Val Loss=0.5394, Acc=0.7503, Val Acc=0.7580  
Early stop at epoch 32  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/50: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/50: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/50: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/50: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/50: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/50: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/50: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/50: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/50: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/50: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/50: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/50: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/50: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/50: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/50: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/50: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/50: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/50: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530

Early stop at epoch 22  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/50: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/50: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/50: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/50: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Early stop at epoch 6  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/50: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/50: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/50: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/50: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/50: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/50: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/50: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 11  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/50: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/50: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Early stop at epoch 4  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/100: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/100: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/100: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/100: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/100: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/100: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/100: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/100: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/100: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/100: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/100: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/100: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/100: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/100: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/100: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/100: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/100: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/100: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Epoch 23/100: Loss=0.5383, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 24/100: Loss=0.5379, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 25/100: Loss=0.5375, Val Loss=0.5406, Acc=0.7493, Val Acc=0.7550  
Epoch 26/100: Loss=0.5371, Val Loss=0.5403, Acc=0.7490, Val Acc=0.7540  
Epoch 27/100: Loss=0.5369, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 28/100: Loss=0.5366, Val Loss=0.5400, Acc=0.7497, Val Acc=0.7530  
Epoch 29/100: Loss=0.5364, Val Loss=0.5398, Acc=0.7500, Val Acc=0.7530  
Epoch 30/100: Loss=0.5362, Val Loss=0.5397, Acc=0.7503, Val Acc=0.7530  
Epoch 31/100: Loss=0.5360, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7530



Epoch 32/100: Loss=0.5359, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 33/100: Loss=0.5357, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 34/100: Loss=0.5356, Val Loss=0.5393, Acc=0.7497, Val Acc=0.7530  
Epoch 35/100: Loss=0.5355, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 36/100: Loss=0.5354, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 37/100: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7530  
Epoch 38/100: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7540  
Early stop at epoch 38

accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/100: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/100: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/100: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/100: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Epoch 7/100: Loss=0.5364, Val Loss=0.5431, Acc=0.7587, Val Acc=0.7660  
Epoch 8/100: Loss=0.5362, Val Loss=0.5427, Acc=0.7577, Val Acc=0.7660  
Epoch 9/100: Loss=0.5360, Val Loss=0.5424, Acc=0.7583, Val Acc=0.7660  
Epoch 10/100: Loss=0.5359, Val Loss=0.5421, Acc=0.7580, Val Acc=0.7650  
Epoch 11/100: Loss=0.5357, Val Loss=0.5419, Acc=0.7573, Val Acc=0.7650  
Epoch 12/100: Loss=0.5356, Val Loss=0.5416, Acc=0.7563, Val Acc=0.7640  
Epoch 13/100: Loss=0.5355, Val Loss=0.5414, Acc=0.7550, Val Acc=0.7620  
Epoch 14/100: Loss=0.5354, Val Loss=0.5412, Acc=0.7550, Val Acc=0.7610  
Epoch 15/100: Loss=0.5353, Val Loss=0.5410, Acc=0.7550, Val Acc=0.7610  
Epoch 16/100: Loss=0.5353, Val Loss=0.5409, Acc=0.7540, Val Acc=0.7610  
Epoch 17/100: Loss=0.5352, Val Loss=0.5407, Acc=0.7533, Val Acc=0.7610  
Epoch 18/100: Loss=0.5351, Val Loss=0.5406, Acc=0.7533, Val Acc=0.7600  
Epoch 19/100: Loss=0.5351, Val Loss=0.5404, Acc=0.7527, Val Acc=0.7600  
Epoch 20/100: Loss=0.5350, Val Loss=0.5403, Acc=0.7520, Val Acc=0.7600  
Epoch 21/100: Loss=0.5350, Val Loss=0.5402, Acc=0.7517, Val Acc=0.7600  
Epoch 22/100: Loss=0.5350, Val Loss=0.5401, Acc=0.7507, Val Acc=0.7580  
Epoch 23/100: Loss=0.5349, Val Loss=0.5400, Acc=0.7507, Val Acc=0.7580  
Epoch 24/100: Loss=0.5349, Val Loss=0.5399, Acc=0.7503, Val Acc=0.7580  
Epoch 25/100: Loss=0.5349, Val Loss=0.5399, Acc=0.7513, Val Acc=0.7580  
Epoch 26/100: Loss=0.5349, Val Loss=0.5398, Acc=0.7517, Val Acc=0.7580  
Epoch 27/100: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7590  
Epoch 28/100: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7580  
Epoch 29/100: Loss=0.5348, Val Loss=0.5396, Acc=0.7513, Val Acc=0.7580  
Epoch 30/100: Loss=0.5348, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7590  
Epoch 31/100: Loss=0.5348, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7590  
Epoch 32/100: Loss=0.5348, Val Loss=0.5394, Acc=0.7503, Val Acc=0.7580

Early stop at epoch 32

accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/100: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/100: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/100: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/100: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/100: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/100: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/100: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/100: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/100: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/100: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/100: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/100: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/100: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500

Epoch 18/100: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/100: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/100: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/100: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/100: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Early stop at epoch 22  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/100: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/100: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/100: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/100: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Early stop at epoch 6  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/100: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/100: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/100: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/100: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/100: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/100: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/100: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 11  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/100: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/100: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Early stop at epoch 4  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/150: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/150: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/150: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/150: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/150: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/150: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/150: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/150: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/150: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/150: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/150: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/150: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/150: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/150: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/150: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/150: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/150: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/150: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Epoch 23/150: Loss=0.5383, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 24/150: Loss=0.5379, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 25/150: Loss=0.5375, Val Loss=0.5406, Acc=0.7493, Val Acc=0.7550  
Epoch 26/150: Loss=0.5371, Val Loss=0.5403, Acc=0.7490, Val Acc=0.7540

Epoch 27/150: Loss=0.5369, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 28/150: Loss=0.5366, Val Loss=0.5400, Acc=0.7497, Val Acc=0.7530  
Epoch 29/150: Loss=0.5364, Val Loss=0.5398, Acc=0.7500, Val Acc=0.7530  
Epoch 30/150: Loss=0.5362, Val Loss=0.5397, Acc=0.7503, Val Acc=0.7530  
Epoch 31/150: Loss=0.5360, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7530  
Epoch 32/150: Loss=0.5359, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 33/150: Loss=0.5357, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 34/150: Loss=0.5356, Val Loss=0.5393, Acc=0.7497, Val Acc=0.7530  
Epoch 35/150: Loss=0.5355, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 36/150: Loss=0.5354, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 37/150: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7530  
Epoch 38/150: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7540  
Early stop at epoch 38

accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/150: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/150: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/150: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/150: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Epoch 7/150: Loss=0.5364, Val Loss=0.5431, Acc=0.7587, Val Acc=0.7660  
Epoch 8/150: Loss=0.5362, Val Loss=0.5427, Acc=0.7577, Val Acc=0.7660  
Epoch 9/150: Loss=0.5360, Val Loss=0.5424, Acc=0.7583, Val Acc=0.7660  
Epoch 10/150: Loss=0.5359, Val Loss=0.5421, Acc=0.7580, Val Acc=0.7650  
Epoch 11/150: Loss=0.5357, Val Loss=0.5419, Acc=0.7573, Val Acc=0.7650  
Epoch 12/150: Loss=0.5356, Val Loss=0.5416, Acc=0.7563, Val Acc=0.7640  
Epoch 13/150: Loss=0.5355, Val Loss=0.5414, Acc=0.7550, Val Acc=0.7620  
Epoch 14/150: Loss=0.5354, Val Loss=0.5412, Acc=0.7550, Val Acc=0.7610  
Epoch 15/150: Loss=0.5353, Val Loss=0.5410, Acc=0.7550, Val Acc=0.7610  
Epoch 16/150: Loss=0.5353, Val Loss=0.5409, Acc=0.7540, Val Acc=0.7610  
Epoch 17/150: Loss=0.5352, Val Loss=0.5407, Acc=0.7533, Val Acc=0.7610  
Epoch 18/150: Loss=0.5351, Val Loss=0.5406, Acc=0.7533, Val Acc=0.7600  
Epoch 19/150: Loss=0.5351, Val Loss=0.5404, Acc=0.7527, Val Acc=0.7600  
Epoch 20/150: Loss=0.5350, Val Loss=0.5403, Acc=0.7520, Val Acc=0.7600  
Epoch 21/150: Loss=0.5350, Val Loss=0.5402, Acc=0.7517, Val Acc=0.7600  
Epoch 22/150: Loss=0.5350, Val Loss=0.5401, Acc=0.7507, Val Acc=0.7580  
Epoch 23/150: Loss=0.5349, Val Loss=0.5400, Acc=0.7507, Val Acc=0.7580  
Epoch 24/150: Loss=0.5349, Val Loss=0.5399, Acc=0.7503, Val Acc=0.7580  
Epoch 25/150: Loss=0.5349, Val Loss=0.5399, Acc=0.7513, Val Acc=0.7580  
Epoch 26/150: Loss=0.5349, Val Loss=0.5398, Acc=0.7517, Val Acc=0.7580  
Epoch 27/150: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7590  
Epoch 28/150: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7580  
Epoch 29/150: Loss=0.5348, Val Loss=0.5396, Acc=0.7513, Val Acc=0.7580  
Epoch 30/150: Loss=0.5348, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7590  
Epoch 31/150: Loss=0.5348, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7590  
Epoch 32/150: Loss=0.5348, Val Loss=0.5394, Acc=0.7503, Val Acc=0.7580  
Early stop at epoch 32

accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/150: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/150: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/150: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/150: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/150: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/150: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/150: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/150: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500

Epoch 13/150: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/150: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/150: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/150: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/150: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/150: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/150: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/150: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/150: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/150: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Early stop at epoch 22  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/150: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/150: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/150: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/150: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Early stop at epoch 6  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/150: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/150: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/150: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/150: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/150: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/150: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/150: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 11  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/150: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/150: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Early stop at epoch 4  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/500: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/500: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/500: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/500: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/500: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/500: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/500: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/500: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/500: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/500: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/500: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/500: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/500: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/500: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/500: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/500: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/500: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530

Epoch 22/500: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Epoch 23/500: Loss=0.5383, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 24/500: Loss=0.5379, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 25/500: Loss=0.5375, Val Loss=0.5406, Acc=0.7493, Val Acc=0.7550  
Epoch 26/500: Loss=0.5371, Val Loss=0.5403, Acc=0.7490, Val Acc=0.7540  
Epoch 27/500: Loss=0.5369, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 28/500: Loss=0.5366, Val Loss=0.5400, Acc=0.7497, Val Acc=0.7530  
Epoch 29/500: Loss=0.5364, Val Loss=0.5398, Acc=0.7500, Val Acc=0.7530  
Epoch 30/500: Loss=0.5362, Val Loss=0.5397, Acc=0.7503, Val Acc=0.7530  
Epoch 31/500: Loss=0.5360, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7530  
Epoch 32/500: Loss=0.5359, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 33/500: Loss=0.5357, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 34/500: Loss=0.5356, Val Loss=0.5393, Acc=0.7497, Val Acc=0.7530  
Epoch 35/500: Loss=0.5355, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 36/500: Loss=0.5354, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 37/500: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7530  
Epoch 38/500: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7540  
Early stop at epoch 38

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/500: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/500: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/500: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/500: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Epoch 7/500: Loss=0.5364, Val Loss=0.5431, Acc=0.7587, Val Acc=0.7660  
Epoch 8/500: Loss=0.5362, Val Loss=0.5427, Acc=0.7577, Val Acc=0.7660  
Epoch 9/500: Loss=0.5360, Val Loss=0.5424, Acc=0.7583, Val Acc=0.7660  
Epoch 10/500: Loss=0.5359, Val Loss=0.5421, Acc=0.7580, Val Acc=0.7650  
Epoch 11/500: Loss=0.5357, Val Loss=0.5419, Acc=0.7573, Val Acc=0.7650  
Epoch 12/500: Loss=0.5356, Val Loss=0.5416, Acc=0.7563, Val Acc=0.7640  
Epoch 13/500: Loss=0.5355, Val Loss=0.5414, Acc=0.7550, Val Acc=0.7620  
Epoch 14/500: Loss=0.5354, Val Loss=0.5412, Acc=0.7550, Val Acc=0.7610  
Epoch 15/500: Loss=0.5353, Val Loss=0.5410, Acc=0.7550, Val Acc=0.7610  
Epoch 16/500: Loss=0.5353, Val Loss=0.5409, Acc=0.7540, Val Acc=0.7610  
Epoch 17/500: Loss=0.5352, Val Loss=0.5407, Acc=0.7533, Val Acc=0.7610  
Epoch 18/500: Loss=0.5351, Val Loss=0.5406, Acc=0.7533, Val Acc=0.7600  
Epoch 19/500: Loss=0.5351, Val Loss=0.5404, Acc=0.7527, Val Acc=0.7600  
Epoch 20/500: Loss=0.5350, Val Loss=0.5403, Acc=0.7520, Val Acc=0.7600  
Epoch 21/500: Loss=0.5350, Val Loss=0.5402, Acc=0.7517, Val Acc=0.7600  
Epoch 22/500: Loss=0.5350, Val Loss=0.5401, Acc=0.7507, Val Acc=0.7580  
Epoch 23/500: Loss=0.5349, Val Loss=0.5400, Acc=0.7507, Val Acc=0.7580  
Epoch 24/500: Loss=0.5349, Val Loss=0.5399, Acc=0.7503, Val Acc=0.7580  
Epoch 25/500: Loss=0.5349, Val Loss=0.5399, Acc=0.7513, Val Acc=0.7580  
Epoch 26/500: Loss=0.5349, Val Loss=0.5398, Acc=0.7517, Val Acc=0.7580  
Epoch 27/500: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7590  
Epoch 28/500: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7580  
Epoch 29/500: Loss=0.5348, Val Loss=0.5396, Acc=0.7513, Val Acc=0.7580  
Epoch 30/500: Loss=0.5348, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7590  
Epoch 31/500: Loss=0.5348, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7590  
Epoch 32/500: Loss=0.5348, Val Loss=0.5394, Acc=0.7503, Val Acc=0.7580  
Early stop at epoch 32

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/500: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/500: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/500: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480

Epoch 8/500: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/500: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/500: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/500: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/500: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/500: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/500: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/500: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/500: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/500: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/500: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/500: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/500: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/500: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/500: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Early stop at epoch 22

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/500: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/500: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/500: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/500: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Early stop at epoch 6

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/500: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/500: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/500: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/500: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/500: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/500: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/500: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 11

accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/500: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/500: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Early stop at epoch 4

accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/10: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/10: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/10: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/10: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/10: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/10: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/10: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/10: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520

accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/10: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/10: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/10: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450

Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/10: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/10: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/10: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/10: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/10: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/10: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/10: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/10: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/10: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/10: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/10: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/10: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/10: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/10: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/10: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/10: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/10: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 8  
accuracy= 0.597  
Epoch 1/10: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/10: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/10: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/10: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/50: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/50: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/50: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/50: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/50: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/50: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/50: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/50: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/50: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/50: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/50: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/50: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/50: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Epoch 15/50: Loss=0.5361, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7530  
Epoch 16/50: Loss=0.5358, Val Loss=0.5393, Acc=0.7500, Val Acc=0.7530  
Epoch 17/50: Loss=0.5355, Val Loss=0.5392, Acc=0.7497, Val Acc=0.7530  
Epoch 18/50: Loss=0.5354, Val Loss=0.5391, Acc=0.7500, Val Acc=0.7530  
Epoch 19/50: Loss=0.5352, Val Loss=0.5390, Acc=0.7503, Val Acc=0.7540  
Epoch 20/50: Loss=0.5351, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 21/50: Loss=0.5350, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 22/50: Loss=0.5349, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Early stop at epoch 22

```
accuracy= 0.597
Epoch 1/50: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690
Epoch 2/50: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660
Epoch 3/50: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560
Epoch 4/50: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640
Epoch 5/50: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450
Early stop at epoch 5
accuracy= 0.597
Epoch 1/50: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460
Epoch 2/50: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450
Epoch 3/50: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480
Epoch 4/50: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480
Epoch 5/50: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490
Epoch 6/50: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500
Epoch 7/50: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490
Epoch 8/50: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500
Epoch 9/50: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510
Epoch 10/50: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520
Epoch 11/50: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530
Epoch 12/50: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550
Epoch 13/50: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530
Epoch 14/50: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530
Early stop at epoch 14
accuracy= 0.597
Epoch 1/50: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690
Epoch 2/50: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660
Epoch 3/50: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560
Epoch 4/50: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640
Epoch 5/50: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450
Early stop at epoch 5
accuracy= 0.597
Epoch 1/50: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460
Epoch 2/50: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450
Epoch 3/50: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480
Epoch 4/50: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480
Epoch 5/50: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490
Epoch 6/50: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500
Epoch 7/50: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490
Epoch 8/50: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500
Early stop at epoch 8
accuracy= 0.597
Epoch 1/50: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690
Epoch 2/50: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660
Epoch 3/50: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560
Epoch 4/50: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640
Epoch 5/50: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450
Early stop at epoch 5
accuracy= 0.597
Epoch 1/100: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460
Epoch 2/100: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450
Epoch 3/100: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480
Epoch 4/100: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480
Epoch 5/100: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490
Epoch 6/100: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500
Epoch 7/100: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490
Epoch 8/100: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500
Epoch 9/100: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510
Epoch 10/100: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520
Epoch 11/100: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530
Epoch 12/100: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550
```



Epoch 13/100: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/100: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Epoch 15/100: Loss=0.5361, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7530  
Epoch 16/100: Loss=0.5358, Val Loss=0.5393, Acc=0.7500, Val Acc=0.7530  
Epoch 17/100: Loss=0.5355, Val Loss=0.5392, Acc=0.7497, Val Acc=0.7530  
Epoch 18/100: Loss=0.5354, Val Loss=0.5391, Acc=0.7500, Val Acc=0.7530  
Epoch 19/100: Loss=0.5352, Val Loss=0.5390, Acc=0.7503, Val Acc=0.7540  
Epoch 20/100: Loss=0.5351, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 21/100: Loss=0.5350, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 22/100: Loss=0.5349, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Early stop at epoch 22  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/100: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/100: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/100: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/100: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/100: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/100: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/100: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/100: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/100: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/100: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/100: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/100: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/100: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/100: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/100: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Early stop at epoch 14  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/100: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/100: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/100: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/100: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/100: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/100: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/100: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/100: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/100: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 8  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/100: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/100: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/100: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460

Epoch 2/150: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/150: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/150: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/150: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/150: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/150: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/150: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/150: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/150: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/150: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/150: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/150: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/150: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Epoch 15/150: Loss=0.5361, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7530  
Epoch 16/150: Loss=0.5358, Val Loss=0.5393, Acc=0.7500, Val Acc=0.7530  
Epoch 17/150: Loss=0.5355, Val Loss=0.5392, Acc=0.7497, Val Acc=0.7530  
Epoch 18/150: Loss=0.5354, Val Loss=0.5391, Acc=0.7500, Val Acc=0.7530  
Epoch 19/150: Loss=0.5352, Val Loss=0.5390, Acc=0.7503, Val Acc=0.7540  
Epoch 20/150: Loss=0.5351, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 21/150: Loss=0.5350, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 22/150: Loss=0.5349, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Early stop at epoch 22

accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/150: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/150: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/150: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5

accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/150: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/150: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/150: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/150: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/150: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/150: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/150: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/150: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/150: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/150: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/150: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/150: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Early stop at epoch 14

accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/150: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/150: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/150: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5

accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/150: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/150: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/150: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/150: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/150: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490

Epoch 8/150: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 8  
accuracy= 0.597

Epoch 1/150: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/150: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/150: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/150: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/500: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/500: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/500: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/500: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/500: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/500: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/500: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/500: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/500: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/500: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/500: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/500: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Epoch 15/500: Loss=0.5361, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7530  
Epoch 16/500: Loss=0.5358, Val Loss=0.5393, Acc=0.7500, Val Acc=0.7530  
Epoch 17/500: Loss=0.5355, Val Loss=0.5392, Acc=0.7497, Val Acc=0.7530  
Epoch 18/500: Loss=0.5354, Val Loss=0.5391, Acc=0.7500, Val Acc=0.7530  
Epoch 19/500: Loss=0.5352, Val Loss=0.5390, Acc=0.7503, Val Acc=0.7540  
Epoch 20/500: Loss=0.5351, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 21/500: Loss=0.5350, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 22/500: Loss=0.5349, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Early stop at epoch 22  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/500: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/500: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/500: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/500: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/500: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/500: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/500: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/500: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/500: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/500: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/500: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/500: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/500: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/500: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/500: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Early stop at epoch 14  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/500: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560

Epoch 4/500: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/500: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/500: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/500: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/500: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/500: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/500: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/500: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 8  
accuracy= 0.597

Epoch 1/500: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/500: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/500: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/500: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/10: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/10: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Epoch 5/10: Loss=0.5347, Val Loss=0.5388, Acc=0.7497, Val Acc=0.7560  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/10: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/10: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/10: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/10: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Early stop at epoch 4  
accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/10: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/10: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/10: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Early stop at epoch 3  
accuracy= 0.597

Epoch 1/10: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/10: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/10: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/50: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/50: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Epoch 5/50: Loss=0.5347, Val Loss=0.5388, Acc=0.7497, Val Acc=0.7560  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/50: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/50: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/50: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/50: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Early stop at epoch 4  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/50: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/50: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/50: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Early stop at epoch 3  
accuracy= 0.597

Epoch 1/50: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/50: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/50: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/100: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/100: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Epoch 5/100: Loss=0.5347, Val Loss=0.5388, Acc=0.7497, Val Acc=0.7560  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/100: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/100: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/100: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/100: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Early stop at epoch 4  
accuracy= 0.597

Epoch 1/100: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690

Epoch 2/100: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/100: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/100: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/100: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/100: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/100: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/100: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/150: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/150: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Epoch 5/150: Loss=0.5347, Val Loss=0.5388, Acc=0.7497, Val Acc=0.7560  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/150: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/150: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/150: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/150: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Early stop at epoch 4  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/150: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/150: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/150: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Early stop at epoch 3  
accuracy= 0.597  
Epoch 1/150: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/150: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/150: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.597  
Epoch 1/500: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/500: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560

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Epoch 4/500: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560
Epoch 5/500: Loss=0.5347, Val Loss=0.5388, Acc=0.7497, Val Acc=0.7560
Early stop at epoch 5
    accuracy= 0.597
Epoch 1/500: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690
Epoch 2/500: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690
Epoch 3/500: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340
Epoch 4/500: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140
Epoch 5/500: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680
Early stop at epoch 5
    accuracy= 0.597
Epoch 1/500: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460
Epoch 2/500: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540
Epoch 3/500: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560
Epoch 4/500: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560
Early stop at epoch 4
    accuracy= 0.597
Epoch 1/500: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690
Epoch 2/500: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690
Epoch 3/500: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340
Epoch 4/500: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140
Epoch 5/500: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680
Early stop at epoch 5
    accuracy= 0.597
Epoch 1/500: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460
Epoch 2/500: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540
Epoch 3/500: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560
Early stop at epoch 3
    accuracy= 0.597
Epoch 1/500: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690
Epoch 2/500: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690
Epoch 3/500: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340
Epoch 4/500: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140
Epoch 5/500: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680
Early stop at epoch 5
    accuracy= 0.597

```

The best accuracy reached was 0.597  
 with lr= 5.0  
 epoch= 500  
 tol= 0.01  
 scaled data= False

step g)

```

In [266... # training with best hyper-parameters:
model = NumpyLogReg()
model.fit(X_train, t2_train, lr=best_hyperparameters[0], epochs=best_hype

plt.figure(figsize=(12, 6))

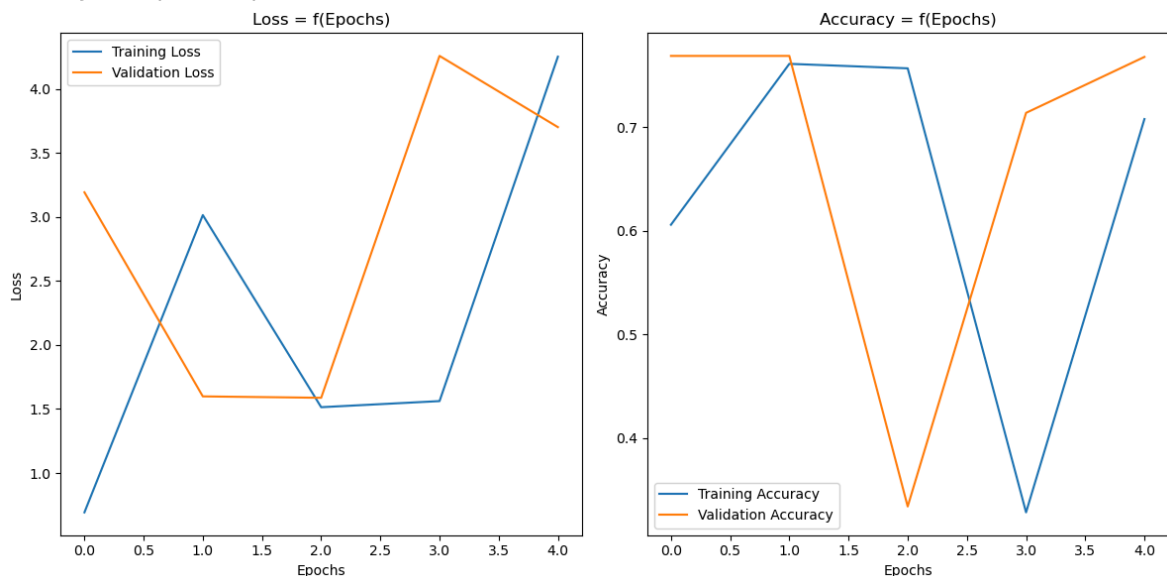
# Plotting training loss and validation loss
plt.subplot(1, 2, 1)
plt.plot(model.train_losses, label='Training Loss')
plt.plot(model.val_losses, label='Validation Loss')
plt.title("Loss = f(Epochs)")
plt.xlabel("Epochs")
plt.ylabel("Loss")
plt.legend()

```

```
# Plotting training accuracy and validation accuracy
plt.subplot(1, 2, 2)
plt.plot(model.train_accuracies, label='Training Accuracy')
plt.plot(model.val_accuracies, label='Validation Accuracy')
plt.title("Accuracy = f(Epochs)")
plt.xlabel("Epochs")
plt.ylabel("Accuracy")
plt.legend()

plt.tight_layout()
plt.show()
```

Epoch 1/500: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
 Epoch 2/500: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
 Epoch 3/500: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
 Epoch 4/500: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
 Epoch 5/500: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
 Early stop at epoch 5



## Multi-class classifiers

We turn to the task of classifying when there are more than two classes, and the task is to ascribe one class to each input. We will now use the set  $(X, t_{\text{multi}})$ .

### Multi-class with logistic regression

We saw in the lectures how a logistic regression classifier can be turned into a multi-class classifier using the one-vs-rest approach. We train one logistic regression classifier for each class. To predict the class of an item, we run all the binary classifiers and collect the probability score from each of them. We assign the class which ascribes the highest probability.

Build such a classifier. Train the resulting classifier on  $(X_{\text{train}}, t_{\text{multi\_train}})$ , test it on  $(X_{\text{val}}, t_{\text{multi\_val}})$ , tune the hyper-parameters and report the accuracy.

Also plot the decision boundaries for your best classifier similarly to the plots for the binary case.



## For IN4050 students: Multinomial logistic regression

The following part is only mandatory for IN4050 students. IN3050 students are also welcome to make it a try. Everybody has to do the part 2 on multi-layer neural networks.

In the lectures, we contrasted the one-vs-rest approach with the multinomial logistic regression, also called softmax classifier. Implement also this classifier, tune the parameters, and compare the results to the classifiers above. (Don't expect a large difference on a simple task like this.)

Remember that this classifier uses softmax in the forward phase. For loss, it uses categorical cross-entropy loss. The loss has a somewhat simpler form than in the binary case. To calculate the gradient is a little more complicated. The actual gradient and update rule is simple, however, as long as you have calculated the forward values correctly.

Our classifier is not ideal. But is it because all the 10 classes are equally difficult to predict? You should evaluate the multinomial model predictions for each class separately and report your findings. Please also report whether there is any difference in this respect between the training and the validation sets.

### One-vs-Rest Multi-Class Classifier

```
In [267... class NumpyLogRegMulticlass(NumpyClassifier):
    def __init__(self, bias=-1):
        self.bias = bias
        self.classifiers = []

    def fit(self, X_train, t_train, lr=0.1, epochs=100, X_val=None, t_val=None):
        """
        X_train: Nxm matrix (N data points, m features)
        t_train: vector of length N (target values for the training data)
        """

        # Get the unique classes in t_train
        classes = np.unique(t_train)
        self.n_classes = len(classes)

        # For each class, train a separate logistic regression classifier
        for c in classes:
            print(f"Training classifier for class {c}")
            # Create a binary target vector for the current class
            t_train_binary = (t_train == c).astype(int)

            # Train a logistic regression classifier for the current class
            clf = NumpyLogReg(self.bias)
            clf.fit(X_train, t_train_binary, lr=lr, epochs=epochs, X_val=X_val, t_val=t_val)
            self.classifiers.append(clf)

    def predict(self, X):
        """
        Predict the class for each input in X using the trained one-vs-rest
        """
```

```

        """
        # For each classifier, get the probability score for each sample
        probs = np.zeros((X.shape[0], self.n_classes))

        for i, clf in enumerate(self.classifiers):
            probs[:, i] = clf.predict_probabilities(X)

        # For each sample, predict the class with the highest probability
        return np.argmax(probs, axis=1)

    def predict_probabilities(self, X):
        """
        Return the probability scores for each class for the given inputs
        """
        probs = np.zeros((X.shape[0], self.n_classes))

        for i, clf in enumerate(self.classifiers):
            probs[:, i] = clf.predict_probabilities(X)

        return probs

```

## Training the Classifier

```

In [268... multi_classifier = NumpyLogRegMulticlass()

# Train the model using the training set
multi_classifier.fit(X_train, t_multi_train, lr=0.1, epochs=100, X_val=X_

# Make predictions on the validation set
t_val_pred = multi_classifier.predict(X_val)

# Calculate accuracy on the validation set
acc = accuracy(t_val_pred, t2_val)
print(f"Validation Accuracy: {acc:.4f}")

```

```

Training classifier for class 0
Epoch 1/100: Loss=0.6931, Val Loss=0.8456, Acc=0.8970, Val Acc=0.0930
Epoch 2/100: Loss=0.6770, Val Loss=0.9947, Acc=0.8970, Val Acc=0.0930
Epoch 3/100: Loss=0.6617, Val Loss=1.1404, Acc=0.8970, Val Acc=0.0930
Early stop at epoch 3
Training classifier for class 1
Epoch 1/100: Loss=0.6931, Val Loss=0.8607, Acc=0.9007, Val Acc=0.0930
Epoch 2/100: Loss=0.6769, Val Loss=1.0244, Acc=0.9007, Val Acc=0.0930
Epoch 3/100: Loss=0.6614, Val Loss=1.1844, Acc=0.9007, Val Acc=0.0930
Early stop at epoch 3
Training classifier for class 2
Epoch 1/100: Loss=0.6931, Val Loss=0.8731, Acc=0.9030, Val Acc=0.0930
Epoch 2/100: Loss=0.6747, Val Loss=1.0490, Acc=0.9023, Val Acc=0.0930
Epoch 3/100: Loss=0.6571, Val Loss=1.2210, Acc=0.9023, Val Acc=0.0930
Early stop at epoch 3
Training classifier for class 3
Epoch 1/100: Loss=0.6931, Val Loss=0.8511, Acc=0.8953, Val Acc=0.0930
Epoch 2/100: Loss=0.6776, Val Loss=1.0055, Acc=0.8953, Val Acc=0.0930
Epoch 3/100: Loss=0.6629, Val Loss=1.1564, Acc=0.8953, Val Acc=0.0930
Early stop at epoch 3
Training classifier for class 4
Epoch 1/100: Loss=0.6931, Val Loss=0.8656, Acc=0.8993, Val Acc=0.0930
Epoch 2/100: Loss=0.6763, Val Loss=1.0342, Acc=0.8993, Val Acc=0.0930
Epoch 3/100: Loss=0.6602, Val Loss=1.1990, Acc=0.8993, Val Acc=0.0930
Early stop at epoch 3
Training classifier for class 5
Epoch 1/100: Loss=0.6931, Val Loss=0.8545, Acc=0.8987, Val Acc=0.0930
Epoch 2/100: Loss=0.6759, Val Loss=1.0122, Acc=0.8997, Val Acc=0.0930
Epoch 3/100: Loss=0.6596, Val Loss=1.1664, Acc=0.8997, Val Acc=0.0930
Early stop at epoch 3
Training classifier for class 6
Epoch 1/100: Loss=0.6931, Val Loss=0.8600, Acc=0.9030, Val Acc=0.0930
Epoch 2/100: Loss=0.6762, Val Loss=1.0230, Acc=0.9030, Val Acc=0.0930
Epoch 3/100: Loss=0.6601, Val Loss=1.1824, Acc=0.9030, Val Acc=0.0930
Early stop at epoch 3
Training classifier for class 7
Epoch 1/100: Loss=0.6931, Val Loss=0.8493, Acc=0.9020, Val Acc=0.0930
Epoch 2/100: Loss=0.6746, Val Loss=1.0020, Acc=0.8933, Val Acc=0.0930
Epoch 3/100: Loss=0.6570, Val Loss=1.1514, Acc=0.8933, Val Acc=0.0930
Early stop at epoch 3
Training classifier for class 8
Epoch 1/100: Loss=0.6931, Val Loss=0.8479, Acc=0.8997, Val Acc=0.0930
Epoch 2/100: Loss=0.6755, Val Loss=0.9993, Acc=0.9033, Val Acc=0.0930
Epoch 3/100: Loss=0.6587, Val Loss=1.1474, Acc=0.9033, Val Acc=0.0930
Early stop at epoch 3
Training classifier for class 9
Epoch 1/100: Loss=0.6931, Val Loss=0.8406, Acc=0.9013, Val Acc=0.0930
Epoch 2/100: Loss=0.6749, Val Loss=0.9848, Acc=0.9097, Val Acc=0.0930
Epoch 3/100: Loss=0.6576, Val Loss=1.1258, Acc=0.9100, Val Acc=0.0930
Early stop at epoch 3
Validation Accuracy: 0.0000

```

## Tuning the hyper-parameters

```

In [269... l_rates = [0.001, 0.005, 0.01, 0.05, 0.1, 0.5, 1.0, 5.0]
epoch_values = [10, 50, 100, 150, 500]
tolerances = [1e-4, 1e-3, 1e-2]

best_accuracy = 0

```

```
best_hyperparameters : tuple

for lr in l_rates:
    # print("lr=",lr)
    for epoch in epoch_values:
        for tol in tolerances:
            for scale_data in [True, False]:
                hyperparameters=lr,epoch,tol,scale_data
                # print("\tepoch = ",epoch, end="")
                model = NumpyLogReg()
                model.fit(X_train, t2_train, lr=lr, epochs=epoch, X_val=X_val, t_val=t2_val)

                acc=accuracy(model.predict(X_val), t2_val)
                print("\taccuracy=", acc)

                if acc>=best_accuracy:
                    best_accuracy=acc
                    best_hyperparameters=hyperparameters

print("\nThe best accuracy reached was ", best_accuracy, "\n with lr=", best_hyperparameters[0])

plot_decision_regions(X_val, t_multi_val, multi_classifier)
```

Epoch 1/10: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6928, Val Loss=0.6927, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6927, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6926, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6926, Val Loss=0.6925, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6925, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.764

Epoch 1/10: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/10: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/10: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/10: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/10: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/10: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/10: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/10: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
accuracy= 0.769

Epoch 1/10: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764

Epoch 1/10: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/10: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/10: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/10: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/10: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/10: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/10: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/10: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
accuracy= 0.769

Epoch 1/10: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764

Epoch 1/10: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Early stop at epoch 3  
accuracy= 0.769

Epoch 1/50: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6928, Val Loss=0.6927, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6927, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6926, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6926, Val Loss=0.6925, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6925, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6924, Val Loss=0.6923, Acc=0.7487, Val Acc=0.7460  
Epoch 12/50: Loss=0.6923, Val Loss=0.6923, Acc=0.7487, Val Acc=0.7460

Epoch 13/50: Loss=0.6923, Val Loss=0.6922, Acc=0.7487, Val Acc=0.7460  
Epoch 14/50: Loss=0.6922, Val Loss=0.6921, Acc=0.7487, Val Acc=0.7460  
Epoch 15/50: Loss=0.6921, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 16/50: Loss=0.6920, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 17/50: Loss=0.6920, Val Loss=0.6919, Acc=0.7487, Val Acc=0.7460  
Epoch 18/50: Loss=0.6919, Val Loss=0.6918, Acc=0.7487, Val Acc=0.7460  
Epoch 19/50: Loss=0.6918, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 20/50: Loss=0.6918, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 21/50: Loss=0.6917, Val Loss=0.6916, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.6916, Val Loss=0.6915, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.6915, Val Loss=0.6914, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.6915, Val Loss=0.6914, Acc=0.7487, Val Acc=0.7460  
Epoch 25/50: Loss=0.6914, Val Loss=0.6913, Acc=0.7487, Val Acc=0.7460  
Epoch 26/50: Loss=0.6913, Val Loss=0.6912, Acc=0.7487, Val Acc=0.7460  
Epoch 27/50: Loss=0.6912, Val Loss=0.6912, Acc=0.7487, Val Acc=0.7460  
Epoch 28/50: Loss=0.6912, Val Loss=0.6911, Acc=0.7487, Val Acc=0.7460  
Epoch 29/50: Loss=0.6911, Val Loss=0.6910, Acc=0.7487, Val Acc=0.7460  
Epoch 30/50: Loss=0.6910, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 31/50: Loss=0.6910, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 32/50: Loss=0.6909, Val Loss=0.6908, Acc=0.7487, Val Acc=0.7460  
Epoch 33/50: Loss=0.6908, Val Loss=0.6907, Acc=0.7487, Val Acc=0.7460  
Epoch 34/50: Loss=0.6907, Val Loss=0.6906, Acc=0.7487, Val Acc=0.7460  
Epoch 35/50: Loss=0.6907, Val Loss=0.6906, Acc=0.7487, Val Acc=0.7460  
Epoch 36/50: Loss=0.6906, Val Loss=0.6905, Acc=0.7487, Val Acc=0.7460  
Epoch 37/50: Loss=0.6905, Val Loss=0.6904, Acc=0.7487, Val Acc=0.7460  
Epoch 38/50: Loss=0.6904, Val Loss=0.6903, Acc=0.7487, Val Acc=0.7460  
Epoch 39/50: Loss=0.6904, Val Loss=0.6903, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6903, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6902, Val Loss=0.6901, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.6902, Val Loss=0.6901, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.6901, Val Loss=0.6900, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.6900, Val Loss=0.6899, Acc=0.7487, Val Acc=0.7460  
Epoch 45/50: Loss=0.6899, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
Epoch 46/50: Loss=0.6899, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
Epoch 47/50: Loss=0.6898, Val Loss=0.6897, Acc=0.7487, Val Acc=0.7460  
Epoch 48/50: Loss=0.6897, Val Loss=0.6896, Acc=0.7487, Val Acc=0.7460  
Epoch 49/50: Loss=0.6896, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 50/50: Loss=0.6896, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.764  
Epoch 1/50: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/50: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/50: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/50: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/50: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/50: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/50: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/50: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/50: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/50: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/50: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/50: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/50: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/50: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/50: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/50: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/50: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/50: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/50: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700

Epoch 22/50: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/50: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/50: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/50: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/50: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/50: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/50: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/50: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/50: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/50: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/50: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/50: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/50: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/50: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/50: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/50: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/50: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/50: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/50: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/50: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/50: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/50: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/50: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/50: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/50: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/50: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/50: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/50: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/50: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
accuracy= 0.771

Epoch 1/50: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3

accuracy= 0.764

Epoch 1/50: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/50: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/50: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/50: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/50: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/50: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/50: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/50: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/50: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/50: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/50: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/50: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/50: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/50: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/50: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/50: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/50: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/50: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/50: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/50: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/50: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/50: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/50: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700

Epoch 26/50: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/50: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/50: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/50: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/50: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/50: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/50: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/50: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/50: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/50: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/50: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/50: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/50: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/50: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/50: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/50: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/50: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/50: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/50: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/50: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/50: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/50: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/50: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/50: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/50: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
accuracy= 0.771

Epoch 1/50: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3

accuracy= 0.764

Epoch 1/50: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Early stop at epoch 3

accuracy= 0.769

Epoch 1/100: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6928, Val Loss=0.6927, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6927, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6926, Val Loss=0.6926, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6926, Val Loss=0.6925, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6925, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6924, Val Loss=0.6923, Acc=0.7487, Val Acc=0.7460  
Epoch 12/100: Loss=0.6923, Val Loss=0.6923, Acc=0.7487, Val Acc=0.7460  
Epoch 13/100: Loss=0.6923, Val Loss=0.6922, Acc=0.7487, Val Acc=0.7460  
Epoch 14/100: Loss=0.6922, Val Loss=0.6921, Acc=0.7487, Val Acc=0.7460  
Epoch 15/100: Loss=0.6921, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 16/100: Loss=0.6920, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 17/100: Loss=0.6920, Val Loss=0.6919, Acc=0.7487, Val Acc=0.7460  
Epoch 18/100: Loss=0.6919, Val Loss=0.6918, Acc=0.7487, Val Acc=0.7460  
Epoch 19/100: Loss=0.6918, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 20/100: Loss=0.6918, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 21/100: Loss=0.6917, Val Loss=0.6916, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.6916, Val Loss=0.6915, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.6915, Val Loss=0.6914, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.6915, Val Loss=0.6914, Acc=0.7487, Val Acc=0.7460



[illegible]

Epoch 85/100: Loss=0.6871, Val Loss=0.6870, Acc=0.7487, Val Acc=0.7460  
Epoch 86/100: Loss=0.6870, Val Loss=0.6869, Acc=0.7487, Val Acc=0.7460  
Epoch 87/100: Loss=0.6869, Val Loss=0.6868, Acc=0.7487, Val Acc=0.7460  
Epoch 88/100: Loss=0.6869, Val Loss=0.6868, Acc=0.7487, Val Acc=0.7460  
Epoch 89/100: Loss=0.6868, Val Loss=0.6867, Acc=0.7487, Val Acc=0.7460  
Epoch 90/100: Loss=0.6867, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 91/100: Loss=0.6867, Val Loss=0.6865, Acc=0.7487, Val Acc=0.7460  
Epoch 92/100: Loss=0.6866, Val Loss=0.6865, Acc=0.7487, Val Acc=0.7460  
Epoch 93/100: Loss=0.6865, Val Loss=0.6864, Acc=0.7487, Val Acc=0.7460  
Epoch 94/100: Loss=0.6864, Val Loss=0.6863, Acc=0.7487, Val Acc=0.7460  
Epoch 95/100: Loss=0.6864, Val Loss=0.6863, Acc=0.7487, Val Acc=0.7460  
Epoch 96/100: Loss=0.6863, Val Loss=0.6862, Acc=0.7487, Val Acc=0.7460  
Epoch 97/100: Loss=0.6862, Val Loss=0.6861, Acc=0.7487, Val Acc=0.7460  
Epoch 98/100: Loss=0.6862, Val Loss=0.6860, Acc=0.7487, Val Acc=0.7460  
Epoch 99/100: Loss=0.6861, Val Loss=0.6860, Acc=0.7487, Val Acc=0.7460  
Epoch 100/100: Loss=0.6860, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460

accuracy= 0.764

Epoch 1/100: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/100: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/100: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/100: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/100: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/100: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/100: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/100: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/100: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/100: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/100: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/100: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/100: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/100: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/100: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/100: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/100: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/100: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/100: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/100: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/100: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/100: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/100: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/100: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/100: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/100: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/100: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/100: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/100: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/100: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/100: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/100: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/100: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/100: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/100: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/100: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/100: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/100: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/100: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/100: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/100: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710

Epoch 44/100: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/100: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/100: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/100: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/100: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/100: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/100: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
Epoch 51/100: Loss=0.6459, Val Loss=0.6448, Acc=0.7610, Val Acc=0.7710  
Epoch 52/100: Loss=0.6452, Val Loss=0.6440, Acc=0.7610, Val Acc=0.7710  
Epoch 53/100: Loss=0.6445, Val Loss=0.6433, Acc=0.7613, Val Acc=0.7710  
Epoch 54/100: Loss=0.6437, Val Loss=0.6426, Acc=0.7613, Val Acc=0.7710  
Epoch 55/100: Loss=0.6430, Val Loss=0.6418, Acc=0.7613, Val Acc=0.7710  
Epoch 56/100: Loss=0.6423, Val Loss=0.6411, Acc=0.7617, Val Acc=0.7710  
Epoch 57/100: Loss=0.6415, Val Loss=0.6404, Acc=0.7617, Val Acc=0.7710  
Epoch 58/100: Loss=0.6408, Val Loss=0.6397, Acc=0.7620, Val Acc=0.7710  
Epoch 59/100: Loss=0.6401, Val Loss=0.6390, Acc=0.7620, Val Acc=0.7710  
Epoch 60/100: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/100: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/100: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/100: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/100: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/100: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/100: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/100: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/100: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/100: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/100: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/100: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/100: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/100: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/100: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/100: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/100: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/100: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/100: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700  
Epoch 79/100: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/100: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/100: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/100: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/100: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/100: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/100: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/100: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/100: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/100: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/100: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/100: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/100: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/100: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/100: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/100: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/100: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700  
Epoch 96/100: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/100: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/100: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/100: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/100: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
accuracy= 0.771  
Epoch 1/100: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460

Epoch 3/100: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460

Early stop at epoch 3

accuracy= 0.764

Epoch 1/100: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/100: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/100: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/100: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/100: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/100: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/100: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/100: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/100: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/100: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/100: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/100: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/100: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/100: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/100: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/100: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/100: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/100: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/100: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/100: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/100: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/100: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/100: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/100: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/100: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/100: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/100: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/100: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/100: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/100: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/100: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/100: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/100: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/100: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/100: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/100: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/100: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/100: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/100: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/100: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/100: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/100: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/100: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/100: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/100: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/100: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/100: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/100: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
Epoch 51/100: Loss=0.6459, Val Loss=0.6448, Acc=0.7610, Val Acc=0.7710  
Epoch 52/100: Loss=0.6452, Val Loss=0.6440, Acc=0.7610, Val Acc=0.7710  
Epoch 53/100: Loss=0.6445, Val Loss=0.6433, Acc=0.7613, Val Acc=0.7710  
Epoch 54/100: Loss=0.6437, Val Loss=0.6426, Acc=0.7613, Val Acc=0.7710  
Epoch 55/100: Loss=0.6430, Val Loss=0.6418, Acc=0.7613, Val Acc=0.7710  
Epoch 56/100: Loss=0.6423, Val Loss=0.6411, Acc=0.7617, Val Acc=0.7710  
Epoch 57/100: Loss=0.6415, Val Loss=0.6404, Acc=0.7617, Val Acc=0.7710

Epoch 58/100: Loss=0.6408, Val Loss=0.6397, Acc=0.7620, Val Acc=0.7710  
Epoch 59/100: Loss=0.6401, Val Loss=0.6390, Acc=0.7620, Val Acc=0.7710  
Epoch 60/100: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/100: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/100: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/100: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/100: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/100: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/100: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/100: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/100: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/100: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/100: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/100: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/100: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/100: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/100: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/100: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/100: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/100: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/100: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700  
Epoch 79/100: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/100: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/100: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/100: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/100: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/100: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/100: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/100: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/100: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/100: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/100: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/100: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/100: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/100: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/100: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/100: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/100: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700  
Epoch 96/100: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/100: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/100: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/100: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/100: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
accuracy= 0.771  
Epoch 1/100: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/100: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Early stop at epoch 3  
accuracy= 0.769  
Epoch 1/150: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6928, Val Loss=0.6927, Acc=0.7487, Val Acc=0.7460

[illegible]

[illegible]

Epoch 127/150: Loss=0.6842, Val Loss=0.6840, Acc=0.7487, Val Acc=0.7460  
Epoch 128/150: Loss=0.6841, Val Loss=0.6839, Acc=0.7487, Val Acc=0.7460  
Epoch 129/150: Loss=0.6840, Val Loss=0.6839, Acc=0.7487, Val Acc=0.7460  
Epoch 130/150: Loss=0.6839, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 131/150: Loss=0.6839, Val Loss=0.6837, Acc=0.7487, Val Acc=0.7460  
Epoch 132/150: Loss=0.6838, Val Loss=0.6837, Acc=0.7487, Val Acc=0.7460  
Epoch 133/150: Loss=0.6837, Val Loss=0.6836, Acc=0.7487, Val Acc=0.7460  
Epoch 134/150: Loss=0.6837, Val Loss=0.6835, Acc=0.7487, Val Acc=0.7460  
Epoch 135/150: Loss=0.6836, Val Loss=0.6835, Acc=0.7487, Val Acc=0.7460  
Epoch 136/150: Loss=0.6835, Val Loss=0.6834, Acc=0.7487, Val Acc=0.7460  
Epoch 137/150: Loss=0.6835, Val Loss=0.6833, Acc=0.7487, Val Acc=0.7460  
Epoch 138/150: Loss=0.6834, Val Loss=0.6833, Acc=0.7487, Val Acc=0.7460  
Epoch 139/150: Loss=0.6833, Val Loss=0.6832, Acc=0.7487, Val Acc=0.7460  
Epoch 140/150: Loss=0.6833, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 141/150: Loss=0.6832, Val Loss=0.6830, Acc=0.7487, Val Acc=0.7460  
Epoch 142/150: Loss=0.6831, Val Loss=0.6830, Acc=0.7487, Val Acc=0.7460  
Epoch 143/150: Loss=0.6831, Val Loss=0.6829, Acc=0.7487, Val Acc=0.7460  
Epoch 144/150: Loss=0.6830, Val Loss=0.6828, Acc=0.7487, Val Acc=0.7460  
Epoch 145/150: Loss=0.6829, Val Loss=0.6828, Acc=0.7487, Val Acc=0.7460  
Epoch 146/150: Loss=0.6828, Val Loss=0.6827, Acc=0.7487, Val Acc=0.7460  
Epoch 147/150: Loss=0.6828, Val Loss=0.6826, Acc=0.7487, Val Acc=0.7460  
Epoch 148/150: Loss=0.6827, Val Loss=0.6826, Acc=0.7487, Val Acc=0.7460  
Epoch 149/150: Loss=0.6826, Val Loss=0.6825, Acc=0.7487, Val Acc=0.7460  
Epoch 150/150: Loss=0.6826, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.764

Epoch 1/150: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/150: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/150: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/150: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/150: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/150: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/150: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/150: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/150: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/150: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/150: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/150: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/150: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/150: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/150: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/150: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/150: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/150: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/150: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/150: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/150: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/150: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/150: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/150: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/150: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/150: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/150: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/150: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/150: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/150: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/150: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/150: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/150: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710



Epoch 36/150: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/150: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/150: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/150: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/150: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/150: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/150: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/150: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/150: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/150: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710  
Epoch 46/150: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/150: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/150: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/150: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/150: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
Epoch 51/150: Loss=0.6459, Val Loss=0.6448, Acc=0.7610, Val Acc=0.7710  
Epoch 52/150: Loss=0.6452, Val Loss=0.6440, Acc=0.7610, Val Acc=0.7710  
Epoch 53/150: Loss=0.6445, Val Loss=0.6433, Acc=0.7613, Val Acc=0.7710  
Epoch 54/150: Loss=0.6437, Val Loss=0.6426, Acc=0.7613, Val Acc=0.7710  
Epoch 55/150: Loss=0.6430, Val Loss=0.6418, Acc=0.7613, Val Acc=0.7710  
Epoch 56/150: Loss=0.6423, Val Loss=0.6411, Acc=0.7617, Val Acc=0.7710  
Epoch 57/150: Loss=0.6415, Val Loss=0.6404, Acc=0.7617, Val Acc=0.7710  
Epoch 58/150: Loss=0.6408, Val Loss=0.6397, Acc=0.7620, Val Acc=0.7710  
Epoch 59/150: Loss=0.6401, Val Loss=0.6390, Acc=0.7620, Val Acc=0.7710  
Epoch 60/150: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/150: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/150: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/150: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/150: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/150: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/150: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/150: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/150: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/150: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/150: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/150: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/150: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/150: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/150: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/150: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/150: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/150: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/150: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700  
Epoch 79/150: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/150: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/150: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/150: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/150: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/150: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/150: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/150: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/150: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/150: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/150: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/150: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/150: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/150: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/150: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/150: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/150: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700

Epoch 96/150: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/150: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/150: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/150: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/150: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
Epoch 101/150: Loss=0.6151, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7700  
Epoch 102/150: Loss=0.6146, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7710  
Epoch 103/150: Loss=0.6141, Val Loss=0.6133, Acc=0.7630, Val Acc=0.7710  
Epoch 104/150: Loss=0.6136, Val Loss=0.6128, Acc=0.7630, Val Acc=0.7710  
Epoch 105/150: Loss=0.6131, Val Loss=0.6123, Acc=0.7627, Val Acc=0.7710  
Epoch 106/150: Loss=0.6126, Val Loss=0.6119, Acc=0.7627, Val Acc=0.7710  
Epoch 107/150: Loss=0.6121, Val Loss=0.6114, Acc=0.7627, Val Acc=0.7710  
Epoch 108/150: Loss=0.6117, Val Loss=0.6109, Acc=0.7630, Val Acc=0.7710  
Epoch 109/150: Loss=0.6112, Val Loss=0.6105, Acc=0.7630, Val Acc=0.7710  
Epoch 110/150: Loss=0.6107, Val Loss=0.6100, Acc=0.7630, Val Acc=0.7710  
Epoch 111/150: Loss=0.6103, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 112/150: Loss=0.6098, Val Loss=0.6091, Acc=0.7630, Val Acc=0.7710  
Epoch 113/150: Loss=0.6094, Val Loss=0.6087, Acc=0.7633, Val Acc=0.7710  
Epoch 114/150: Loss=0.6089, Val Loss=0.6082, Acc=0.7633, Val Acc=0.7710  
Epoch 115/150: Loss=0.6085, Val Loss=0.6078, Acc=0.7633, Val Acc=0.7710  
Epoch 116/150: Loss=0.6080, Val Loss=0.6073, Acc=0.7633, Val Acc=0.7710  
Epoch 117/150: Loss=0.6076, Val Loss=0.6069, Acc=0.7633, Val Acc=0.7710  
Epoch 118/150: Loss=0.6071, Val Loss=0.6065, Acc=0.7633, Val Acc=0.7710  
Epoch 119/150: Loss=0.6067, Val Loss=0.6061, Acc=0.7633, Val Acc=0.7710  
Epoch 120/150: Loss=0.6063, Val Loss=0.6056, Acc=0.7633, Val Acc=0.7710  
Epoch 121/150: Loss=0.6058, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 122/150: Loss=0.6054, Val Loss=0.6048, Acc=0.7633, Val Acc=0.7710  
Epoch 123/150: Loss=0.6050, Val Loss=0.6044, Acc=0.7633, Val Acc=0.7710  
Epoch 124/150: Loss=0.6046, Val Loss=0.6040, Acc=0.7633, Val Acc=0.7710  
Epoch 125/150: Loss=0.6041, Val Loss=0.6036, Acc=0.7633, Val Acc=0.7710  
Epoch 126/150: Loss=0.6037, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 127/150: Loss=0.6033, Val Loss=0.6028, Acc=0.7633, Val Acc=0.7710  
Epoch 128/150: Loss=0.6029, Val Loss=0.6024, Acc=0.7633, Val Acc=0.7710  
Epoch 129/150: Loss=0.6025, Val Loss=0.6020, Acc=0.7633, Val Acc=0.7710  
Epoch 130/150: Loss=0.6021, Val Loss=0.6016, Acc=0.7633, Val Acc=0.7710  
Epoch 131/150: Loss=0.6017, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 132/150: Loss=0.6013, Val Loss=0.6008, Acc=0.7633, Val Acc=0.7710  
Epoch 133/150: Loss=0.6009, Val Loss=0.6004, Acc=0.7633, Val Acc=0.7710  
Epoch 134/150: Loss=0.6005, Val Loss=0.6001, Acc=0.7630, Val Acc=0.7710  
Epoch 135/150: Loss=0.6002, Val Loss=0.5997, Acc=0.7630, Val Acc=0.7710  
Epoch 136/150: Loss=0.5998, Val Loss=0.5993, Acc=0.7630, Val Acc=0.7710  
Epoch 137/150: Loss=0.5994, Val Loss=0.5990, Acc=0.7630, Val Acc=0.7710  
Epoch 138/150: Loss=0.5990, Val Loss=0.5986, Acc=0.7630, Val Acc=0.7710  
Epoch 139/150: Loss=0.5986, Val Loss=0.5982, Acc=0.7630, Val Acc=0.7720  
Epoch 140/150: Loss=0.5983, Val Loss=0.5979, Acc=0.7630, Val Acc=0.7720  
Epoch 141/150: Loss=0.5979, Val Loss=0.5975, Acc=0.7630, Val Acc=0.7720  
Epoch 142/150: Loss=0.5975, Val Loss=0.5972, Acc=0.7630, Val Acc=0.7720  
Epoch 143/150: Loss=0.5972, Val Loss=0.5968, Acc=0.7630, Val Acc=0.7720  
Epoch 144/150: Loss=0.5968, Val Loss=0.5965, Acc=0.7630, Val Acc=0.7720  
Epoch 145/150: Loss=0.5965, Val Loss=0.5961, Acc=0.7633, Val Acc=0.7720  
Epoch 146/150: Loss=0.5961, Val Loss=0.5958, Acc=0.7633, Val Acc=0.7720  
Epoch 147/150: Loss=0.5958, Val Loss=0.5954, Acc=0.7633, Val Acc=0.7720  
Epoch 148/150: Loss=0.5954, Val Loss=0.5951, Acc=0.7630, Val Acc=0.7720  
Epoch 149/150: Loss=0.5951, Val Loss=0.5948, Acc=0.7630, Val Acc=0.7720  
Epoch 150/150: Loss=0.5947, Val Loss=0.5944, Acc=0.7630, Val Acc=0.7720  
accuracy= 0.772  
Epoch 1/150: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3

accuracy= 0.764

Epoch 1/150:	Loss=0.6931,	Val Loss=0.6920,	Acc=0.6060,	Val Acc=0.7690
Epoch 2/150:	Loss=0.6920,	Val Loss=0.6908,	Acc=0.7613,	Val Acc=0.7690
Epoch 3/150:	Loss=0.6908,	Val Loss=0.6897,	Acc=0.7617,	Val Acc=0.7690
Epoch 4/150:	Loss=0.6897,	Val Loss=0.6885,	Acc=0.7617,	Val Acc=0.7690
Epoch 5/150:	Loss=0.6886,	Val Loss=0.6874,	Acc=0.7617,	Val Acc=0.7690
Epoch 6/150:	Loss=0.6874,	Val Loss=0.6862,	Acc=0.7617,	Val Acc=0.7690
Epoch 7/150:	Loss=0.6863,	Val Loss=0.6851,	Acc=0.7617,	Val Acc=0.7690
Epoch 8/150:	Loss=0.6852,	Val Loss=0.6840,	Acc=0.7617,	Val Acc=0.7690
Epoch 9/150:	Loss=0.6841,	Val Loss=0.6829,	Acc=0.7617,	Val Acc=0.7690
Epoch 10/150:	Loss=0.6831,	Val Loss=0.6819,	Acc=0.7617,	Val Acc=0.7690
Epoch 11/150:	Loss=0.6820,	Val Loss=0.6808,	Acc=0.7617,	Val Acc=0.7690
Epoch 12/150:	Loss=0.6809,	Val Loss=0.6797,	Acc=0.7617,	Val Acc=0.7690
Epoch 13/150:	Loss=0.6799,	Val Loss=0.6787,	Acc=0.7617,	Val Acc=0.7700
Epoch 14/150:	Loss=0.6788,	Val Loss=0.6776,	Acc=0.7617,	Val Acc=0.7700
Epoch 15/150:	Loss=0.6778,	Val Loss=0.6766,	Acc=0.7617,	Val Acc=0.7700
Epoch 16/150:	Loss=0.6768,	Val Loss=0.6755,	Acc=0.7620,	Val Acc=0.7700
Epoch 17/150:	Loss=0.6758,	Val Loss=0.6745,	Acc=0.7620,	Val Acc=0.7700
Epoch 18/150:	Loss=0.6748,	Val Loss=0.6735,	Acc=0.7620,	Val Acc=0.7700
Epoch 19/150:	Loss=0.6738,	Val Loss=0.6725,	Acc=0.7620,	Val Acc=0.7700
Epoch 20/150:	Loss=0.6728,	Val Loss=0.6715,	Acc=0.7620,	Val Acc=0.7700
Epoch 21/150:	Loss=0.6718,	Val Loss=0.6705,	Acc=0.7620,	Val Acc=0.7700
Epoch 22/150:	Loss=0.6708,	Val Loss=0.6696,	Acc=0.7620,	Val Acc=0.7700
Epoch 23/150:	Loss=0.6698,	Val Loss=0.6686,	Acc=0.7620,	Val Acc=0.7700
Epoch 24/150:	Loss=0.6689,	Val Loss=0.6676,	Acc=0.7620,	Val Acc=0.7700
Epoch 25/150:	Loss=0.6679,	Val Loss=0.6667,	Acc=0.7620,	Val Acc=0.7700
Epoch 26/150:	Loss=0.6670,	Val Loss=0.6658,	Acc=0.7620,	Val Acc=0.7710
Epoch 27/150:	Loss=0.6661,	Val Loss=0.6648,	Acc=0.7617,	Val Acc=0.7710
Epoch 28/150:	Loss=0.6651,	Val Loss=0.6639,	Acc=0.7620,	Val Acc=0.7710
Epoch 29/150:	Loss=0.6642,	Val Loss=0.6630,	Acc=0.7620,	Val Acc=0.7710
Epoch 30/150:	Loss=0.6633,	Val Loss=0.6621,	Acc=0.7620,	Val Acc=0.7710
Epoch 31/150:	Loss=0.6624,	Val Loss=0.6612,	Acc=0.7617,	Val Acc=0.7710
Epoch 32/150:	Loss=0.6615,	Val Loss=0.6603,	Acc=0.7617,	Val Acc=0.7710
Epoch 33/150:	Loss=0.6606,	Val Loss=0.6594,	Acc=0.7617,	Val Acc=0.7710
Epoch 34/150:	Loss=0.6598,	Val Loss=0.6585,	Acc=0.7617,	Val Acc=0.7710
Epoch 35/150:	Loss=0.6589,	Val Loss=0.6577,	Acc=0.7617,	Val Acc=0.7710
Epoch 36/150:	Loss=0.6580,	Val Loss=0.6568,	Acc=0.7617,	Val Acc=0.7710
Epoch 37/150:	Loss=0.6572,	Val Loss=0.6560,	Acc=0.7613,	Val Acc=0.7710
Epoch 38/150:	Loss=0.6563,	Val Loss=0.6551,	Acc=0.7613,	Val Acc=0.7710
Epoch 39/150:	Loss=0.6555,	Val Loss=0.6543,	Acc=0.7613,	Val Acc=0.7710
Epoch 40/150:	Loss=0.6547,	Val Loss=0.6534,	Acc=0.7613,	Val Acc=0.7710
Epoch 41/150:	Loss=0.6538,	Val Loss=0.6526,	Acc=0.7613,	Val Acc=0.7710
Epoch 42/150:	Loss=0.6530,	Val Loss=0.6518,	Acc=0.7613,	Val Acc=0.7710
Epoch 43/150:	Loss=0.6522,	Val Loss=0.6510,	Acc=0.7613,	Val Acc=0.7710
Epoch 44/150:	Loss=0.6514,	Val Loss=0.6502,	Acc=0.7613,	Val Acc=0.7710
Epoch 45/150:	Loss=0.6506,	Val Loss=0.6494,	Acc=0.7613,	Val Acc=0.7710
Epoch 46/150:	Loss=0.6498,	Val Loss=0.6486,	Acc=0.7613,	Val Acc=0.7710
Epoch 47/150:	Loss=0.6490,	Val Loss=0.6478,	Acc=0.7610,	Val Acc=0.7710
Epoch 48/150:	Loss=0.6482,	Val Loss=0.6471,	Acc=0.7610,	Val Acc=0.7710
Epoch 49/150:	Loss=0.6475,	Val Loss=0.6463,	Acc=0.7610,	Val Acc=0.7710
Epoch 50/150:	Loss=0.6467,	Val Loss=0.6455,	Acc=0.7610,	Val Acc=0.7710
Epoch 51/150:	Loss=0.6459,	Val Loss=0.6448,	Acc=0.7610,	Val Acc=0.7710
Epoch 52/150:	Loss=0.6452,	Val Loss=0.6440,	Acc=0.7610,	Val Acc=0.7710
Epoch 53/150:	Loss=0.6445,	Val Loss=0.6433,	Acc=0.7613,	Val Acc=0.7710
Epoch 54/150:	Loss=0.6437,	Val Loss=0.6426,	Acc=0.7613,	Val Acc=0.7710
Epoch 55/150:	Loss=0.6430,	Val Loss=0.6418,	Acc=0.7613,	Val Acc=0.7710
Epoch 56/150:	Loss=0.6423,	Val Loss=0.6411,	Acc=0.7617,	Val Acc=0.7710
Epoch 57/150:	Loss=0.6415,	Val Loss=0.6404,	Acc=0.7617,	Val Acc=0.7710
Epoch 58/150:	Loss=0.6408,	Val Loss=0.6397,	Acc=0.7620,	Val Acc=0.7710
Epoch 59/150:	Loss=0.6401,	Val Loss=0.6390,	Acc=0.7620,	Val Acc=0.7710

Epoch 60/150: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/150: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/150: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/150: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/150: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/150: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/150: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/150: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/150: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/150: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/150: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/150: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/150: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/150: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/150: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/150: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/150: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/150: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/150: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700  
Epoch 79/150: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/150: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/150: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/150: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/150: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/150: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/150: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/150: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/150: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/150: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/150: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/150: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/150: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/150: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/150: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/150: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/150: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700  
Epoch 96/150: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/150: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/150: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/150: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/150: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
Epoch 101/150: Loss=0.6151, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7700  
Early stop at epoch 101  
accuracy= 0.77  
Epoch 1/150: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/150: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Early stop at epoch 3  
accuracy= 0.769  
Epoch 1/500: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6929, Val Loss=0.6928, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6928, Val Loss=0.6927, Acc=0.7487, Val Acc=0.7460

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[illegible]

[illegible]

[illegible]

Epoch 487/500: Loss=0.6615, Val Loss=0.6613, Acc=0.7490, Val Acc=0.7460  
Epoch 488/500: Loss=0.6615, Val Loss=0.6612, Acc=0.7490, Val Acc=0.7460  
Epoch 489/500: Loss=0.6614, Val Loss=0.6612, Acc=0.7490, Val Acc=0.7460  
Epoch 490/500: Loss=0.6614, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 491/500: Loss=0.6613, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 492/500: Loss=0.6612, Val Loss=0.6610, Acc=0.7490, Val Acc=0.7460  
Epoch 493/500: Loss=0.6612, Val Loss=0.6610, Acc=0.7490, Val Acc=0.7460  
Epoch 494/500: Loss=0.6611, Val Loss=0.6609, Acc=0.7490, Val Acc=0.7460  
Epoch 495/500: Loss=0.6611, Val Loss=0.6608, Acc=0.7490, Val Acc=0.7460  
Epoch 496/500: Loss=0.6610, Val Loss=0.6608, Acc=0.7490, Val Acc=0.7460  
Epoch 497/500: Loss=0.6610, Val Loss=0.6607, Acc=0.7490, Val Acc=0.7460  
Epoch 498/500: Loss=0.6609, Val Loss=0.6607, Acc=0.7490, Val Acc=0.7460  
Epoch 499/500: Loss=0.6609, Val Loss=0.6606, Acc=0.7490, Val Acc=0.7460  
Epoch 500/500: Loss=0.6608, Val Loss=0.6606, Acc=0.7490, Val Acc=0.7460

accuracy= 0.763

Epoch 1/500: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/500: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/500: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/500: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/500: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/500: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/500: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/500: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/500: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/500: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/500: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/500: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/500: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/500: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/500: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/500: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700  
Epoch 19/500: Loss=0.6738, Val Loss=0.6725, Acc=0.7620, Val Acc=0.7700  
Epoch 20/500: Loss=0.6728, Val Loss=0.6715, Acc=0.7620, Val Acc=0.7700  
Epoch 21/500: Loss=0.6718, Val Loss=0.6705, Acc=0.7620, Val Acc=0.7700  
Epoch 22/500: Loss=0.6708, Val Loss=0.6696, Acc=0.7620, Val Acc=0.7700  
Epoch 23/500: Loss=0.6698, Val Loss=0.6686, Acc=0.7620, Val Acc=0.7700  
Epoch 24/500: Loss=0.6689, Val Loss=0.6676, Acc=0.7620, Val Acc=0.7700  
Epoch 25/500: Loss=0.6679, Val Loss=0.6667, Acc=0.7620, Val Acc=0.7700  
Epoch 26/500: Loss=0.6670, Val Loss=0.6658, Acc=0.7620, Val Acc=0.7710  
Epoch 27/500: Loss=0.6661, Val Loss=0.6648, Acc=0.7617, Val Acc=0.7710  
Epoch 28/500: Loss=0.6651, Val Loss=0.6639, Acc=0.7620, Val Acc=0.7710  
Epoch 29/500: Loss=0.6642, Val Loss=0.6630, Acc=0.7620, Val Acc=0.7710  
Epoch 30/500: Loss=0.6633, Val Loss=0.6621, Acc=0.7620, Val Acc=0.7710  
Epoch 31/500: Loss=0.6624, Val Loss=0.6612, Acc=0.7617, Val Acc=0.7710  
Epoch 32/500: Loss=0.6615, Val Loss=0.6603, Acc=0.7617, Val Acc=0.7710  
Epoch 33/500: Loss=0.6606, Val Loss=0.6594, Acc=0.7617, Val Acc=0.7710  
Epoch 34/500: Loss=0.6598, Val Loss=0.6585, Acc=0.7617, Val Acc=0.7710  
Epoch 35/500: Loss=0.6589, Val Loss=0.6577, Acc=0.7617, Val Acc=0.7710  
Epoch 36/500: Loss=0.6580, Val Loss=0.6568, Acc=0.7617, Val Acc=0.7710  
Epoch 37/500: Loss=0.6572, Val Loss=0.6560, Acc=0.7613, Val Acc=0.7710  
Epoch 38/500: Loss=0.6563, Val Loss=0.6551, Acc=0.7613, Val Acc=0.7710  
Epoch 39/500: Loss=0.6555, Val Loss=0.6543, Acc=0.7613, Val Acc=0.7710  
Epoch 40/500: Loss=0.6547, Val Loss=0.6534, Acc=0.7613, Val Acc=0.7710  
Epoch 41/500: Loss=0.6538, Val Loss=0.6526, Acc=0.7613, Val Acc=0.7710  
Epoch 42/500: Loss=0.6530, Val Loss=0.6518, Acc=0.7613, Val Acc=0.7710  
Epoch 43/500: Loss=0.6522, Val Loss=0.6510, Acc=0.7613, Val Acc=0.7710  
Epoch 44/500: Loss=0.6514, Val Loss=0.6502, Acc=0.7613, Val Acc=0.7710  
Epoch 45/500: Loss=0.6506, Val Loss=0.6494, Acc=0.7613, Val Acc=0.7710

Epoch 46/500: Loss=0.6498, Val Loss=0.6486, Acc=0.7613, Val Acc=0.7710  
Epoch 47/500: Loss=0.6490, Val Loss=0.6478, Acc=0.7610, Val Acc=0.7710  
Epoch 48/500: Loss=0.6482, Val Loss=0.6471, Acc=0.7610, Val Acc=0.7710  
Epoch 49/500: Loss=0.6475, Val Loss=0.6463, Acc=0.7610, Val Acc=0.7710  
Epoch 50/500: Loss=0.6467, Val Loss=0.6455, Acc=0.7610, Val Acc=0.7710  
Epoch 51/500: Loss=0.6459, Val Loss=0.6448, Acc=0.7610, Val Acc=0.7710  
Epoch 52/500: Loss=0.6452, Val Loss=0.6440, Acc=0.7610, Val Acc=0.7710  
Epoch 53/500: Loss=0.6445, Val Loss=0.6433, Acc=0.7613, Val Acc=0.7710  
Epoch 54/500: Loss=0.6437, Val Loss=0.6426, Acc=0.7613, Val Acc=0.7710  
Epoch 55/500: Loss=0.6430, Val Loss=0.6418, Acc=0.7613, Val Acc=0.7710  
Epoch 56/500: Loss=0.6423, Val Loss=0.6411, Acc=0.7617, Val Acc=0.7710  
Epoch 57/500: Loss=0.6415, Val Loss=0.6404, Acc=0.7617, Val Acc=0.7710  
Epoch 58/500: Loss=0.6408, Val Loss=0.6397, Acc=0.7620, Val Acc=0.7710  
Epoch 59/500: Loss=0.6401, Val Loss=0.6390, Acc=0.7620, Val Acc=0.7710  
Epoch 60/500: Loss=0.6394, Val Loss=0.6383, Acc=0.7620, Val Acc=0.7710  
Epoch 61/500: Loss=0.6387, Val Loss=0.6376, Acc=0.7623, Val Acc=0.7710  
Epoch 62/500: Loss=0.6380, Val Loss=0.6369, Acc=0.7623, Val Acc=0.7700  
Epoch 63/500: Loss=0.6373, Val Loss=0.6362, Acc=0.7623, Val Acc=0.7700  
Epoch 64/500: Loss=0.6367, Val Loss=0.6356, Acc=0.7623, Val Acc=0.7700  
Epoch 65/500: Loss=0.6360, Val Loss=0.6349, Acc=0.7623, Val Acc=0.7700  
Epoch 66/500: Loss=0.6353, Val Loss=0.6342, Acc=0.7623, Val Acc=0.7700  
Epoch 67/500: Loss=0.6347, Val Loss=0.6336, Acc=0.7623, Val Acc=0.7700  
Epoch 68/500: Loss=0.6340, Val Loss=0.6329, Acc=0.7627, Val Acc=0.7700  
Epoch 69/500: Loss=0.6333, Val Loss=0.6323, Acc=0.7627, Val Acc=0.7700  
Epoch 70/500: Loss=0.6327, Val Loss=0.6316, Acc=0.7630, Val Acc=0.7700  
Epoch 71/500: Loss=0.6321, Val Loss=0.6310, Acc=0.7630, Val Acc=0.7700  
Epoch 72/500: Loss=0.6314, Val Loss=0.6304, Acc=0.7630, Val Acc=0.7700  
Epoch 73/500: Loss=0.6308, Val Loss=0.6297, Acc=0.7630, Val Acc=0.7700  
Epoch 74/500: Loss=0.6302, Val Loss=0.6291, Acc=0.7630, Val Acc=0.7700  
Epoch 75/500: Loss=0.6295, Val Loss=0.6285, Acc=0.7627, Val Acc=0.7700  
Epoch 76/500: Loss=0.6289, Val Loss=0.6279, Acc=0.7630, Val Acc=0.7700  
Epoch 77/500: Loss=0.6283, Val Loss=0.6273, Acc=0.7630, Val Acc=0.7700  
Epoch 78/500: Loss=0.6277, Val Loss=0.6267, Acc=0.7630, Val Acc=0.7700  
Epoch 79/500: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/500: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/500: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/500: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/500: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/500: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/500: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/500: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/500: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/500: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/500: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/500: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/500: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/500: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/500: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/500: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/500: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700  
Epoch 96/500: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/500: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/500: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/500: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/500: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
Epoch 101/500: Loss=0.6151, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7700  
Epoch 102/500: Loss=0.6146, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7710  
Epoch 103/500: Loss=0.6141, Val Loss=0.6133, Acc=0.7630, Val Acc=0.7710  
Epoch 104/500: Loss=0.6136, Val Loss=0.6128, Acc=0.7630, Val Acc=0.7710  
Epoch 105/500: Loss=0.6131, Val Loss=0.6123, Acc=0.7627, Val Acc=0.7710

Epoch 106/500: Loss=0.6126, Val Loss=0.6119, Acc=0.7627, Val Acc=0.7710  
Epoch 107/500: Loss=0.6121, Val Loss=0.6114, Acc=0.7627, Val Acc=0.7710  
Epoch 108/500: Loss=0.6117, Val Loss=0.6109, Acc=0.7630, Val Acc=0.7710  
Epoch 109/500: Loss=0.6112, Val Loss=0.6105, Acc=0.7630, Val Acc=0.7710  
Epoch 110/500: Loss=0.6107, Val Loss=0.6100, Acc=0.7630, Val Acc=0.7710  
Epoch 111/500: Loss=0.6103, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 112/500: Loss=0.6098, Val Loss=0.6091, Acc=0.7630, Val Acc=0.7710  
Epoch 113/500: Loss=0.6094, Val Loss=0.6087, Acc=0.7633, Val Acc=0.7710  
Epoch 114/500: Loss=0.6089, Val Loss=0.6082, Acc=0.7633, Val Acc=0.7710  
Epoch 115/500: Loss=0.6085, Val Loss=0.6078, Acc=0.7633, Val Acc=0.7710  
Epoch 116/500: Loss=0.6080, Val Loss=0.6073, Acc=0.7633, Val Acc=0.7710  
Epoch 117/500: Loss=0.6076, Val Loss=0.6069, Acc=0.7633, Val Acc=0.7710  
Epoch 118/500: Loss=0.6071, Val Loss=0.6065, Acc=0.7633, Val Acc=0.7710  
Epoch 119/500: Loss=0.6067, Val Loss=0.6061, Acc=0.7633, Val Acc=0.7710  
Epoch 120/500: Loss=0.6063, Val Loss=0.6056, Acc=0.7633, Val Acc=0.7710  
Epoch 121/500: Loss=0.6058, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 122/500: Loss=0.6054, Val Loss=0.6048, Acc=0.7633, Val Acc=0.7710  
Epoch 123/500: Loss=0.6050, Val Loss=0.6044, Acc=0.7633, Val Acc=0.7710  
Epoch 124/500: Loss=0.6046, Val Loss=0.6040, Acc=0.7633, Val Acc=0.7710  
Epoch 125/500: Loss=0.6041, Val Loss=0.6036, Acc=0.7633, Val Acc=0.7710  
Epoch 126/500: Loss=0.6037, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 127/500: Loss=0.6033, Val Loss=0.6028, Acc=0.7633, Val Acc=0.7710  
Epoch 128/500: Loss=0.6029, Val Loss=0.6024, Acc=0.7633, Val Acc=0.7710  
Epoch 129/500: Loss=0.6025, Val Loss=0.6020, Acc=0.7633, Val Acc=0.7710  
Epoch 130/500: Loss=0.6021, Val Loss=0.6016, Acc=0.7633, Val Acc=0.7710  
Epoch 131/500: Loss=0.6017, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 132/500: Loss=0.6013, Val Loss=0.6008, Acc=0.7633, Val Acc=0.7710  
Epoch 133/500: Loss=0.6009, Val Loss=0.6004, Acc=0.7633, Val Acc=0.7710  
Epoch 134/500: Loss=0.6005, Val Loss=0.6001, Acc=0.7630, Val Acc=0.7710  
Epoch 135/500: Loss=0.6002, Val Loss=0.5997, Acc=0.7630, Val Acc=0.7710  
Epoch 136/500: Loss=0.5998, Val Loss=0.5993, Acc=0.7630, Val Acc=0.7710  
Epoch 137/500: Loss=0.5994, Val Loss=0.5990, Acc=0.7630, Val Acc=0.7710  
Epoch 138/500: Loss=0.5990, Val Loss=0.5986, Acc=0.7630, Val Acc=0.7710  
Epoch 139/500: Loss=0.5986, Val Loss=0.5982, Acc=0.7630, Val Acc=0.7720  
Epoch 140/500: Loss=0.5983, Val Loss=0.5979, Acc=0.7630, Val Acc=0.7720  
Epoch 141/500: Loss=0.5979, Val Loss=0.5975, Acc=0.7630, Val Acc=0.7720  
Epoch 142/500: Loss=0.5975, Val Loss=0.5972, Acc=0.7630, Val Acc=0.7720  
Epoch 143/500: Loss=0.5972, Val Loss=0.5968, Acc=0.7630, Val Acc=0.7720  
Epoch 144/500: Loss=0.5968, Val Loss=0.5965, Acc=0.7630, Val Acc=0.7720  
Epoch 145/500: Loss=0.5965, Val Loss=0.5961, Acc=0.7633, Val Acc=0.7720  
Epoch 146/500: Loss=0.5961, Val Loss=0.5958, Acc=0.7633, Val Acc=0.7720  
Epoch 147/500: Loss=0.5958, Val Loss=0.5954, Acc=0.7633, Val Acc=0.7720  
Epoch 148/500: Loss=0.5954, Val Loss=0.5951, Acc=0.7630, Val Acc=0.7720  
Epoch 149/500: Loss=0.5951, Val Loss=0.5948, Acc=0.7630, Val Acc=0.7720  
Epoch 150/500: Loss=0.5947, Val Loss=0.5944, Acc=0.7630, Val Acc=0.7720  
Epoch 151/500: Loss=0.5944, Val Loss=0.5941, Acc=0.7630, Val Acc=0.7720  
Epoch 152/500: Loss=0.5940, Val Loss=0.5938, Acc=0.7630, Val Acc=0.7720  
Epoch 153/500: Loss=0.5937, Val Loss=0.5934, Acc=0.7630, Val Acc=0.7720  
Epoch 154/500: Loss=0.5934, Val Loss=0.5931, Acc=0.7630, Val Acc=0.7720  
Epoch 155/500: Loss=0.5930, Val Loss=0.5928, Acc=0.7630, Val Acc=0.7720  
Epoch 156/500: Loss=0.5927, Val Loss=0.5925, Acc=0.7630, Val Acc=0.7720  
Epoch 157/500: Loss=0.5924, Val Loss=0.5922, Acc=0.7630, Val Acc=0.7720  
Epoch 158/500: Loss=0.5920, Val Loss=0.5918, Acc=0.7633, Val Acc=0.7720  
Epoch 159/500: Loss=0.5917, Val Loss=0.5915, Acc=0.7633, Val Acc=0.7730  
Epoch 160/500: Loss=0.5914, Val Loss=0.5912, Acc=0.7633, Val Acc=0.7730  
Epoch 161/500: Loss=0.5911, Val Loss=0.5909, Acc=0.7633, Val Acc=0.7730  
Epoch 162/500: Loss=0.5908, Val Loss=0.5906, Acc=0.7633, Val Acc=0.7730  
Epoch 163/500: Loss=0.5905, Val Loss=0.5903, Acc=0.7633, Val Acc=0.7730  
Epoch 164/500: Loss=0.5901, Val Loss=0.5900, Acc=0.7633, Val Acc=0.7730  
Epoch 165/500: Loss=0.5898, Val Loss=0.5897, Acc=0.7633, Val Acc=0.7730

Epoch 166/500: Loss=0.5895, Val Loss=0.5894, Acc=0.7633, Val Acc=0.7730  
Epoch 167/500: Loss=0.5892, Val Loss=0.5891, Acc=0.7633, Val Acc=0.7730  
Epoch 168/500: Loss=0.5889, Val Loss=0.5888, Acc=0.7633, Val Acc=0.7730  
Epoch 169/500: Loss=0.5886, Val Loss=0.5886, Acc=0.7633, Val Acc=0.7730  
Epoch 170/500: Loss=0.5883, Val Loss=0.5883, Acc=0.7637, Val Acc=0.7730  
Epoch 171/500: Loss=0.5880, Val Loss=0.5880, Acc=0.7637, Val Acc=0.7730  
Epoch 172/500: Loss=0.5877, Val Loss=0.5877, Acc=0.7637, Val Acc=0.7730  
Epoch 173/500: Loss=0.5874, Val Loss=0.5874, Acc=0.7637, Val Acc=0.7730  
Epoch 174/500: Loss=0.5872, Val Loss=0.5871, Acc=0.7637, Val Acc=0.7730  
Epoch 175/500: Loss=0.5869, Val Loss=0.5869, Acc=0.7640, Val Acc=0.7730  
Epoch 176/500: Loss=0.5866, Val Loss=0.5866, Acc=0.7640, Val Acc=0.7730  
Epoch 177/500: Loss=0.5863, Val Loss=0.5863, Acc=0.7640, Val Acc=0.7730  
Epoch 178/500: Loss=0.5860, Val Loss=0.5861, Acc=0.7637, Val Acc=0.7730  
Epoch 179/500: Loss=0.5857, Val Loss=0.5858, Acc=0.7637, Val Acc=0.7730  
Epoch 180/500: Loss=0.5855, Val Loss=0.5855, Acc=0.7637, Val Acc=0.7730  
Epoch 181/500: Loss=0.5852, Val Loss=0.5853, Acc=0.7637, Val Acc=0.7730  
Epoch 182/500: Loss=0.5849, Val Loss=0.5850, Acc=0.7637, Val Acc=0.7730  
Epoch 183/500: Loss=0.5846, Val Loss=0.5847, Acc=0.7637, Val Acc=0.7730  
Epoch 184/500: Loss=0.5844, Val Loss=0.5845, Acc=0.7640, Val Acc=0.7730  
Epoch 185/500: Loss=0.5841, Val Loss=0.5842, Acc=0.7640, Val Acc=0.7720  
Epoch 186/500: Loss=0.5838, Val Loss=0.5840, Acc=0.7640, Val Acc=0.7720  
Epoch 187/500: Loss=0.5836, Val Loss=0.5837, Acc=0.7640, Val Acc=0.7720  
Epoch 188/500: Loss=0.5833, Val Loss=0.5835, Acc=0.7640, Val Acc=0.7720  
Epoch 189/500: Loss=0.5831, Val Loss=0.5832, Acc=0.7643, Val Acc=0.7720  
Epoch 190/500: Loss=0.5828, Val Loss=0.5830, Acc=0.7643, Val Acc=0.7720  
Epoch 191/500: Loss=0.5825, Val Loss=0.5827, Acc=0.7643, Val Acc=0.7720  
Epoch 192/500: Loss=0.5823, Val Loss=0.5825, Acc=0.7643, Val Acc=0.7720  
Epoch 193/500: Loss=0.5820, Val Loss=0.5822, Acc=0.7643, Val Acc=0.7720  
Epoch 194/500: Loss=0.5818, Val Loss=0.5820, Acc=0.7643, Val Acc=0.7720  
Epoch 195/500: Loss=0.5815, Val Loss=0.5818, Acc=0.7643, Val Acc=0.7720  
Epoch 196/500: Loss=0.5813, Val Loss=0.5815, Acc=0.7643, Val Acc=0.7720  
Epoch 197/500: Loss=0.5810, Val Loss=0.5813, Acc=0.7643, Val Acc=0.7710  
Epoch 198/500: Loss=0.5808, Val Loss=0.5811, Acc=0.7643, Val Acc=0.7710  
Epoch 199/500: Loss=0.5806, Val Loss=0.5808, Acc=0.7640, Val Acc=0.7710  
Epoch 200/500: Loss=0.5803, Val Loss=0.5806, Acc=0.7640, Val Acc=0.7710  
Epoch 201/500: Loss=0.5801, Val Loss=0.5804, Acc=0.7640, Val Acc=0.7710  
Epoch 202/500: Loss=0.5798, Val Loss=0.5802, Acc=0.7640, Val Acc=0.7710  
Epoch 203/500: Loss=0.5796, Val Loss=0.5799, Acc=0.7640, Val Acc=0.7710  
Epoch 204/500: Loss=0.5794, Val Loss=0.5797, Acc=0.7640, Val Acc=0.7710  
Epoch 205/500: Loss=0.5791, Val Loss=0.5795, Acc=0.7640, Val Acc=0.7710  
Epoch 206/500: Loss=0.5789, Val Loss=0.5793, Acc=0.7640, Val Acc=0.7710  
Epoch 207/500: Loss=0.5787, Val Loss=0.5790, Acc=0.7643, Val Acc=0.7710  
Epoch 208/500: Loss=0.5784, Val Loss=0.5788, Acc=0.7643, Val Acc=0.7710  
Epoch 209/500: Loss=0.5782, Val Loss=0.5786, Acc=0.7643, Val Acc=0.7710  
Epoch 210/500: Loss=0.5780, Val Loss=0.5784, Acc=0.7643, Val Acc=0.7710  
Epoch 211/500: Loss=0.5778, Val Loss=0.5782, Acc=0.7643, Val Acc=0.7710  
Epoch 212/500: Loss=0.5776, Val Loss=0.5780, Acc=0.7643, Val Acc=0.7710  
Epoch 213/500: Loss=0.5773, Val Loss=0.5778, Acc=0.7643, Val Acc=0.7700  
Epoch 214/500: Loss=0.5771, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7700  
Epoch 215/500: Loss=0.5769, Val Loss=0.5774, Acc=0.7643, Val Acc=0.7700  
Epoch 216/500: Loss=0.5767, Val Loss=0.5772, Acc=0.7643, Val Acc=0.7700  
Epoch 217/500: Loss=0.5765, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7690  
Epoch 218/500: Loss=0.5763, Val Loss=0.5768, Acc=0.7643, Val Acc=0.7690  
Epoch 219/500: Loss=0.5760, Val Loss=0.5766, Acc=0.7643, Val Acc=0.7690  
Epoch 220/500: Loss=0.5758, Val Loss=0.5764, Acc=0.7643, Val Acc=0.7690  
Epoch 221/500: Loss=0.5756, Val Loss=0.5762, Acc=0.7643, Val Acc=0.7690  
Epoch 222/500: Loss=0.5754, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 223/500: Loss=0.5752, Val Loss=0.5758, Acc=0.7643, Val Acc=0.7690  
Epoch 224/500: Loss=0.5750, Val Loss=0.5756, Acc=0.7643, Val Acc=0.7690  
Epoch 225/500: Loss=0.5748, Val Loss=0.5754, Acc=0.7647, Val Acc=0.7690



Epoch 226/500: Loss=0.5746, Val Loss=0.5752, Acc=0.7647, Val Acc=0.7690  
Epoch 227/500: Loss=0.5744, Val Loss=0.5750, Acc=0.7647, Val Acc=0.7690  
Epoch 228/500: Loss=0.5742, Val Loss=0.5748, Acc=0.7650, Val Acc=0.7690  
Epoch 229/500: Loss=0.5740, Val Loss=0.5746, Acc=0.7650, Val Acc=0.7690  
Epoch 230/500: Loss=0.5738, Val Loss=0.5744, Acc=0.7647, Val Acc=0.7690  
Epoch 231/500: Loss=0.5736, Val Loss=0.5743, Acc=0.7647, Val Acc=0.7690  
Epoch 232/500: Loss=0.5734, Val Loss=0.5741, Acc=0.7647, Val Acc=0.7690  
Epoch 233/500: Loss=0.5732, Val Loss=0.5739, Acc=0.7647, Val Acc=0.7690  
Epoch 234/500: Loss=0.5730, Val Loss=0.5737, Acc=0.7647, Val Acc=0.7690  
Epoch 235/500: Loss=0.5728, Val Loss=0.5735, Acc=0.7647, Val Acc=0.7690  
Epoch 236/500: Loss=0.5726, Val Loss=0.5734, Acc=0.7647, Val Acc=0.7690  
Epoch 237/500: Loss=0.5725, Val Loss=0.5732, Acc=0.7647, Val Acc=0.7690  
Epoch 238/500: Loss=0.5723, Val Loss=0.5730, Acc=0.7647, Val Acc=0.7690  
Epoch 239/500: Loss=0.5721, Val Loss=0.5728, Acc=0.7647, Val Acc=0.7690  
Epoch 240/500: Loss=0.5719, Val Loss=0.5727, Acc=0.7643, Val Acc=0.7690  
Epoch 241/500: Loss=0.5717, Val Loss=0.5725, Acc=0.7643, Val Acc=0.7690  
Epoch 242/500: Loss=0.5715, Val Loss=0.5723, Acc=0.7643, Val Acc=0.7690  
Epoch 243/500: Loss=0.5714, Val Loss=0.5722, Acc=0.7643, Val Acc=0.7690  
Epoch 244/500: Loss=0.5712, Val Loss=0.5720, Acc=0.7643, Val Acc=0.7690  
Epoch 245/500: Loss=0.5710, Val Loss=0.5718, Acc=0.7647, Val Acc=0.7690  
Epoch 246/500: Loss=0.5708, Val Loss=0.5717, Acc=0.7650, Val Acc=0.7690  
Epoch 247/500: Loss=0.5706, Val Loss=0.5715, Acc=0.7650, Val Acc=0.7690  
Epoch 248/500: Loss=0.5705, Val Loss=0.5713, Acc=0.7650, Val Acc=0.7690  
Epoch 249/500: Loss=0.5703, Val Loss=0.5712, Acc=0.7650, Val Acc=0.7690  
Epoch 250/500: Loss=0.5701, Val Loss=0.5710, Acc=0.7650, Val Acc=0.7690  
Epoch 251/500: Loss=0.5700, Val Loss=0.5708, Acc=0.7650, Val Acc=0.7690  
Epoch 252/500: Loss=0.5698, Val Loss=0.5707, Acc=0.7650, Val Acc=0.7690  
Epoch 253/500: Loss=0.5696, Val Loss=0.5705, Acc=0.7650, Val Acc=0.7690  
Epoch 254/500: Loss=0.5694, Val Loss=0.5704, Acc=0.7650, Val Acc=0.7690  
Epoch 255/500: Loss=0.5693, Val Loss=0.5702, Acc=0.7653, Val Acc=0.7690  
Epoch 256/500: Loss=0.5691, Val Loss=0.5701, Acc=0.7653, Val Acc=0.7690  
Epoch 257/500: Loss=0.5689, Val Loss=0.5699, Acc=0.7653, Val Acc=0.7690  
Epoch 258/500: Loss=0.5688, Val Loss=0.5697, Acc=0.7653, Val Acc=0.7690  
Epoch 259/500: Loss=0.5686, Val Loss=0.5696, Acc=0.7653, Val Acc=0.7690  
Epoch 260/500: Loss=0.5685, Val Loss=0.5694, Acc=0.7653, Val Acc=0.7690  
Epoch 261/500: Loss=0.5683, Val Loss=0.5693, Acc=0.7650, Val Acc=0.7690  
Epoch 262/500: Loss=0.5681, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690  
Epoch 263/500: Loss=0.5680, Val Loss=0.5690, Acc=0.7650, Val Acc=0.7690  
Epoch 264/500: Loss=0.5678, Val Loss=0.5689, Acc=0.7650, Val Acc=0.7690  
Epoch 265/500: Loss=0.5677, Val Loss=0.5687, Acc=0.7650, Val Acc=0.7690  
Epoch 266/500: Loss=0.5675, Val Loss=0.5686, Acc=0.7650, Val Acc=0.7690  
Epoch 267/500: Loss=0.5673, Val Loss=0.5684, Acc=0.7650, Val Acc=0.7690  
Epoch 268/500: Loss=0.5672, Val Loss=0.5683, Acc=0.7650, Val Acc=0.7690  
Epoch 269/500: Loss=0.5670, Val Loss=0.5681, Acc=0.7650, Val Acc=0.7690  
Epoch 270/500: Loss=0.5669, Val Loss=0.5680, Acc=0.7650, Val Acc=0.7690  
Epoch 271/500: Loss=0.5667, Val Loss=0.5679, Acc=0.7650, Val Acc=0.7690  
Epoch 272/500: Loss=0.5666, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 273/500: Loss=0.5664, Val Loss=0.5676, Acc=0.7650, Val Acc=0.7690  
Epoch 274/500: Loss=0.5663, Val Loss=0.5674, Acc=0.7650, Val Acc=0.7690  
Epoch 275/500: Loss=0.5661, Val Loss=0.5673, Acc=0.7650, Val Acc=0.7690  
Epoch 276/500: Loss=0.5660, Val Loss=0.5672, Acc=0.7650, Val Acc=0.7690  
Epoch 277/500: Loss=0.5658, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 278/500: Loss=0.5657, Val Loss=0.5669, Acc=0.7650, Val Acc=0.7690  
Epoch 279/500: Loss=0.5656, Val Loss=0.5668, Acc=0.7657, Val Acc=0.7690  
Epoch 280/500: Loss=0.5654, Val Loss=0.5666, Acc=0.7657, Val Acc=0.7690  
Epoch 281/500: Loss=0.5653, Val Loss=0.5665, Acc=0.7657, Val Acc=0.7690  
Epoch 282/500: Loss=0.5651, Val Loss=0.5664, Acc=0.7657, Val Acc=0.7690  
Epoch 283/500: Loss=0.5650, Val Loss=0.5662, Acc=0.7657, Val Acc=0.7690  
Epoch 284/500: Loss=0.5649, Val Loss=0.5661, Acc=0.7657, Val Acc=0.7690  
Epoch 285/500: Loss=0.5647, Val Loss=0.5660, Acc=0.7657, Val Acc=0.7690

[illegible]

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Epoch 406/500: Loss=0.5527, Val Loss=0.5552, Acc=0.7663, Val Acc=0.7700  
Epoch 407/500: Loss=0.5526, Val Loss=0.5552, Acc=0.7663, Val Acc=0.7700  
Epoch 408/500: Loss=0.5526, Val Loss=0.5551, Acc=0.7660, Val Acc=0.7700  
Epoch 409/500: Loss=0.5525, Val Loss=0.5551, Acc=0.7660, Val Acc=0.7690  
Epoch 410/500: Loss=0.5524, Val Loss=0.5550, Acc=0.7660, Val Acc=0.7690  
Epoch 411/500: Loss=0.5524, Val Loss=0.5549, Acc=0.7660, Val Acc=0.7690  
Epoch 412/500: Loss=0.5523, Val Loss=0.5549, Acc=0.7660, Val Acc=0.7690  
Epoch 413/500: Loss=0.5522, Val Loss=0.5548, Acc=0.7660, Val Acc=0.7690  
Epoch 414/500: Loss=0.5522, Val Loss=0.5548, Acc=0.7660, Val Acc=0.7690  
Epoch 415/500: Loss=0.5521, Val Loss=0.5547, Acc=0.7660, Val Acc=0.7690  
Epoch 416/500: Loss=0.5520, Val Loss=0.5547, Acc=0.7660, Val Acc=0.7690  
Epoch 417/500: Loss=0.5520, Val Loss=0.5546, Acc=0.7660, Val Acc=0.7680  
Epoch 418/500: Loss=0.5519, Val Loss=0.5545, Acc=0.7660, Val Acc=0.7680  
Epoch 419/500: Loss=0.5518, Val Loss=0.5545, Acc=0.7657, Val Acc=0.7680  
Epoch 420/500: Loss=0.5518, Val Loss=0.5544, Acc=0.7657, Val Acc=0.7680  
Epoch 421/500: Loss=0.5517, Val Loss=0.5544, Acc=0.7657, Val Acc=0.7680  
Epoch 422/500: Loss=0.5517, Val Loss=0.5543, Acc=0.7657, Val Acc=0.7680  
Epoch 423/500: Loss=0.5516, Val Loss=0.5543, Acc=0.7657, Val Acc=0.7680  
Epoch 424/500: Loss=0.5515, Val Loss=0.5542, Acc=0.7657, Val Acc=0.7680  
Epoch 425/500: Loss=0.5515, Val Loss=0.5542, Acc=0.7657, Val Acc=0.7680  
Epoch 426/500: Loss=0.5514, Val Loss=0.5541, Acc=0.7657, Val Acc=0.7680  
Epoch 427/500: Loss=0.5513, Val Loss=0.5540, Acc=0.7657, Val Acc=0.7680  
Epoch 428/500: Loss=0.5513, Val Loss=0.5540, Acc=0.7657, Val Acc=0.7680  
Epoch 429/500: Loss=0.5512, Val Loss=0.5539, Acc=0.7657, Val Acc=0.7680  
Epoch 430/500: Loss=0.5512, Val Loss=0.5539, Acc=0.7657, Val Acc=0.7680  
Epoch 431/500: Loss=0.5511, Val Loss=0.5538, Acc=0.7657, Val Acc=0.7680  
Epoch 432/500: Loss=0.5510, Val Loss=0.5538, Acc=0.7653, Val Acc=0.7680  
Epoch 433/500: Loss=0.5510, Val Loss=0.5537, Acc=0.7653, Val Acc=0.7680  
Epoch 434/500: Loss=0.5509, Val Loss=0.5537, Acc=0.7653, Val Acc=0.7680  
Epoch 435/500: Loss=0.5508, Val Loss=0.5536, Acc=0.7653, Val Acc=0.7680  
Epoch 436/500: Loss=0.5508, Val Loss=0.5536, Acc=0.7653, Val Acc=0.7680  
Epoch 437/500: Loss=0.5507, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7680  
Epoch 438/500: Loss=0.5507, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7680  
Epoch 439/500: Loss=0.5506, Val Loss=0.5534, Acc=0.7653, Val Acc=0.7680  
Epoch 440/500: Loss=0.5506, Val Loss=0.5534, Acc=0.7653, Val Acc=0.7680  
Early stop at epoch 440

accuracy= 0.768

Epoch 1/500: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3

accuracy= 0.764

Epoch 1/500: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Epoch 4/500: Loss=0.6897, Val Loss=0.6885, Acc=0.7617, Val Acc=0.7690  
Epoch 5/500: Loss=0.6886, Val Loss=0.6874, Acc=0.7617, Val Acc=0.7690  
Epoch 6/500: Loss=0.6874, Val Loss=0.6862, Acc=0.7617, Val Acc=0.7690  
Epoch 7/500: Loss=0.6863, Val Loss=0.6851, Acc=0.7617, Val Acc=0.7690  
Epoch 8/500: Loss=0.6852, Val Loss=0.6840, Acc=0.7617, Val Acc=0.7690  
Epoch 9/500: Loss=0.6841, Val Loss=0.6829, Acc=0.7617, Val Acc=0.7690  
Epoch 10/500: Loss=0.6831, Val Loss=0.6819, Acc=0.7617, Val Acc=0.7690  
Epoch 11/500: Loss=0.6820, Val Loss=0.6808, Acc=0.7617, Val Acc=0.7690  
Epoch 12/500: Loss=0.6809, Val Loss=0.6797, Acc=0.7617, Val Acc=0.7690  
Epoch 13/500: Loss=0.6799, Val Loss=0.6787, Acc=0.7617, Val Acc=0.7700  
Epoch 14/500: Loss=0.6788, Val Loss=0.6776, Acc=0.7617, Val Acc=0.7700  
Epoch 15/500: Loss=0.6778, Val Loss=0.6766, Acc=0.7617, Val Acc=0.7700  
Epoch 16/500: Loss=0.6768, Val Loss=0.6755, Acc=0.7620, Val Acc=0.7700  
Epoch 17/500: Loss=0.6758, Val Loss=0.6745, Acc=0.7620, Val Acc=0.7700  
Epoch 18/500: Loss=0.6748, Val Loss=0.6735, Acc=0.7620, Val Acc=0.7700

Epoch 19/500:	Loss=0.6738,	Val Loss=0.6725,	Acc=0.7620,	Val Acc=0.7700
Epoch 20/500:	Loss=0.6728,	Val Loss=0.6715,	Acc=0.7620,	Val Acc=0.7700
Epoch 21/500:	Loss=0.6718,	Val Loss=0.6705,	Acc=0.7620,	Val Acc=0.7700
Epoch 22/500:	Loss=0.6708,	Val Loss=0.6696,	Acc=0.7620,	Val Acc=0.7700
Epoch 23/500:	Loss=0.6698,	Val Loss=0.6686,	Acc=0.7620,	Val Acc=0.7700
Epoch 24/500:	Loss=0.6689,	Val Loss=0.6676,	Acc=0.7620,	Val Acc=0.7700
Epoch 25/500:	Loss=0.6679,	Val Loss=0.6667,	Acc=0.7620,	Val Acc=0.7700
Epoch 26/500:	Loss=0.6670,	Val Loss=0.6658,	Acc=0.7620,	Val Acc=0.7710
Epoch 27/500:	Loss=0.6661,	Val Loss=0.6648,	Acc=0.7617,	Val Acc=0.7710
Epoch 28/500:	Loss=0.6651,	Val Loss=0.6639,	Acc=0.7620,	Val Acc=0.7710
Epoch 29/500:	Loss=0.6642,	Val Loss=0.6630,	Acc=0.7620,	Val Acc=0.7710
Epoch 30/500:	Loss=0.6633,	Val Loss=0.6621,	Acc=0.7620,	Val Acc=0.7710
Epoch 31/500:	Loss=0.6624,	Val Loss=0.6612,	Acc=0.7617,	Val Acc=0.7710
Epoch 32/500:	Loss=0.6615,	Val Loss=0.6603,	Acc=0.7617,	Val Acc=0.7710
Epoch 33/500:	Loss=0.6606,	Val Loss=0.6594,	Acc=0.7617,	Val Acc=0.7710
Epoch 34/500:	Loss=0.6598,	Val Loss=0.6585,	Acc=0.7617,	Val Acc=0.7710
Epoch 35/500:	Loss=0.6589,	Val Loss=0.6577,	Acc=0.7617,	Val Acc=0.7710
Epoch 36/500:	Loss=0.6580,	Val Loss=0.6568,	Acc=0.7617,	Val Acc=0.7710
Epoch 37/500:	Loss=0.6572,	Val Loss=0.6560,	Acc=0.7613,	Val Acc=0.7710
Epoch 38/500:	Loss=0.6563,	Val Loss=0.6551,	Acc=0.7613,	Val Acc=0.7710
Epoch 39/500:	Loss=0.6555,	Val Loss=0.6543,	Acc=0.7613,	Val Acc=0.7710
Epoch 40/500:	Loss=0.6547,	Val Loss=0.6534,	Acc=0.7613,	Val Acc=0.7710
Epoch 41/500:	Loss=0.6538,	Val Loss=0.6526,	Acc=0.7613,	Val Acc=0.7710
Epoch 42/500:	Loss=0.6530,	Val Loss=0.6518,	Acc=0.7613,	Val Acc=0.7710
Epoch 43/500:	Loss=0.6522,	Val Loss=0.6510,	Acc=0.7613,	Val Acc=0.7710
Epoch 44/500:	Loss=0.6514,	Val Loss=0.6502,	Acc=0.7613,	Val Acc=0.7710
Epoch 45/500:	Loss=0.6506,	Val Loss=0.6494,	Acc=0.7613,	Val Acc=0.7710
Epoch 46/500:	Loss=0.6498,	Val Loss=0.6486,	Acc=0.7613,	Val Acc=0.7710
Epoch 47/500:	Loss=0.6490,	Val Loss=0.6478,	Acc=0.7610,	Val Acc=0.7710
Epoch 48/500:	Loss=0.6482,	Val Loss=0.6471,	Acc=0.7610,	Val Acc=0.7710
Epoch 49/500:	Loss=0.6475,	Val Loss=0.6463,	Acc=0.7610,	Val Acc=0.7710
Epoch 50/500:	Loss=0.6467,	Val Loss=0.6455,	Acc=0.7610,	Val Acc=0.7710
Epoch 51/500:	Loss=0.6459,	Val Loss=0.6448,	Acc=0.7610,	Val Acc=0.7710
Epoch 52/500:	Loss=0.6452,	Val Loss=0.6440,	Acc=0.7610,	Val Acc=0.7710
Epoch 53/500:	Loss=0.6445,	Val Loss=0.6433,	Acc=0.7613,	Val Acc=0.7710
Epoch 54/500:	Loss=0.6437,	Val Loss=0.6426,	Acc=0.7613,	Val Acc=0.7710
Epoch 55/500:	Loss=0.6430,	Val Loss=0.6418,	Acc=0.7613,	Val Acc=0.7710
Epoch 56/500:	Loss=0.6423,	Val Loss=0.6411,	Acc=0.7617,	Val Acc=0.7710
Epoch 57/500:	Loss=0.6415,	Val Loss=0.6404,	Acc=0.7617,	Val Acc=0.7710
Epoch 58/500:	Loss=0.6408,	Val Loss=0.6397,	Acc=0.7620,	Val Acc=0.7710
Epoch 59/500:	Loss=0.6401,	Val Loss=0.6390,	Acc=0.7620,	Val Acc=0.7710
Epoch 60/500:	Loss=0.6394,	Val Loss=0.6383,	Acc=0.7620,	Val Acc=0.7710
Epoch 61/500:	Loss=0.6387,	Val Loss=0.6376,	Acc=0.7623,	Val Acc=0.7710
Epoch 62/500:	Loss=0.6380,	Val Loss=0.6369,	Acc=0.7623,	Val Acc=0.7700
Epoch 63/500:	Loss=0.6373,	Val Loss=0.6362,	Acc=0.7623,	Val Acc=0.7700
Epoch 64/500:	Loss=0.6367,	Val Loss=0.6356,	Acc=0.7623,	Val Acc=0.7700
Epoch 65/500:	Loss=0.6360,	Val Loss=0.6349,	Acc=0.7623,	Val Acc=0.7700
Epoch 66/500:	Loss=0.6353,	Val Loss=0.6342,	Acc=0.7623,	Val Acc=0.7700
Epoch 67/500:	Loss=0.6347,	Val Loss=0.6336,	Acc=0.7623,	Val Acc=0.7700
Epoch 68/500:	Loss=0.6340,	Val Loss=0.6329,	Acc=0.7627,	Val Acc=0.7700
Epoch 69/500:	Loss=0.6333,	Val Loss=0.6323,	Acc=0.7627,	Val Acc=0.7700
Epoch 70/500:	Loss=0.6327,	Val Loss=0.6316,	Acc=0.7630,	Val Acc=0.7700
Epoch 71/500:	Loss=0.6321,	Val Loss=0.6310,	Acc=0.7630,	Val Acc=0.7700
Epoch 72/500:	Loss=0.6314,	Val Loss=0.6304,	Acc=0.7630,	Val Acc=0.7700
Epoch 73/500:	Loss=0.6308,	Val Loss=0.6297,	Acc=0.7630,	Val Acc=0.7700
Epoch 74/500:	Loss=0.6302,	Val Loss=0.6291,	Acc=0.7630,	Val Acc=0.7700
Epoch 75/500:	Loss=0.6295,	Val Loss=0.6285,	Acc=0.7627,	Val Acc=0.7700
Epoch 76/500:	Loss=0.6289,	Val Loss=0.6279,	Acc=0.7630,	Val Acc=0.7700
Epoch 77/500:	Loss=0.6283,	Val Loss=0.6273,	Acc=0.7630,	Val Acc=0.7700
Epoch 78/500:	Loss=0.6277,	Val Loss=0.6267,	Acc=0.7630,	Val Acc=0.7700

Epoch 79/500: Loss=0.6271, Val Loss=0.6261, Acc=0.7630, Val Acc=0.7700  
Epoch 80/500: Loss=0.6265, Val Loss=0.6255, Acc=0.7630, Val Acc=0.7700  
Epoch 81/500: Loss=0.6259, Val Loss=0.6249, Acc=0.7630, Val Acc=0.7700  
Epoch 82/500: Loss=0.6253, Val Loss=0.6244, Acc=0.7630, Val Acc=0.7700  
Epoch 83/500: Loss=0.6248, Val Loss=0.6238, Acc=0.7630, Val Acc=0.7700  
Epoch 84/500: Loss=0.6242, Val Loss=0.6232, Acc=0.7630, Val Acc=0.7700  
Epoch 85/500: Loss=0.6236, Val Loss=0.6227, Acc=0.7630, Val Acc=0.7700  
Epoch 86/500: Loss=0.6230, Val Loss=0.6221, Acc=0.7630, Val Acc=0.7700  
Epoch 87/500: Loss=0.6225, Val Loss=0.6216, Acc=0.7630, Val Acc=0.7700  
Epoch 88/500: Loss=0.6219, Val Loss=0.6210, Acc=0.7630, Val Acc=0.7700  
Epoch 89/500: Loss=0.6214, Val Loss=0.6205, Acc=0.7633, Val Acc=0.7700  
Epoch 90/500: Loss=0.6208, Val Loss=0.6199, Acc=0.7633, Val Acc=0.7700  
Epoch 91/500: Loss=0.6203, Val Loss=0.6194, Acc=0.7630, Val Acc=0.7700  
Epoch 92/500: Loss=0.6197, Val Loss=0.6189, Acc=0.7630, Val Acc=0.7700  
Epoch 93/500: Loss=0.6192, Val Loss=0.6183, Acc=0.7630, Val Acc=0.7700  
Epoch 94/500: Loss=0.6187, Val Loss=0.6178, Acc=0.7630, Val Acc=0.7700  
Epoch 95/500: Loss=0.6182, Val Loss=0.6173, Acc=0.7630, Val Acc=0.7700  
Epoch 96/500: Loss=0.6176, Val Loss=0.6168, Acc=0.7630, Val Acc=0.7710  
Epoch 97/500: Loss=0.6171, Val Loss=0.6163, Acc=0.7630, Val Acc=0.7710  
Epoch 98/500: Loss=0.6166, Val Loss=0.6158, Acc=0.7630, Val Acc=0.7710  
Epoch 99/500: Loss=0.6161, Val Loss=0.6153, Acc=0.7630, Val Acc=0.7710  
Epoch 100/500: Loss=0.6156, Val Loss=0.6148, Acc=0.7630, Val Acc=0.7710  
Epoch 101/500: Loss=0.6151, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7700  
Early stop at epoch 101  
accuracy= 0.77  
Epoch 1/500: Loss=0.6931, Val Loss=0.6931, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6931, Val Loss=0.6930, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6930, Val Loss=0.6929, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/500: Loss=0.6931, Val Loss=0.6920, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6920, Val Loss=0.6908, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6908, Val Loss=0.6897, Acc=0.7617, Val Acc=0.7690  
Early stop at epoch 3  
accuracy= 0.769  
Epoch 1/10: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6920, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6917, Val Loss=0.6913, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6913, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6909, Val Loss=0.6906, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6906, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6902, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6899, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.764  
Epoch 1/10: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/10: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/10: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/10: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/10: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/10: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/10: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/10: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
accuracy= 0.771  
Epoch 1/10: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460

Early stop at epoch 3

accuracy= 0.764

Epoch 1/10: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/10: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/10: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/10: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/10: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/10: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/10: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/10: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710

accuracy= 0.771

Epoch 1/10: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460

Early stop at epoch 3

accuracy= 0.764

Epoch 1/10: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/10: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/10: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700

Early stop at epoch 5

accuracy= 0.77

Epoch 1/50: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6920, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6917, Val Loss=0.6913, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6913, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6909, Val Loss=0.6906, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6906, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6902, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6899, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6895, Val Loss=0.6891, Acc=0.7487, Val Acc=0.7460  
Epoch 12/50: Loss=0.6891, Val Loss=0.6888, Acc=0.7487, Val Acc=0.7460  
Epoch 13/50: Loss=0.6888, Val Loss=0.6884, Acc=0.7487, Val Acc=0.7460  
Epoch 14/50: Loss=0.6884, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 15/50: Loss=0.6881, Val Loss=0.6877, Acc=0.7487, Val Acc=0.7460  
Epoch 16/50: Loss=0.6877, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 17/50: Loss=0.6874, Val Loss=0.6870, Acc=0.7487, Val Acc=0.7460  
Epoch 18/50: Loss=0.6870, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 19/50: Loss=0.6867, Val Loss=0.6863, Acc=0.7487, Val Acc=0.7460  
Epoch 20/50: Loss=0.6863, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 21/50: Loss=0.6860, Val Loss=0.6855, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.6856, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.6853, Val Loss=0.6848, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.6849, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 25/50: Loss=0.6846, Val Loss=0.6841, Acc=0.7487, Val Acc=0.7460  
Epoch 26/50: Loss=0.6842, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 27/50: Loss=0.6839, Val Loss=0.6835, Acc=0.7487, Val Acc=0.7460  
Epoch 28/50: Loss=0.6835, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 29/50: Loss=0.6832, Val Loss=0.6828, Acc=0.7487, Val Acc=0.7460  
Epoch 30/50: Loss=0.6828, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 31/50: Loss=0.6825, Val Loss=0.6821, Acc=0.7487, Val Acc=0.7460  
Epoch 32/50: Loss=0.6822, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 33/50: Loss=0.6818, Val Loss=0.6814, Acc=0.7487, Val Acc=0.7460  
Epoch 34/50: Loss=0.6815, Val Loss=0.6811, Acc=0.7487, Val Acc=0.7460  
Epoch 35/50: Loss=0.6811, Val Loss=0.6807, Acc=0.7487, Val Acc=0.7460

Epoch 36/50: Loss=0.6808, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 37/50: Loss=0.6805, Val Loss=0.6800, Acc=0.7487, Val Acc=0.7460  
Epoch 38/50: Loss=0.6801, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 39/50: Loss=0.6798, Val Loss=0.6794, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6795, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6791, Val Loss=0.6787, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.6788, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.6785, Val Loss=0.6780, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.6781, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 45/50: Loss=0.6778, Val Loss=0.6774, Acc=0.7487, Val Acc=0.7460  
Epoch 46/50: Loss=0.6775, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 47/50: Loss=0.6772, Val Loss=0.6767, Acc=0.7487, Val Acc=0.7460  
Epoch 48/50: Loss=0.6768, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 49/50: Loss=0.6765, Val Loss=0.6761, Acc=0.7487, Val Acc=0.7460  
Epoch 50/50: Loss=0.6762, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.762  
Epoch 1/50: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/50: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/50: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/50: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/50: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/50: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/50: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/50: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/50: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/50: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/50: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/50: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/50: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/50: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/50: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/50: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/50: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/50: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/50: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/50: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/50: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/50: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/50: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/50: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/50: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/50: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/50: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/50: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/50: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/50: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/50: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/50: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/50: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/50: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/50: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/50: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/50: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/50: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/50: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/50: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/50: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/50: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690



Epoch 45/50: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/50: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/50: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/50: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/50: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/50: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
accuracy= 0.769  
Epoch 1/50: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/50: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/50: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/50: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/50: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/50: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/50: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/50: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/50: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/50: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/50: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/50: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/50: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/50: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/50: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/50: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/50: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/50: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/50: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/50: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/50: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/50: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/50: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/50: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/50: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/50: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/50: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/50: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/50: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/50: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/50: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/50: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/50: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/50: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/50: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/50: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/50: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/50: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/50: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/50: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/50: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/50: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/50: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/50: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/50: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/50: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/50: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690

Epoch 49/50: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/50: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
accuracy= 0.769  
Epoch 1/50: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/50: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/50: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/50: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Early stop at epoch 5  
accuracy= 0.77  
Epoch 1/100: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6920, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6917, Val Loss=0.6913, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6913, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6909, Val Loss=0.6906, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6906, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6902, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6899, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6895, Val Loss=0.6891, Acc=0.7487, Val Acc=0.7460  
Epoch 12/100: Loss=0.6891, Val Loss=0.6888, Acc=0.7487, Val Acc=0.7460  
Epoch 13/100: Loss=0.6888, Val Loss=0.6884, Acc=0.7487, Val Acc=0.7460  
Epoch 14/100: Loss=0.6884, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 15/100: Loss=0.6881, Val Loss=0.6877, Acc=0.7487, Val Acc=0.7460  
Epoch 16/100: Loss=0.6877, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 17/100: Loss=0.6874, Val Loss=0.6870, Acc=0.7487, Val Acc=0.7460  
Epoch 18/100: Loss=0.6870, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 19/100: Loss=0.6867, Val Loss=0.6863, Acc=0.7487, Val Acc=0.7460  
Epoch 20/100: Loss=0.6863, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 21/100: Loss=0.6860, Val Loss=0.6855, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.6856, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.6853, Val Loss=0.6848, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.6849, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 25/100: Loss=0.6846, Val Loss=0.6841, Acc=0.7487, Val Acc=0.7460  
Epoch 26/100: Loss=0.6842, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 27/100: Loss=0.6839, Val Loss=0.6835, Acc=0.7487, Val Acc=0.7460  
Epoch 28/100: Loss=0.6835, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 29/100: Loss=0.6832, Val Loss=0.6828, Acc=0.7487, Val Acc=0.7460  
Epoch 30/100: Loss=0.6828, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 31/100: Loss=0.6825, Val Loss=0.6821, Acc=0.7487, Val Acc=0.7460  
Epoch 32/100: Loss=0.6822, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 33/100: Loss=0.6818, Val Loss=0.6814, Acc=0.7487, Val Acc=0.7460  
Epoch 34/100: Loss=0.6815, Val Loss=0.6811, Acc=0.7487, Val Acc=0.7460  
Epoch 35/100: Loss=0.6811, Val Loss=0.6807, Acc=0.7487, Val Acc=0.7460  
Epoch 36/100: Loss=0.6808, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 37/100: Loss=0.6805, Val Loss=0.6800, Acc=0.7487, Val Acc=0.7460  
Epoch 38/100: Loss=0.6801, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 39/100: Loss=0.6798, Val Loss=0.6794, Acc=0.7487, Val Acc=0.7460  
Epoch 40/100: Loss=0.6795, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 41/100: Loss=0.6791, Val Loss=0.6787, Acc=0.7487, Val Acc=0.7460  
Epoch 42/100: Loss=0.6788, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 43/100: Loss=0.6785, Val Loss=0.6780, Acc=0.7487, Val Acc=0.7460  
Epoch 44/100: Loss=0.6781, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 45/100: Loss=0.6778, Val Loss=0.6774, Acc=0.7487, Val Acc=0.7460

Epoch 46/100: Loss=0.6775, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 47/100: Loss=0.6772, Val Loss=0.6767, Acc=0.7487, Val Acc=0.7460  
Epoch 48/100: Loss=0.6768, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 49/100: Loss=0.6765, Val Loss=0.6761, Acc=0.7487, Val Acc=0.7460  
Epoch 50/100: Loss=0.6762, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 51/100: Loss=0.6759, Val Loss=0.6754, Acc=0.7487, Val Acc=0.7460  
Epoch 52/100: Loss=0.6755, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 53/100: Loss=0.6752, Val Loss=0.6748, Acc=0.7487, Val Acc=0.7460  
Epoch 54/100: Loss=0.6749, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 55/100: Loss=0.6746, Val Loss=0.6741, Acc=0.7487, Val Acc=0.7460  
Epoch 56/100: Loss=0.6743, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 57/100: Loss=0.6739, Val Loss=0.6735, Acc=0.7487, Val Acc=0.7460  
Epoch 58/100: Loss=0.6736, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 59/100: Loss=0.6733, Val Loss=0.6729, Acc=0.7487, Val Acc=0.7460  
Epoch 60/100: Loss=0.6730, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 61/100: Loss=0.6727, Val Loss=0.6722, Acc=0.7487, Val Acc=0.7460  
Epoch 62/100: Loss=0.6724, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 63/100: Loss=0.6720, Val Loss=0.6716, Acc=0.7487, Val Acc=0.7460  
Epoch 64/100: Loss=0.6717, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 65/100: Loss=0.6714, Val Loss=0.6710, Acc=0.7487, Val Acc=0.7460  
Epoch 66/100: Loss=0.6711, Val Loss=0.6707, Acc=0.7487, Val Acc=0.7460  
Epoch 67/100: Loss=0.6708, Val Loss=0.6703, Acc=0.7487, Val Acc=0.7460  
Epoch 68/100: Loss=0.6705, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 69/100: Loss=0.6702, Val Loss=0.6697, Acc=0.7487, Val Acc=0.7460  
Epoch 70/100: Loss=0.6699, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 71/100: Loss=0.6696, Val Loss=0.6691, Acc=0.7487, Val Acc=0.7460  
Epoch 72/100: Loss=0.6693, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 73/100: Loss=0.6690, Val Loss=0.6685, Acc=0.7487, Val Acc=0.7460  
Epoch 74/100: Loss=0.6686, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 75/100: Loss=0.6683, Val Loss=0.6679, Acc=0.7487, Val Acc=0.7460  
Epoch 76/100: Loss=0.6680, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 77/100: Loss=0.6677, Val Loss=0.6673, Acc=0.7487, Val Acc=0.7460  
Epoch 78/100: Loss=0.6674, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 79/100: Loss=0.6671, Val Loss=0.6667, Acc=0.7487, Val Acc=0.7460  
Epoch 80/100: Loss=0.6668, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 81/100: Loss=0.6665, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 82/100: Loss=0.6662, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 83/100: Loss=0.6659, Val Loss=0.6655, Acc=0.7487, Val Acc=0.7460  
Epoch 84/100: Loss=0.6656, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 85/100: Loss=0.6653, Val Loss=0.6649, Acc=0.7487, Val Acc=0.7460  
Epoch 86/100: Loss=0.6651, Val Loss=0.6646, Acc=0.7490, Val Acc=0.7460  
Epoch 87/100: Loss=0.6648, Val Loss=0.6643, Acc=0.7490, Val Acc=0.7460  
Epoch 88/100: Loss=0.6645, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 89/100: Loss=0.6642, Val Loss=0.6637, Acc=0.7490, Val Acc=0.7460  
Epoch 90/100: Loss=0.6639, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 91/100: Loss=0.6636, Val Loss=0.6631, Acc=0.7490, Val Acc=0.7460  
Epoch 92/100: Loss=0.6633, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 93/100: Loss=0.6630, Val Loss=0.6625, Acc=0.7490, Val Acc=0.7460  
Epoch 94/100: Loss=0.6627, Val Loss=0.6623, Acc=0.7490, Val Acc=0.7460  
Epoch 95/100: Loss=0.6624, Val Loss=0.6620, Acc=0.7490, Val Acc=0.7460  
Epoch 96/100: Loss=0.6621, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 97/100: Loss=0.6619, Val Loss=0.6614, Acc=0.7490, Val Acc=0.7460  
Epoch 98/100: Loss=0.6616, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 99/100: Loss=0.6613, Val Loss=0.6608, Acc=0.7490, Val Acc=0.7460  
Epoch 100/100: Loss=0.6610, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
accuracy= 0.763  
Epoch 1/100: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/100: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700

Epoch 5/100: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/100: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/100: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/100: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/100: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/100: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/100: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/100: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/100: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/100: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/100: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/100: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/100: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/100: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/100: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/100: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/100: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/100: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/100: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/100: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/100: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/100: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/100: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/100: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/100: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/100: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/100: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/100: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/100: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/100: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/100: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/100: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/100: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/100: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/100: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/100: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/100: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/100: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/100: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/100: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/100: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/100: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/100: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/100: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/100: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/100: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/100: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/100: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690  
Epoch 53/100: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/100: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/100: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/100: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/100: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/100: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/100: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/100: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/100: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/100: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/100: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/100: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690

Epoch 65/100: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/100: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Epoch 67/100: Loss=0.5589, Val Loss=0.5603, Acc=0.7653, Val Acc=0.7710  
Epoch 68/100: Loss=0.5584, Val Loss=0.5599, Acc=0.7653, Val Acc=0.7710  
Epoch 69/100: Loss=0.5579, Val Loss=0.5594, Acc=0.7657, Val Acc=0.7700  
Epoch 70/100: Loss=0.5574, Val Loss=0.5590, Acc=0.7660, Val Acc=0.7700  
Epoch 71/100: Loss=0.5569, Val Loss=0.5586, Acc=0.7660, Val Acc=0.7700  
Epoch 72/100: Loss=0.5565, Val Loss=0.5582, Acc=0.7660, Val Acc=0.7700  
Epoch 73/100: Loss=0.5560, Val Loss=0.5578, Acc=0.7660, Val Acc=0.7700  
Epoch 74/100: Loss=0.5556, Val Loss=0.5575, Acc=0.7663, Val Acc=0.7700  
Epoch 75/100: Loss=0.5552, Val Loss=0.5571, Acc=0.7660, Val Acc=0.7700  
Epoch 76/100: Loss=0.5548, Val Loss=0.5567, Acc=0.7660, Val Acc=0.7690  
Epoch 77/100: Loss=0.5544, Val Loss=0.5564, Acc=0.7660, Val Acc=0.7690  
Epoch 78/100: Loss=0.5540, Val Loss=0.5561, Acc=0.7660, Val Acc=0.7690  
Epoch 79/100: Loss=0.5536, Val Loss=0.5557, Acc=0.7663, Val Acc=0.7690  
Epoch 80/100: Loss=0.5532, Val Loss=0.5554, Acc=0.7663, Val Acc=0.7690  
Epoch 81/100: Loss=0.5529, Val Loss=0.5551, Acc=0.7660, Val Acc=0.7700  
Epoch 82/100: Loss=0.5525, Val Loss=0.5548, Acc=0.7663, Val Acc=0.7690  
Epoch 83/100: Loss=0.5522, Val Loss=0.5545, Acc=0.7660, Val Acc=0.7690  
Epoch 84/100: Loss=0.5519, Val Loss=0.5543, Acc=0.7660, Val Acc=0.7680  
Epoch 85/100: Loss=0.5515, Val Loss=0.5540, Acc=0.7657, Val Acc=0.7680  
Epoch 86/100: Loss=0.5512, Val Loss=0.5537, Acc=0.7657, Val Acc=0.7680  
Epoch 87/100: Loss=0.5509, Val Loss=0.5535, Acc=0.7657, Val Acc=0.7680  
Epoch 88/100: Loss=0.5506, Val Loss=0.5532, Acc=0.7653, Val Acc=0.7680  
Epoch 89/100: Loss=0.5503, Val Loss=0.5530, Acc=0.7653, Val Acc=0.7670  
Epoch 90/100: Loss=0.5501, Val Loss=0.5528, Acc=0.7650, Val Acc=0.7670  
Epoch 91/100: Loss=0.5498, Val Loss=0.5525, Acc=0.7650, Val Acc=0.7670  
Epoch 92/100: Loss=0.5495, Val Loss=0.5523, Acc=0.7653, Val Acc=0.7670  
Epoch 93/100: Loss=0.5492, Val Loss=0.5521, Acc=0.7653, Val Acc=0.7670  
Epoch 94/100: Loss=0.5490, Val Loss=0.5519, Acc=0.7653, Val Acc=0.7670  
Epoch 95/100: Loss=0.5487, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 96/100: Loss=0.5485, Val Loss=0.5515, Acc=0.7653, Val Acc=0.7670  
Epoch 97/100: Loss=0.5483, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 98/100: Loss=0.5480, Val Loss=0.5511, Acc=0.7653, Val Acc=0.7670  
Epoch 99/100: Loss=0.5478, Val Loss=0.5509, Acc=0.7653, Val Acc=0.7670  
Epoch 100/100: Loss=0.5476, Val Loss=0.5508, Acc=0.7653, Val Acc=0.7670  
accuracy= 0.767  
Epoch 1/100: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/100: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/100: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/100: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/100: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/100: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/100: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/100: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/100: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/100: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/100: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/100: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/100: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/100: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/100: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/100: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/100: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700

Epoch 19/100: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/100: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/100: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/100: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/100: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/100: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/100: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/100: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/100: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/100: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/100: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/100: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/100: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/100: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/100: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/100: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/100: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/100: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/100: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/100: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/100: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/100: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/100: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/100: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/100: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/100: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/100: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/100: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/100: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/100: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/100: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/100: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/100: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/100: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690  
Epoch 53/100: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/100: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/100: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/100: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/100: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/100: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/100: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/100: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/100: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/100: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/100: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/100: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690  
Epoch 65/100: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/100: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Early stop at epoch 66  
accuracy= 0.771

Epoch 1/100: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764

Epoch 1/100: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/100: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/100: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700

Early stop at epoch 5  
accuracy= 0.77

Epoch 1/150:	Loss=0.6931,	Val Loss=0.6928,	Acc=0.6060,	Val Acc=0.7460
Epoch 2/150:	Loss=0.6928,	Val Loss=0.6924,	Acc=0.7487,	Val Acc=0.7460
Epoch 3/150:	Loss=0.6924,	Val Loss=0.6920,	Acc=0.7487,	Val Acc=0.7460
Epoch 4/150:	Loss=0.6920,	Val Loss=0.6917,	Acc=0.7487,	Val Acc=0.7460
Epoch 5/150:	Loss=0.6917,	Val Loss=0.6913,	Acc=0.7487,	Val Acc=0.7460
Epoch 6/150:	Loss=0.6913,	Val Loss=0.6909,	Acc=0.7487,	Val Acc=0.7460
Epoch 7/150:	Loss=0.6909,	Val Loss=0.6906,	Acc=0.7487,	Val Acc=0.7460
Epoch 8/150:	Loss=0.6906,	Val Loss=0.6902,	Acc=0.7487,	Val Acc=0.7460
Epoch 9/150:	Loss=0.6902,	Val Loss=0.6898,	Acc=0.7487,	Val Acc=0.7460
Epoch 10/150:	Loss=0.6899,	Val Loss=0.6895,	Acc=0.7487,	Val Acc=0.7460
Epoch 11/150:	Loss=0.6895,	Val Loss=0.6891,	Acc=0.7487,	Val Acc=0.7460
Epoch 12/150:	Loss=0.6891,	Val Loss=0.6888,	Acc=0.7487,	Val Acc=0.7460
Epoch 13/150:	Loss=0.6888,	Val Loss=0.6884,	Acc=0.7487,	Val Acc=0.7460
Epoch 14/150:	Loss=0.6884,	Val Loss=0.6880,	Acc=0.7487,	Val Acc=0.7460
Epoch 15/150:	Loss=0.6881,	Val Loss=0.6877,	Acc=0.7487,	Val Acc=0.7460
Epoch 16/150:	Loss=0.6877,	Val Loss=0.6873,	Acc=0.7487,	Val Acc=0.7460
Epoch 17/150:	Loss=0.6874,	Val Loss=0.6870,	Acc=0.7487,	Val Acc=0.7460
Epoch 18/150:	Loss=0.6870,	Val Loss=0.6866,	Acc=0.7487,	Val Acc=0.7460
Epoch 19/150:	Loss=0.6867,	Val Loss=0.6863,	Acc=0.7487,	Val Acc=0.7460
Epoch 20/150:	Loss=0.6863,	Val Loss=0.6859,	Acc=0.7487,	Val Acc=0.7460
Epoch 21/150:	Loss=0.6860,	Val Loss=0.6855,	Acc=0.7487,	Val Acc=0.7460
Epoch 22/150:	Loss=0.6856,	Val Loss=0.6852,	Acc=0.7487,	Val Acc=0.7460
Epoch 23/150:	Loss=0.6853,	Val Loss=0.6848,	Acc=0.7487,	Val Acc=0.7460
Epoch 24/150:	Loss=0.6849,	Val Loss=0.6845,	Acc=0.7487,	Val Acc=0.7460
Epoch 25/150:	Loss=0.6846,	Val Loss=0.6841,	Acc=0.7487,	Val Acc=0.7460
Epoch 26/150:	Loss=0.6842,	Val Loss=0.6838,	Acc=0.7487,	Val Acc=0.7460
Epoch 27/150:	Loss=0.6839,	Val Loss=0.6835,	Acc=0.7487,	Val Acc=0.7460
Epoch 28/150:	Loss=0.6835,	Val Loss=0.6831,	Acc=0.7487,	Val Acc=0.7460
Epoch 29/150:	Loss=0.6832,	Val Loss=0.6828,	Acc=0.7487,	Val Acc=0.7460
Epoch 30/150:	Loss=0.6828,	Val Loss=0.6824,	Acc=0.7487,	Val Acc=0.7460
Epoch 31/150:	Loss=0.6825,	Val Loss=0.6821,	Acc=0.7487,	Val Acc=0.7460
Epoch 32/150:	Loss=0.6822,	Val Loss=0.6817,	Acc=0.7487,	Val Acc=0.7460
Epoch 33/150:	Loss=0.6818,	Val Loss=0.6814,	Acc=0.7487,	Val Acc=0.7460
Epoch 34/150:	Loss=0.6815,	Val Loss=0.6811,	Acc=0.7487,	Val Acc=0.7460
Epoch 35/150:	Loss=0.6811,	Val Loss=0.6807,	Acc=0.7487,	Val Acc=0.7460
Epoch 36/150:	Loss=0.6808,	Val Loss=0.6804,	Acc=0.7487,	Val Acc=0.7460
Epoch 37/150:	Loss=0.6805,	Val Loss=0.6800,	Acc=0.7487,	Val Acc=0.7460
Epoch 38/150:	Loss=0.6801,	Val Loss=0.6797,	Acc=0.7487,	Val Acc=0.7460
Epoch 39/150:	Loss=0.6798,	Val Loss=0.6794,	Acc=0.7487,	Val Acc=0.7460
Epoch 40/150:	Loss=0.6795,	Val Loss=0.6790,	Acc=0.7487,	Val Acc=0.7460
Epoch 41/150:	Loss=0.6791,	Val Loss=0.6787,	Acc=0.7487,	Val Acc=0.7460
Epoch 42/150:	Loss=0.6788,	Val Loss=0.6784,	Acc=0.7487,	Val Acc=0.7460
Epoch 43/150:	Loss=0.6785,	Val Loss=0.6780,	Acc=0.7487,	Val Acc=0.7460
Epoch 44/150:	Loss=0.6781,	Val Loss=0.6777,	Acc=0.7487,	Val Acc=0.7460
Epoch 45/150:	Loss=0.6778,	Val Loss=0.6774,	Acc=0.7487,	Val Acc=0.7460
Epoch 46/150:	Loss=0.6775,	Val Loss=0.6770,	Acc=0.7487,	Val Acc=0.7460
Epoch 47/150:	Loss=0.6772,	Val Loss=0.6767,	Acc=0.7487,	Val Acc=0.7460
Epoch 48/150:	Loss=0.6768,	Val Loss=0.6764,	Acc=0.7487,	Val Acc=0.7460
Epoch 49/150:	Loss=0.6765,	Val Loss=0.6761,	Acc=0.7487,	Val Acc=0.7460
Epoch 50/150:	Loss=0.6762,	Val Loss=0.6757,	Acc=0.7487,	Val Acc=0.7460
Epoch 51/150:	Loss=0.6759,	Val Loss=0.6754,	Acc=0.7487,	Val Acc=0.7460
Epoch 52/150:	Loss=0.6755,	Val Loss=0.6751,	Acc=0.7487,	Val Acc=0.7460
Epoch 53/150:	Loss=0.6752,	Val Loss=0.6748,	Acc=0.7487,	Val Acc=0.7460
Epoch 54/150:	Loss=0.6749,	Val Loss=0.6744,	Acc=0.7487,	Val Acc=0.7460
Epoch 55/150:	Loss=0.6746,	Val Loss=0.6741,	Acc=0.7487,	Val Acc=0.7460
Epoch 56/150:	Loss=0.6743,	Val Loss=0.6738,	Acc=0.7487,	Val Acc=0.7460
Epoch 57/150:	Loss=0.6739,	Val Loss=0.6735,	Acc=0.7487,	Val Acc=0.7460
Epoch 58/150:	Loss=0.6736,	Val Loss=0.6732,	Acc=0.7487,	Val Acc=0.7460

Epoch 59/150: Loss=0.6733, Val Loss=0.6729, Acc=0.7487, Val Acc=0.7460  
Epoch 60/150: Loss=0.6730, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 61/150: Loss=0.6727, Val Loss=0.6722, Acc=0.7487, Val Acc=0.7460  
Epoch 62/150: Loss=0.6724, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 63/150: Loss=0.6720, Val Loss=0.6716, Acc=0.7487, Val Acc=0.7460  
Epoch 64/150: Loss=0.6717, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 65/150: Loss=0.6714, Val Loss=0.6710, Acc=0.7487, Val Acc=0.7460  
Epoch 66/150: Loss=0.6711, Val Loss=0.6707, Acc=0.7487, Val Acc=0.7460  
Epoch 67/150: Loss=0.6708, Val Loss=0.6703, Acc=0.7487, Val Acc=0.7460  
Epoch 68/150: Loss=0.6705, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 69/150: Loss=0.6702, Val Loss=0.6697, Acc=0.7487, Val Acc=0.7460  
Epoch 70/150: Loss=0.6699, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 71/150: Loss=0.6696, Val Loss=0.6691, Acc=0.7487, Val Acc=0.7460  
Epoch 72/150: Loss=0.6693, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 73/150: Loss=0.6690, Val Loss=0.6685, Acc=0.7487, Val Acc=0.7460  
Epoch 74/150: Loss=0.6686, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 75/150: Loss=0.6683, Val Loss=0.6679, Acc=0.7487, Val Acc=0.7460  
Epoch 76/150: Loss=0.6680, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 77/150: Loss=0.6677, Val Loss=0.6673, Acc=0.7487, Val Acc=0.7460  
Epoch 78/150: Loss=0.6674, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 79/150: Loss=0.6671, Val Loss=0.6667, Acc=0.7487, Val Acc=0.7460  
Epoch 80/150: Loss=0.6668, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 81/150: Loss=0.6665, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 82/150: Loss=0.6662, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 83/150: Loss=0.6659, Val Loss=0.6655, Acc=0.7487, Val Acc=0.7460  
Epoch 84/150: Loss=0.6656, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 85/150: Loss=0.6653, Val Loss=0.6649, Acc=0.7487, Val Acc=0.7460  
Epoch 86/150: Loss=0.6651, Val Loss=0.6646, Acc=0.7490, Val Acc=0.7460  
Epoch 87/150: Loss=0.6648, Val Loss=0.6643, Acc=0.7490, Val Acc=0.7460  
Epoch 88/150: Loss=0.6645, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 89/150: Loss=0.6642, Val Loss=0.6637, Acc=0.7490, Val Acc=0.7460  
Epoch 90/150: Loss=0.6639, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 91/150: Loss=0.6636, Val Loss=0.6631, Acc=0.7490, Val Acc=0.7460  
Epoch 92/150: Loss=0.6633, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 93/150: Loss=0.6630, Val Loss=0.6625, Acc=0.7490, Val Acc=0.7460  
Epoch 94/150: Loss=0.6627, Val Loss=0.6623, Acc=0.7490, Val Acc=0.7460  
Epoch 95/150: Loss=0.6624, Val Loss=0.6620, Acc=0.7490, Val Acc=0.7460  
Epoch 96/150: Loss=0.6621, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 97/150: Loss=0.6619, Val Loss=0.6614, Acc=0.7490, Val Acc=0.7460  
Epoch 98/150: Loss=0.6616, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 99/150: Loss=0.6613, Val Loss=0.6608, Acc=0.7490, Val Acc=0.7460  
Epoch 100/150: Loss=0.6610, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 101/150: Loss=0.6607, Val Loss=0.6603, Acc=0.7490, Val Acc=0.7460  
Epoch 102/150: Loss=0.6604, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 103/150: Loss=0.6602, Val Loss=0.6597, Acc=0.7490, Val Acc=0.7460  
Epoch 104/150: Loss=0.6599, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 105/150: Loss=0.6596, Val Loss=0.6591, Acc=0.7490, Val Acc=0.7460  
Epoch 106/150: Loss=0.6593, Val Loss=0.6589, Acc=0.7490, Val Acc=0.7460  
Epoch 107/150: Loss=0.6590, Val Loss=0.6586, Acc=0.7490, Val Acc=0.7460  
Epoch 108/150: Loss=0.6588, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 109/150: Loss=0.6585, Val Loss=0.6580, Acc=0.7493, Val Acc=0.7460  
Epoch 110/150: Loss=0.6582, Val Loss=0.6577, Acc=0.7493, Val Acc=0.7460  
Epoch 111/150: Loss=0.6579, Val Loss=0.6575, Acc=0.7493, Val Acc=0.7460  
Epoch 112/150: Loss=0.6577, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 113/150: Loss=0.6574, Val Loss=0.6569, Acc=0.7493, Val Acc=0.7460  
Epoch 114/150: Loss=0.6571, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 115/150: Loss=0.6568, Val Loss=0.6564, Acc=0.7493, Val Acc=0.7460  
Epoch 116/150: Loss=0.6566, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 117/150: Loss=0.6563, Val Loss=0.6558, Acc=0.7493, Val Acc=0.7460  
Epoch 118/150: Loss=0.6560, Val Loss=0.6556, Acc=0.7493, Val Acc=0.7460



Epoch 119/150: Loss=0.6557, Val Loss=0.6553, Acc=0.7493, Val Acc=0.7460  
Epoch 120/150: Loss=0.6555, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 121/150: Loss=0.6552, Val Loss=0.6547, Acc=0.7493, Val Acc=0.7460  
Epoch 122/150: Loss=0.6549, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 123/150: Loss=0.6547, Val Loss=0.6542, Acc=0.7493, Val Acc=0.7460  
Epoch 124/150: Loss=0.6544, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 125/150: Loss=0.6541, Val Loss=0.6537, Acc=0.7493, Val Acc=0.7460  
Epoch 126/150: Loss=0.6539, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 127/150: Loss=0.6536, Val Loss=0.6531, Acc=0.7493, Val Acc=0.7460  
Epoch 128/150: Loss=0.6533, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 129/150: Loss=0.6531, Val Loss=0.6526, Acc=0.7493, Val Acc=0.7460  
Epoch 130/150: Loss=0.6528, Val Loss=0.6524, Acc=0.7493, Val Acc=0.7460  
Epoch 131/150: Loss=0.6526, Val Loss=0.6521, Acc=0.7493, Val Acc=0.7460  
Epoch 132/150: Loss=0.6523, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 133/150: Loss=0.6520, Val Loss=0.6516, Acc=0.7493, Val Acc=0.7460  
Epoch 134/150: Loss=0.6518, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 135/150: Loss=0.6515, Val Loss=0.6511, Acc=0.7493, Val Acc=0.7460  
Epoch 136/150: Loss=0.6513, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 137/150: Loss=0.6510, Val Loss=0.6505, Acc=0.7493, Val Acc=0.7460  
Epoch 138/150: Loss=0.6507, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 139/150: Loss=0.6505, Val Loss=0.6500, Acc=0.7493, Val Acc=0.7460  
Epoch 140/150: Loss=0.6502, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 141/150: Loss=0.6500, Val Loss=0.6495, Acc=0.7493, Val Acc=0.7460  
Epoch 142/150: Loss=0.6497, Val Loss=0.6493, Acc=0.7493, Val Acc=0.7460  
Epoch 143/150: Loss=0.6495, Val Loss=0.6490, Acc=0.7493, Val Acc=0.7460  
Epoch 144/150: Loss=0.6492, Val Loss=0.6488, Acc=0.7493, Val Acc=0.7460  
Epoch 145/150: Loss=0.6490, Val Loss=0.6485, Acc=0.7493, Val Acc=0.7460  
Epoch 146/150: Loss=0.6487, Val Loss=0.6483, Acc=0.7493, Val Acc=0.7460  
Epoch 147/150: Loss=0.6485, Val Loss=0.6480, Acc=0.7493, Val Acc=0.7460  
Epoch 148/150: Loss=0.6482, Val Loss=0.6478, Acc=0.7493, Val Acc=0.7460  
Epoch 149/150: Loss=0.6480, Val Loss=0.6475, Acc=0.7493, Val Acc=0.7460  
Epoch 150/150: Loss=0.6477, Val Loss=0.6473, Acc=0.7493, Val Acc=0.7460  
accuracy= 0.763

Epoch 1/150: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/150: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/150: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/150: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/150: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/150: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/150: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/150: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/150: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/150: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/150: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/150: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/150: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/150: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/150: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/150: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/150: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/150: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/150: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/150: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/150: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/150: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/150: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/150: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/150: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710

Epoch 28/150: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/150: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/150: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/150: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/150: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/150: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/150: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/150: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/150: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/150: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/150: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/150: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/150: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/150: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/150: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/150: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/150: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/150: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/150: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/150: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/150: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/150: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/150: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/150: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/150: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690  
Epoch 53/150: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/150: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/150: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/150: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/150: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/150: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/150: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/150: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/150: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/150: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/150: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/150: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690  
Epoch 65/150: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/150: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Epoch 67/150: Loss=0.5589, Val Loss=0.5603, Acc=0.7653, Val Acc=0.7710  
Epoch 68/150: Loss=0.5584, Val Loss=0.5599, Acc=0.7653, Val Acc=0.7710  
Epoch 69/150: Loss=0.5579, Val Loss=0.5594, Acc=0.7657, Val Acc=0.7700  
Epoch 70/150: Loss=0.5574, Val Loss=0.5590, Acc=0.7660, Val Acc=0.7700  
Epoch 71/150: Loss=0.5569, Val Loss=0.5586, Acc=0.7660, Val Acc=0.7700  
Epoch 72/150: Loss=0.5565, Val Loss=0.5582, Acc=0.7660, Val Acc=0.7700  
Epoch 73/150: Loss=0.5560, Val Loss=0.5578, Acc=0.7660, Val Acc=0.7700  
Epoch 74/150: Loss=0.5556, Val Loss=0.5575, Acc=0.7663, Val Acc=0.7700  
Epoch 75/150: Loss=0.5552, Val Loss=0.5571, Acc=0.7660, Val Acc=0.7700  
Epoch 76/150: Loss=0.5548, Val Loss=0.5567, Acc=0.7660, Val Acc=0.7690  
Epoch 77/150: Loss=0.5544, Val Loss=0.5564, Acc=0.7660, Val Acc=0.7690  
Epoch 78/150: Loss=0.5540, Val Loss=0.5561, Acc=0.7660, Val Acc=0.7690  
Epoch 79/150: Loss=0.5536, Val Loss=0.5557, Acc=0.7663, Val Acc=0.7690  
Epoch 80/150: Loss=0.5532, Val Loss=0.5554, Acc=0.7663, Val Acc=0.7690  
Epoch 81/150: Loss=0.5529, Val Loss=0.5551, Acc=0.7660, Val Acc=0.7700  
Epoch 82/150: Loss=0.5525, Val Loss=0.5548, Acc=0.7663, Val Acc=0.7690  
Epoch 83/150: Loss=0.5522, Val Loss=0.5545, Acc=0.7660, Val Acc=0.7690  
Epoch 84/150: Loss=0.5519, Val Loss=0.5543, Acc=0.7660, Val Acc=0.7680  
Epoch 85/150: Loss=0.5515, Val Loss=0.5540, Acc=0.7657, Val Acc=0.7680  
Epoch 86/150: Loss=0.5512, Val Loss=0.5537, Acc=0.7657, Val Acc=0.7680  
Epoch 87/150: Loss=0.5509, Val Loss=0.5535, Acc=0.7657, Val Acc=0.7680

Epoch 88/150: Loss=0.5506, Val Loss=0.5532, Acc=0.7653, Val Acc=0.7680  
Epoch 89/150: Loss=0.5503, Val Loss=0.5530, Acc=0.7653, Val Acc=0.7670  
Epoch 90/150: Loss=0.5501, Val Loss=0.5528, Acc=0.7650, Val Acc=0.7670  
Epoch 91/150: Loss=0.5498, Val Loss=0.5525, Acc=0.7650, Val Acc=0.7670  
Epoch 92/150: Loss=0.5495, Val Loss=0.5523, Acc=0.7653, Val Acc=0.7670  
Epoch 93/150: Loss=0.5492, Val Loss=0.5521, Acc=0.7653, Val Acc=0.7670  
Epoch 94/150: Loss=0.5490, Val Loss=0.5519, Acc=0.7653, Val Acc=0.7670  
Epoch 95/150: Loss=0.5487, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 96/150: Loss=0.5485, Val Loss=0.5515, Acc=0.7653, Val Acc=0.7670  
Epoch 97/150: Loss=0.5483, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 98/150: Loss=0.5480, Val Loss=0.5511, Acc=0.7653, Val Acc=0.7670  
Epoch 99/150: Loss=0.5478, Val Loss=0.5509, Acc=0.7653, Val Acc=0.7670  
Epoch 100/150: Loss=0.5476, Val Loss=0.5508, Acc=0.7653, Val Acc=0.7670  
Epoch 101/150: Loss=0.5474, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7660  
Epoch 102/150: Loss=0.5472, Val Loss=0.5504, Acc=0.7653, Val Acc=0.7680  
Epoch 103/150: Loss=0.5470, Val Loss=0.5503, Acc=0.7653, Val Acc=0.7680  
Epoch 104/150: Loss=0.5468, Val Loss=0.5501, Acc=0.7653, Val Acc=0.7680  
Epoch 105/150: Loss=0.5466, Val Loss=0.5500, Acc=0.7653, Val Acc=0.7680  
Epoch 106/150: Loss=0.5464, Val Loss=0.5498, Acc=0.7653, Val Acc=0.7680  
Epoch 107/150: Loss=0.5462, Val Loss=0.5497, Acc=0.7650, Val Acc=0.7680  
Epoch 108/150: Loss=0.5460, Val Loss=0.5495, Acc=0.7650, Val Acc=0.7680  
Epoch 109/150: Loss=0.5458, Val Loss=0.5494, Acc=0.7650, Val Acc=0.7680  
Epoch 110/150: Loss=0.5457, Val Loss=0.5493, Acc=0.7650, Val Acc=0.7680  
Epoch 111/150: Loss=0.5455, Val Loss=0.5491, Acc=0.7650, Val Acc=0.7680  
Epoch 112/150: Loss=0.5453, Val Loss=0.5490, Acc=0.7647, Val Acc=0.7680  
Epoch 113/150: Loss=0.5452, Val Loss=0.5489, Acc=0.7647, Val Acc=0.7680  
Epoch 114/150: Loss=0.5450, Val Loss=0.5488, Acc=0.7650, Val Acc=0.7680  
Epoch 115/150: Loss=0.5449, Val Loss=0.5486, Acc=0.7650, Val Acc=0.7680  
Epoch 116/150: Loss=0.5447, Val Loss=0.5485, Acc=0.7650, Val Acc=0.7680  
Epoch 117/150: Loss=0.5446, Val Loss=0.5484, Acc=0.7650, Val Acc=0.7680  
Epoch 118/150: Loss=0.5444, Val Loss=0.5483, Acc=0.7650, Val Acc=0.7680  
Epoch 119/150: Loss=0.5443, Val Loss=0.5482, Acc=0.7650, Val Acc=0.7680  
Epoch 120/150: Loss=0.5441, Val Loss=0.5481, Acc=0.7650, Val Acc=0.7680  
Epoch 121/150: Loss=0.5440, Val Loss=0.5480, Acc=0.7650, Val Acc=0.7690  
Epoch 122/150: Loss=0.5439, Val Loss=0.5479, Acc=0.7640, Val Acc=0.7690  
Epoch 123/150: Loss=0.5438, Val Loss=0.5478, Acc=0.7637, Val Acc=0.7690  
Epoch 124/150: Loss=0.5436, Val Loss=0.5477, Acc=0.7640, Val Acc=0.7680  
Epoch 125/150: Loss=0.5435, Val Loss=0.5476, Acc=0.7640, Val Acc=0.7680  
Epoch 126/150: Loss=0.5434, Val Loss=0.5476, Acc=0.7640, Val Acc=0.7680  
Epoch 127/150: Loss=0.5433, Val Loss=0.5475, Acc=0.7637, Val Acc=0.7680  
Epoch 128/150: Loss=0.5432, Val Loss=0.5474, Acc=0.7637, Val Acc=0.7680  
Epoch 129/150: Loss=0.5430, Val Loss=0.5473, Acc=0.7637, Val Acc=0.7690  
Epoch 130/150: Loss=0.5429, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 131/150: Loss=0.5428, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 132/150: Loss=0.5427, Val Loss=0.5471, Acc=0.7637, Val Acc=0.7680  
Epoch 133/150: Loss=0.5426, Val Loss=0.5470, Acc=0.7640, Val Acc=0.7680  
Epoch 134/150: Loss=0.5425, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 135/150: Loss=0.5424, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 136/150: Loss=0.5423, Val Loss=0.5468, Acc=0.7640, Val Acc=0.7680  
Epoch 137/150: Loss=0.5422, Val Loss=0.5467, Acc=0.7640, Val Acc=0.7680  
Epoch 138/150: Loss=0.5421, Val Loss=0.5467, Acc=0.7647, Val Acc=0.7680  
Epoch 139/150: Loss=0.5420, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7680  
Epoch 140/150: Loss=0.5420, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7680  
Epoch 141/150: Loss=0.5419, Val Loss=0.5465, Acc=0.7647, Val Acc=0.7690  
Epoch 142/150: Loss=0.5418, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 143/150: Loss=0.5417, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 144/150: Loss=0.5416, Val Loss=0.5463, Acc=0.7643, Val Acc=0.7690  
Epoch 145/150: Loss=0.5415, Val Loss=0.5463, Acc=0.7643, Val Acc=0.7690  
Epoch 146/150: Loss=0.5415, Val Loss=0.5462, Acc=0.7640, Val Acc=0.7690  
Epoch 147/150: Loss=0.5414, Val Loss=0.5462, Acc=0.7637, Val Acc=0.7690

Epoch 148/150: Loss=0.5413, Val Loss=0.5461, Acc=0.7633, Val Acc=0.7690  
Early stop at epoch 148  
accuracy= 0.769

Epoch 1/150: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764

Epoch 1/150: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/150: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/150: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/150: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/150: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/150: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/150: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/150: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/150: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/150: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/150: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/150: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/150: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/150: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/150: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/150: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/150: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/150: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/150: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/150: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/150: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/150: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/150: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/150: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/150: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/150: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/150: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/150: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/150: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/150: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/150: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/150: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/150: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/150: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730  
Epoch 37/150: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/150: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/150: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/150: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/150: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/150: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/150: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/150: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/150: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/150: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/150: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/150: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/150: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/150: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/150: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/150: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690

Epoch 53/150: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/150: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/150: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/150: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/150: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/150: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/150: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/150: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/150: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/150: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/150: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/150: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690  
Epoch 65/150: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/150: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Early stop at epoch 66  
accuracy= 0.771

Epoch 1/150: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764

Epoch 1/150: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/150: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/150: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Early stop at epoch 5  
accuracy= 0.77

Epoch 1/500: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6920, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6917, Val Loss=0.6913, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6913, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6909, Val Loss=0.6906, Acc=0.7487, Val Acc=0.7460  
Epoch 8/500: Loss=0.6906, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 9/500: Loss=0.6902, Val Loss=0.6898, Acc=0.7487, Val Acc=0.7460  
Epoch 10/500: Loss=0.6899, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 11/500: Loss=0.6895, Val Loss=0.6891, Acc=0.7487, Val Acc=0.7460  
Epoch 12/500: Loss=0.6891, Val Loss=0.6888, Acc=0.7487, Val Acc=0.7460  
Epoch 13/500: Loss=0.6888, Val Loss=0.6884, Acc=0.7487, Val Acc=0.7460  
Epoch 14/500: Loss=0.6884, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 15/500: Loss=0.6881, Val Loss=0.6877, Acc=0.7487, Val Acc=0.7460  
Epoch 16/500: Loss=0.6877, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 17/500: Loss=0.6874, Val Loss=0.6870, Acc=0.7487, Val Acc=0.7460  
Epoch 18/500: Loss=0.6870, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 19/500: Loss=0.6867, Val Loss=0.6863, Acc=0.7487, Val Acc=0.7460  
Epoch 20/500: Loss=0.6863, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 21/500: Loss=0.6860, Val Loss=0.6855, Acc=0.7487, Val Acc=0.7460  
Epoch 22/500: Loss=0.6856, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 23/500: Loss=0.6853, Val Loss=0.6848, Acc=0.7487, Val Acc=0.7460  
Epoch 24/500: Loss=0.6849, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 25/500: Loss=0.6846, Val Loss=0.6841, Acc=0.7487, Val Acc=0.7460  
Epoch 26/500: Loss=0.6842, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 27/500: Loss=0.6839, Val Loss=0.6835, Acc=0.7487, Val Acc=0.7460  
Epoch 28/500: Loss=0.6835, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 29/500: Loss=0.6832, Val Loss=0.6828, Acc=0.7487, Val Acc=0.7460  
Epoch 30/500: Loss=0.6828, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 31/500: Loss=0.6825, Val Loss=0.6821, Acc=0.7487, Val Acc=0.7460  
Epoch 32/500: Loss=0.6822, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460

Epoch 33/500: Loss=0.6818, Val Loss=0.6814, Acc=0.7487, Val Acc=0.7460  
Epoch 34/500: Loss=0.6815, Val Loss=0.6811, Acc=0.7487, Val Acc=0.7460  
Epoch 35/500: Loss=0.6811, Val Loss=0.6807, Acc=0.7487, Val Acc=0.7460  
Epoch 36/500: Loss=0.6808, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 37/500: Loss=0.6805, Val Loss=0.6800, Acc=0.7487, Val Acc=0.7460  
Epoch 38/500: Loss=0.6801, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 39/500: Loss=0.6798, Val Loss=0.6794, Acc=0.7487, Val Acc=0.7460  
Epoch 40/500: Loss=0.6795, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 41/500: Loss=0.6791, Val Loss=0.6787, Acc=0.7487, Val Acc=0.7460  
Epoch 42/500: Loss=0.6788, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 43/500: Loss=0.6785, Val Loss=0.6780, Acc=0.7487, Val Acc=0.7460  
Epoch 44/500: Loss=0.6781, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 45/500: Loss=0.6778, Val Loss=0.6774, Acc=0.7487, Val Acc=0.7460  
Epoch 46/500: Loss=0.6775, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 47/500: Loss=0.6772, Val Loss=0.6767, Acc=0.7487, Val Acc=0.7460  
Epoch 48/500: Loss=0.6768, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 49/500: Loss=0.6765, Val Loss=0.6761, Acc=0.7487, Val Acc=0.7460  
Epoch 50/500: Loss=0.6762, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 51/500: Loss=0.6759, Val Loss=0.6754, Acc=0.7487, Val Acc=0.7460  
Epoch 52/500: Loss=0.6755, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 53/500: Loss=0.6752, Val Loss=0.6748, Acc=0.7487, Val Acc=0.7460  
Epoch 54/500: Loss=0.6749, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 55/500: Loss=0.6746, Val Loss=0.6741, Acc=0.7487, Val Acc=0.7460  
Epoch 56/500: Loss=0.6743, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 57/500: Loss=0.6739, Val Loss=0.6735, Acc=0.7487, Val Acc=0.7460  
Epoch 58/500: Loss=0.6736, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 59/500: Loss=0.6733, Val Loss=0.6729, Acc=0.7487, Val Acc=0.7460  
Epoch 60/500: Loss=0.6730, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 61/500: Loss=0.6727, Val Loss=0.6722, Acc=0.7487, Val Acc=0.7460  
Epoch 62/500: Loss=0.6724, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 63/500: Loss=0.6720, Val Loss=0.6716, Acc=0.7487, Val Acc=0.7460  
Epoch 64/500: Loss=0.6717, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 65/500: Loss=0.6714, Val Loss=0.6710, Acc=0.7487, Val Acc=0.7460  
Epoch 66/500: Loss=0.6711, Val Loss=0.6707, Acc=0.7487, Val Acc=0.7460  
Epoch 67/500: Loss=0.6708, Val Loss=0.6703, Acc=0.7487, Val Acc=0.7460  
Epoch 68/500: Loss=0.6705, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 69/500: Loss=0.6702, Val Loss=0.6697, Acc=0.7487, Val Acc=0.7460  
Epoch 70/500: Loss=0.6699, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 71/500: Loss=0.6696, Val Loss=0.6691, Acc=0.7487, Val Acc=0.7460  
Epoch 72/500: Loss=0.6693, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 73/500: Loss=0.6690, Val Loss=0.6685, Acc=0.7487, Val Acc=0.7460  
Epoch 74/500: Loss=0.6686, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 75/500: Loss=0.6683, Val Loss=0.6679, Acc=0.7487, Val Acc=0.7460  
Epoch 76/500: Loss=0.6680, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 77/500: Loss=0.6677, Val Loss=0.6673, Acc=0.7487, Val Acc=0.7460  
Epoch 78/500: Loss=0.6674, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 79/500: Loss=0.6671, Val Loss=0.6667, Acc=0.7487, Val Acc=0.7460  
Epoch 80/500: Loss=0.6668, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 81/500: Loss=0.6665, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 82/500: Loss=0.6662, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 83/500: Loss=0.6659, Val Loss=0.6655, Acc=0.7487, Val Acc=0.7460  
Epoch 84/500: Loss=0.6656, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 85/500: Loss=0.6653, Val Loss=0.6649, Acc=0.7487, Val Acc=0.7460  
Epoch 86/500: Loss=0.6651, Val Loss=0.6646, Acc=0.7490, Val Acc=0.7460  
Epoch 87/500: Loss=0.6648, Val Loss=0.6643, Acc=0.7490, Val Acc=0.7460  
Epoch 88/500: Loss=0.6645, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 89/500: Loss=0.6642, Val Loss=0.6637, Acc=0.7490, Val Acc=0.7460  
Epoch 90/500: Loss=0.6639, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 91/500: Loss=0.6636, Val Loss=0.6631, Acc=0.7490, Val Acc=0.7460  
Epoch 92/500: Loss=0.6633, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460

Epoch 93/500: Loss=0.6630, Val Loss=0.6625, Acc=0.7490, Val Acc=0.7460  
Epoch 94/500: Loss=0.6627, Val Loss=0.6623, Acc=0.7490, Val Acc=0.7460  
Epoch 95/500: Loss=0.6624, Val Loss=0.6620, Acc=0.7490, Val Acc=0.7460  
Epoch 96/500: Loss=0.6621, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 97/500: Loss=0.6619, Val Loss=0.6614, Acc=0.7490, Val Acc=0.7460  
Epoch 98/500: Loss=0.6616, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 99/500: Loss=0.6613, Val Loss=0.6608, Acc=0.7490, Val Acc=0.7460  
Epoch 100/500: Loss=0.6610, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 101/500: Loss=0.6607, Val Loss=0.6603, Acc=0.7490, Val Acc=0.7460  
Epoch 102/500: Loss=0.6604, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 103/500: Loss=0.6602, Val Loss=0.6597, Acc=0.7490, Val Acc=0.7460  
Epoch 104/500: Loss=0.6599, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 105/500: Loss=0.6596, Val Loss=0.6591, Acc=0.7490, Val Acc=0.7460  
Epoch 106/500: Loss=0.6593, Val Loss=0.6589, Acc=0.7490, Val Acc=0.7460  
Epoch 107/500: Loss=0.6590, Val Loss=0.6586, Acc=0.7490, Val Acc=0.7460  
Epoch 108/500: Loss=0.6588, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 109/500: Loss=0.6585, Val Loss=0.6580, Acc=0.7493, Val Acc=0.7460  
Epoch 110/500: Loss=0.6582, Val Loss=0.6577, Acc=0.7493, Val Acc=0.7460  
Epoch 111/500: Loss=0.6579, Val Loss=0.6575, Acc=0.7493, Val Acc=0.7460  
Epoch 112/500: Loss=0.6577, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 113/500: Loss=0.6574, Val Loss=0.6569, Acc=0.7493, Val Acc=0.7460  
Epoch 114/500: Loss=0.6571, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 115/500: Loss=0.6568, Val Loss=0.6564, Acc=0.7493, Val Acc=0.7460  
Epoch 116/500: Loss=0.6566, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 117/500: Loss=0.6563, Val Loss=0.6558, Acc=0.7493, Val Acc=0.7460  
Epoch 118/500: Loss=0.6560, Val Loss=0.6556, Acc=0.7493, Val Acc=0.7460  
Epoch 119/500: Loss=0.6557, Val Loss=0.6553, Acc=0.7493, Val Acc=0.7460  
Epoch 120/500: Loss=0.6555, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 121/500: Loss=0.6552, Val Loss=0.6547, Acc=0.7493, Val Acc=0.7460  
Epoch 122/500: Loss=0.6549, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 123/500: Loss=0.6547, Val Loss=0.6542, Acc=0.7493, Val Acc=0.7460  
Epoch 124/500: Loss=0.6544, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 125/500: Loss=0.6541, Val Loss=0.6537, Acc=0.7493, Val Acc=0.7460  
Epoch 126/500: Loss=0.6539, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 127/500: Loss=0.6536, Val Loss=0.6531, Acc=0.7493, Val Acc=0.7460  
Epoch 128/500: Loss=0.6533, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 129/500: Loss=0.6531, Val Loss=0.6526, Acc=0.7493, Val Acc=0.7460  
Epoch 130/500: Loss=0.6528, Val Loss=0.6524, Acc=0.7493, Val Acc=0.7460  
Epoch 131/500: Loss=0.6526, Val Loss=0.6521, Acc=0.7493, Val Acc=0.7460  
Epoch 132/500: Loss=0.6523, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 133/500: Loss=0.6520, Val Loss=0.6516, Acc=0.7493, Val Acc=0.7460  
Epoch 134/500: Loss=0.6518, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 135/500: Loss=0.6515, Val Loss=0.6511, Acc=0.7493, Val Acc=0.7460  
Epoch 136/500: Loss=0.6513, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 137/500: Loss=0.6510, Val Loss=0.6505, Acc=0.7493, Val Acc=0.7460  
Epoch 138/500: Loss=0.6507, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 139/500: Loss=0.6505, Val Loss=0.6500, Acc=0.7493, Val Acc=0.7460  
Epoch 140/500: Loss=0.6502, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 141/500: Loss=0.6500, Val Loss=0.6495, Acc=0.7493, Val Acc=0.7460  
Epoch 142/500: Loss=0.6497, Val Loss=0.6493, Acc=0.7493, Val Acc=0.7460  
Epoch 143/500: Loss=0.6495, Val Loss=0.6490, Acc=0.7493, Val Acc=0.7460  
Epoch 144/500: Loss=0.6492, Val Loss=0.6488, Acc=0.7493, Val Acc=0.7460  
Epoch 145/500: Loss=0.6490, Val Loss=0.6485, Acc=0.7493, Val Acc=0.7460  
Epoch 146/500: Loss=0.6487, Val Loss=0.6483, Acc=0.7493, Val Acc=0.7460  
Epoch 147/500: Loss=0.6485, Val Loss=0.6480, Acc=0.7493, Val Acc=0.7460  
Epoch 148/500: Loss=0.6482, Val Loss=0.6478, Acc=0.7493, Val Acc=0.7460  
Epoch 149/500: Loss=0.6480, Val Loss=0.6475, Acc=0.7493, Val Acc=0.7460  
Epoch 150/500: Loss=0.6477, Val Loss=0.6473, Acc=0.7493, Val Acc=0.7460  
Epoch 151/500: Loss=0.6475, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 152/500: Loss=0.6472, Val Loss=0.6468, Acc=0.7493, Val Acc=0.7460

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

Epoch 453/500: Loss=0.5950, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 454/500: Loss=0.5949, Val Loss=0.5950, Acc=0.7487, Val Acc=0.7460  
Epoch 455/500: Loss=0.5948, Val Loss=0.5949, Acc=0.7487, Val Acc=0.7460  
Epoch 456/500: Loss=0.5947, Val Loss=0.5948, Acc=0.7487, Val Acc=0.7460  
Epoch 457/500: Loss=0.5946, Val Loss=0.5947, Acc=0.7487, Val Acc=0.7460  
Epoch 458/500: Loss=0.5945, Val Loss=0.5946, Acc=0.7487, Val Acc=0.7460  
Epoch 459/500: Loss=0.5943, Val Loss=0.5945, Acc=0.7487, Val Acc=0.7460  
Epoch 460/500: Loss=0.5942, Val Loss=0.5944, Acc=0.7487, Val Acc=0.7460  
Epoch 461/500: Loss=0.5941, Val Loss=0.5942, Acc=0.7487, Val Acc=0.7460  
Epoch 462/500: Loss=0.5940, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 463/500: Loss=0.5939, Val Loss=0.5940, Acc=0.7487, Val Acc=0.7460  
Epoch 464/500: Loss=0.5938, Val Loss=0.5939, Acc=0.7487, Val Acc=0.7460  
Epoch 465/500: Loss=0.5936, Val Loss=0.5938, Acc=0.7487, Val Acc=0.7460  
Epoch 466/500: Loss=0.5935, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 467/500: Loss=0.5934, Val Loss=0.5936, Acc=0.7487, Val Acc=0.7460  
Epoch 468/500: Loss=0.5933, Val Loss=0.5935, Acc=0.7487, Val Acc=0.7470  
Epoch 469/500: Loss=0.5932, Val Loss=0.5933, Acc=0.7487, Val Acc=0.7470  
Epoch 470/500: Loss=0.5931, Val Loss=0.5932, Acc=0.7487, Val Acc=0.7470  
Epoch 471/500: Loss=0.5930, Val Loss=0.5931, Acc=0.7487, Val Acc=0.7480  
Epoch 472/500: Loss=0.5929, Val Loss=0.5930, Acc=0.7487, Val Acc=0.7480  
Epoch 473/500: Loss=0.5927, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7480  
Epoch 474/500: Loss=0.5926, Val Loss=0.5928, Acc=0.7487, Val Acc=0.7480  
Epoch 475/500: Loss=0.5925, Val Loss=0.5927, Acc=0.7487, Val Acc=0.7480  
Epoch 476/500: Loss=0.5924, Val Loss=0.5926, Acc=0.7487, Val Acc=0.7480  
Epoch 477/500: Loss=0.5923, Val Loss=0.5925, Acc=0.7487, Val Acc=0.7480  
Epoch 478/500: Loss=0.5922, Val Loss=0.5924, Acc=0.7487, Val Acc=0.7480  
Epoch 479/500: Loss=0.5921, Val Loss=0.5923, Acc=0.7487, Val Acc=0.7480  
Epoch 480/500: Loss=0.5920, Val Loss=0.5921, Acc=0.7487, Val Acc=0.7480  
Epoch 481/500: Loss=0.5919, Val Loss=0.5920, Acc=0.7487, Val Acc=0.7480  
Epoch 482/500: Loss=0.5917, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 483/500: Loss=0.5916, Val Loss=0.5918, Acc=0.7487, Val Acc=0.7480  
Epoch 484/500: Loss=0.5915, Val Loss=0.5917, Acc=0.7487, Val Acc=0.7480  
Epoch 485/500: Loss=0.5914, Val Loss=0.5916, Acc=0.7487, Val Acc=0.7480  
Epoch 486/500: Loss=0.5913, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7480  
Epoch 487/500: Loss=0.5912, Val Loss=0.5914, Acc=0.7487, Val Acc=0.7480  
Epoch 488/500: Loss=0.5911, Val Loss=0.5913, Acc=0.7487, Val Acc=0.7480  
Epoch 489/500: Loss=0.5910, Val Loss=0.5912, Acc=0.7487, Val Acc=0.7480  
Epoch 490/500: Loss=0.5909, Val Loss=0.5911, Acc=0.7487, Val Acc=0.7480  
Epoch 491/500: Loss=0.5908, Val Loss=0.5910, Acc=0.7487, Val Acc=0.7480  
Epoch 492/500: Loss=0.5907, Val Loss=0.5909, Acc=0.7487, Val Acc=0.7480  
Epoch 493/500: Loss=0.5906, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 494/500: Loss=0.5904, Val Loss=0.5907, Acc=0.7487, Val Acc=0.7480  
Epoch 495/500: Loss=0.5903, Val Loss=0.5906, Acc=0.7487, Val Acc=0.7480  
Epoch 496/500: Loss=0.5902, Val Loss=0.5905, Acc=0.7487, Val Acc=0.7480  
Epoch 497/500: Loss=0.5901, Val Loss=0.5904, Acc=0.7487, Val Acc=0.7480  
Epoch 498/500: Loss=0.5900, Val Loss=0.5903, Acc=0.7487, Val Acc=0.7480  
Epoch 499/500: Loss=0.5899, Val Loss=0.5901, Acc=0.7487, Val Acc=0.7480  
Epoch 500/500: Loss=0.5898, Val Loss=0.5900, Acc=0.7487, Val Acc=0.7480  
accuracy= 0.763

Epoch 1/500: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/500: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/500: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/500: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/500: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/500: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/500: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/500: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/500: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710

Epoch 12/500:	Loss=0.6419,	Val Loss=0.6379,	Acc=0.7610,	Val Acc=0.7710
Epoch 13/500:	Loss=0.6383,	Val Loss=0.6345,	Acc=0.7617,	Val Acc=0.7700
Epoch 14/500:	Loss=0.6349,	Val Loss=0.6312,	Acc=0.7623,	Val Acc=0.7700
Epoch 15/500:	Loss=0.6317,	Val Loss=0.6281,	Acc=0.7627,	Val Acc=0.7700
Epoch 16/500:	Loss=0.6285,	Val Loss=0.6251,	Acc=0.7630,	Val Acc=0.7700
Epoch 17/500:	Loss=0.6255,	Val Loss=0.6223,	Acc=0.7630,	Val Acc=0.7700
Epoch 18/500:	Loss=0.6226,	Val Loss=0.6195,	Acc=0.7630,	Val Acc=0.7700
Epoch 19/500:	Loss=0.6199,	Val Loss=0.6169,	Acc=0.7630,	Val Acc=0.7700
Epoch 20/500:	Loss=0.6172,	Val Loss=0.6143,	Acc=0.7630,	Val Acc=0.7710
Epoch 21/500:	Loss=0.6147,	Val Loss=0.6119,	Acc=0.7630,	Val Acc=0.7710
Epoch 22/500:	Loss=0.6122,	Val Loss=0.6096,	Acc=0.7630,	Val Acc=0.7710
Epoch 23/500:	Loss=0.6098,	Val Loss=0.6074,	Acc=0.7630,	Val Acc=0.7710
Epoch 24/500:	Loss=0.6076,	Val Loss=0.6052,	Acc=0.7633,	Val Acc=0.7710
Epoch 25/500:	Loss=0.6054,	Val Loss=0.6032,	Acc=0.7633,	Val Acc=0.7710
Epoch 26/500:	Loss=0.6033,	Val Loss=0.6012,	Acc=0.7633,	Val Acc=0.7710
Epoch 27/500:	Loss=0.6013,	Val Loss=0.5993,	Acc=0.7633,	Val Acc=0.7710
Epoch 28/500:	Loss=0.5994,	Val Loss=0.5975,	Acc=0.7633,	Val Acc=0.7710
Epoch 29/500:	Loss=0.5975,	Val Loss=0.5957,	Acc=0.7630,	Val Acc=0.7720
Epoch 30/500:	Loss=0.5957,	Val Loss=0.5940,	Acc=0.7630,	Val Acc=0.7720
Epoch 31/500:	Loss=0.5940,	Val Loss=0.5924,	Acc=0.7630,	Val Acc=0.7720
Epoch 32/500:	Loss=0.5923,	Val Loss=0.5908,	Acc=0.7630,	Val Acc=0.7720
Epoch 33/500:	Loss=0.5907,	Val Loss=0.5893,	Acc=0.7633,	Val Acc=0.7730
Epoch 34/500:	Loss=0.5891,	Val Loss=0.5879,	Acc=0.7633,	Val Acc=0.7730
Epoch 35/500:	Loss=0.5876,	Val Loss=0.5865,	Acc=0.7633,	Val Acc=0.7730
Epoch 36/500:	Loss=0.5862,	Val Loss=0.5851,	Acc=0.7637,	Val Acc=0.7730
Epoch 37/500:	Loss=0.5848,	Val Loss=0.5838,	Acc=0.7637,	Val Acc=0.7730
Epoch 38/500:	Loss=0.5835,	Val Loss=0.5826,	Acc=0.7637,	Val Acc=0.7720
Epoch 39/500:	Loss=0.5822,	Val Loss=0.5814,	Acc=0.7640,	Val Acc=0.7720
Epoch 40/500:	Loss=0.5809,	Val Loss=0.5802,	Acc=0.7643,	Val Acc=0.7710
Epoch 41/500:	Loss=0.5797,	Val Loss=0.5791,	Acc=0.7643,	Val Acc=0.7710
Epoch 42/500:	Loss=0.5785,	Val Loss=0.5781,	Acc=0.7640,	Val Acc=0.7710
Epoch 43/500:	Loss=0.5774,	Val Loss=0.5770,	Acc=0.7643,	Val Acc=0.7700
Epoch 44/500:	Loss=0.5763,	Val Loss=0.5760,	Acc=0.7643,	Val Acc=0.7690
Epoch 45/500:	Loss=0.5753,	Val Loss=0.5750,	Acc=0.7643,	Val Acc=0.7690
Epoch 46/500:	Loss=0.5742,	Val Loss=0.5741,	Acc=0.7643,	Val Acc=0.7690
Epoch 47/500:	Loss=0.5733,	Val Loss=0.5732,	Acc=0.7650,	Val Acc=0.7690
Epoch 48/500:	Loss=0.5723,	Val Loss=0.5723,	Acc=0.7647,	Val Acc=0.7690
Epoch 49/500:	Loss=0.5714,	Val Loss=0.5715,	Acc=0.7647,	Val Acc=0.7690
Epoch 50/500:	Loss=0.5705,	Val Loss=0.5707,	Acc=0.7643,	Val Acc=0.7690
Epoch 51/500:	Loss=0.5696,	Val Loss=0.5699,	Acc=0.7650,	Val Acc=0.7690
Epoch 52/500:	Loss=0.5688,	Val Loss=0.5691,	Acc=0.7650,	Val Acc=0.7690
Epoch 53/500:	Loss=0.5680,	Val Loss=0.5684,	Acc=0.7653,	Val Acc=0.7690
Epoch 54/500:	Loss=0.5672,	Val Loss=0.5677,	Acc=0.7650,	Val Acc=0.7690
Epoch 55/500:	Loss=0.5664,	Val Loss=0.5670,	Acc=0.7650,	Val Acc=0.7690
Epoch 56/500:	Loss=0.5657,	Val Loss=0.5664,	Acc=0.7650,	Val Acc=0.7690
Epoch 57/500:	Loss=0.5650,	Val Loss=0.5657,	Acc=0.7657,	Val Acc=0.7690
Epoch 58/500:	Loss=0.5643,	Val Loss=0.5651,	Acc=0.7657,	Val Acc=0.7690
Epoch 59/500:	Loss=0.5636,	Val Loss=0.5645,	Acc=0.7657,	Val Acc=0.7690
Epoch 60/500:	Loss=0.5630,	Val Loss=0.5639,	Acc=0.7653,	Val Acc=0.7690
Epoch 61/500:	Loss=0.5623,	Val Loss=0.5634,	Acc=0.7653,	Val Acc=0.7690
Epoch 62/500:	Loss=0.5617,	Val Loss=0.5628,	Acc=0.7650,	Val Acc=0.7690
Epoch 63/500:	Loss=0.5611,	Val Loss=0.5623,	Acc=0.7653,	Val Acc=0.7690
Epoch 64/500:	Loss=0.5605,	Val Loss=0.5618,	Acc=0.7653,	Val Acc=0.7690
Epoch 65/500:	Loss=0.5600,	Val Loss=0.5613,	Acc=0.7653,	Val Acc=0.7700
Epoch 66/500:	Loss=0.5594,	Val Loss=0.5608,	Acc=0.7653,	Val Acc=0.7710
Epoch 67/500:	Loss=0.5589,	Val Loss=0.5603,	Acc=0.7653,	Val Acc=0.7710
Epoch 68/500:	Loss=0.5584,	Val Loss=0.5599,	Acc=0.7653,	Val Acc=0.7710
Epoch 69/500:	Loss=0.5579,	Val Loss=0.5594,	Acc=0.7657,	Val Acc=0.7700
Epoch 70/500:	Loss=0.5574,	Val Loss=0.5590,	Acc=0.7660,	Val Acc=0.7700
Epoch 71/500:	Loss=0.5569,	Val Loss=0.5586,	Acc=0.7660,	Val Acc=0.7700

Epoch 72/500: Loss=0.5565, Val Loss=0.5582, Acc=0.7660, Val Acc=0.7700  
Epoch 73/500: Loss=0.5560, Val Loss=0.5578, Acc=0.7660, Val Acc=0.7700  
Epoch 74/500: Loss=0.5556, Val Loss=0.5575, Acc=0.7663, Val Acc=0.7700  
Epoch 75/500: Loss=0.5552, Val Loss=0.5571, Acc=0.7660, Val Acc=0.7700  
Epoch 76/500: Loss=0.5548, Val Loss=0.5567, Acc=0.7660, Val Acc=0.7690  
Epoch 77/500: Loss=0.5544, Val Loss=0.5564, Acc=0.7660, Val Acc=0.7690  
Epoch 78/500: Loss=0.5540, Val Loss=0.5561, Acc=0.7660, Val Acc=0.7690  
Epoch 79/500: Loss=0.5536, Val Loss=0.5557, Acc=0.7663, Val Acc=0.7690  
Epoch 80/500: Loss=0.5532, Val Loss=0.5554, Acc=0.7663, Val Acc=0.7690  
Epoch 81/500: Loss=0.5529, Val Loss=0.5551, Acc=0.7660, Val Acc=0.7700  
Epoch 82/500: Loss=0.5525, Val Loss=0.5548, Acc=0.7663, Val Acc=0.7690  
Epoch 83/500: Loss=0.5522, Val Loss=0.5545, Acc=0.7660, Val Acc=0.7690  
Epoch 84/500: Loss=0.5519, Val Loss=0.5543, Acc=0.7660, Val Acc=0.7680  
Epoch 85/500: Loss=0.5515, Val Loss=0.5540, Acc=0.7657, Val Acc=0.7680  
Epoch 86/500: Loss=0.5512, Val Loss=0.5537, Acc=0.7657, Val Acc=0.7680  
Epoch 87/500: Loss=0.5509, Val Loss=0.5535, Acc=0.7657, Val Acc=0.7680  
Epoch 88/500: Loss=0.5506, Val Loss=0.5532, Acc=0.7653, Val Acc=0.7680  
Epoch 89/500: Loss=0.5503, Val Loss=0.5530, Acc=0.7653, Val Acc=0.7670  
Epoch 90/500: Loss=0.5501, Val Loss=0.5528, Acc=0.7650, Val Acc=0.7670  
Epoch 91/500: Loss=0.5498, Val Loss=0.5525, Acc=0.7650, Val Acc=0.7670  
Epoch 92/500: Loss=0.5495, Val Loss=0.5523, Acc=0.7653, Val Acc=0.7670  
Epoch 93/500: Loss=0.5492, Val Loss=0.5521, Acc=0.7653, Val Acc=0.7670  
Epoch 94/500: Loss=0.5490, Val Loss=0.5519, Acc=0.7653, Val Acc=0.7670  
Epoch 95/500: Loss=0.5487, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 96/500: Loss=0.5485, Val Loss=0.5515, Acc=0.7653, Val Acc=0.7670  
Epoch 97/500: Loss=0.5483, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 98/500: Loss=0.5480, Val Loss=0.5511, Acc=0.7653, Val Acc=0.7670  
Epoch 99/500: Loss=0.5478, Val Loss=0.5509, Acc=0.7653, Val Acc=0.7670  
Epoch 100/500: Loss=0.5476, Val Loss=0.5508, Acc=0.7653, Val Acc=0.7670  
Epoch 101/500: Loss=0.5474, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7660  
Epoch 102/500: Loss=0.5472, Val Loss=0.5504, Acc=0.7653, Val Acc=0.7680  
Epoch 103/500: Loss=0.5470, Val Loss=0.5503, Acc=0.7653, Val Acc=0.7680  
Epoch 104/500: Loss=0.5468, Val Loss=0.5501, Acc=0.7653, Val Acc=0.7680  
Epoch 105/500: Loss=0.5466, Val Loss=0.5500, Acc=0.7653, Val Acc=0.7680  
Epoch 106/500: Loss=0.5464, Val Loss=0.5498, Acc=0.7653, Val Acc=0.7680  
Epoch 107/500: Loss=0.5462, Val Loss=0.5497, Acc=0.7650, Val Acc=0.7680  
Epoch 108/500: Loss=0.5460, Val Loss=0.5495, Acc=0.7650, Val Acc=0.7680  
Epoch 109/500: Loss=0.5458, Val Loss=0.5494, Acc=0.7650, Val Acc=0.7680  
Epoch 110/500: Loss=0.5457, Val Loss=0.5493, Acc=0.7650, Val Acc=0.7680  
Epoch 111/500: Loss=0.5455, Val Loss=0.5491, Acc=0.7650, Val Acc=0.7680  
Epoch 112/500: Loss=0.5453, Val Loss=0.5490, Acc=0.7647, Val Acc=0.7680  
Epoch 113/500: Loss=0.5452, Val Loss=0.5489, Acc=0.7647, Val Acc=0.7680  
Epoch 114/500: Loss=0.5450, Val Loss=0.5488, Acc=0.7650, Val Acc=0.7680  
Epoch 115/500: Loss=0.5449, Val Loss=0.5486, Acc=0.7650, Val Acc=0.7680  
Epoch 116/500: Loss=0.5447, Val Loss=0.5485, Acc=0.7650, Val Acc=0.7680  
Epoch 117/500: Loss=0.5446, Val Loss=0.5484, Acc=0.7650, Val Acc=0.7680  
Epoch 118/500: Loss=0.5444, Val Loss=0.5483, Acc=0.7650, Val Acc=0.7680  
Epoch 119/500: Loss=0.5443, Val Loss=0.5482, Acc=0.7650, Val Acc=0.7680  
Epoch 120/500: Loss=0.5441, Val Loss=0.5481, Acc=0.7650, Val Acc=0.7680  
Epoch 121/500: Loss=0.5440, Val Loss=0.5480, Acc=0.7650, Val Acc=0.7690  
Epoch 122/500: Loss=0.5439, Val Loss=0.5479, Acc=0.7640, Val Acc=0.7690  
Epoch 123/500: Loss=0.5438, Val Loss=0.5478, Acc=0.7637, Val Acc=0.7690  
Epoch 124/500: Loss=0.5436, Val Loss=0.5477, Acc=0.7640, Val Acc=0.7680  
Epoch 125/500: Loss=0.5435, Val Loss=0.5476, Acc=0.7640, Val Acc=0.7680  
Epoch 126/500: Loss=0.5434, Val Loss=0.5476, Acc=0.7640, Val Acc=0.7680  
Epoch 127/500: Loss=0.5433, Val Loss=0.5475, Acc=0.7637, Val Acc=0.7680  
Epoch 128/500: Loss=0.5432, Val Loss=0.5474, Acc=0.7637, Val Acc=0.7680  
Epoch 129/500: Loss=0.5430, Val Loss=0.5473, Acc=0.7637, Val Acc=0.7690  
Epoch 130/500: Loss=0.5429, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 131/500: Loss=0.5428, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690

Epoch 132/500: Loss=0.5427, Val Loss=0.5471, Acc=0.7637, Val Acc=0.7680  
Epoch 133/500: Loss=0.5426, Val Loss=0.5470, Acc=0.7640, Val Acc=0.7680  
Epoch 134/500: Loss=0.5425, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 135/500: Loss=0.5424, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 136/500: Loss=0.5423, Val Loss=0.5468, Acc=0.7640, Val Acc=0.7680  
Epoch 137/500: Loss=0.5422, Val Loss=0.5467, Acc=0.7640, Val Acc=0.7680  
Epoch 138/500: Loss=0.5421, Val Loss=0.5467, Acc=0.7647, Val Acc=0.7680  
Epoch 139/500: Loss=0.5420, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7680  
Epoch 140/500: Loss=0.5420, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7680  
Epoch 141/500: Loss=0.5419, Val Loss=0.5465, Acc=0.7647, Val Acc=0.7690  
Epoch 142/500: Loss=0.5418, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 143/500: Loss=0.5417, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 144/500: Loss=0.5416, Val Loss=0.5463, Acc=0.7643, Val Acc=0.7690  
Epoch 145/500: Loss=0.5415, Val Loss=0.5463, Acc=0.7643, Val Acc=0.7690  
Epoch 146/500: Loss=0.5415, Val Loss=0.5462, Acc=0.7640, Val Acc=0.7690  
Epoch 147/500: Loss=0.5414, Val Loss=0.5462, Acc=0.7637, Val Acc=0.7690  
Epoch 148/500: Loss=0.5413, Val Loss=0.5461, Acc=0.7633, Val Acc=0.7690  
Early stop at epoch 148  
accuracy= 0.769  
Epoch 1/500: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/500: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/500: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/500: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Epoch 6/500: Loss=0.6668, Val Loss=0.6618, Acc=0.7620, Val Acc=0.7710  
Epoch 7/500: Loss=0.6622, Val Loss=0.6574, Acc=0.7620, Val Acc=0.7710  
Epoch 8/500: Loss=0.6578, Val Loss=0.6531, Acc=0.7617, Val Acc=0.7710  
Epoch 9/500: Loss=0.6535, Val Loss=0.6491, Acc=0.7613, Val Acc=0.7710  
Epoch 10/500: Loss=0.6495, Val Loss=0.6452, Acc=0.7613, Val Acc=0.7710  
Epoch 11/500: Loss=0.6456, Val Loss=0.6415, Acc=0.7610, Val Acc=0.7710  
Epoch 12/500: Loss=0.6419, Val Loss=0.6379, Acc=0.7610, Val Acc=0.7710  
Epoch 13/500: Loss=0.6383, Val Loss=0.6345, Acc=0.7617, Val Acc=0.7700  
Epoch 14/500: Loss=0.6349, Val Loss=0.6312, Acc=0.7623, Val Acc=0.7700  
Epoch 15/500: Loss=0.6317, Val Loss=0.6281, Acc=0.7627, Val Acc=0.7700  
Epoch 16/500: Loss=0.6285, Val Loss=0.6251, Acc=0.7630, Val Acc=0.7700  
Epoch 17/500: Loss=0.6255, Val Loss=0.6223, Acc=0.7630, Val Acc=0.7700  
Epoch 18/500: Loss=0.6226, Val Loss=0.6195, Acc=0.7630, Val Acc=0.7700  
Epoch 19/500: Loss=0.6199, Val Loss=0.6169, Acc=0.7630, Val Acc=0.7700  
Epoch 20/500: Loss=0.6172, Val Loss=0.6143, Acc=0.7630, Val Acc=0.7710  
Epoch 21/500: Loss=0.6147, Val Loss=0.6119, Acc=0.7630, Val Acc=0.7710  
Epoch 22/500: Loss=0.6122, Val Loss=0.6096, Acc=0.7630, Val Acc=0.7710  
Epoch 23/500: Loss=0.6098, Val Loss=0.6074, Acc=0.7630, Val Acc=0.7710  
Epoch 24/500: Loss=0.6076, Val Loss=0.6052, Acc=0.7633, Val Acc=0.7710  
Epoch 25/500: Loss=0.6054, Val Loss=0.6032, Acc=0.7633, Val Acc=0.7710  
Epoch 26/500: Loss=0.6033, Val Loss=0.6012, Acc=0.7633, Val Acc=0.7710  
Epoch 27/500: Loss=0.6013, Val Loss=0.5993, Acc=0.7633, Val Acc=0.7710  
Epoch 28/500: Loss=0.5994, Val Loss=0.5975, Acc=0.7633, Val Acc=0.7710  
Epoch 29/500: Loss=0.5975, Val Loss=0.5957, Acc=0.7630, Val Acc=0.7720  
Epoch 30/500: Loss=0.5957, Val Loss=0.5940, Acc=0.7630, Val Acc=0.7720  
Epoch 31/500: Loss=0.5940, Val Loss=0.5924, Acc=0.7630, Val Acc=0.7720  
Epoch 32/500: Loss=0.5923, Val Loss=0.5908, Acc=0.7630, Val Acc=0.7720  
Epoch 33/500: Loss=0.5907, Val Loss=0.5893, Acc=0.7633, Val Acc=0.7730  
Epoch 34/500: Loss=0.5891, Val Loss=0.5879, Acc=0.7633, Val Acc=0.7730  
Epoch 35/500: Loss=0.5876, Val Loss=0.5865, Acc=0.7633, Val Acc=0.7730  
Epoch 36/500: Loss=0.5862, Val Loss=0.5851, Acc=0.7637, Val Acc=0.7730



Epoch 37/500: Loss=0.5848, Val Loss=0.5838, Acc=0.7637, Val Acc=0.7730  
Epoch 38/500: Loss=0.5835, Val Loss=0.5826, Acc=0.7637, Val Acc=0.7720  
Epoch 39/500: Loss=0.5822, Val Loss=0.5814, Acc=0.7640, Val Acc=0.7720  
Epoch 40/500: Loss=0.5809, Val Loss=0.5802, Acc=0.7643, Val Acc=0.7710  
Epoch 41/500: Loss=0.5797, Val Loss=0.5791, Acc=0.7643, Val Acc=0.7710  
Epoch 42/500: Loss=0.5785, Val Loss=0.5781, Acc=0.7640, Val Acc=0.7710  
Epoch 43/500: Loss=0.5774, Val Loss=0.5770, Acc=0.7643, Val Acc=0.7700  
Epoch 44/500: Loss=0.5763, Val Loss=0.5760, Acc=0.7643, Val Acc=0.7690  
Epoch 45/500: Loss=0.5753, Val Loss=0.5750, Acc=0.7643, Val Acc=0.7690  
Epoch 46/500: Loss=0.5742, Val Loss=0.5741, Acc=0.7643, Val Acc=0.7690  
Epoch 47/500: Loss=0.5733, Val Loss=0.5732, Acc=0.7650, Val Acc=0.7690  
Epoch 48/500: Loss=0.5723, Val Loss=0.5723, Acc=0.7647, Val Acc=0.7690  
Epoch 49/500: Loss=0.5714, Val Loss=0.5715, Acc=0.7647, Val Acc=0.7690  
Epoch 50/500: Loss=0.5705, Val Loss=0.5707, Acc=0.7643, Val Acc=0.7690  
Epoch 51/500: Loss=0.5696, Val Loss=0.5699, Acc=0.7650, Val Acc=0.7690  
Epoch 52/500: Loss=0.5688, Val Loss=0.5691, Acc=0.7650, Val Acc=0.7690  
Epoch 53/500: Loss=0.5680, Val Loss=0.5684, Acc=0.7653, Val Acc=0.7690  
Epoch 54/500: Loss=0.5672, Val Loss=0.5677, Acc=0.7650, Val Acc=0.7690  
Epoch 55/500: Loss=0.5664, Val Loss=0.5670, Acc=0.7650, Val Acc=0.7690  
Epoch 56/500: Loss=0.5657, Val Loss=0.5664, Acc=0.7650, Val Acc=0.7690  
Epoch 57/500: Loss=0.5650, Val Loss=0.5657, Acc=0.7657, Val Acc=0.7690  
Epoch 58/500: Loss=0.5643, Val Loss=0.5651, Acc=0.7657, Val Acc=0.7690  
Epoch 59/500: Loss=0.5636, Val Loss=0.5645, Acc=0.7657, Val Acc=0.7690  
Epoch 60/500: Loss=0.5630, Val Loss=0.5639, Acc=0.7653, Val Acc=0.7690  
Epoch 61/500: Loss=0.5623, Val Loss=0.5634, Acc=0.7653, Val Acc=0.7690  
Epoch 62/500: Loss=0.5617, Val Loss=0.5628, Acc=0.7650, Val Acc=0.7690  
Epoch 63/500: Loss=0.5611, Val Loss=0.5623, Acc=0.7653, Val Acc=0.7690  
Epoch 64/500: Loss=0.5605, Val Loss=0.5618, Acc=0.7653, Val Acc=0.7690  
Epoch 65/500: Loss=0.5600, Val Loss=0.5613, Acc=0.7653, Val Acc=0.7700  
Epoch 66/500: Loss=0.5594, Val Loss=0.5608, Acc=0.7653, Val Acc=0.7710  
Early stop at epoch 66  
accuracy= 0.771

Epoch 1/500: Loss=0.6931, Val Loss=0.6928, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6928, Val Loss=0.6924, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6924, Val Loss=0.6920, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764

Epoch 1/500: Loss=0.6931, Val Loss=0.6873, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6874, Val Loss=0.6818, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6819, Val Loss=0.6764, Acc=0.7617, Val Acc=0.7690  
Epoch 4/500: Loss=0.6766, Val Loss=0.6714, Acc=0.7617, Val Acc=0.7700  
Epoch 5/500: Loss=0.6716, Val Loss=0.6665, Acc=0.7620, Val Acc=0.7700  
Early stop at epoch 5  
accuracy= 0.77

Epoch 1/10: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.764

Epoch 1/10: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/10: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/10: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710

Epoch 6/10: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/10: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/10: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/10: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/10: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
accuracy= 0.77  
Epoch 1/10: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.764  
Epoch 1/10: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/10: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/10: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/10: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/10: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/10: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/10: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/10: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
accuracy= 0.77  
Epoch 1/10: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/10: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/10: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/10: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/10: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/10: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/10: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/10: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/10: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
accuracy= 0.77  
Epoch 1/50: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/50: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/50: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/50: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/50: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/50: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460

Epoch 17/50: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/50: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/50: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/50: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/50: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/50: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/50: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/50: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/50: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/50: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/50: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/50: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/50: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/50: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/50: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/50: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/50: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/50: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/50: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/50: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/50: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/50: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/50: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/50: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/50: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/50: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460

accuracy= 0.763

Epoch 1/50: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/50: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/50: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/50: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/50: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/50: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/50: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/50: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/50: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/50: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/50: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/50: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/50: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/50: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/50: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/50: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/50: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/50: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/50: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/50: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/50: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/50: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/50: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690

Epoch 26/50: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/50: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/50: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/50: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/50: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/50: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/50: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/50: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/50: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/50: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/50: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/50: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/50: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/50: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/50: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/50: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/50: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/50: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/50: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/50: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/50: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Epoch 47/50: Loss=0.5491, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 48/50: Loss=0.5486, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 49/50: Loss=0.5481, Val Loss=0.5510, Acc=0.7653, Val Acc=0.7670  
Epoch 50/50: Loss=0.5476, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7670  
accuracy= 0.767  
Epoch 1/50: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/50: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/50: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/50: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/50: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/50: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/50: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/50: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/50: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/50: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/50: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/50: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/50: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/50: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/50: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/50: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/50: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/50: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/50: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/50: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/50: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460

Epoch 35/50: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/50: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/50: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/50: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/50: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/50: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/50: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/50: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/50: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/50: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/50: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460

accuracy= 0.763

Epoch 1/50: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/50: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/50: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/50: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/50: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/50: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/50: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/50: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/50: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/50: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/50: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/50: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/50: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/50: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/50: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/50: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/50: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/50: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/50: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/50: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/50: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/50: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/50: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/50: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/50: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/50: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/50: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/50: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/50: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/50: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/50: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/50: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/50: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/50: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/50: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/50: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/50: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/50: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/50: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/50: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/50: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680

Epoch 44/50: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/50: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/50: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Early stop at epoch 46  
accuracy= 0.767  
Epoch 1/50: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/50: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/50: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/50: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/50: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/50: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/50: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/50: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/50: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/50: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/50: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Early stop at epoch 12  
accuracy= 0.771  
Epoch 1/100: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/100: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/100: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/100: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/100: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/100: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/100: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/100: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/100: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/100: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/100: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/100: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/100: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/100: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/100: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/100: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/100: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/100: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/100: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/100: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/100: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/100: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/100: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460

Epoch 37/100: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/100: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/100: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/100: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/100: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/100: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/100: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/100: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/100: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/100: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/100: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/100: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/100: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/100: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/100: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/100: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/100: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/100: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/100: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/100: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/100: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/100: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/100: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/100: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/100: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/100: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 63/100: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/100: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/100: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/100: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/100: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/100: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/100: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/100: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/100: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/100: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/100: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/100: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/100: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Epoch 76/100: Loss=0.6474, Val Loss=0.6467, Acc=0.7493, Val Acc=0.7460  
Epoch 77/100: Loss=0.6469, Val Loss=0.6462, Acc=0.7493, Val Acc=0.7460  
Epoch 78/100: Loss=0.6464, Val Loss=0.6458, Acc=0.7493, Val Acc=0.7460  
Epoch 79/100: Loss=0.6460, Val Loss=0.6453, Acc=0.7493, Val Acc=0.7460  
Epoch 80/100: Loss=0.6455, Val Loss=0.6448, Acc=0.7493, Val Acc=0.7460  
Epoch 81/100: Loss=0.6450, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 82/100: Loss=0.6445, Val Loss=0.6438, Acc=0.7493, Val Acc=0.7460  
Epoch 83/100: Loss=0.6440, Val Loss=0.6433, Acc=0.7493, Val Acc=0.7460  
Epoch 84/100: Loss=0.6435, Val Loss=0.6429, Acc=0.7493, Val Acc=0.7460  
Epoch 85/100: Loss=0.6431, Val Loss=0.6424, Acc=0.7490, Val Acc=0.7460  
Epoch 86/100: Loss=0.6426, Val Loss=0.6419, Acc=0.7490, Val Acc=0.7460  
Epoch 87/100: Loss=0.6421, Val Loss=0.6415, Acc=0.7490, Val Acc=0.7460  
Epoch 88/100: Loss=0.6417, Val Loss=0.6410, Acc=0.7490, Val Acc=0.7460  
Epoch 89/100: Loss=0.6412, Val Loss=0.6405, Acc=0.7490, Val Acc=0.7460  
Epoch 90/100: Loss=0.6407, Val Loss=0.6401, Acc=0.7490, Val Acc=0.7460  
Epoch 91/100: Loss=0.6403, Val Loss=0.6396, Acc=0.7490, Val Acc=0.7460  
Epoch 92/100: Loss=0.6398, Val Loss=0.6392, Acc=0.7490, Val Acc=0.7460  
Epoch 93/100: Loss=0.6393, Val Loss=0.6387, Acc=0.7490, Val Acc=0.7460  
Epoch 94/100: Loss=0.6389, Val Loss=0.6383, Acc=0.7490, Val Acc=0.7460  
Epoch 95/100: Loss=0.6384, Val Loss=0.6378, Acc=0.7490, Val Acc=0.7460  
Epoch 96/100: Loss=0.6380, Val Loss=0.6374, Acc=0.7490, Val Acc=0.7460

Epoch 97/100: Loss=0.6375, Val Loss=0.6369, Acc=0.7490, Val Acc=0.7460  
Epoch 98/100: Loss=0.6371, Val Loss=0.6365, Acc=0.7490, Val Acc=0.7460  
Epoch 99/100: Loss=0.6367, Val Loss=0.6360, Acc=0.7490, Val Acc=0.7460  
Epoch 100/100: Loss=0.6362, Val Loss=0.6356, Acc=0.7490, Val Acc=0.7460  
accuracy= 0.763  
Epoch 1/100: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/100: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/100: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/100: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/100: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/100: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/100: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/100: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/100: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/100: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/100: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/100: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/100: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/100: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/100: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/100: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/100: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/100: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/100: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/100: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/100: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/100: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/100: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/100: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/100: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/100: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/100: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/100: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/100: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/100: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/100: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/100: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/100: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/100: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/100: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/100: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/100: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/100: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/100: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/100: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/100: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/100: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/100: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/100: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Epoch 47/100: Loss=0.5491, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 48/100: Loss=0.5486, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 49/100: Loss=0.5481, Val Loss=0.5510, Acc=0.7653, Val Acc=0.7670  
Epoch 50/100: Loss=0.5476, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7670  
Epoch 51/100: Loss=0.5472, Val Loss=0.5503, Acc=0.7653, Val Acc=0.7680  
Epoch 52/100: Loss=0.5468, Val Loss=0.5500, Acc=0.7653, Val Acc=0.7680  
Epoch 53/100: Loss=0.5464, Val Loss=0.5497, Acc=0.7653, Val Acc=0.7680  
Epoch 54/100: Loss=0.5460, Val Loss=0.5494, Acc=0.7650, Val Acc=0.7680  
Epoch 55/100: Loss=0.5457, Val Loss=0.5491, Acc=0.7650, Val Acc=0.7680



Epoch 56/100: Loss=0.5454, Val Loss=0.5489, Acc=0.7650, Val Acc=0.7680  
Epoch 57/100: Loss=0.5450, Val Loss=0.5487, Acc=0.7647, Val Acc=0.7680  
Epoch 58/100: Loss=0.5447, Val Loss=0.5484, Acc=0.7650, Val Acc=0.7680  
Epoch 59/100: Loss=0.5444, Val Loss=0.5482, Acc=0.7650, Val Acc=0.7680  
Epoch 60/100: Loss=0.5442, Val Loss=0.5480, Acc=0.7650, Val Acc=0.7680  
Epoch 61/100: Loss=0.5439, Val Loss=0.5478, Acc=0.7650, Val Acc=0.7690  
Epoch 62/100: Loss=0.5436, Val Loss=0.5477, Acc=0.7637, Val Acc=0.7680  
Epoch 63/100: Loss=0.5434, Val Loss=0.5475, Acc=0.7640, Val Acc=0.7680  
Epoch 64/100: Loss=0.5432, Val Loss=0.5473, Acc=0.7637, Val Acc=0.7680  
Epoch 65/100: Loss=0.5429, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 66/100: Loss=0.5427, Val Loss=0.5470, Acc=0.7637, Val Acc=0.7680  
Epoch 67/100: Loss=0.5425, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 68/100: Loss=0.5423, Val Loss=0.5467, Acc=0.7640, Val Acc=0.7680  
Epoch 69/100: Loss=0.5421, Val Loss=0.5466, Acc=0.7640, Val Acc=0.7680  
Epoch 70/100: Loss=0.5420, Val Loss=0.5465, Acc=0.7647, Val Acc=0.7680  
Epoch 71/100: Loss=0.5418, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 72/100: Loss=0.5416, Val Loss=0.5463, Acc=0.7647, Val Acc=0.7690  
Epoch 73/100: Loss=0.5415, Val Loss=0.5462, Acc=0.7643, Val Acc=0.7690  
Epoch 74/100: Loss=0.5413, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7690  
Epoch 75/100: Loss=0.5412, Val Loss=0.5460, Acc=0.7633, Val Acc=0.7680  
Epoch 76/100: Loss=0.5410, Val Loss=0.5459, Acc=0.7630, Val Acc=0.7680  
Epoch 77/100: Loss=0.5409, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680  
Epoch 78/100: Loss=0.5408, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680  
Epoch 79/100: Loss=0.5406, Val Loss=0.5457, Acc=0.7630, Val Acc=0.7680  
Epoch 80/100: Loss=0.5405, Val Loss=0.5456, Acc=0.7637, Val Acc=0.7680  
Epoch 81/100: Loss=0.5404, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7680  
Epoch 82/100: Loss=0.5403, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7660  
Epoch 83/100: Loss=0.5402, Val Loss=0.5454, Acc=0.7633, Val Acc=0.7660  
Epoch 84/100: Loss=0.5401, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7650  
Epoch 85/100: Loss=0.5400, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 86/100: Loss=0.5399, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 87/100: Loss=0.5398, Val Loss=0.5452, Acc=0.7630, Val Acc=0.7650  
Early stop at epoch 87  
accuracy= 0.765

Epoch 1/100: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/100: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/100: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/100: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/100: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/100: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/100: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/100: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/100: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/100: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/100: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/100: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/100: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460

Epoch 27/100: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/100: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/100: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/100: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/100: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/100: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/100: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/100: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/100: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/100: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/100: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/100: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/100: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/100: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/100: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/100: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/100: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/100: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/100: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/100: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/100: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/100: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/100: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/100: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/100: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/100: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/100: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/100: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/100: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/100: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/100: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/100: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/100: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/100: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/100: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/100: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 63/100: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/100: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/100: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/100: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/100: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/100: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/100: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/100: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/100: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/100: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/100: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/100: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/100: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 75  
accuracy= 0.763  
Epoch 1/100: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/100: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/100: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/100: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/100: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/100: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/100: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700

Epoch 10/100: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/100: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/100: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/100: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/100: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/100: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/100: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/100: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/100: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/100: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/100: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/100: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/100: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/100: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/100: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/100: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/100: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/100: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/100: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/100: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/100: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/100: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/100: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/100: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/100: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/100: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/100: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/100: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/100: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/100: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/100: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/100: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/100: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/100: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/100: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/100: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/100: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Early stop at epoch 46  
accuracy= 0.767

Epoch 1/100: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764

Epoch 1/100: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/100: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/100: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/100: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/100: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/100: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/100: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/100: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/100: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/100: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Early stop at epoch 12  
accuracy= 0.771

Epoch 1/150: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460

Epoch 3/150: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/150: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/150: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/150: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/150: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/150: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/150: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/150: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/150: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/150: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/150: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/150: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/150: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/150: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/150: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/150: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/150: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/150: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/150: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/150: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/150: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/150: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/150: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/150: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/150: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/150: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/150: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/150: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/150: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/150: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/150: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/150: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/150: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/150: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/150: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/150: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/150: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/150: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/150: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/150: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/150: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/150: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/150: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/150: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/150: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/150: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/150: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/150: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/150: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/150: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/150: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/150: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/150: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/150: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/150: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/150: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460

Epoch 63/150: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/150: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/150: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/150: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/150: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/150: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/150: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/150: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/150: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/150: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/150: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/150: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/150: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Epoch 76/150: Loss=0.6474, Val Loss=0.6467, Acc=0.7493, Val Acc=0.7460  
Epoch 77/150: Loss=0.6469, Val Loss=0.6462, Acc=0.7493, Val Acc=0.7460  
Epoch 78/150: Loss=0.6464, Val Loss=0.6458, Acc=0.7493, Val Acc=0.7460  
Epoch 79/150: Loss=0.6460, Val Loss=0.6453, Acc=0.7493, Val Acc=0.7460  
Epoch 80/150: Loss=0.6455, Val Loss=0.6448, Acc=0.7493, Val Acc=0.7460  
Epoch 81/150: Loss=0.6450, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 82/150: Loss=0.6445, Val Loss=0.6438, Acc=0.7493, Val Acc=0.7460  
Epoch 83/150: Loss=0.6440, Val Loss=0.6433, Acc=0.7493, Val Acc=0.7460  
Epoch 84/150: Loss=0.6435, Val Loss=0.6429, Acc=0.7493, Val Acc=0.7460  
Epoch 85/150: Loss=0.6431, Val Loss=0.6424, Acc=0.7490, Val Acc=0.7460  
Epoch 86/150: Loss=0.6426, Val Loss=0.6419, Acc=0.7490, Val Acc=0.7460  
Epoch 87/150: Loss=0.6421, Val Loss=0.6415, Acc=0.7490, Val Acc=0.7460  
Epoch 88/150: Loss=0.6417, Val Loss=0.6410, Acc=0.7490, Val Acc=0.7460  
Epoch 89/150: Loss=0.6412, Val Loss=0.6405, Acc=0.7490, Val Acc=0.7460  
Epoch 90/150: Loss=0.6407, Val Loss=0.6401, Acc=0.7490, Val Acc=0.7460  
Epoch 91/150: Loss=0.6403, Val Loss=0.6396, Acc=0.7490, Val Acc=0.7460  
Epoch 92/150: Loss=0.6398, Val Loss=0.6392, Acc=0.7490, Val Acc=0.7460  
Epoch 93/150: Loss=0.6393, Val Loss=0.6387, Acc=0.7490, Val Acc=0.7460  
Epoch 94/150: Loss=0.6389, Val Loss=0.6383, Acc=0.7490, Val Acc=0.7460  
Epoch 95/150: Loss=0.6384, Val Loss=0.6378, Acc=0.7490, Val Acc=0.7460  
Epoch 96/150: Loss=0.6380, Val Loss=0.6374, Acc=0.7490, Val Acc=0.7460  
Epoch 97/150: Loss=0.6375, Val Loss=0.6369, Acc=0.7490, Val Acc=0.7460  
Epoch 98/150: Loss=0.6371, Val Loss=0.6365, Acc=0.7490, Val Acc=0.7460  
Epoch 99/150: Loss=0.6367, Val Loss=0.6360, Acc=0.7490, Val Acc=0.7460  
Epoch 100/150: Loss=0.6362, Val Loss=0.6356, Acc=0.7490, Val Acc=0.7460  
Epoch 101/150: Loss=0.6358, Val Loss=0.6352, Acc=0.7490, Val Acc=0.7460  
Epoch 102/150: Loss=0.6353, Val Loss=0.6347, Acc=0.7490, Val Acc=0.7460  
Epoch 103/150: Loss=0.6349, Val Loss=0.6343, Acc=0.7490, Val Acc=0.7460  
Epoch 104/150: Loss=0.6345, Val Loss=0.6339, Acc=0.7490, Val Acc=0.7460  
Epoch 105/150: Loss=0.6341, Val Loss=0.6335, Acc=0.7490, Val Acc=0.7460  
Epoch 106/150: Loss=0.6336, Val Loss=0.6330, Acc=0.7490, Val Acc=0.7460  
Epoch 107/150: Loss=0.6332, Val Loss=0.6326, Acc=0.7490, Val Acc=0.7460  
Epoch 108/150: Loss=0.6328, Val Loss=0.6322, Acc=0.7490, Val Acc=0.7460  
Epoch 109/150: Loss=0.6324, Val Loss=0.6318, Acc=0.7490, Val Acc=0.7460  
Epoch 110/150: Loss=0.6319, Val Loss=0.6314, Acc=0.7490, Val Acc=0.7460  
Epoch 111/150: Loss=0.6315, Val Loss=0.6310, Acc=0.7490, Val Acc=0.7460  
Epoch 112/150: Loss=0.6311, Val Loss=0.6305, Acc=0.7490, Val Acc=0.7460  
Epoch 113/150: Loss=0.6307, Val Loss=0.6301, Acc=0.7490, Val Acc=0.7450  
Epoch 114/150: Loss=0.6303, Val Loss=0.6297, Acc=0.7490, Val Acc=0.7450  
Epoch 115/150: Loss=0.6299, Val Loss=0.6293, Acc=0.7490, Val Acc=0.7450  
Epoch 116/150: Loss=0.6295, Val Loss=0.6289, Acc=0.7490, Val Acc=0.7450  
Epoch 117/150: Loss=0.6291, Val Loss=0.6285, Acc=0.7490, Val Acc=0.7450  
Epoch 118/150: Loss=0.6287, Val Loss=0.6281, Acc=0.7490, Val Acc=0.7450  
Epoch 119/150: Loss=0.6283, Val Loss=0.6277, Acc=0.7490, Val Acc=0.7450  
Epoch 120/150: Loss=0.6279, Val Loss=0.6273, Acc=0.7490, Val Acc=0.7450  
Epoch 121/150: Loss=0.6275, Val Loss=0.6270, Acc=0.7490, Val Acc=0.7450  
Epoch 122/150: Loss=0.6271, Val Loss=0.6266, Acc=0.7487, Val Acc=0.7450

Epoch 123/150: Loss=0.6267, Val Loss=0.6262, Acc=0.7487, Val Acc=0.7450  
Epoch 124/150: Loss=0.6263, Val Loss=0.6258, Acc=0.7487, Val Acc=0.7450  
Epoch 125/150: Loss=0.6259, Val Loss=0.6254, Acc=0.7487, Val Acc=0.7450  
Epoch 126/150: Loss=0.6255, Val Loss=0.6250, Acc=0.7487, Val Acc=0.7450  
Epoch 127/150: Loss=0.6252, Val Loss=0.6246, Acc=0.7487, Val Acc=0.7450  
Epoch 128/150: Loss=0.6248, Val Loss=0.6243, Acc=0.7487, Val Acc=0.7450  
Epoch 129/150: Loss=0.6244, Val Loss=0.6239, Acc=0.7487, Val Acc=0.7450  
Epoch 130/150: Loss=0.6240, Val Loss=0.6235, Acc=0.7487, Val Acc=0.7450  
Epoch 131/150: Loss=0.6236, Val Loss=0.6232, Acc=0.7487, Val Acc=0.7450  
Epoch 132/150: Loss=0.6233, Val Loss=0.6228, Acc=0.7487, Val Acc=0.7450  
Epoch 133/150: Loss=0.6229, Val Loss=0.6224, Acc=0.7487, Val Acc=0.7450  
Epoch 134/150: Loss=0.6225, Val Loss=0.6220, Acc=0.7487, Val Acc=0.7450  
Epoch 135/150: Loss=0.6222, Val Loss=0.6217, Acc=0.7487, Val Acc=0.7450  
Epoch 136/150: Loss=0.6218, Val Loss=0.6213, Acc=0.7490, Val Acc=0.7450  
Epoch 137/150: Loss=0.6214, Val Loss=0.6210, Acc=0.7490, Val Acc=0.7450  
Epoch 138/150: Loss=0.6211, Val Loss=0.6206, Acc=0.7490, Val Acc=0.7450  
Epoch 139/150: Loss=0.6207, Val Loss=0.6203, Acc=0.7490, Val Acc=0.7450  
Epoch 140/150: Loss=0.6203, Val Loss=0.6199, Acc=0.7490, Val Acc=0.7450  
Epoch 141/150: Loss=0.6200, Val Loss=0.6195, Acc=0.7490, Val Acc=0.7450  
Epoch 142/150: Loss=0.6196, Val Loss=0.6192, Acc=0.7490, Val Acc=0.7450  
Epoch 143/150: Loss=0.6193, Val Loss=0.6188, Acc=0.7490, Val Acc=0.7450  
Epoch 144/150: Loss=0.6189, Val Loss=0.6185, Acc=0.7490, Val Acc=0.7450  
Epoch 145/150: Loss=0.6186, Val Loss=0.6182, Acc=0.7490, Val Acc=0.7450  
Epoch 146/150: Loss=0.6182, Val Loss=0.6178, Acc=0.7490, Val Acc=0.7450  
Epoch 147/150: Loss=0.6179, Val Loss=0.6175, Acc=0.7490, Val Acc=0.7450  
Epoch 148/150: Loss=0.6175, Val Loss=0.6171, Acc=0.7490, Val Acc=0.7450  
Epoch 149/150: Loss=0.6172, Val Loss=0.6168, Acc=0.7487, Val Acc=0.7460  
Epoch 150/150: Loss=0.6169, Val Loss=0.6165, Acc=0.7487, Val Acc=0.7460

accuracy= 0.762

Epoch 1/150: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/150: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/150: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/150: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/150: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/150: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/150: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/150: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/150: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/150: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/150: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/150: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/150: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/150: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/150: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/150: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/150: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/150: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/150: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/150: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/150: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/150: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/150: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/150: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/150: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/150: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/150: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/150: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/150: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690

Epoch 32/150: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/150: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/150: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/150: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/150: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/150: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/150: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/150: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/150: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/150: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/150: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/150: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/150: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/150: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/150: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Epoch 47/150: Loss=0.5491, Val Loss=0.5517, Acc=0.7653, Val Acc=0.7670  
Epoch 48/150: Loss=0.5486, Val Loss=0.5513, Acc=0.7653, Val Acc=0.7670  
Epoch 49/150: Loss=0.5481, Val Loss=0.5510, Acc=0.7653, Val Acc=0.7670  
Epoch 50/150: Loss=0.5476, Val Loss=0.5506, Acc=0.7653, Val Acc=0.7670  
Epoch 51/150: Loss=0.5472, Val Loss=0.5503, Acc=0.7653, Val Acc=0.7680  
Epoch 52/150: Loss=0.5468, Val Loss=0.5500, Acc=0.7653, Val Acc=0.7680  
Epoch 53/150: Loss=0.5464, Val Loss=0.5497, Acc=0.7653, Val Acc=0.7680  
Epoch 54/150: Loss=0.5460, Val Loss=0.5494, Acc=0.7650, Val Acc=0.7680  
Epoch 55/150: Loss=0.5457, Val Loss=0.5491, Acc=0.7650, Val Acc=0.7680  
Epoch 56/150: Loss=0.5454, Val Loss=0.5489, Acc=0.7650, Val Acc=0.7680  
Epoch 57/150: Loss=0.5450, Val Loss=0.5487, Acc=0.7647, Val Acc=0.7680  
Epoch 58/150: Loss=0.5447, Val Loss=0.5484, Acc=0.7650, Val Acc=0.7680  
Epoch 59/150: Loss=0.5444, Val Loss=0.5482, Acc=0.7650, Val Acc=0.7680  
Epoch 60/150: Loss=0.5442, Val Loss=0.5480, Acc=0.7650, Val Acc=0.7680  
Epoch 61/150: Loss=0.5439, Val Loss=0.5478, Acc=0.7650, Val Acc=0.7690  
Epoch 62/150: Loss=0.5436, Val Loss=0.5477, Acc=0.7637, Val Acc=0.7680  
Epoch 63/150: Loss=0.5434, Val Loss=0.5475, Acc=0.7640, Val Acc=0.7680  
Epoch 64/150: Loss=0.5432, Val Loss=0.5473, Acc=0.7637, Val Acc=0.7680  
Epoch 65/150: Loss=0.5429, Val Loss=0.5472, Acc=0.7637, Val Acc=0.7690  
Epoch 66/150: Loss=0.5427, Val Loss=0.5470, Acc=0.7637, Val Acc=0.7680  
Epoch 67/150: Loss=0.5425, Val Loss=0.5469, Acc=0.7640, Val Acc=0.7680  
Epoch 68/150: Loss=0.5423, Val Loss=0.5467, Acc=0.7640, Val Acc=0.7680  
Epoch 69/150: Loss=0.5421, Val Loss=0.5466, Acc=0.7640, Val Acc=0.7680  
Epoch 70/150: Loss=0.5420, Val Loss=0.5465, Acc=0.7647, Val Acc=0.7680  
Epoch 71/150: Loss=0.5418, Val Loss=0.5464, Acc=0.7647, Val Acc=0.7690  
Epoch 72/150: Loss=0.5416, Val Loss=0.5463, Acc=0.7647, Val Acc=0.7690  
Epoch 73/150: Loss=0.5415, Val Loss=0.5462, Acc=0.7643, Val Acc=0.7690  
Epoch 74/150: Loss=0.5413, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7690  
Epoch 75/150: Loss=0.5412, Val Loss=0.5460, Acc=0.7633, Val Acc=0.7680  
Epoch 76/150: Loss=0.5410, Val Loss=0.5459, Acc=0.7630, Val Acc=0.7680  
Epoch 77/150: Loss=0.5409, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680  
Epoch 78/150: Loss=0.5408, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680  
Epoch 79/150: Loss=0.5406, Val Loss=0.5457, Acc=0.7630, Val Acc=0.7680  
Epoch 80/150: Loss=0.5405, Val Loss=0.5456, Acc=0.7637, Val Acc=0.7680  
Epoch 81/150: Loss=0.5404, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7680  
Epoch 82/150: Loss=0.5403, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7660  
Epoch 83/150: Loss=0.5402, Val Loss=0.5454, Acc=0.7633, Val Acc=0.7660  
Epoch 84/150: Loss=0.5401, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7650  
Epoch 85/150: Loss=0.5400, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 86/150: Loss=0.5399, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 87/150: Loss=0.5398, Val Loss=0.5452, Acc=0.7630, Val Acc=0.7650  
Early stop at epoch 87  
accuracy= 0.765  
Epoch 1/150: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460

Epoch 3/150: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/150: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/150: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/150: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/150: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/150: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/150: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/150: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/150: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/150: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/150: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/150: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/150: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/150: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/150: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/150: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/150: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/150: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/150: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/150: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/150: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/150: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/150: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/150: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/150: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/150: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/150: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/150: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/150: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/150: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/150: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/150: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/150: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/150: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/150: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/150: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/150: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/150: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/150: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/150: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/150: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/150: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/150: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/150: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/150: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/150: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/150: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/150: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/150: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/150: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/150: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/150: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/150: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/150: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/150: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/150: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460



Epoch 63/150: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/150: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/150: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/150: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/150: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/150: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/150: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/150: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/150: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/150: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/150: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/150: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/150: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 75  
accuracy= 0.763

Epoch 1/150: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/150: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/150: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/150: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/150: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/150: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/150: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/150: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/150: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/150: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/150: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/150: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/150: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/150: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/150: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/150: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/150: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/150: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/150: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/150: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/150: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/150: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/150: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/150: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/150: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/150: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/150: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/150: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/150: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690  
Epoch 32/150: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/150: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/150: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/150: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/150: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/150: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/150: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/150: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/150: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/150: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/150: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/150: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/150: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/150: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670

Epoch 46/150: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Early stop at epoch 46  
accuracy= 0.767

Epoch 1/150: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764

Epoch 1/150: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/150: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/150: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/150: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/150: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/150: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/150: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/150: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/150: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/150: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Early stop at epoch 12  
accuracy= 0.771

Epoch 1/500: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/500: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/500: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/500: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/500: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/500: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/500: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/500: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/500: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/500: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/500: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/500: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/500: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/500: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/500: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/500: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/500: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/500: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/500: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/500: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/500: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/500: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/500: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/500: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/500: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/500: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/500: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/500: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/500: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/500: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/500: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/500: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460

Epoch 39/500: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/500: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/500: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/500: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/500: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/500: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/500: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/500: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/500: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/500: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/500: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/500: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/500: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/500: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/500: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/500: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/500: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/500: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/500: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/500: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/500: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/500: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/500: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/500: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 63/500: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/500: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/500: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/500: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/500: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/500: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/500: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/500: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/500: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/500: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/500: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/500: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/500: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Epoch 76/500: Loss=0.6474, Val Loss=0.6467, Acc=0.7493, Val Acc=0.7460  
Epoch 77/500: Loss=0.6469, Val Loss=0.6462, Acc=0.7493, Val Acc=0.7460  
Epoch 78/500: Loss=0.6464, Val Loss=0.6458, Acc=0.7493, Val Acc=0.7460  
Epoch 79/500: Loss=0.6460, Val Loss=0.6453, Acc=0.7493, Val Acc=0.7460  
Epoch 80/500: Loss=0.6455, Val Loss=0.6448, Acc=0.7493, Val Acc=0.7460  
Epoch 81/500: Loss=0.6450, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 82/500: Loss=0.6445, Val Loss=0.6438, Acc=0.7493, Val Acc=0.7460  
Epoch 83/500: Loss=0.6440, Val Loss=0.6433, Acc=0.7493, Val Acc=0.7460  
Epoch 84/500: Loss=0.6435, Val Loss=0.6429, Acc=0.7493, Val Acc=0.7460  
Epoch 85/500: Loss=0.6431, Val Loss=0.6424, Acc=0.7490, Val Acc=0.7460  
Epoch 86/500: Loss=0.6426, Val Loss=0.6419, Acc=0.7490, Val Acc=0.7460  
Epoch 87/500: Loss=0.6421, Val Loss=0.6415, Acc=0.7490, Val Acc=0.7460  
Epoch 88/500: Loss=0.6417, Val Loss=0.6410, Acc=0.7490, Val Acc=0.7460  
Epoch 89/500: Loss=0.6412, Val Loss=0.6405, Acc=0.7490, Val Acc=0.7460  
Epoch 90/500: Loss=0.6407, Val Loss=0.6401, Acc=0.7490, Val Acc=0.7460  
Epoch 91/500: Loss=0.6403, Val Loss=0.6396, Acc=0.7490, Val Acc=0.7460  
Epoch 92/500: Loss=0.6398, Val Loss=0.6392, Acc=0.7490, Val Acc=0.7460  
Epoch 93/500: Loss=0.6393, Val Loss=0.6387, Acc=0.7490, Val Acc=0.7460  
Epoch 94/500: Loss=0.6389, Val Loss=0.6383, Acc=0.7490, Val Acc=0.7460  
Epoch 95/500: Loss=0.6384, Val Loss=0.6378, Acc=0.7490, Val Acc=0.7460  
Epoch 96/500: Loss=0.6380, Val Loss=0.6374, Acc=0.7490, Val Acc=0.7460  
Epoch 97/500: Loss=0.6375, Val Loss=0.6369, Acc=0.7490, Val Acc=0.7460  
Epoch 98/500: Loss=0.6371, Val Loss=0.6365, Acc=0.7490, Val Acc=0.7460

Epoch 99/500: Loss=0.6367, Val Loss=0.6360, Acc=0.7490, Val Acc=0.7460  
Epoch 100/500: Loss=0.6362, Val Loss=0.6356, Acc=0.7490, Val Acc=0.7460  
Epoch 101/500: Loss=0.6358, Val Loss=0.6352, Acc=0.7490, Val Acc=0.7460  
Epoch 102/500: Loss=0.6353, Val Loss=0.6347, Acc=0.7490, Val Acc=0.7460  
Epoch 103/500: Loss=0.6349, Val Loss=0.6343, Acc=0.7490, Val Acc=0.7460  
Epoch 104/500: Loss=0.6345, Val Loss=0.6339, Acc=0.7490, Val Acc=0.7460  
Epoch 105/500: Loss=0.6341, Val Loss=0.6335, Acc=0.7490, Val Acc=0.7460  
Epoch 106/500: Loss=0.6336, Val Loss=0.6330, Acc=0.7490, Val Acc=0.7460  
Epoch 107/500: Loss=0.6332, Val Loss=0.6326, Acc=0.7490, Val Acc=0.7460  
Epoch 108/500: Loss=0.6328, Val Loss=0.6322, Acc=0.7490, Val Acc=0.7460  
Epoch 109/500: Loss=0.6324, Val Loss=0.6318, Acc=0.7490, Val Acc=0.7460  
Epoch 110/500: Loss=0.6319, Val Loss=0.6314, Acc=0.7490, Val Acc=0.7460  
Epoch 111/500: Loss=0.6315, Val Loss=0.6310, Acc=0.7490, Val Acc=0.7460  
Epoch 112/500: Loss=0.6311, Val Loss=0.6305, Acc=0.7490, Val Acc=0.7460  
Epoch 113/500: Loss=0.6307, Val Loss=0.6301, Acc=0.7490, Val Acc=0.7450  
Epoch 114/500: Loss=0.6303, Val Loss=0.6297, Acc=0.7490, Val Acc=0.7450  
Epoch 115/500: Loss=0.6299, Val Loss=0.6293, Acc=0.7490, Val Acc=0.7450  
Epoch 116/500: Loss=0.6295, Val Loss=0.6289, Acc=0.7490, Val Acc=0.7450  
Epoch 117/500: Loss=0.6291, Val Loss=0.6285, Acc=0.7490, Val Acc=0.7450  
Epoch 118/500: Loss=0.6287, Val Loss=0.6281, Acc=0.7490, Val Acc=0.7450  
Epoch 119/500: Loss=0.6283, Val Loss=0.6277, Acc=0.7490, Val Acc=0.7450  
Epoch 120/500: Loss=0.6279, Val Loss=0.6273, Acc=0.7490, Val Acc=0.7450  
Epoch 121/500: Loss=0.6275, Val Loss=0.6270, Acc=0.7490, Val Acc=0.7450  
Epoch 122/500: Loss=0.6271, Val Loss=0.6266, Acc=0.7487, Val Acc=0.7450  
Epoch 123/500: Loss=0.6267, Val Loss=0.6262, Acc=0.7487, Val Acc=0.7450  
Epoch 124/500: Loss=0.6263, Val Loss=0.6258, Acc=0.7487, Val Acc=0.7450  
Epoch 125/500: Loss=0.6259, Val Loss=0.6254, Acc=0.7487, Val Acc=0.7450  
Epoch 126/500: Loss=0.6255, Val Loss=0.6250, Acc=0.7487, Val Acc=0.7450  
Epoch 127/500: Loss=0.6252, Val Loss=0.6246, Acc=0.7487, Val Acc=0.7450  
Epoch 128/500: Loss=0.6248, Val Loss=0.6243, Acc=0.7487, Val Acc=0.7450  
Epoch 129/500: Loss=0.6244, Val Loss=0.6239, Acc=0.7487, Val Acc=0.7450  
Epoch 130/500: Loss=0.6240, Val Loss=0.6235, Acc=0.7487, Val Acc=0.7450  
Epoch 131/500: Loss=0.6236, Val Loss=0.6232, Acc=0.7487, Val Acc=0.7450  
Epoch 132/500: Loss=0.6233, Val Loss=0.6228, Acc=0.7487, Val Acc=0.7450  
Epoch 133/500: Loss=0.6229, Val Loss=0.6224, Acc=0.7487, Val Acc=0.7450  
Epoch 134/500: Loss=0.6225, Val Loss=0.6220, Acc=0.7487, Val Acc=0.7450  
Epoch 135/500: Loss=0.6222, Val Loss=0.6217, Acc=0.7487, Val Acc=0.7450  
Epoch 136/500: Loss=0.6218, Val Loss=0.6213, Acc=0.7490, Val Acc=0.7450  
Epoch 137/500: Loss=0.6214, Val Loss=0.6210, Acc=0.7490, Val Acc=0.7450  
Epoch 138/500: Loss=0.6211, Val Loss=0.6206, Acc=0.7490, Val Acc=0.7450  
Epoch 139/500: Loss=0.6207, Val Loss=0.6203, Acc=0.7490, Val Acc=0.7450  
Epoch 140/500: Loss=0.6203, Val Loss=0.6199, Acc=0.7490, Val Acc=0.7450  
Epoch 141/500: Loss=0.6200, Val Loss=0.6195, Acc=0.7490, Val Acc=0.7450  
Epoch 142/500: Loss=0.6196, Val Loss=0.6192, Acc=0.7490, Val Acc=0.7450  
Epoch 143/500: Loss=0.6193, Val Loss=0.6188, Acc=0.7490, Val Acc=0.7450  
Epoch 144/500: Loss=0.6189, Val Loss=0.6185, Acc=0.7490, Val Acc=0.7450  
Epoch 145/500: Loss=0.6186, Val Loss=0.6182, Acc=0.7490, Val Acc=0.7450  
Epoch 146/500: Loss=0.6182, Val Loss=0.6178, Acc=0.7490, Val Acc=0.7450  
Epoch 147/500: Loss=0.6179, Val Loss=0.6175, Acc=0.7490, Val Acc=0.7450  
Epoch 148/500: Loss=0.6175, Val Loss=0.6171, Acc=0.7490, Val Acc=0.7450  
Epoch 149/500: Loss=0.6172, Val Loss=0.6168, Acc=0.7487, Val Acc=0.7460  
Epoch 150/500: Loss=0.6169, Val Loss=0.6165, Acc=0.7487, Val Acc=0.7460  
Epoch 151/500: Loss=0.6165, Val Loss=0.6161, Acc=0.7487, Val Acc=0.7460  
Epoch 152/500: Loss=0.6162, Val Loss=0.6158, Acc=0.7487, Val Acc=0.7460  
Epoch 153/500: Loss=0.6158, Val Loss=0.6155, Acc=0.7487, Val Acc=0.7460  
Epoch 154/500: Loss=0.6155, Val Loss=0.6151, Acc=0.7487, Val Acc=0.7460  
Epoch 155/500: Loss=0.6152, Val Loss=0.6148, Acc=0.7487, Val Acc=0.7460  
Epoch 156/500: Loss=0.6148, Val Loss=0.6145, Acc=0.7487, Val Acc=0.7460  
Epoch 157/500: Loss=0.6145, Val Loss=0.6141, Acc=0.7487, Val Acc=0.7450  
Epoch 158/500: Loss=0.6142, Val Loss=0.6138, Acc=0.7487, Val Acc=0.7450

Epoch 159/500: Loss=0.6139, Val Loss=0.6135, Acc=0.7487, Val Acc=0.7450  
Epoch 160/500: Loss=0.6135, Val Loss=0.6132, Acc=0.7487, Val Acc=0.7450  
Epoch 161/500: Loss=0.6132, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 162/500: Loss=0.6129, Val Loss=0.6125, Acc=0.7487, Val Acc=0.7450  
Epoch 163/500: Loss=0.6126, Val Loss=0.6122, Acc=0.7487, Val Acc=0.7450  
Epoch 164/500: Loss=0.6122, Val Loss=0.6119, Acc=0.7487, Val Acc=0.7450  
Epoch 165/500: Loss=0.6119, Val Loss=0.6116, Acc=0.7487, Val Acc=0.7450  
Epoch 166/500: Loss=0.6116, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 167/500: Loss=0.6113, Val Loss=0.6110, Acc=0.7487, Val Acc=0.7450  
Epoch 168/500: Loss=0.6110, Val Loss=0.6107, Acc=0.7487, Val Acc=0.7450  
Epoch 169/500: Loss=0.6107, Val Loss=0.6104, Acc=0.7487, Val Acc=0.7450  
Epoch 170/500: Loss=0.6104, Val Loss=0.6101, Acc=0.7483, Val Acc=0.7450  
Epoch 171/500: Loss=0.6101, Val Loss=0.6098, Acc=0.7483, Val Acc=0.7450  
Epoch 172/500: Loss=0.6098, Val Loss=0.6095, Acc=0.7483, Val Acc=0.7450  
Epoch 173/500: Loss=0.6095, Val Loss=0.6092, Acc=0.7483, Val Acc=0.7450  
Epoch 174/500: Loss=0.6091, Val Loss=0.6089, Acc=0.7483, Val Acc=0.7450  
Epoch 175/500: Loss=0.6088, Val Loss=0.6086, Acc=0.7483, Val Acc=0.7450  
Epoch 176/500: Loss=0.6085, Val Loss=0.6083, Acc=0.7483, Val Acc=0.7450  
Epoch 177/500: Loss=0.6082, Val Loss=0.6080, Acc=0.7483, Val Acc=0.7450  
Epoch 178/500: Loss=0.6080, Val Loss=0.6077, Acc=0.7483, Val Acc=0.7450  
Epoch 179/500: Loss=0.6077, Val Loss=0.6074, Acc=0.7483, Val Acc=0.7450  
Epoch 180/500: Loss=0.6074, Val Loss=0.6071, Acc=0.7483, Val Acc=0.7450  
Epoch 181/500: Loss=0.6071, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 182/500: Loss=0.6068, Val Loss=0.6065, Acc=0.7483, Val Acc=0.7450  
Epoch 183/500: Loss=0.6065, Val Loss=0.6062, Acc=0.7483, Val Acc=0.7450  
Epoch 184/500: Loss=0.6062, Val Loss=0.6060, Acc=0.7483, Val Acc=0.7450  
Epoch 185/500: Loss=0.6059, Val Loss=0.6057, Acc=0.7483, Val Acc=0.7450  
Epoch 186/500: Loss=0.6056, Val Loss=0.6054, Acc=0.7487, Val Acc=0.7450  
Epoch 187/500: Loss=0.6053, Val Loss=0.6051, Acc=0.7487, Val Acc=0.7450  
Epoch 188/500: Loss=0.6051, Val Loss=0.6048, Acc=0.7487, Val Acc=0.7450  
Epoch 189/500: Loss=0.6048, Val Loss=0.6046, Acc=0.7487, Val Acc=0.7450  
Epoch 190/500: Loss=0.6045, Val Loss=0.6043, Acc=0.7487, Val Acc=0.7450  
Epoch 191/500: Loss=0.6042, Val Loss=0.6040, Acc=0.7487, Val Acc=0.7450  
Epoch 192/500: Loss=0.6039, Val Loss=0.6037, Acc=0.7487, Val Acc=0.7460  
Epoch 193/500: Loss=0.6037, Val Loss=0.6035, Acc=0.7487, Val Acc=0.7460  
Epoch 194/500: Loss=0.6034, Val Loss=0.6032, Acc=0.7487, Val Acc=0.7460  
Epoch 195/500: Loss=0.6031, Val Loss=0.6029, Acc=0.7487, Val Acc=0.7460  
Epoch 196/500: Loss=0.6028, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 197/500: Loss=0.6026, Val Loss=0.6024, Acc=0.7487, Val Acc=0.7460  
Epoch 198/500: Loss=0.6023, Val Loss=0.6021, Acc=0.7487, Val Acc=0.7460  
Epoch 199/500: Loss=0.6020, Val Loss=0.6019, Acc=0.7487, Val Acc=0.7460  
Epoch 200/500: Loss=0.6018, Val Loss=0.6016, Acc=0.7487, Val Acc=0.7460  
Epoch 201/500: Loss=0.6015, Val Loss=0.6014, Acc=0.7487, Val Acc=0.7460  
Epoch 202/500: Loss=0.6012, Val Loss=0.6011, Acc=0.7487, Val Acc=0.7460  
Epoch 203/500: Loss=0.6010, Val Loss=0.6008, Acc=0.7487, Val Acc=0.7460  
Epoch 204/500: Loss=0.6007, Val Loss=0.6006, Acc=0.7487, Val Acc=0.7460  
Epoch 205/500: Loss=0.6004, Val Loss=0.6003, Acc=0.7487, Val Acc=0.7460  
Epoch 206/500: Loss=0.6002, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 207/500: Loss=0.5999, Val Loss=0.5998, Acc=0.7487, Val Acc=0.7460  
Epoch 208/500: Loss=0.5997, Val Loss=0.5996, Acc=0.7487, Val Acc=0.7460  
Epoch 209/500: Loss=0.5994, Val Loss=0.5993, Acc=0.7487, Val Acc=0.7460  
Epoch 210/500: Loss=0.5992, Val Loss=0.5991, Acc=0.7487, Val Acc=0.7460  
Epoch 211/500: Loss=0.5989, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 212/500: Loss=0.5986, Val Loss=0.5986, Acc=0.7487, Val Acc=0.7460  
Epoch 213/500: Loss=0.5984, Val Loss=0.5983, Acc=0.7487, Val Acc=0.7460  
Epoch 214/500: Loss=0.5981, Val Loss=0.5981, Acc=0.7487, Val Acc=0.7460  
Epoch 215/500: Loss=0.5979, Val Loss=0.5978, Acc=0.7487, Val Acc=0.7460  
Epoch 216/500: Loss=0.5977, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 217/500: Loss=0.5974, Val Loss=0.5974, Acc=0.7487, Val Acc=0.7460  
Epoch 218/500: Loss=0.5972, Val Loss=0.5971, Acc=0.7487, Val Acc=0.7460

[illegible]

[illegible]

[illegible]



[illegible]

Epoch 459/500: Loss=0.5610, Val Loss=0.5622, Acc=0.7490, Val Acc=0.7490  
Epoch 460/500: Loss=0.5609, Val Loss=0.5621, Acc=0.7490, Val Acc=0.7490  
Epoch 461/500: Loss=0.5608, Val Loss=0.5621, Acc=0.7490, Val Acc=0.7490  
Epoch 462/500: Loss=0.5607, Val Loss=0.5620, Acc=0.7490, Val Acc=0.7490  
Epoch 463/500: Loss=0.5606, Val Loss=0.5619, Acc=0.7490, Val Acc=0.7490  
Epoch 464/500: Loss=0.5605, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 465/500: Loss=0.5605, Val Loss=0.5617, Acc=0.7490, Val Acc=0.7490  
Epoch 466/500: Loss=0.5604, Val Loss=0.5617, Acc=0.7490, Val Acc=0.7490  
Epoch 467/500: Loss=0.5603, Val Loss=0.5616, Acc=0.7490, Val Acc=0.7490  
Epoch 468/500: Loss=0.5602, Val Loss=0.5615, Acc=0.7490, Val Acc=0.7490  
Epoch 469/500: Loss=0.5601, Val Loss=0.5614, Acc=0.7490, Val Acc=0.7490  
Epoch 470/500: Loss=0.5600, Val Loss=0.5613, Acc=0.7490, Val Acc=0.7490  
Epoch 471/500: Loss=0.5600, Val Loss=0.5613, Acc=0.7490, Val Acc=0.7490  
Epoch 472/500: Loss=0.5599, Val Loss=0.5612, Acc=0.7490, Val Acc=0.7490  
Epoch 473/500: Loss=0.5598, Val Loss=0.5611, Acc=0.7490, Val Acc=0.7490  
Epoch 474/500: Loss=0.5597, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 475/500: Loss=0.5596, Val Loss=0.5609, Acc=0.7490, Val Acc=0.7490  
Epoch 476/500: Loss=0.5595, Val Loss=0.5609, Acc=0.7490, Val Acc=0.7490  
Epoch 477/500: Loss=0.5595, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 478/500: Loss=0.5594, Val Loss=0.5607, Acc=0.7490, Val Acc=0.7490  
Epoch 479/500: Loss=0.5593, Val Loss=0.5606, Acc=0.7490, Val Acc=0.7490  
Epoch 480/500: Loss=0.5592, Val Loss=0.5606, Acc=0.7490, Val Acc=0.7490  
Epoch 481/500: Loss=0.5591, Val Loss=0.5605, Acc=0.7490, Val Acc=0.7490  
Epoch 482/500: Loss=0.5591, Val Loss=0.5604, Acc=0.7490, Val Acc=0.7490  
Epoch 483/500: Loss=0.5590, Val Loss=0.5603, Acc=0.7490, Val Acc=0.7490  
Epoch 484/500: Loss=0.5589, Val Loss=0.5603, Acc=0.7490, Val Acc=0.7490  
Epoch 485/500: Loss=0.5588, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 486/500: Loss=0.5587, Val Loss=0.5601, Acc=0.7490, Val Acc=0.7490  
Epoch 487/500: Loss=0.5587, Val Loss=0.5600, Acc=0.7490, Val Acc=0.7490  
Epoch 488/500: Loss=0.5586, Val Loss=0.5600, Acc=0.7490, Val Acc=0.7490  
Epoch 489/500: Loss=0.5585, Val Loss=0.5599, Acc=0.7490, Val Acc=0.7490  
Epoch 490/500: Loss=0.5584, Val Loss=0.5598, Acc=0.7490, Val Acc=0.7490  
Epoch 491/500: Loss=0.5584, Val Loss=0.5597, Acc=0.7490, Val Acc=0.7490  
Epoch 492/500: Loss=0.5583, Val Loss=0.5597, Acc=0.7490, Val Acc=0.7490  
Epoch 493/500: Loss=0.5582, Val Loss=0.5596, Acc=0.7490, Val Acc=0.7490  
Epoch 494/500: Loss=0.5581, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 495/500: Loss=0.5581, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 496/500: Loss=0.5580, Val Loss=0.5594, Acc=0.7490, Val Acc=0.7490  
Epoch 497/500: Loss=0.5579, Val Loss=0.5593, Acc=0.7490, Val Acc=0.7490  
Epoch 498/500: Loss=0.5578, Val Loss=0.5592, Acc=0.7490, Val Acc=0.7490  
Epoch 499/500: Loss=0.5578, Val Loss=0.5592, Acc=0.7490, Val Acc=0.7490  
Epoch 500/500: Loss=0.5577, Val Loss=0.5591, Acc=0.7493, Val Acc=0.7490

accuracy= 0.763

Epoch 1/500: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/500: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/500: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/500: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/500: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/500: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/500: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/500: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/500: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/500: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/500: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/500: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/500: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/500: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/500: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730

Epoch 18/500:	Loss=0.5871,	Val Loss=0.5847,	Acc=0.7633,	Val Acc=0.7730
Epoch 19/500:	Loss=0.5843,	Val Loss=0.5821,	Acc=0.7640,	Val Acc=0.7730
Epoch 20/500:	Loss=0.5817,	Val Loss=0.5798,	Acc=0.7640,	Val Acc=0.7720
Epoch 21/500:	Loss=0.5792,	Val Loss=0.5776,	Acc=0.7643,	Val Acc=0.7710
Epoch 22/500:	Loss=0.5770,	Val Loss=0.5756,	Acc=0.7640,	Val Acc=0.7700
Epoch 23/500:	Loss=0.5748,	Val Loss=0.5737,	Acc=0.7643,	Val Acc=0.7690
Epoch 24/500:	Loss=0.5728,	Val Loss=0.5719,	Acc=0.7647,	Val Acc=0.7690
Epoch 25/500:	Loss=0.5710,	Val Loss=0.5703,	Acc=0.7647,	Val Acc=0.7690
Epoch 26/500:	Loss=0.5692,	Val Loss=0.5688,	Acc=0.7650,	Val Acc=0.7690
Epoch 27/500:	Loss=0.5676,	Val Loss=0.5673,	Acc=0.7653,	Val Acc=0.7690
Epoch 28/500:	Loss=0.5661,	Val Loss=0.5660,	Acc=0.7650,	Val Acc=0.7690
Epoch 29/500:	Loss=0.5646,	Val Loss=0.5648,	Acc=0.7650,	Val Acc=0.7690
Epoch 30/500:	Loss=0.5633,	Val Loss=0.5636,	Acc=0.7657,	Val Acc=0.7690
Epoch 31/500:	Loss=0.5620,	Val Loss=0.5625,	Acc=0.7653,	Val Acc=0.7690
Epoch 32/500:	Loss=0.5608,	Val Loss=0.5615,	Acc=0.7653,	Val Acc=0.7690
Epoch 33/500:	Loss=0.5597,	Val Loss=0.5605,	Acc=0.7653,	Val Acc=0.7700
Epoch 34/500:	Loss=0.5586,	Val Loss=0.5596,	Acc=0.7653,	Val Acc=0.7710
Epoch 35/500:	Loss=0.5576,	Val Loss=0.5588,	Acc=0.7653,	Val Acc=0.7700
Epoch 36/500:	Loss=0.5567,	Val Loss=0.5580,	Acc=0.7660,	Val Acc=0.7700
Epoch 37/500:	Loss=0.5558,	Val Loss=0.5572,	Acc=0.7660,	Val Acc=0.7700
Epoch 38/500:	Loss=0.5549,	Val Loss=0.5565,	Acc=0.7660,	Val Acc=0.7700
Epoch 39/500:	Loss=0.5541,	Val Loss=0.5558,	Acc=0.7660,	Val Acc=0.7690
Epoch 40/500:	Loss=0.5534,	Val Loss=0.5552,	Acc=0.7660,	Val Acc=0.7690
Epoch 41/500:	Loss=0.5526,	Val Loss=0.5546,	Acc=0.7663,	Val Acc=0.7690
Epoch 42/500:	Loss=0.5520,	Val Loss=0.5541,	Acc=0.7663,	Val Acc=0.7680
Epoch 43/500:	Loss=0.5513,	Val Loss=0.5536,	Acc=0.7657,	Val Acc=0.7680
Epoch 44/500:	Loss=0.5507,	Val Loss=0.5531,	Acc=0.7657,	Val Acc=0.7680
Epoch 45/500:	Loss=0.5501,	Val Loss=0.5526,	Acc=0.7653,	Val Acc=0.7670
Epoch 46/500:	Loss=0.5496,	Val Loss=0.5522,	Acc=0.7650,	Val Acc=0.7670
Epoch 47/500:	Loss=0.5491,	Val Loss=0.5517,	Acc=0.7653,	Val Acc=0.7670
Epoch 48/500:	Loss=0.5486,	Val Loss=0.5513,	Acc=0.7653,	Val Acc=0.7670
Epoch 49/500:	Loss=0.5481,	Val Loss=0.5510,	Acc=0.7653,	Val Acc=0.7670
Epoch 50/500:	Loss=0.5476,	Val Loss=0.5506,	Acc=0.7653,	Val Acc=0.7670
Epoch 51/500:	Loss=0.5472,	Val Loss=0.5503,	Acc=0.7653,	Val Acc=0.7680
Epoch 52/500:	Loss=0.5468,	Val Loss=0.5500,	Acc=0.7653,	Val Acc=0.7680
Epoch 53/500:	Loss=0.5464,	Val Loss=0.5497,	Acc=0.7653,	Val Acc=0.7680
Epoch 54/500:	Loss=0.5460,	Val Loss=0.5494,	Acc=0.7650,	Val Acc=0.7680
Epoch 55/500:	Loss=0.5457,	Val Loss=0.5491,	Acc=0.7650,	Val Acc=0.7680
Epoch 56/500:	Loss=0.5454,	Val Loss=0.5489,	Acc=0.7650,	Val Acc=0.7680
Epoch 57/500:	Loss=0.5450,	Val Loss=0.5487,	Acc=0.7647,	Val Acc=0.7680
Epoch 58/500:	Loss=0.5447,	Val Loss=0.5484,	Acc=0.7650,	Val Acc=0.7680
Epoch 59/500:	Loss=0.5444,	Val Loss=0.5482,	Acc=0.7650,	Val Acc=0.7680
Epoch 60/500:	Loss=0.5442,	Val Loss=0.5480,	Acc=0.7650,	Val Acc=0.7680
Epoch 61/500:	Loss=0.5439,	Val Loss=0.5478,	Acc=0.7650,	Val Acc=0.7690
Epoch 62/500:	Loss=0.5436,	Val Loss=0.5477,	Acc=0.7637,	Val Acc=0.7680
Epoch 63/500:	Loss=0.5434,	Val Loss=0.5475,	Acc=0.7640,	Val Acc=0.7680
Epoch 64/500:	Loss=0.5432,	Val Loss=0.5473,	Acc=0.7637,	Val Acc=0.7680
Epoch 65/500:	Loss=0.5429,	Val Loss=0.5472,	Acc=0.7637,	Val Acc=0.7690
Epoch 66/500:	Loss=0.5427,	Val Loss=0.5470,	Acc=0.7637,	Val Acc=0.7680
Epoch 67/500:	Loss=0.5425,	Val Loss=0.5469,	Acc=0.7640,	Val Acc=0.7680
Epoch 68/500:	Loss=0.5423,	Val Loss=0.5467,	Acc=0.7640,	Val Acc=0.7680
Epoch 69/500:	Loss=0.5421,	Val Loss=0.5466,	Acc=0.7640,	Val Acc=0.7680
Epoch 70/500:	Loss=0.5420,	Val Loss=0.5465,	Acc=0.7647,	Val Acc=0.7680
Epoch 71/500:	Loss=0.5418,	Val Loss=0.5464,	Acc=0.7647,	Val Acc=0.7690
Epoch 72/500:	Loss=0.5416,	Val Loss=0.5463,	Acc=0.7647,	Val Acc=0.7690
Epoch 73/500:	Loss=0.5415,	Val Loss=0.5462,	Acc=0.7643,	Val Acc=0.7690
Epoch 74/500:	Loss=0.5413,	Val Loss=0.5461,	Acc=0.7637,	Val Acc=0.7690
Epoch 75/500:	Loss=0.5412,	Val Loss=0.5460,	Acc=0.7633,	Val Acc=0.7680
Epoch 76/500:	Loss=0.5410,	Val Loss=0.5459,	Acc=0.7630,	Val Acc=0.7680
Epoch 77/500:	Loss=0.5409,	Val Loss=0.5458,	Acc=0.7630,	Val Acc=0.7680

Epoch 78/500: Loss=0.5408, Val Loss=0.5458, Acc=0.7630, Val Acc=0.7680  
Epoch 79/500: Loss=0.5406, Val Loss=0.5457, Acc=0.7630, Val Acc=0.7680  
Epoch 80/500: Loss=0.5405, Val Loss=0.5456, Acc=0.7637, Val Acc=0.7680  
Epoch 81/500: Loss=0.5404, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7680  
Epoch 82/500: Loss=0.5403, Val Loss=0.5455, Acc=0.7630, Val Acc=0.7660  
Epoch 83/500: Loss=0.5402, Val Loss=0.5454, Acc=0.7633, Val Acc=0.7660  
Epoch 84/500: Loss=0.5401, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7650  
Epoch 85/500: Loss=0.5400, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 86/500: Loss=0.5399, Val Loss=0.5453, Acc=0.7630, Val Acc=0.7650  
Epoch 87/500: Loss=0.5398, Val Loss=0.5452, Acc=0.7630, Val Acc=0.7650  
Early stop at epoch 87  
accuracy= 0.765

Epoch 1/500: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/500: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/500: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/500: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/500: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/500: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/500: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/500: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/500: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/500: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/500: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/500: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/500: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/500: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/500: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/500: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/500: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/500: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/500: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/500: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/500: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/500: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/500: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/500: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/500: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/500: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/500: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/500: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/500: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/500: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/500: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/500: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/500: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/500: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/500: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/500: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/500: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/500: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/500: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/500: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/500: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/500: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460

Epoch 49/500: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/500: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 51/500: Loss=0.6607, Val Loss=0.6600, Acc=0.7490, Val Acc=0.7460  
Epoch 52/500: Loss=0.6601, Val Loss=0.6594, Acc=0.7490, Val Acc=0.7460  
Epoch 53/500: Loss=0.6596, Val Loss=0.6588, Acc=0.7490, Val Acc=0.7460  
Epoch 54/500: Loss=0.6590, Val Loss=0.6583, Acc=0.7490, Val Acc=0.7460  
Epoch 55/500: Loss=0.6585, Val Loss=0.6577, Acc=0.7490, Val Acc=0.7460  
Epoch 56/500: Loss=0.6579, Val Loss=0.6572, Acc=0.7493, Val Acc=0.7460  
Epoch 57/500: Loss=0.6574, Val Loss=0.6566, Acc=0.7493, Val Acc=0.7460  
Epoch 58/500: Loss=0.6568, Val Loss=0.6561, Acc=0.7493, Val Acc=0.7460  
Epoch 59/500: Loss=0.6563, Val Loss=0.6555, Acc=0.7493, Val Acc=0.7460  
Epoch 60/500: Loss=0.6557, Val Loss=0.6550, Acc=0.7493, Val Acc=0.7460  
Epoch 61/500: Loss=0.6552, Val Loss=0.6545, Acc=0.7493, Val Acc=0.7460  
Epoch 62/500: Loss=0.6546, Val Loss=0.6539, Acc=0.7493, Val Acc=0.7460  
Epoch 63/500: Loss=0.6541, Val Loss=0.6534, Acc=0.7493, Val Acc=0.7460  
Epoch 64/500: Loss=0.6536, Val Loss=0.6529, Acc=0.7493, Val Acc=0.7460  
Epoch 65/500: Loss=0.6531, Val Loss=0.6523, Acc=0.7493, Val Acc=0.7460  
Epoch 66/500: Loss=0.6525, Val Loss=0.6518, Acc=0.7493, Val Acc=0.7460  
Epoch 67/500: Loss=0.6520, Val Loss=0.6513, Acc=0.7493, Val Acc=0.7460  
Epoch 68/500: Loss=0.6515, Val Loss=0.6508, Acc=0.7493, Val Acc=0.7460  
Epoch 69/500: Loss=0.6510, Val Loss=0.6503, Acc=0.7493, Val Acc=0.7460  
Epoch 70/500: Loss=0.6505, Val Loss=0.6498, Acc=0.7493, Val Acc=0.7460  
Epoch 71/500: Loss=0.6499, Val Loss=0.6492, Acc=0.7493, Val Acc=0.7460  
Epoch 72/500: Loss=0.6494, Val Loss=0.6487, Acc=0.7493, Val Acc=0.7460  
Epoch 73/500: Loss=0.6489, Val Loss=0.6482, Acc=0.7493, Val Acc=0.7460  
Epoch 74/500: Loss=0.6484, Val Loss=0.6477, Acc=0.7493, Val Acc=0.7460  
Epoch 75/500: Loss=0.6479, Val Loss=0.6472, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 75

accuracy= 0.763

Epoch 1/500: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/500: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/500: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/500: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/500: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/500: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/500: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/500: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/500: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/500: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Epoch 13/500: Loss=0.6049, Val Loss=0.6006, Acc=0.7633, Val Acc=0.7710  
Epoch 14/500: Loss=0.6007, Val Loss=0.5969, Acc=0.7633, Val Acc=0.7710  
Epoch 15/500: Loss=0.5969, Val Loss=0.5935, Acc=0.7630, Val Acc=0.7720  
Epoch 16/500: Loss=0.5934, Val Loss=0.5903, Acc=0.7630, Val Acc=0.7720  
Epoch 17/500: Loss=0.5902, Val Loss=0.5874, Acc=0.7630, Val Acc=0.7730  
Epoch 18/500: Loss=0.5871, Val Loss=0.5847, Acc=0.7633, Val Acc=0.7730  
Epoch 19/500: Loss=0.5843, Val Loss=0.5821, Acc=0.7640, Val Acc=0.7730  
Epoch 20/500: Loss=0.5817, Val Loss=0.5798, Acc=0.7640, Val Acc=0.7720  
Epoch 21/500: Loss=0.5792, Val Loss=0.5776, Acc=0.7643, Val Acc=0.7710  
Epoch 22/500: Loss=0.5770, Val Loss=0.5756, Acc=0.7640, Val Acc=0.7700  
Epoch 23/500: Loss=0.5748, Val Loss=0.5737, Acc=0.7643, Val Acc=0.7690  
Epoch 24/500: Loss=0.5728, Val Loss=0.5719, Acc=0.7647, Val Acc=0.7690  
Epoch 25/500: Loss=0.5710, Val Loss=0.5703, Acc=0.7647, Val Acc=0.7690  
Epoch 26/500: Loss=0.5692, Val Loss=0.5688, Acc=0.7650, Val Acc=0.7690  
Epoch 27/500: Loss=0.5676, Val Loss=0.5673, Acc=0.7653, Val Acc=0.7690  
Epoch 28/500: Loss=0.5661, Val Loss=0.5660, Acc=0.7650, Val Acc=0.7690  
Epoch 29/500: Loss=0.5646, Val Loss=0.5648, Acc=0.7650, Val Acc=0.7690  
Epoch 30/500: Loss=0.5633, Val Loss=0.5636, Acc=0.7657, Val Acc=0.7690  
Epoch 31/500: Loss=0.5620, Val Loss=0.5625, Acc=0.7653, Val Acc=0.7690

Epoch 32/500: Loss=0.5608, Val Loss=0.5615, Acc=0.7653, Val Acc=0.7690  
Epoch 33/500: Loss=0.5597, Val Loss=0.5605, Acc=0.7653, Val Acc=0.7700  
Epoch 34/500: Loss=0.5586, Val Loss=0.5596, Acc=0.7653, Val Acc=0.7710  
Epoch 35/500: Loss=0.5576, Val Loss=0.5588, Acc=0.7653, Val Acc=0.7700  
Epoch 36/500: Loss=0.5567, Val Loss=0.5580, Acc=0.7660, Val Acc=0.7700  
Epoch 37/500: Loss=0.5558, Val Loss=0.5572, Acc=0.7660, Val Acc=0.7700  
Epoch 38/500: Loss=0.5549, Val Loss=0.5565, Acc=0.7660, Val Acc=0.7700  
Epoch 39/500: Loss=0.5541, Val Loss=0.5558, Acc=0.7660, Val Acc=0.7690  
Epoch 40/500: Loss=0.5534, Val Loss=0.5552, Acc=0.7660, Val Acc=0.7690  
Epoch 41/500: Loss=0.5526, Val Loss=0.5546, Acc=0.7663, Val Acc=0.7690  
Epoch 42/500: Loss=0.5520, Val Loss=0.5541, Acc=0.7663, Val Acc=0.7680  
Epoch 43/500: Loss=0.5513, Val Loss=0.5536, Acc=0.7657, Val Acc=0.7680  
Epoch 44/500: Loss=0.5507, Val Loss=0.5531, Acc=0.7657, Val Acc=0.7680  
Epoch 45/500: Loss=0.5501, Val Loss=0.5526, Acc=0.7653, Val Acc=0.7670  
Epoch 46/500: Loss=0.5496, Val Loss=0.5522, Acc=0.7650, Val Acc=0.7670  
Early stop at epoch 46

accuracy= 0.767

Epoch 1/500: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3

accuracy= 0.764

Epoch 1/500: Loss=0.6931, Val Loss=0.6816, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6818, Val Loss=0.6711, Acc=0.7613, Val Acc=0.7690  
Epoch 3/500: Loss=0.6714, Val Loss=0.6615, Acc=0.7617, Val Acc=0.7700  
Epoch 4/500: Loss=0.6619, Val Loss=0.6528, Acc=0.7620, Val Acc=0.7710  
Epoch 5/500: Loss=0.6532, Val Loss=0.6448, Acc=0.7617, Val Acc=0.7710  
Epoch 6/500: Loss=0.6452, Val Loss=0.6374, Acc=0.7613, Val Acc=0.7710  
Epoch 7/500: Loss=0.6379, Val Loss=0.6307, Acc=0.7613, Val Acc=0.7700  
Epoch 8/500: Loss=0.6312, Val Loss=0.6246, Acc=0.7623, Val Acc=0.7700  
Epoch 9/500: Loss=0.6250, Val Loss=0.6190, Acc=0.7630, Val Acc=0.7700  
Epoch 10/500: Loss=0.6193, Val Loss=0.6138, Acc=0.7630, Val Acc=0.7700  
Epoch 11/500: Loss=0.6141, Val Loss=0.6090, Acc=0.7630, Val Acc=0.7710  
Epoch 12/500: Loss=0.6093, Val Loss=0.6047, Acc=0.7630, Val Acc=0.7710  
Early stop at epoch 12

accuracy= 0.771

Epoch 1/10: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460

accuracy= 0.763

Epoch 1/10: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/10: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/10: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/10: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/10: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/10: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/10: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/10: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670

accuracy= 0.767

Epoch 1/10: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460

Epoch 3/10: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/10: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/10: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/10: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
accuracy= 0.763  
Epoch 1/10: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/10: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/10: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/10: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/10: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/10: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/10: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/10: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
accuracy= 0.767  
Epoch 1/10: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/10: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/10: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/10: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/10: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/10: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/10: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Early stop at epoch 8  
accuracy= 0.769  
Epoch 1/50: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/50: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/50: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/50: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/50: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/50: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/50: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/50: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/50: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/50: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/50: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/50: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/50: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/50: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/50: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450

Epoch 26/50: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/50: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/50: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/50: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/50: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/50: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/50: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/50: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/50: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/50: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/50: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/50: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/50: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/50: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/50: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/50: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/50: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/50: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/50: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/50: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
accuracy= 0.763

Epoch 1/50: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/50: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/50: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/50: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/50: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/50: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/50: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/50: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/50: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/50: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/50: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/50: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/50: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Epoch 16/50: Loss=0.5405, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7670  
Epoch 17/50: Loss=0.5400, Val Loss=0.5451, Acc=0.7630, Val Acc=0.7650  
Epoch 18/50: Loss=0.5395, Val Loss=0.5449, Acc=0.7633, Val Acc=0.7650  
Epoch 19/50: Loss=0.5392, Val Loss=0.5448, Acc=0.7640, Val Acc=0.7640  
Epoch 20/50: Loss=0.5389, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 21/50: Loss=0.5386, Val Loss=0.5446, Acc=0.7630, Val Acc=0.7640  
Epoch 22/50: Loss=0.5384, Val Loss=0.5446, Acc=0.7623, Val Acc=0.7640  
Epoch 23/50: Loss=0.5382, Val Loss=0.5445, Acc=0.7623, Val Acc=0.7640  
Epoch 24/50: Loss=0.5381, Val Loss=0.5445, Acc=0.7620, Val Acc=0.7650  
Early stop at epoch 24  
accuracy= 0.765

Epoch 1/50: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460



Epoch 9/50: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/50: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/50: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/50: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/50: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/50: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/50: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/50: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/50: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/50: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/50: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/50: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/50: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/50: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/50: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/50: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/50: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/50: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/50: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/50: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/50: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/50: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/50: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/50: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/50: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/50: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/50: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/50: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/50: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/50: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/50: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/50: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/50: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/50: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/50: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480

accuracy= 0.763

Epoch 1/50: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/50: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/50: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/50: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/50: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/50: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/50: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/50: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/50: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/50: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/50: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/50: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/50: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680

Early stop at epoch 15

accuracy= 0.768

Epoch 1/50: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764

Epoch 1/50: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/50: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/50: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/50: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/50: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/50: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Early stop at epoch 8  
accuracy= 0.769

Epoch 1/100: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/100: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/100: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/100: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/100: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/100: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/100: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/100: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/100: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/100: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/100: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/100: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/100: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/100: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/100: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/100: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/100: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/100: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/100: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/100: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/100: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/100: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/100: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/100: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/100: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/100: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/100: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/100: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/100: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/100: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/100: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/100: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/100: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/100: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/100: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460

Epoch 46/100: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/100: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/100: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/100: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/100: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/100: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/100: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/100: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/100: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/100: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/100: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/100: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/100: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/100: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/100: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/100: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/100: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/100: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/100: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/100: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/100: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/100: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/100: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/100: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/100: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/100: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/100: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/100: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/100: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/100: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/100: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/100: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/100: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/100: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/100: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/100: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/100: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/100: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/100: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/100: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Epoch 86/100: Loss=0.5638, Val Loss=0.5646, Acc=0.7493, Val Acc=0.7490  
Epoch 87/100: Loss=0.5634, Val Loss=0.5641, Acc=0.7493, Val Acc=0.7490  
Epoch 88/100: Loss=0.5629, Val Loss=0.5637, Acc=0.7493, Val Acc=0.7490  
Epoch 89/100: Loss=0.5624, Val Loss=0.5632, Acc=0.7490, Val Acc=0.7490  
Epoch 90/100: Loss=0.5619, Val Loss=0.5628, Acc=0.7490, Val Acc=0.7490  
Epoch 91/100: Loss=0.5615, Val Loss=0.5624, Acc=0.7490, Val Acc=0.7490  
Epoch 92/100: Loss=0.5611, Val Loss=0.5620, Acc=0.7490, Val Acc=0.7490  
Epoch 93/100: Loss=0.5606, Val Loss=0.5616, Acc=0.7490, Val Acc=0.7490  
Epoch 94/100: Loss=0.5602, Val Loss=0.5612, Acc=0.7490, Val Acc=0.7490  
Epoch 95/100: Loss=0.5598, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 96/100: Loss=0.5594, Val Loss=0.5604, Acc=0.7490, Val Acc=0.7490  
Epoch 97/100: Loss=0.5590, Val Loss=0.5600, Acc=0.7490, Val Acc=0.7490  
Epoch 98/100: Loss=0.5586, Val Loss=0.5597, Acc=0.7490, Val Acc=0.7490  
Epoch 99/100: Loss=0.5582, Val Loss=0.5593, Acc=0.7490, Val Acc=0.7490  
Epoch 100/100: Loss=0.5578, Val Loss=0.5590, Acc=0.7490, Val Acc=0.7490  
accuracy= 0.763  
Epoch 1/100: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/100: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730

Epoch 5/100: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/100: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/100: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/100: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/100: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/100: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/100: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/100: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/100: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/100: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/100: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Epoch 16/100: Loss=0.5405, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7670  
Epoch 17/100: Loss=0.5400, Val Loss=0.5451, Acc=0.7630, Val Acc=0.7650  
Epoch 18/100: Loss=0.5395, Val Loss=0.5449, Acc=0.7633, Val Acc=0.7650  
Epoch 19/100: Loss=0.5392, Val Loss=0.5448, Acc=0.7640, Val Acc=0.7640  
Epoch 20/100: Loss=0.5389, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 21/100: Loss=0.5386, Val Loss=0.5446, Acc=0.7630, Val Acc=0.7640  
Epoch 22/100: Loss=0.5384, Val Loss=0.5446, Acc=0.7623, Val Acc=0.7640  
Epoch 23/100: Loss=0.5382, Val Loss=0.5445, Acc=0.7623, Val Acc=0.7640  
Epoch 24/100: Loss=0.5381, Val Loss=0.5445, Acc=0.7620, Val Acc=0.7650  
Early stop at epoch 24

accuracy= 0.765

Epoch 1/100: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/100: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/100: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/100: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/100: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/100: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/100: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/100: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/100: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/100: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/100: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/100: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/100: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/100: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/100: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/100: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/100: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/100: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/100: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/100: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/100: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/100: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/100: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/100: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/100: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/100: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/100: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/100: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/100: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/100: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/100: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/100: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450

Epoch 39/100: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/100: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/100: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/100: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/100: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/100: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/100: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/100: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/100: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/100: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/100: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/100: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/100: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/100: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/100: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/100: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/100: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/100: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/100: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/100: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/100: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/100: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/100: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/100: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/100: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/100: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/100: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/100: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/100: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/100: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/100: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/100: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/100: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/100: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/100: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/100: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/100: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/100: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/100: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/100: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/100: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/100: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/100: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/100: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/100: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/100: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/100: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Early stop at epoch 85  
accuracy= 0.763

Epoch 1/100: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/100: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/100: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/100: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/100: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/100: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/100: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/100: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/100: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680

Epoch 12/100: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/100: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/100: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/100: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Early stop at epoch 15  
accuracy= 0.768  
Epoch 1/100: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764  
Epoch 1/100: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/100: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/100: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/100: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/100: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/100: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Early stop at epoch 8  
accuracy= 0.769  
Epoch 1/150: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/150: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/150: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/150: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/150: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/150: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/150: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/150: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/150: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/150: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/150: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/150: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/150: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/150: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/150: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/150: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/150: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/150: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/150: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/150: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/150: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/150: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/150: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/150: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/150: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/150: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/150: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/150: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/150: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/150: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/150: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/150: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/150: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460

Epoch 40/150: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/150: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/150: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/150: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/150: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/150: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/150: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/150: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/150: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/150: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/150: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/150: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/150: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/150: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/150: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/150: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/150: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/150: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/150: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/150: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/150: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/150: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/150: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/150: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/150: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/150: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/150: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/150: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/150: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/150: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/150: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/150: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/150: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/150: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/150: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/150: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/150: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/150: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/150: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/150: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/150: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/150: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/150: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/150: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/150: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/150: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Epoch 86/150: Loss=0.5638, Val Loss=0.5646, Acc=0.7493, Val Acc=0.7490  
Epoch 87/150: Loss=0.5634, Val Loss=0.5641, Acc=0.7493, Val Acc=0.7490  
Epoch 88/150: Loss=0.5629, Val Loss=0.5637, Acc=0.7493, Val Acc=0.7490  
Epoch 89/150: Loss=0.5624, Val Loss=0.5632, Acc=0.7490, Val Acc=0.7490  
Epoch 90/150: Loss=0.5619, Val Loss=0.5628, Acc=0.7490, Val Acc=0.7490  
Epoch 91/150: Loss=0.5615, Val Loss=0.5624, Acc=0.7490, Val Acc=0.7490  
Epoch 92/150: Loss=0.5611, Val Loss=0.5620, Acc=0.7490, Val Acc=0.7490  
Epoch 93/150: Loss=0.5606, Val Loss=0.5616, Acc=0.7490, Val Acc=0.7490  
Epoch 94/150: Loss=0.5602, Val Loss=0.5612, Acc=0.7490, Val Acc=0.7490  
Epoch 95/150: Loss=0.5598, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 96/150: Loss=0.5594, Val Loss=0.5604, Acc=0.7490, Val Acc=0.7490  
Epoch 97/150: Loss=0.5590, Val Loss=0.5600, Acc=0.7490, Val Acc=0.7490  
Epoch 98/150: Loss=0.5586, Val Loss=0.5597, Acc=0.7490, Val Acc=0.7490  
Epoch 99/150: Loss=0.5582, Val Loss=0.5593, Acc=0.7490, Val Acc=0.7490

Epoch 100/150: Loss=0.5578, Val Loss=0.5590, Acc=0.7490, Val Acc=0.7490  
Epoch 101/150: Loss=0.5574, Val Loss=0.5586, Acc=0.7493, Val Acc=0.7490  
Epoch 102/150: Loss=0.5571, Val Loss=0.5583, Acc=0.7493, Val Acc=0.7500  
Epoch 103/150: Loss=0.5567, Val Loss=0.5579, Acc=0.7493, Val Acc=0.7500  
Epoch 104/150: Loss=0.5564, Val Loss=0.5576, Acc=0.7493, Val Acc=0.7500  
Epoch 105/150: Loss=0.5560, Val Loss=0.5573, Acc=0.7493, Val Acc=0.7500  
Epoch 106/150: Loss=0.5557, Val Loss=0.5570, Acc=0.7493, Val Acc=0.7500  
Epoch 107/150: Loss=0.5553, Val Loss=0.5567, Acc=0.7497, Val Acc=0.7500  
Epoch 108/150: Loss=0.5550, Val Loss=0.5564, Acc=0.7497, Val Acc=0.7500  
Epoch 109/150: Loss=0.5547, Val Loss=0.5561, Acc=0.7497, Val Acc=0.7500  
Epoch 110/150: Loss=0.5544, Val Loss=0.5558, Acc=0.7497, Val Acc=0.7500  
Epoch 111/150: Loss=0.5541, Val Loss=0.5555, Acc=0.7497, Val Acc=0.7500  
Epoch 112/150: Loss=0.5538, Val Loss=0.5552, Acc=0.7493, Val Acc=0.7500  
Epoch 113/150: Loss=0.5535, Val Loss=0.5550, Acc=0.7493, Val Acc=0.7500  
Epoch 114/150: Loss=0.5532, Val Loss=0.5547, Acc=0.7493, Val Acc=0.7500  
Epoch 115/150: Loss=0.5529, Val Loss=0.5544, Acc=0.7493, Val Acc=0.7500  
Epoch 116/150: Loss=0.5526, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 117/150: Loss=0.5523, Val Loss=0.5539, Acc=0.7490, Val Acc=0.7500  
Epoch 118/150: Loss=0.5521, Val Loss=0.5537, Acc=0.7490, Val Acc=0.7500  
Epoch 119/150: Loss=0.5518, Val Loss=0.5534, Acc=0.7490, Val Acc=0.7500  
Epoch 120/150: Loss=0.5515, Val Loss=0.5532, Acc=0.7490, Val Acc=0.7500  
Epoch 121/150: Loss=0.5513, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 122/150: Loss=0.5510, Val Loss=0.5527, Acc=0.7490, Val Acc=0.7500  
Epoch 123/150: Loss=0.5508, Val Loss=0.5525, Acc=0.7490, Val Acc=0.7500  
Epoch 124/150: Loss=0.5505, Val Loss=0.5523, Acc=0.7490, Val Acc=0.7500  
Epoch 125/150: Loss=0.5503, Val Loss=0.5521, Acc=0.7490, Val Acc=0.7500  
Epoch 126/150: Loss=0.5501, Val Loss=0.5518, Acc=0.7490, Val Acc=0.7500  
Epoch 127/150: Loss=0.5498, Val Loss=0.5516, Acc=0.7490, Val Acc=0.7500  
Epoch 128/150: Loss=0.5496, Val Loss=0.5514, Acc=0.7490, Val Acc=0.7500  
Epoch 129/150: Loss=0.5494, Val Loss=0.5512, Acc=0.7490, Val Acc=0.7500  
Epoch 130/150: Loss=0.5492, Val Loss=0.5510, Acc=0.7490, Val Acc=0.7500  
Epoch 131/150: Loss=0.5489, Val Loss=0.5508, Acc=0.7490, Val Acc=0.7500  
Epoch 132/150: Loss=0.5487, Val Loss=0.5506, Acc=0.7490, Val Acc=0.7500  
Epoch 133/150: Loss=0.5485, Val Loss=0.5505, Acc=0.7490, Val Acc=0.7500  
Epoch 134/150: Loss=0.5483, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 135/150: Loss=0.5481, Val Loss=0.5501, Acc=0.7490, Val Acc=0.7500  
Epoch 136/150: Loss=0.5479, Val Loss=0.5499, Acc=0.7493, Val Acc=0.7500  
Epoch 137/150: Loss=0.5477, Val Loss=0.5497, Acc=0.7490, Val Acc=0.7490  
Epoch 138/150: Loss=0.5475, Val Loss=0.5496, Acc=0.7490, Val Acc=0.7490  
Epoch 139/150: Loss=0.5473, Val Loss=0.5494, Acc=0.7490, Val Acc=0.7490  
Epoch 140/150: Loss=0.5472, Val Loss=0.5492, Acc=0.7490, Val Acc=0.7490  
Epoch 141/150: Loss=0.5470, Val Loss=0.5491, Acc=0.7490, Val Acc=0.7490  
Epoch 142/150: Loss=0.5468, Val Loss=0.5489, Acc=0.7490, Val Acc=0.7490  
Epoch 143/150: Loss=0.5466, Val Loss=0.5487, Acc=0.7490, Val Acc=0.7490  
Epoch 144/150: Loss=0.5464, Val Loss=0.5486, Acc=0.7490, Val Acc=0.7490  
Epoch 145/150: Loss=0.5463, Val Loss=0.5484, Acc=0.7490, Val Acc=0.7490  
Epoch 146/150: Loss=0.5461, Val Loss=0.5483, Acc=0.7487, Val Acc=0.7490  
Epoch 147/150: Loss=0.5459, Val Loss=0.5481, Acc=0.7487, Val Acc=0.7490  
Epoch 148/150: Loss=0.5458, Val Loss=0.5480, Acc=0.7487, Val Acc=0.7490  
Epoch 149/150: Loss=0.5456, Val Loss=0.5479, Acc=0.7493, Val Acc=0.7490  
Epoch 150/150: Loss=0.5455, Val Loss=0.5477, Acc=0.7493, Val Acc=0.7500  
accuracy= 0.768  
Epoch 1/150: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/150: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/150: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/150: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/150: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/150: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690



Epoch 9/150: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/150: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/150: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/150: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/150: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/150: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/150: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Epoch 16/150: Loss=0.5405, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7670  
Epoch 17/150: Loss=0.5400, Val Loss=0.5451, Acc=0.7630, Val Acc=0.7650  
Epoch 18/150: Loss=0.5395, Val Loss=0.5449, Acc=0.7633, Val Acc=0.7650  
Epoch 19/150: Loss=0.5392, Val Loss=0.5448, Acc=0.7640, Val Acc=0.7640  
Epoch 20/150: Loss=0.5389, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 21/150: Loss=0.5386, Val Loss=0.5446, Acc=0.7630, Val Acc=0.7640  
Epoch 22/150: Loss=0.5384, Val Loss=0.5446, Acc=0.7623, Val Acc=0.7640  
Epoch 23/150: Loss=0.5382, Val Loss=0.5445, Acc=0.7623, Val Acc=0.7640  
Epoch 24/150: Loss=0.5381, Val Loss=0.5445, Acc=0.7620, Val Acc=0.7650

Early stop at epoch 24  
accuracy= 0.765

Epoch 1/150: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/150: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/150: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/150: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/150: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/150: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/150: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/150: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/150: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/150: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/150: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/150: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/150: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/150: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/150: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/150: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/150: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/150: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/150: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/150: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/150: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/150: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/150: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/150: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/150: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/150: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/150: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/150: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/150: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/150: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/150: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/150: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/150: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/150: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460  
Epoch 41/150: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/150: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460

Epoch 43/150: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/150: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/150: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/150: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/150: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/150: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/150: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/150: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/150: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/150: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/150: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/150: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/150: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/150: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/150: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/150: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/150: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/150: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/150: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/150: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/150: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/150: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/150: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/150: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/150: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/150: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/150: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/150: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/150: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/150: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/150: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/150: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/150: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/150: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/150: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/150: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/150: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/150: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/150: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/150: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/150: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/150: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/150: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Early stop at epoch 85  
accuracy= 0.763

Epoch 1/150: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/150: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/150: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/150: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/150: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/150: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/150: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/150: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/150: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/150: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/150: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/150: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/150: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680

Early stop at epoch 15

accuracy= 0.768

Epoch 1/150: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460

Epoch 2/150: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460

Epoch 3/150: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460

Early stop at epoch 3

accuracy= 0.764

Epoch 1/150: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690

Epoch 2/150: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710

Epoch 3/150: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710

Epoch 4/150: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730

Epoch 5/150: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690

Epoch 6/150: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690

Epoch 7/150: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710

Epoch 8/150: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690

Early stop at epoch 8

accuracy= 0.769

Epoch 1/500: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460

Epoch 2/500: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460

Epoch 3/500: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460

Epoch 4/500: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460

Epoch 5/500: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460

Epoch 6/500: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460

Epoch 7/500: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460

Epoch 8/500: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460

Epoch 9/500: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460

Epoch 10/500: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460

Epoch 11/500: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460

Epoch 12/500: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460

Epoch 13/500: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460

Epoch 14/500: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460

Epoch 15/500: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460

Epoch 16/500: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460

Epoch 17/500: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460

Epoch 18/500: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460

Epoch 19/500: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460

Epoch 20/500: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460

Epoch 21/500: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460

Epoch 22/500: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460

Epoch 23/500: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460

Epoch 24/500: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450

Epoch 25/500: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450

Epoch 26/500: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450

Epoch 27/500: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450

Epoch 28/500: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450

Epoch 29/500: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450

Epoch 30/500: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450

Epoch 31/500: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460

Epoch 32/500: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450

Epoch 33/500: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450

Epoch 34/500: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450

Epoch 35/500: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450

Epoch 36/500: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450

Epoch 37/500: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450

Epoch 38/500: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450

Epoch 39/500: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460

Epoch 40/500: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460

Epoch 41/500: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460

Epoch 42/500: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460

Epoch 43/500: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460

Epoch 44/500: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/500: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/500: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/500: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/500: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/500: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/500: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/500: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/500: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/500: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/500: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/500: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/500: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/500: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/500: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/500: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/500: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/500: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/500: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/500: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/500: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/500: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/500: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/500: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/500: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/500: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/500: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/500: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/500: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/500: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/500: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/500: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/500: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/500: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/500: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/500: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/500: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/500: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/500: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/500: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/500: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/500: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Epoch 86/500: Loss=0.5638, Val Loss=0.5646, Acc=0.7493, Val Acc=0.7490  
Epoch 87/500: Loss=0.5634, Val Loss=0.5641, Acc=0.7493, Val Acc=0.7490  
Epoch 88/500: Loss=0.5629, Val Loss=0.5637, Acc=0.7493, Val Acc=0.7490  
Epoch 89/500: Loss=0.5624, Val Loss=0.5632, Acc=0.7490, Val Acc=0.7490  
Epoch 90/500: Loss=0.5619, Val Loss=0.5628, Acc=0.7490, Val Acc=0.7490  
Epoch 91/500: Loss=0.5615, Val Loss=0.5624, Acc=0.7490, Val Acc=0.7490  
Epoch 92/500: Loss=0.5611, Val Loss=0.5620, Acc=0.7490, Val Acc=0.7490  
Epoch 93/500: Loss=0.5606, Val Loss=0.5616, Acc=0.7490, Val Acc=0.7490  
Epoch 94/500: Loss=0.5602, Val Loss=0.5612, Acc=0.7490, Val Acc=0.7490  
Epoch 95/500: Loss=0.5598, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 96/500: Loss=0.5594, Val Loss=0.5604, Acc=0.7490, Val Acc=0.7490  
Epoch 97/500: Loss=0.5590, Val Loss=0.5600, Acc=0.7490, Val Acc=0.7490  
Epoch 98/500: Loss=0.5586, Val Loss=0.5597, Acc=0.7490, Val Acc=0.7490  
Epoch 99/500: Loss=0.5582, Val Loss=0.5593, Acc=0.7490, Val Acc=0.7490  
Epoch 100/500: Loss=0.5578, Val Loss=0.5590, Acc=0.7490, Val Acc=0.7490  
Epoch 101/500: Loss=0.5574, Val Loss=0.5586, Acc=0.7493, Val Acc=0.7490  
Epoch 102/500: Loss=0.5571, Val Loss=0.5583, Acc=0.7493, Val Acc=0.7500  
Epoch 103/500: Loss=0.5567, Val Loss=0.5579, Acc=0.7493, Val Acc=0.7500

Epoch 104/500: Loss=0.5564, Val Loss=0.5576, Acc=0.7493, Val Acc=0.7500  
Epoch 105/500: Loss=0.5560, Val Loss=0.5573, Acc=0.7493, Val Acc=0.7500  
Epoch 106/500: Loss=0.5557, Val Loss=0.5570, Acc=0.7493, Val Acc=0.7500  
Epoch 107/500: Loss=0.5553, Val Loss=0.5567, Acc=0.7497, Val Acc=0.7500  
Epoch 108/500: Loss=0.5550, Val Loss=0.5564, Acc=0.7497, Val Acc=0.7500  
Epoch 109/500: Loss=0.5547, Val Loss=0.5561, Acc=0.7497, Val Acc=0.7500  
Epoch 110/500: Loss=0.5544, Val Loss=0.5558, Acc=0.7497, Val Acc=0.7500  
Epoch 111/500: Loss=0.5541, Val Loss=0.5555, Acc=0.7497, Val Acc=0.7500  
Epoch 112/500: Loss=0.5538, Val Loss=0.5552, Acc=0.7493, Val Acc=0.7500  
Epoch 113/500: Loss=0.5535, Val Loss=0.5550, Acc=0.7493, Val Acc=0.7500  
Epoch 114/500: Loss=0.5532, Val Loss=0.5547, Acc=0.7493, Val Acc=0.7500  
Epoch 115/500: Loss=0.5529, Val Loss=0.5544, Acc=0.7493, Val Acc=0.7500  
Epoch 116/500: Loss=0.5526, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 117/500: Loss=0.5523, Val Loss=0.5539, Acc=0.7490, Val Acc=0.7500  
Epoch 118/500: Loss=0.5521, Val Loss=0.5537, Acc=0.7490, Val Acc=0.7500  
Epoch 119/500: Loss=0.5518, Val Loss=0.5534, Acc=0.7490, Val Acc=0.7500  
Epoch 120/500: Loss=0.5515, Val Loss=0.5532, Acc=0.7490, Val Acc=0.7500  
Epoch 121/500: Loss=0.5513, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 122/500: Loss=0.5510, Val Loss=0.5527, Acc=0.7490, Val Acc=0.7500  
Epoch 123/500: Loss=0.5508, Val Loss=0.5525, Acc=0.7490, Val Acc=0.7500  
Epoch 124/500: Loss=0.5505, Val Loss=0.5523, Acc=0.7490, Val Acc=0.7500  
Epoch 125/500: Loss=0.5503, Val Loss=0.5521, Acc=0.7490, Val Acc=0.7500  
Epoch 126/500: Loss=0.5501, Val Loss=0.5518, Acc=0.7490, Val Acc=0.7500  
Epoch 127/500: Loss=0.5498, Val Loss=0.5516, Acc=0.7490, Val Acc=0.7500  
Epoch 128/500: Loss=0.5496, Val Loss=0.5514, Acc=0.7490, Val Acc=0.7500  
Epoch 129/500: Loss=0.5494, Val Loss=0.5512, Acc=0.7490, Val Acc=0.7500  
Epoch 130/500: Loss=0.5492, Val Loss=0.5510, Acc=0.7490, Val Acc=0.7500  
Epoch 131/500: Loss=0.5489, Val Loss=0.5508, Acc=0.7490, Val Acc=0.7500  
Epoch 132/500: Loss=0.5487, Val Loss=0.5506, Acc=0.7490, Val Acc=0.7500  
Epoch 133/500: Loss=0.5485, Val Loss=0.5505, Acc=0.7490, Val Acc=0.7500  
Epoch 134/500: Loss=0.5483, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 135/500: Loss=0.5481, Val Loss=0.5501, Acc=0.7490, Val Acc=0.7500  
Epoch 136/500: Loss=0.5479, Val Loss=0.5499, Acc=0.7493, Val Acc=0.7500  
Epoch 137/500: Loss=0.5477, Val Loss=0.5497, Acc=0.7490, Val Acc=0.7490  
Epoch 138/500: Loss=0.5475, Val Loss=0.5496, Acc=0.7490, Val Acc=0.7490  
Epoch 139/500: Loss=0.5473, Val Loss=0.5494, Acc=0.7490, Val Acc=0.7490  
Epoch 140/500: Loss=0.5472, Val Loss=0.5492, Acc=0.7490, Val Acc=0.7490  
Epoch 141/500: Loss=0.5470, Val Loss=0.5491, Acc=0.7490, Val Acc=0.7490  
Epoch 142/500: Loss=0.5468, Val Loss=0.5489, Acc=0.7490, Val Acc=0.7490  
Epoch 143/500: Loss=0.5466, Val Loss=0.5487, Acc=0.7490, Val Acc=0.7490  
Epoch 144/500: Loss=0.5464, Val Loss=0.5486, Acc=0.7490, Val Acc=0.7490  
Epoch 145/500: Loss=0.5463, Val Loss=0.5484, Acc=0.7490, Val Acc=0.7490  
Epoch 146/500: Loss=0.5461, Val Loss=0.5483, Acc=0.7487, Val Acc=0.7490  
Epoch 147/500: Loss=0.5459, Val Loss=0.5481, Acc=0.7487, Val Acc=0.7490  
Epoch 148/500: Loss=0.5458, Val Loss=0.5480, Acc=0.7487, Val Acc=0.7490  
Epoch 149/500: Loss=0.5456, Val Loss=0.5479, Acc=0.7493, Val Acc=0.7490  
Epoch 150/500: Loss=0.5455, Val Loss=0.5477, Acc=0.7493, Val Acc=0.7500  
Epoch 151/500: Loss=0.5453, Val Loss=0.5476, Acc=0.7493, Val Acc=0.7500  
Epoch 152/500: Loss=0.5452, Val Loss=0.5474, Acc=0.7500, Val Acc=0.7500  
Epoch 153/500: Loss=0.5450, Val Loss=0.5473, Acc=0.7497, Val Acc=0.7500  
Epoch 154/500: Loss=0.5449, Val Loss=0.5472, Acc=0.7497, Val Acc=0.7500  
Epoch 155/500: Loss=0.5447, Val Loss=0.5470, Acc=0.7497, Val Acc=0.7500  
Epoch 156/500: Loss=0.5446, Val Loss=0.5469, Acc=0.7497, Val Acc=0.7500  
Epoch 157/500: Loss=0.5444, Val Loss=0.5468, Acc=0.7497, Val Acc=0.7500  
Epoch 158/500: Loss=0.5443, Val Loss=0.5467, Acc=0.7500, Val Acc=0.7500  
Epoch 159/500: Loss=0.5442, Val Loss=0.5466, Acc=0.7500, Val Acc=0.7500  
Epoch 160/500: Loss=0.5440, Val Loss=0.5464, Acc=0.7500, Val Acc=0.7500  
Epoch 161/500: Loss=0.5439, Val Loss=0.5463, Acc=0.7500, Val Acc=0.7500  
Epoch 162/500: Loss=0.5438, Val Loss=0.5462, Acc=0.7500, Val Acc=0.7500  
Epoch 163/500: Loss=0.5436, Val Loss=0.5461, Acc=0.7500, Val Acc=0.7500

Epoch 164/500: Loss=0.5435, Val Loss=0.5460, Acc=0.7500, Val Acc=0.7500  
Epoch 165/500: Loss=0.5434, Val Loss=0.5459, Acc=0.7500, Val Acc=0.7500  
Epoch 166/500: Loss=0.5433, Val Loss=0.5458, Acc=0.7500, Val Acc=0.7500  
Epoch 167/500: Loss=0.5432, Val Loss=0.5457, Acc=0.7500, Val Acc=0.7500  
Epoch 168/500: Loss=0.5430, Val Loss=0.5456, Acc=0.7500, Val Acc=0.7500  
Epoch 169/500: Loss=0.5429, Val Loss=0.5455, Acc=0.7500, Val Acc=0.7500  
Epoch 170/500: Loss=0.5428, Val Loss=0.5454, Acc=0.7497, Val Acc=0.7500  
Epoch 171/500: Loss=0.5427, Val Loss=0.5453, Acc=0.7500, Val Acc=0.7500  
Epoch 172/500: Loss=0.5426, Val Loss=0.5452, Acc=0.7500, Val Acc=0.7500  
Epoch 173/500: Loss=0.5425, Val Loss=0.5451, Acc=0.7500, Val Acc=0.7500  
Epoch 174/500: Loss=0.5424, Val Loss=0.5450, Acc=0.7500, Val Acc=0.7500  
Epoch 175/500: Loss=0.5423, Val Loss=0.5449, Acc=0.7500, Val Acc=0.7500  
Epoch 176/500: Loss=0.5422, Val Loss=0.5448, Acc=0.7500, Val Acc=0.7500  
Epoch 177/500: Loss=0.5421, Val Loss=0.5447, Acc=0.7500, Val Acc=0.7500  
Epoch 178/500: Loss=0.5420, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 179/500: Loss=0.5419, Val Loss=0.5445, Acc=0.7500, Val Acc=0.7500  
Epoch 180/500: Loss=0.5418, Val Loss=0.5444, Acc=0.7500, Val Acc=0.7500  
Epoch 181/500: Loss=0.5417, Val Loss=0.5444, Acc=0.7500, Val Acc=0.7500  
Epoch 182/500: Loss=0.5416, Val Loss=0.5443, Acc=0.7500, Val Acc=0.7500  
Epoch 183/500: Loss=0.5415, Val Loss=0.5442, Acc=0.7497, Val Acc=0.7500  
Epoch 184/500: Loss=0.5414, Val Loss=0.5441, Acc=0.7497, Val Acc=0.7510  
Epoch 185/500: Loss=0.5413, Val Loss=0.5440, Acc=0.7497, Val Acc=0.7510  
Epoch 186/500: Loss=0.5412, Val Loss=0.5440, Acc=0.7497, Val Acc=0.7510  
Epoch 187/500: Loss=0.5411, Val Loss=0.5439, Acc=0.7493, Val Acc=0.7510  
Epoch 188/500: Loss=0.5410, Val Loss=0.5438, Acc=0.7493, Val Acc=0.7510  
Epoch 189/500: Loss=0.5410, Val Loss=0.5437, Acc=0.7493, Val Acc=0.7510  
Epoch 190/500: Loss=0.5409, Val Loss=0.5437, Acc=0.7493, Val Acc=0.7510  
Epoch 191/500: Loss=0.5408, Val Loss=0.5436, Acc=0.7493, Val Acc=0.7510  
Epoch 192/500: Loss=0.5407, Val Loss=0.5435, Acc=0.7493, Val Acc=0.7510  
Epoch 193/500: Loss=0.5406, Val Loss=0.5435, Acc=0.7493, Val Acc=0.7510  
Epoch 194/500: Loss=0.5405, Val Loss=0.5434, Acc=0.7493, Val Acc=0.7510  
Epoch 195/500: Loss=0.5405, Val Loss=0.5433, Acc=0.7493, Val Acc=0.7510  
Epoch 196/500: Loss=0.5404, Val Loss=0.5433, Acc=0.7497, Val Acc=0.7510  
Epoch 197/500: Loss=0.5403, Val Loss=0.5432, Acc=0.7497, Val Acc=0.7510  
Epoch 198/500: Loss=0.5402, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 199/500: Loss=0.5402, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 200/500: Loss=0.5401, Val Loss=0.5430, Acc=0.7497, Val Acc=0.7510  
Epoch 201/500: Loss=0.5400, Val Loss=0.5429, Acc=0.7497, Val Acc=0.7510  
Epoch 202/500: Loss=0.5400, Val Loss=0.5429, Acc=0.7497, Val Acc=0.7510  
Epoch 203/500: Loss=0.5399, Val Loss=0.5428, Acc=0.7497, Val Acc=0.7520  
Epoch 204/500: Loss=0.5398, Val Loss=0.5428, Acc=0.7497, Val Acc=0.7520  
Epoch 205/500: Loss=0.5397, Val Loss=0.5427, Acc=0.7497, Val Acc=0.7520  
Epoch 206/500: Loss=0.5397, Val Loss=0.5427, Acc=0.7497, Val Acc=0.7520  
Epoch 207/500: Loss=0.5396, Val Loss=0.5426, Acc=0.7493, Val Acc=0.7520  
Epoch 208/500: Loss=0.5396, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 209/500: Loss=0.5395, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 210/500: Loss=0.5394, Val Loss=0.5424, Acc=0.7493, Val Acc=0.7520  
Epoch 211/500: Loss=0.5394, Val Loss=0.5424, Acc=0.7490, Val Acc=0.7520  
Epoch 212/500: Loss=0.5393, Val Loss=0.5423, Acc=0.7490, Val Acc=0.7520  
Epoch 213/500: Loss=0.5392, Val Loss=0.5423, Acc=0.7490, Val Acc=0.7520  
Epoch 214/500: Loss=0.5392, Val Loss=0.5422, Acc=0.7490, Val Acc=0.7530  
Epoch 215/500: Loss=0.5391, Val Loss=0.5422, Acc=0.7490, Val Acc=0.7530  
Early stop at epoch 215  
accuracy= 0.766  
Epoch 1/500: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/500: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/500: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/500: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690

Epoch 7/500: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/500: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/500: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/500: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/500: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/500: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/500: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690  
Epoch 14/500: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/500: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Epoch 16/500: Loss=0.5405, Val Loss=0.5454, Acc=0.7630, Val Acc=0.7670  
Epoch 17/500: Loss=0.5400, Val Loss=0.5451, Acc=0.7630, Val Acc=0.7650  
Epoch 18/500: Loss=0.5395, Val Loss=0.5449, Acc=0.7633, Val Acc=0.7650  
Epoch 19/500: Loss=0.5392, Val Loss=0.5448, Acc=0.7640, Val Acc=0.7640  
Epoch 20/500: Loss=0.5389, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 21/500: Loss=0.5386, Val Loss=0.5446, Acc=0.7630, Val Acc=0.7640  
Epoch 22/500: Loss=0.5384, Val Loss=0.5446, Acc=0.7623, Val Acc=0.7640  
Epoch 23/500: Loss=0.5382, Val Loss=0.5445, Acc=0.7623, Val Acc=0.7640  
Epoch 24/500: Loss=0.5381, Val Loss=0.5445, Acc=0.7620, Val Acc=0.7650

Early stop at epoch 24

accuracy= 0.765

Epoch 1/500: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6824, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6791, Val Loss=0.6756, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6758, Val Loss=0.6724, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6726, Val Loss=0.6693, Acc=0.7487, Val Acc=0.7460  
Epoch 8/500: Loss=0.6694, Val Loss=0.6662, Acc=0.7487, Val Acc=0.7460  
Epoch 9/500: Loss=0.6664, Val Loss=0.6633, Acc=0.7487, Val Acc=0.7460  
Epoch 10/500: Loss=0.6634, Val Loss=0.6604, Acc=0.7487, Val Acc=0.7460  
Epoch 11/500: Loss=0.6606, Val Loss=0.6576, Acc=0.7490, Val Acc=0.7460  
Epoch 12/500: Loss=0.6577, Val Loss=0.6548, Acc=0.7490, Val Acc=0.7460  
Epoch 13/500: Loss=0.6550, Val Loss=0.6522, Acc=0.7493, Val Acc=0.7460  
Epoch 14/500: Loss=0.6523, Val Loss=0.6496, Acc=0.7493, Val Acc=0.7460  
Epoch 15/500: Loss=0.6498, Val Loss=0.6470, Acc=0.7493, Val Acc=0.7460  
Epoch 16/500: Loss=0.6472, Val Loss=0.6446, Acc=0.7493, Val Acc=0.7460  
Epoch 17/500: Loss=0.6448, Val Loss=0.6422, Acc=0.7493, Val Acc=0.7460  
Epoch 18/500: Loss=0.6424, Val Loss=0.6399, Acc=0.7493, Val Acc=0.7460  
Epoch 19/500: Loss=0.6400, Val Loss=0.6376, Acc=0.7490, Val Acc=0.7460  
Epoch 20/500: Loss=0.6378, Val Loss=0.6354, Acc=0.7490, Val Acc=0.7460  
Epoch 21/500: Loss=0.6356, Val Loss=0.6332, Acc=0.7490, Val Acc=0.7460  
Epoch 22/500: Loss=0.6334, Val Loss=0.6311, Acc=0.7490, Val Acc=0.7460  
Epoch 23/500: Loss=0.6313, Val Loss=0.6291, Acc=0.7490, Val Acc=0.7460  
Epoch 24/500: Loss=0.6292, Val Loss=0.6271, Acc=0.7490, Val Acc=0.7450  
Epoch 25/500: Loss=0.6272, Val Loss=0.6252, Acc=0.7490, Val Acc=0.7450  
Epoch 26/500: Loss=0.6253, Val Loss=0.6233, Acc=0.7487, Val Acc=0.7450  
Epoch 27/500: Loss=0.6234, Val Loss=0.6214, Acc=0.7487, Val Acc=0.7450  
Epoch 28/500: Loss=0.6215, Val Loss=0.6196, Acc=0.7487, Val Acc=0.7450  
Epoch 29/500: Loss=0.6197, Val Loss=0.6179, Acc=0.7490, Val Acc=0.7450  
Epoch 30/500: Loss=0.6180, Val Loss=0.6162, Acc=0.7490, Val Acc=0.7450  
Epoch 31/500: Loss=0.6163, Val Loss=0.6145, Acc=0.7490, Val Acc=0.7460  
Epoch 32/500: Loss=0.6146, Val Loss=0.6129, Acc=0.7487, Val Acc=0.7450  
Epoch 33/500: Loss=0.6129, Val Loss=0.6113, Acc=0.7487, Val Acc=0.7450  
Epoch 34/500: Loss=0.6113, Val Loss=0.6098, Acc=0.7487, Val Acc=0.7450  
Epoch 35/500: Loss=0.6098, Val Loss=0.6083, Acc=0.7487, Val Acc=0.7450  
Epoch 36/500: Loss=0.6083, Val Loss=0.6068, Acc=0.7483, Val Acc=0.7450  
Epoch 37/500: Loss=0.6068, Val Loss=0.6054, Acc=0.7483, Val Acc=0.7450  
Epoch 38/500: Loss=0.6054, Val Loss=0.6040, Acc=0.7483, Val Acc=0.7450  
Epoch 39/500: Loss=0.6039, Val Loss=0.6027, Acc=0.7487, Val Acc=0.7460  
Epoch 40/500: Loss=0.6026, Val Loss=0.6013, Acc=0.7487, Val Acc=0.7460

Epoch 41/500: Loss=0.6012, Val Loss=0.6001, Acc=0.7487, Val Acc=0.7460  
Epoch 42/500: Loss=0.5999, Val Loss=0.5988, Acc=0.7487, Val Acc=0.7460  
Epoch 43/500: Loss=0.5986, Val Loss=0.5976, Acc=0.7487, Val Acc=0.7460  
Epoch 44/500: Loss=0.5974, Val Loss=0.5964, Acc=0.7487, Val Acc=0.7460  
Epoch 45/500: Loss=0.5962, Val Loss=0.5952, Acc=0.7487, Val Acc=0.7460  
Epoch 46/500: Loss=0.5950, Val Loss=0.5941, Acc=0.7487, Val Acc=0.7460  
Epoch 47/500: Loss=0.5938, Val Loss=0.5929, Acc=0.7487, Val Acc=0.7460  
Epoch 48/500: Loss=0.5927, Val Loss=0.5919, Acc=0.7487, Val Acc=0.7480  
Epoch 49/500: Loss=0.5916, Val Loss=0.5908, Acc=0.7487, Val Acc=0.7480  
Epoch 50/500: Loss=0.5905, Val Loss=0.5898, Acc=0.7487, Val Acc=0.7480  
Epoch 51/500: Loss=0.5894, Val Loss=0.5887, Acc=0.7487, Val Acc=0.7480  
Epoch 52/500: Loss=0.5884, Val Loss=0.5878, Acc=0.7487, Val Acc=0.7480  
Epoch 53/500: Loss=0.5874, Val Loss=0.5868, Acc=0.7487, Val Acc=0.7480  
Epoch 54/500: Loss=0.5864, Val Loss=0.5858, Acc=0.7487, Val Acc=0.7480  
Epoch 55/500: Loss=0.5854, Val Loss=0.5849, Acc=0.7487, Val Acc=0.7480  
Epoch 56/500: Loss=0.5845, Val Loss=0.5840, Acc=0.7487, Val Acc=0.7480  
Epoch 57/500: Loss=0.5835, Val Loss=0.5831, Acc=0.7487, Val Acc=0.7480  
Epoch 58/500: Loss=0.5826, Val Loss=0.5823, Acc=0.7487, Val Acc=0.7480  
Epoch 59/500: Loss=0.5817, Val Loss=0.5814, Acc=0.7487, Val Acc=0.7480  
Epoch 60/500: Loss=0.5809, Val Loss=0.5806, Acc=0.7487, Val Acc=0.7480  
Epoch 61/500: Loss=0.5800, Val Loss=0.5798, Acc=0.7487, Val Acc=0.7490  
Epoch 62/500: Loss=0.5792, Val Loss=0.5790, Acc=0.7490, Val Acc=0.7490  
Epoch 63/500: Loss=0.5784, Val Loss=0.5783, Acc=0.7490, Val Acc=0.7480  
Epoch 64/500: Loss=0.5776, Val Loss=0.5775, Acc=0.7490, Val Acc=0.7480  
Epoch 65/500: Loss=0.5768, Val Loss=0.5768, Acc=0.7490, Val Acc=0.7480  
Epoch 66/500: Loss=0.5761, Val Loss=0.5761, Acc=0.7493, Val Acc=0.7480  
Epoch 67/500: Loss=0.5753, Val Loss=0.5754, Acc=0.7493, Val Acc=0.7480  
Epoch 68/500: Loss=0.5746, Val Loss=0.5747, Acc=0.7493, Val Acc=0.7480  
Epoch 69/500: Loss=0.5739, Val Loss=0.5740, Acc=0.7497, Val Acc=0.7480  
Epoch 70/500: Loss=0.5732, Val Loss=0.5734, Acc=0.7497, Val Acc=0.7480  
Epoch 71/500: Loss=0.5725, Val Loss=0.5727, Acc=0.7497, Val Acc=0.7480  
Epoch 72/500: Loss=0.5719, Val Loss=0.5721, Acc=0.7497, Val Acc=0.7490  
Epoch 73/500: Loss=0.5712, Val Loss=0.5715, Acc=0.7497, Val Acc=0.7490  
Epoch 74/500: Loss=0.5706, Val Loss=0.5709, Acc=0.7497, Val Acc=0.7490  
Epoch 75/500: Loss=0.5699, Val Loss=0.5703, Acc=0.7493, Val Acc=0.7490  
Epoch 76/500: Loss=0.5693, Val Loss=0.5697, Acc=0.7490, Val Acc=0.7490  
Epoch 77/500: Loss=0.5687, Val Loss=0.5691, Acc=0.7490, Val Acc=0.7490  
Epoch 78/500: Loss=0.5681, Val Loss=0.5686, Acc=0.7490, Val Acc=0.7490  
Epoch 79/500: Loss=0.5676, Val Loss=0.5680, Acc=0.7490, Val Acc=0.7490  
Epoch 80/500: Loss=0.5670, Val Loss=0.5675, Acc=0.7493, Val Acc=0.7490  
Epoch 81/500: Loss=0.5664, Val Loss=0.5670, Acc=0.7493, Val Acc=0.7490  
Epoch 82/500: Loss=0.5659, Val Loss=0.5665, Acc=0.7493, Val Acc=0.7490  
Epoch 83/500: Loss=0.5654, Val Loss=0.5660, Acc=0.7493, Val Acc=0.7490  
Epoch 84/500: Loss=0.5649, Val Loss=0.5655, Acc=0.7493, Val Acc=0.7490  
Epoch 85/500: Loss=0.5643, Val Loss=0.5650, Acc=0.7493, Val Acc=0.7490  
Early stop at epoch 85  
accuracy= 0.763

Epoch 1/500: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/500: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/500: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/500: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/500: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/500: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Epoch 9/500: Loss=0.5507, Val Loss=0.5512, Acc=0.7660, Val Acc=0.7680  
Epoch 10/500: Loss=0.5480, Val Loss=0.5495, Acc=0.7653, Val Acc=0.7670  
Epoch 11/500: Loss=0.5459, Val Loss=0.5483, Acc=0.7653, Val Acc=0.7680  
Epoch 12/500: Loss=0.5443, Val Loss=0.5473, Acc=0.7650, Val Acc=0.7680  
Epoch 13/500: Loss=0.5430, Val Loss=0.5466, Acc=0.7647, Val Acc=0.7690



Epoch 14/500: Loss=0.5420, Val Loss=0.5461, Acc=0.7637, Val Acc=0.7680  
Epoch 15/500: Loss=0.5412, Val Loss=0.5457, Acc=0.7647, Val Acc=0.7680  
Early stop at epoch 15  
accuracy= 0.768

Epoch 1/500: Loss=0.6931, Val Loss=0.6895, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6895, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6859, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Early stop at epoch 3  
accuracy= 0.764

Epoch 1/500: Loss=0.6931, Val Loss=0.6409, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6414, Val Loss=0.6091, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.6094, Val Loss=0.5890, Acc=0.7620, Val Acc=0.7710  
Epoch 4/500: Loss=0.5889, Val Loss=0.5759, Acc=0.7633, Val Acc=0.7730  
Epoch 5/500: Loss=0.5753, Val Loss=0.5671, Acc=0.7633, Val Acc=0.7690  
Epoch 6/500: Loss=0.5659, Val Loss=0.5610, Acc=0.7643, Val Acc=0.7690  
Epoch 7/500: Loss=0.5592, Val Loss=0.5567, Acc=0.7650, Val Acc=0.7710  
Epoch 8/500: Loss=0.5543, Val Loss=0.5535, Acc=0.7653, Val Acc=0.7690  
Early stop at epoch 8  
accuracy= 0.769

Epoch 1/10: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/10: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/10: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/10: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
accuracy= 0.763

Epoch 1/10: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/10: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/10: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/10: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/10: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/10: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/10: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/10: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
accuracy= 0.764

Epoch 1/10: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/10: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/10: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/10: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
accuracy= 0.763

Epoch 1/10: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/10: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/10: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/10: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/10: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/10: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670

Epoch 9/10: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/10: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Early stop at epoch 10  
accuracy= 0.764

Epoch 1/10: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/10: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/10: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/10: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/10: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/10: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 9  
accuracy= 0.763

Epoch 1/10: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/10: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/10: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/10: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Early stop at epoch 5  
accuracy= 0.767

Epoch 1/50: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/50: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/50: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/50: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/50: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/50: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/50: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/50: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/50: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/50: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/50: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/50: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/50: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/50: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/50: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/50: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/50: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/50: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/50: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/50: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/50: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/50: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/50: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/50: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/50: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/50: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/50: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/50: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/50: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490

Epoch 39/50: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/50: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/50: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/50: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/50: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/50: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/50: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/50: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/50: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/50: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/50: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/50: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490

accuracy= 0.763

Epoch 1/50: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/50: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/50: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/50: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/50: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/50: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/50: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/50: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 11/50: Loss=0.5384, Val Loss=0.5446, Acc=0.7627, Val Acc=0.7640  
Epoch 12/50: Loss=0.5380, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7650  
Epoch 13/50: Loss=0.5378, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7640  
Epoch 14/50: Loss=0.5376, Val Loss=0.5445, Acc=0.7617, Val Acc=0.7650

Early stop at epoch 14

accuracy= 0.765

Epoch 1/50: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/50: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/50: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/50: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/50: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/50: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/50: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/50: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/50: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/50: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/50: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/50: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/50: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/50: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/50: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/50: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/50: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/50: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/50: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/50: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/50: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/50: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490

Epoch 32/50: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/50: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/50: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/50: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/50: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/50: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/50: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/50: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/50: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/50: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/50: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/50: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/50: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/50: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/50: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/50: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/50: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/50: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/50: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
accuracy= 0.763  
Epoch 1/50: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/50: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/50: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/50: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/50: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/50: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/50: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/50: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Early stop at epoch 10  
accuracy= 0.764  
Epoch 1/50: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/50: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/50: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 9  
accuracy= 0.763  
Epoch 1/50: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/50: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/50: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/50: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Early stop at epoch 5  
accuracy= 0.767  
Epoch 1/100: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/100: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/100: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/100: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460

Epoch 11/100: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/100: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/100: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/100: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/100: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/100: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/100: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/100: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/100: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/100: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/100: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/100: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/100: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/100: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/100: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/100: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/100: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/100: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/100: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/100: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/100: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/100: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/100: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/100: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/100: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/100: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/100: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/100: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/100: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/100: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/100: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/100: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/100: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/100: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/100: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/100: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/100: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/100: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/100: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/100: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/100: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/100: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/100: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/100: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/100: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/100: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/100: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/100: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Epoch 62/100: Loss=0.5506, Val Loss=0.5521, Acc=0.7490, Val Acc=0.7500  
Epoch 63/100: Loss=0.5501, Val Loss=0.5517, Acc=0.7490, Val Acc=0.7500  
Epoch 64/100: Loss=0.5497, Val Loss=0.5513, Acc=0.7490, Val Acc=0.7500  
Epoch 65/100: Loss=0.5492, Val Loss=0.5509, Acc=0.7490, Val Acc=0.7500  
Epoch 66/100: Loss=0.5488, Val Loss=0.5505, Acc=0.7490, Val Acc=0.7500  
Epoch 67/100: Loss=0.5484, Val Loss=0.5501, Acc=0.7490, Val Acc=0.7500  
Epoch 68/100: Loss=0.5480, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 69/100: Loss=0.5476, Val Loss=0.5494, Acc=0.7490, Val Acc=0.7490  
Epoch 70/100: Loss=0.5472, Val Loss=0.5491, Acc=0.7490, Val Acc=0.7490

Epoch 71/100: Loss=0.5468, Val Loss=0.5488, Acc=0.7490, Val Acc=0.7490  
Epoch 72/100: Loss=0.5465, Val Loss=0.5485, Acc=0.7490, Val Acc=0.7490  
Epoch 73/100: Loss=0.5461, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 74/100: Loss=0.5458, Val Loss=0.5479, Acc=0.7487, Val Acc=0.7490  
Epoch 75/100: Loss=0.5455, Val Loss=0.5476, Acc=0.7493, Val Acc=0.7500  
Epoch 76/100: Loss=0.5452, Val Loss=0.5473, Acc=0.7493, Val Acc=0.7500  
Epoch 77/100: Loss=0.5449, Val Loss=0.5471, Acc=0.7497, Val Acc=0.7500  
Epoch 78/100: Loss=0.5446, Val Loss=0.5468, Acc=0.7497, Val Acc=0.7500  
Epoch 79/100: Loss=0.5443, Val Loss=0.5466, Acc=0.7497, Val Acc=0.7500  
Epoch 80/100: Loss=0.5441, Val Loss=0.5463, Acc=0.7500, Val Acc=0.7500  
Epoch 81/100: Loss=0.5438, Val Loss=0.5461, Acc=0.7500, Val Acc=0.7500  
Epoch 82/100: Loss=0.5435, Val Loss=0.5459, Acc=0.7500, Val Acc=0.7500  
Epoch 83/100: Loss=0.5433, Val Loss=0.5457, Acc=0.7500, Val Acc=0.7500  
Epoch 84/100: Loss=0.5431, Val Loss=0.5455, Acc=0.7500, Val Acc=0.7500  
Epoch 85/100: Loss=0.5428, Val Loss=0.5453, Acc=0.7497, Val Acc=0.7500  
Epoch 86/100: Loss=0.5426, Val Loss=0.5451, Acc=0.7500, Val Acc=0.7500  
Epoch 87/100: Loss=0.5424, Val Loss=0.5449, Acc=0.7500, Val Acc=0.7500  
Epoch 88/100: Loss=0.5422, Val Loss=0.5447, Acc=0.7500, Val Acc=0.7500  
Epoch 89/100: Loss=0.5420, Val Loss=0.5445, Acc=0.7500, Val Acc=0.7500  
Epoch 90/100: Loss=0.5418, Val Loss=0.5444, Acc=0.7500, Val Acc=0.7500  
Epoch 91/100: Loss=0.5416, Val Loss=0.5442, Acc=0.7500, Val Acc=0.7500  
Epoch 92/100: Loss=0.5414, Val Loss=0.5441, Acc=0.7497, Val Acc=0.7510  
Epoch 93/100: Loss=0.5412, Val Loss=0.5439, Acc=0.7497, Val Acc=0.7510  
Epoch 94/100: Loss=0.5410, Val Loss=0.5437, Acc=0.7493, Val Acc=0.7510  
Epoch 95/100: Loss=0.5409, Val Loss=0.5436, Acc=0.7493, Val Acc=0.7510  
Epoch 96/100: Loss=0.5407, Val Loss=0.5435, Acc=0.7493, Val Acc=0.7510  
Epoch 97/100: Loss=0.5405, Val Loss=0.5433, Acc=0.7493, Val Acc=0.7510  
Epoch 98/100: Loss=0.5404, Val Loss=0.5432, Acc=0.7497, Val Acc=0.7510  
Epoch 99/100: Loss=0.5402, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 100/100: Loss=0.5401, Val Loss=0.5429, Acc=0.7497, Val Acc=0.7510  
accuracy= 0.766

Epoch 1/100: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/100: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/100: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/100: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/100: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/100: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/100: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/100: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 11/100: Loss=0.5384, Val Loss=0.5446, Acc=0.7627, Val Acc=0.7640  
Epoch 12/100: Loss=0.5380, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7650  
Epoch 13/100: Loss=0.5378, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7640  
Epoch 14/100: Loss=0.5376, Val Loss=0.5445, Acc=0.7617, Val Acc=0.7650  
Early stop at epoch 14  
accuracy= 0.765

Epoch 1/100: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/100: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/100: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/100: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/100: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/100: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/100: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450

Epoch 14/100: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/100: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/100: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/100: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/100: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/100: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/100: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/100: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/100: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/100: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/100: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/100: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/100: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/100: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/100: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/100: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/100: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/100: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/100: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/100: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/100: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/100: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/100: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/100: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/100: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/100: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/100: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/100: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/100: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/100: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/100: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/100: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/100: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/100: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/100: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/100: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/100: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/100: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/100: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/100: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/100: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/100: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/100: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/100: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/100: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/100: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/100: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/100: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 61  
accuracy= 0.765  
Epoch 1/100: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/100: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/100: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/100: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/100: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/100: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/100: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/100: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640

Early stop at epoch 10

accuracy= 0.764

Epoch 1/100: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/100: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/100: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/100: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/100: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/100: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460

Early stop at epoch 9

accuracy= 0.763

Epoch 1/100: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/100: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/100: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/100: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670

Early stop at epoch 5

accuracy= 0.767

Epoch 1/150: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/150: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/150: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/150: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/150: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/150: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/150: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/150: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/150: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/150: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/150: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/150: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/150: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/150: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/150: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/150: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/150: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/150: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/150: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/150: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/150: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/150: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/150: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/150: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/150: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/150: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/150: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/150: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/150: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/150: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/150: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/150: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/150: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/150: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490



Epoch 41/150: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/150: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/150: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/150: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/150: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/150: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/150: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/150: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/150: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/150: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/150: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/150: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/150: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/150: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/150: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/150: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/150: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/150: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/150: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/150: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/150: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Epoch 62/150: Loss=0.5506, Val Loss=0.5521, Acc=0.7490, Val Acc=0.7500  
Epoch 63/150: Loss=0.5501, Val Loss=0.5517, Acc=0.7490, Val Acc=0.7500  
Epoch 64/150: Loss=0.5497, Val Loss=0.5513, Acc=0.7490, Val Acc=0.7500  
Epoch 65/150: Loss=0.5492, Val Loss=0.5509, Acc=0.7490, Val Acc=0.7500  
Epoch 66/150: Loss=0.5488, Val Loss=0.5505, Acc=0.7490, Val Acc=0.7500  
Epoch 67/150: Loss=0.5484, Val Loss=0.5501, Acc=0.7490, Val Acc=0.7500  
Epoch 68/150: Loss=0.5480, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 69/150: Loss=0.5476, Val Loss=0.5494, Acc=0.7490, Val Acc=0.7490  
Epoch 70/150: Loss=0.5472, Val Loss=0.5491, Acc=0.7490, Val Acc=0.7490  
Epoch 71/150: Loss=0.5468, Val Loss=0.5488, Acc=0.7490, Val Acc=0.7490  
Epoch 72/150: Loss=0.5465, Val Loss=0.5485, Acc=0.7490, Val Acc=0.7490  
Epoch 73/150: Loss=0.5461, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 74/150: Loss=0.5458, Val Loss=0.5479, Acc=0.7487, Val Acc=0.7490  
Epoch 75/150: Loss=0.5455, Val Loss=0.5476, Acc=0.7493, Val Acc=0.7500  
Epoch 76/150: Loss=0.5452, Val Loss=0.5473, Acc=0.7493, Val Acc=0.7500  
Epoch 77/150: Loss=0.5449, Val Loss=0.5471, Acc=0.7497, Val Acc=0.7500  
Epoch 78/150: Loss=0.5446, Val Loss=0.5468, Acc=0.7497, Val Acc=0.7500  
Epoch 79/150: Loss=0.5443, Val Loss=0.5466, Acc=0.7497, Val Acc=0.7500  
Epoch 80/150: Loss=0.5441, Val Loss=0.5463, Acc=0.7500, Val Acc=0.7500  
Epoch 81/150: Loss=0.5438, Val Loss=0.5461, Acc=0.7500, Val Acc=0.7500  
Epoch 82/150: Loss=0.5435, Val Loss=0.5459, Acc=0.7500, Val Acc=0.7500  
Epoch 83/150: Loss=0.5433, Val Loss=0.5457, Acc=0.7500, Val Acc=0.7500  
Epoch 84/150: Loss=0.5431, Val Loss=0.5455, Acc=0.7500, Val Acc=0.7500  
Epoch 85/150: Loss=0.5428, Val Loss=0.5453, Acc=0.7497, Val Acc=0.7500  
Epoch 86/150: Loss=0.5426, Val Loss=0.5451, Acc=0.7500, Val Acc=0.7500  
Epoch 87/150: Loss=0.5424, Val Loss=0.5449, Acc=0.7500, Val Acc=0.7500  
Epoch 88/150: Loss=0.5422, Val Loss=0.5447, Acc=0.7500, Val Acc=0.7500  
Epoch 89/150: Loss=0.5420, Val Loss=0.5445, Acc=0.7500, Val Acc=0.7500  
Epoch 90/150: Loss=0.5418, Val Loss=0.5444, Acc=0.7500, Val Acc=0.7500  
Epoch 91/150: Loss=0.5416, Val Loss=0.5442, Acc=0.7500, Val Acc=0.7500  
Epoch 92/150: Loss=0.5414, Val Loss=0.5441, Acc=0.7497, Val Acc=0.7510  
Epoch 93/150: Loss=0.5412, Val Loss=0.5439, Acc=0.7497, Val Acc=0.7510  
Epoch 94/150: Loss=0.5410, Val Loss=0.5437, Acc=0.7493, Val Acc=0.7510  
Epoch 95/150: Loss=0.5409, Val Loss=0.5436, Acc=0.7493, Val Acc=0.7510  
Epoch 96/150: Loss=0.5407, Val Loss=0.5435, Acc=0.7493, Val Acc=0.7510  
Epoch 97/150: Loss=0.5405, Val Loss=0.5433, Acc=0.7493, Val Acc=0.7510  
Epoch 98/150: Loss=0.5404, Val Loss=0.5432, Acc=0.7497, Val Acc=0.7510  
Epoch 99/150: Loss=0.5402, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 100/150: Loss=0.5401, Val Loss=0.5429, Acc=0.7497, Val Acc=0.7510

Epoch 101/150: Loss=0.5400, Val Loss=0.5428, Acc=0.7497, Val Acc=0.7510  
Epoch 102/150: Loss=0.5398, Val Loss=0.5427, Acc=0.7497, Val Acc=0.7520  
Epoch 103/150: Loss=0.5397, Val Loss=0.5426, Acc=0.7497, Val Acc=0.7520  
Epoch 104/150: Loss=0.5396, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 105/150: Loss=0.5394, Val Loss=0.5424, Acc=0.7493, Val Acc=0.7520  
Epoch 106/150: Loss=0.5393, Val Loss=0.5423, Acc=0.7490, Val Acc=0.7520  
Epoch 107/150: Loss=0.5392, Val Loss=0.5422, Acc=0.7490, Val Acc=0.7530  
Epoch 108/150: Loss=0.5391, Val Loss=0.5421, Acc=0.7490, Val Acc=0.7530  
Epoch 109/150: Loss=0.5390, Val Loss=0.5420, Acc=0.7490, Val Acc=0.7530  
Epoch 110/150: Loss=0.5388, Val Loss=0.5419, Acc=0.7493, Val Acc=0.7530  
Epoch 111/150: Loss=0.5387, Val Loss=0.5418, Acc=0.7493, Val Acc=0.7530  
Epoch 112/150: Loss=0.5386, Val Loss=0.5417, Acc=0.7493, Val Acc=0.7530  
Epoch 113/150: Loss=0.5385, Val Loss=0.5416, Acc=0.7493, Val Acc=0.7530  
Epoch 114/150: Loss=0.5384, Val Loss=0.5416, Acc=0.7493, Val Acc=0.7530  
Epoch 115/150: Loss=0.5383, Val Loss=0.5415, Acc=0.7493, Val Acc=0.7530  
Epoch 116/150: Loss=0.5383, Val Loss=0.5414, Acc=0.7493, Val Acc=0.7530  
Epoch 117/150: Loss=0.5382, Val Loss=0.5413, Acc=0.7493, Val Acc=0.7530  
Epoch 118/150: Loss=0.5381, Val Loss=0.5413, Acc=0.7493, Val Acc=0.7530  
Epoch 119/150: Loss=0.5380, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 120/150: Loss=0.5379, Val Loss=0.5411, Acc=0.7493, Val Acc=0.7530  
Epoch 121/150: Loss=0.5378, Val Loss=0.5411, Acc=0.7493, Val Acc=0.7530  
Epoch 122/150: Loss=0.5377, Val Loss=0.5410, Acc=0.7493, Val Acc=0.7530  
Epoch 123/150: Loss=0.5377, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 124/150: Loss=0.5376, Val Loss=0.5409, Acc=0.7490, Val Acc=0.7550  
Epoch 125/150: Loss=0.5375, Val Loss=0.5408, Acc=0.7493, Val Acc=0.7550  
Epoch 126/150: Loss=0.5375, Val Loss=0.5408, Acc=0.7490, Val Acc=0.7550  
Epoch 127/150: Loss=0.5374, Val Loss=0.5407, Acc=0.7490, Val Acc=0.7550  
Epoch 128/150: Loss=0.5373, Val Loss=0.5407, Acc=0.7490, Val Acc=0.7550  
Epoch 129/150: Loss=0.5373, Val Loss=0.5406, Acc=0.7490, Val Acc=0.7540  
Epoch 130/150: Loss=0.5372, Val Loss=0.5406, Acc=0.7490, Val Acc=0.7540  
Epoch 131/150: Loss=0.5371, Val Loss=0.5405, Acc=0.7490, Val Acc=0.7540  
Epoch 132/150: Loss=0.5371, Val Loss=0.5405, Acc=0.7490, Val Acc=0.7540  
Early stop at epoch 132  
accuracy= 0.766

Epoch 1/150: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/150: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/150: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/150: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/150: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/150: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/150: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/150: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 11/150: Loss=0.5384, Val Loss=0.5446, Acc=0.7627, Val Acc=0.7640  
Epoch 12/150: Loss=0.5380, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7650  
Epoch 13/150: Loss=0.5378, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7640  
Epoch 14/150: Loss=0.5376, Val Loss=0.5445, Acc=0.7617, Val Acc=0.7650  
Early stop at epoch 14  
accuracy= 0.765

Epoch 1/150: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/150: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/150: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/150: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460

Epoch 11/150: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/150: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/150: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/150: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/150: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/150: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/150: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/150: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/150: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/150: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/150: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/150: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/150: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/150: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/150: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/150: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/150: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/150: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/150: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/150: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/150: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/150: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/150: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/150: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/150: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/150: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/150: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/150: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/150: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/150: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/150: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/150: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/150: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/150: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/150: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/150: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/150: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/150: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/150: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/150: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/150: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/150: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/150: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/150: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/150: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/150: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/150: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/150: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/150: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/150: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/150: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 61  
accuracy= 0.765  
Epoch 1/150: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/150: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/150: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/150: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/150: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680

Epoch 8/150: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/150: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/150: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Early stop at epoch 10  
accuracy= 0.764  
Epoch 1/150: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/150: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/150: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/150: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/150: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/150: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 9  
accuracy= 0.763  
Epoch 1/150: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/150: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/150: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/150: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Early stop at epoch 5  
accuracy= 0.767  
Epoch 1/500: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/500: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/500: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/500: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/500: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/500: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/500: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/500: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/500: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/500: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/500: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/500: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/500: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/500: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/500: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/500: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/500: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/500: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/500: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/500: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/500: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/500: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/500: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/500: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/500: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/500: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/500: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/500: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/500: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/500: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/500: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490

Epoch 38/500: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/500: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/500: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/500: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/500: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/500: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/500: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/500: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/500: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/500: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/500: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/500: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/500: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/500: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/500: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/500: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/500: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/500: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/500: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/500: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/500: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/500: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/500: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/500: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Epoch 62/500: Loss=0.5506, Val Loss=0.5521, Acc=0.7490, Val Acc=0.7500  
Epoch 63/500: Loss=0.5501, Val Loss=0.5517, Acc=0.7490, Val Acc=0.7500  
Epoch 64/500: Loss=0.5497, Val Loss=0.5513, Acc=0.7490, Val Acc=0.7500  
Epoch 65/500: Loss=0.5492, Val Loss=0.5509, Acc=0.7490, Val Acc=0.7500  
Epoch 66/500: Loss=0.5488, Val Loss=0.5505, Acc=0.7490, Val Acc=0.7500  
Epoch 67/500: Loss=0.5484, Val Loss=0.5501, Acc=0.7490, Val Acc=0.7500  
Epoch 68/500: Loss=0.5480, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 69/500: Loss=0.5476, Val Loss=0.5494, Acc=0.7490, Val Acc=0.7490  
Epoch 70/500: Loss=0.5472, Val Loss=0.5491, Acc=0.7490, Val Acc=0.7490  
Epoch 71/500: Loss=0.5468, Val Loss=0.5488, Acc=0.7490, Val Acc=0.7490  
Epoch 72/500: Loss=0.5465, Val Loss=0.5485, Acc=0.7490, Val Acc=0.7490  
Epoch 73/500: Loss=0.5461, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 74/500: Loss=0.5458, Val Loss=0.5479, Acc=0.7487, Val Acc=0.7490  
Epoch 75/500: Loss=0.5455, Val Loss=0.5476, Acc=0.7493, Val Acc=0.7500  
Epoch 76/500: Loss=0.5452, Val Loss=0.5473, Acc=0.7493, Val Acc=0.7500  
Epoch 77/500: Loss=0.5449, Val Loss=0.5471, Acc=0.7497, Val Acc=0.7500  
Epoch 78/500: Loss=0.5446, Val Loss=0.5468, Acc=0.7497, Val Acc=0.7500  
Epoch 79/500: Loss=0.5443, Val Loss=0.5466, Acc=0.7497, Val Acc=0.7500  
Epoch 80/500: Loss=0.5441, Val Loss=0.5463, Acc=0.7500, Val Acc=0.7500  
Epoch 81/500: Loss=0.5438, Val Loss=0.5461, Acc=0.7500, Val Acc=0.7500  
Epoch 82/500: Loss=0.5435, Val Loss=0.5459, Acc=0.7500, Val Acc=0.7500  
Epoch 83/500: Loss=0.5433, Val Loss=0.5457, Acc=0.7500, Val Acc=0.7500  
Epoch 84/500: Loss=0.5431, Val Loss=0.5455, Acc=0.7500, Val Acc=0.7500  
Epoch 85/500: Loss=0.5428, Val Loss=0.5453, Acc=0.7497, Val Acc=0.7500  
Epoch 86/500: Loss=0.5426, Val Loss=0.5451, Acc=0.7500, Val Acc=0.7500  
Epoch 87/500: Loss=0.5424, Val Loss=0.5449, Acc=0.7500, Val Acc=0.7500  
Epoch 88/500: Loss=0.5422, Val Loss=0.5447, Acc=0.7500, Val Acc=0.7500  
Epoch 89/500: Loss=0.5420, Val Loss=0.5445, Acc=0.7500, Val Acc=0.7500  
Epoch 90/500: Loss=0.5418, Val Loss=0.5444, Acc=0.7500, Val Acc=0.7500  
Epoch 91/500: Loss=0.5416, Val Loss=0.5442, Acc=0.7500, Val Acc=0.7500  
Epoch 92/500: Loss=0.5414, Val Loss=0.5441, Acc=0.7497, Val Acc=0.7510  
Epoch 93/500: Loss=0.5412, Val Loss=0.5439, Acc=0.7497, Val Acc=0.7510  
Epoch 94/500: Loss=0.5410, Val Loss=0.5437, Acc=0.7493, Val Acc=0.7510  
Epoch 95/500: Loss=0.5409, Val Loss=0.5436, Acc=0.7493, Val Acc=0.7510  
Epoch 96/500: Loss=0.5407, Val Loss=0.5435, Acc=0.7493, Val Acc=0.7510  
Epoch 97/500: Loss=0.5405, Val Loss=0.5433, Acc=0.7493, Val Acc=0.7510

Epoch 98/500: Loss=0.5404, Val Loss=0.5432, Acc=0.7497, Val Acc=0.7510  
Epoch 99/500: Loss=0.5402, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 100/500: Loss=0.5401, Val Loss=0.5429, Acc=0.7497, Val Acc=0.7510  
Epoch 101/500: Loss=0.5400, Val Loss=0.5428, Acc=0.7497, Val Acc=0.7510  
Epoch 102/500: Loss=0.5398, Val Loss=0.5427, Acc=0.7497, Val Acc=0.7520  
Epoch 103/500: Loss=0.5397, Val Loss=0.5426, Acc=0.7497, Val Acc=0.7520  
Epoch 104/500: Loss=0.5396, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 105/500: Loss=0.5394, Val Loss=0.5424, Acc=0.7493, Val Acc=0.7520  
Epoch 106/500: Loss=0.5393, Val Loss=0.5423, Acc=0.7490, Val Acc=0.7520  
Epoch 107/500: Loss=0.5392, Val Loss=0.5422, Acc=0.7490, Val Acc=0.7530  
Epoch 108/500: Loss=0.5391, Val Loss=0.5421, Acc=0.7490, Val Acc=0.7530  
Epoch 109/500: Loss=0.5390, Val Loss=0.5420, Acc=0.7490, Val Acc=0.7530  
Epoch 110/500: Loss=0.5388, Val Loss=0.5419, Acc=0.7493, Val Acc=0.7530  
Epoch 111/500: Loss=0.5387, Val Loss=0.5418, Acc=0.7493, Val Acc=0.7530  
Epoch 112/500: Loss=0.5386, Val Loss=0.5417, Acc=0.7493, Val Acc=0.7530  
Epoch 113/500: Loss=0.5385, Val Loss=0.5416, Acc=0.7493, Val Acc=0.7530  
Epoch 114/500: Loss=0.5384, Val Loss=0.5416, Acc=0.7493, Val Acc=0.7530  
Epoch 115/500: Loss=0.5383, Val Loss=0.5415, Acc=0.7493, Val Acc=0.7530  
Epoch 116/500: Loss=0.5383, Val Loss=0.5414, Acc=0.7493, Val Acc=0.7530  
Epoch 117/500: Loss=0.5382, Val Loss=0.5413, Acc=0.7493, Val Acc=0.7530  
Epoch 118/500: Loss=0.5381, Val Loss=0.5413, Acc=0.7493, Val Acc=0.7530  
Epoch 119/500: Loss=0.5380, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 120/500: Loss=0.5379, Val Loss=0.5411, Acc=0.7493, Val Acc=0.7530  
Epoch 121/500: Loss=0.5378, Val Loss=0.5411, Acc=0.7493, Val Acc=0.7530  
Epoch 122/500: Loss=0.5377, Val Loss=0.5410, Acc=0.7493, Val Acc=0.7530  
Epoch 123/500: Loss=0.5377, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 124/500: Loss=0.5376, Val Loss=0.5409, Acc=0.7490, Val Acc=0.7550  
Epoch 125/500: Loss=0.5375, Val Loss=0.5408, Acc=0.7493, Val Acc=0.7550  
Epoch 126/500: Loss=0.5375, Val Loss=0.5408, Acc=0.7490, Val Acc=0.7550  
Epoch 127/500: Loss=0.5374, Val Loss=0.5407, Acc=0.7490, Val Acc=0.7550  
Epoch 128/500: Loss=0.5373, Val Loss=0.5407, Acc=0.7490, Val Acc=0.7550  
Epoch 129/500: Loss=0.5373, Val Loss=0.5406, Acc=0.7490, Val Acc=0.7540  
Epoch 130/500: Loss=0.5372, Val Loss=0.5406, Acc=0.7490, Val Acc=0.7540  
Epoch 131/500: Loss=0.5371, Val Loss=0.5405, Acc=0.7490, Val Acc=0.7540  
Epoch 132/500: Loss=0.5371, Val Loss=0.5405, Acc=0.7490, Val Acc=0.7540  
Early stop at epoch 132

accuracy= 0.766

Epoch 1/500: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/500: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/500: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/500: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/500: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/500: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/500: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/500: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Epoch 11/500: Loss=0.5384, Val Loss=0.5446, Acc=0.7627, Val Acc=0.7640  
Epoch 12/500: Loss=0.5380, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7650  
Epoch 13/500: Loss=0.5378, Val Loss=0.5445, Acc=0.7627, Val Acc=0.7640  
Epoch 14/500: Loss=0.5376, Val Loss=0.5445, Acc=0.7617, Val Acc=0.7650  
Early stop at epoch 14

accuracy= 0.765

Epoch 1/500: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460

Epoch 8/500: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/500: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Epoch 10/500: Loss=0.6398, Val Loss=0.6351, Acc=0.7493, Val Acc=0.7460  
Epoch 11/500: Loss=0.6353, Val Loss=0.6308, Acc=0.7490, Val Acc=0.7460  
Epoch 12/500: Loss=0.6310, Val Loss=0.6268, Acc=0.7490, Val Acc=0.7450  
Epoch 13/500: Loss=0.6269, Val Loss=0.6230, Acc=0.7490, Val Acc=0.7450  
Epoch 14/500: Loss=0.6231, Val Loss=0.6193, Acc=0.7487, Val Acc=0.7450  
Epoch 15/500: Loss=0.6194, Val Loss=0.6159, Acc=0.7487, Val Acc=0.7450  
Epoch 16/500: Loss=0.6159, Val Loss=0.6126, Acc=0.7490, Val Acc=0.7460  
Epoch 17/500: Loss=0.6126, Val Loss=0.6095, Acc=0.7487, Val Acc=0.7450  
Epoch 18/500: Loss=0.6095, Val Loss=0.6065, Acc=0.7487, Val Acc=0.7450  
Epoch 19/500: Loss=0.6065, Val Loss=0.6037, Acc=0.7483, Val Acc=0.7450  
Epoch 20/500: Loss=0.6036, Val Loss=0.6010, Acc=0.7483, Val Acc=0.7460  
Epoch 21/500: Loss=0.6009, Val Loss=0.5985, Acc=0.7487, Val Acc=0.7460  
Epoch 22/500: Loss=0.5983, Val Loss=0.5960, Acc=0.7487, Val Acc=0.7460  
Epoch 23/500: Loss=0.5958, Val Loss=0.5937, Acc=0.7487, Val Acc=0.7460  
Epoch 24/500: Loss=0.5935, Val Loss=0.5915, Acc=0.7487, Val Acc=0.7470  
Epoch 25/500: Loss=0.5912, Val Loss=0.5894, Acc=0.7487, Val Acc=0.7480  
Epoch 26/500: Loss=0.5891, Val Loss=0.5874, Acc=0.7487, Val Acc=0.7480  
Epoch 27/500: Loss=0.5870, Val Loss=0.5855, Acc=0.7487, Val Acc=0.7480  
Epoch 28/500: Loss=0.5851, Val Loss=0.5837, Acc=0.7487, Val Acc=0.7480  
Epoch 29/500: Loss=0.5832, Val Loss=0.5820, Acc=0.7487, Val Acc=0.7480  
Epoch 30/500: Loss=0.5814, Val Loss=0.5803, Acc=0.7487, Val Acc=0.7480  
Epoch 31/500: Loss=0.5797, Val Loss=0.5787, Acc=0.7487, Val Acc=0.7490  
Epoch 32/500: Loss=0.5781, Val Loss=0.5772, Acc=0.7490, Val Acc=0.7480  
Epoch 33/500: Loss=0.5765, Val Loss=0.5758, Acc=0.7490, Val Acc=0.7480  
Epoch 34/500: Loss=0.5750, Val Loss=0.5744, Acc=0.7493, Val Acc=0.7480  
Epoch 35/500: Loss=0.5736, Val Loss=0.5731, Acc=0.7493, Val Acc=0.7480  
Epoch 36/500: Loss=0.5722, Val Loss=0.5718, Acc=0.7497, Val Acc=0.7480  
Epoch 37/500: Loss=0.5709, Val Loss=0.5706, Acc=0.7497, Val Acc=0.7490  
Epoch 38/500: Loss=0.5697, Val Loss=0.5694, Acc=0.7493, Val Acc=0.7490  
Epoch 39/500: Loss=0.5685, Val Loss=0.5683, Acc=0.7490, Val Acc=0.7490  
Epoch 40/500: Loss=0.5673, Val Loss=0.5673, Acc=0.7490, Val Acc=0.7490  
Epoch 41/500: Loss=0.5662, Val Loss=0.5663, Acc=0.7493, Val Acc=0.7490  
Epoch 42/500: Loss=0.5651, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 43/500: Loss=0.5641, Val Loss=0.5643, Acc=0.7493, Val Acc=0.7490  
Epoch 44/500: Loss=0.5631, Val Loss=0.5634, Acc=0.7493, Val Acc=0.7490  
Epoch 45/500: Loss=0.5622, Val Loss=0.5626, Acc=0.7493, Val Acc=0.7490  
Epoch 46/500: Loss=0.5613, Val Loss=0.5618, Acc=0.7490, Val Acc=0.7490  
Epoch 47/500: Loss=0.5604, Val Loss=0.5610, Acc=0.7490, Val Acc=0.7490  
Epoch 48/500: Loss=0.5596, Val Loss=0.5602, Acc=0.7490, Val Acc=0.7490  
Epoch 49/500: Loss=0.5587, Val Loss=0.5595, Acc=0.7490, Val Acc=0.7490  
Epoch 50/500: Loss=0.5580, Val Loss=0.5588, Acc=0.7490, Val Acc=0.7490  
Epoch 51/500: Loss=0.5572, Val Loss=0.5581, Acc=0.7490, Val Acc=0.7500  
Epoch 52/500: Loss=0.5565, Val Loss=0.5574, Acc=0.7493, Val Acc=0.7500  
Epoch 53/500: Loss=0.5558, Val Loss=0.5568, Acc=0.7493, Val Acc=0.7500  
Epoch 54/500: Loss=0.5551, Val Loss=0.5562, Acc=0.7493, Val Acc=0.7500  
Epoch 55/500: Loss=0.5545, Val Loss=0.5556, Acc=0.7497, Val Acc=0.7500  
Epoch 56/500: Loss=0.5539, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7500  
Epoch 57/500: Loss=0.5533, Val Loss=0.5545, Acc=0.7493, Val Acc=0.7500  
Epoch 58/500: Loss=0.5527, Val Loss=0.5540, Acc=0.7493, Val Acc=0.7500  
Epoch 59/500: Loss=0.5522, Val Loss=0.5535, Acc=0.7490, Val Acc=0.7500  
Epoch 60/500: Loss=0.5516, Val Loss=0.5530, Acc=0.7490, Val Acc=0.7500  
Epoch 61/500: Loss=0.5511, Val Loss=0.5526, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 61  
accuracy= 0.765  
Epoch 1/500: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/500: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700

Epoch 5/500: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Epoch 6/500: Loss=0.5443, Val Loss=0.5465, Acc=0.7653, Val Acc=0.7680  
Epoch 7/500: Loss=0.5419, Val Loss=0.5456, Acc=0.7647, Val Acc=0.7680  
Epoch 8/500: Loss=0.5404, Val Loss=0.5451, Acc=0.7647, Val Acc=0.7670  
Epoch 9/500: Loss=0.5394, Val Loss=0.5448, Acc=0.7637, Val Acc=0.7650  
Epoch 10/500: Loss=0.5388, Val Loss=0.5447, Acc=0.7633, Val Acc=0.7640  
Early stop at epoch 10  
accuracy= 0.764  
Epoch 1/500: Loss=0.6931, Val Loss=0.6858, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6859, Val Loss=0.6789, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6790, Val Loss=0.6723, Acc=0.7487, Val Acc=0.7460  
Epoch 4/500: Loss=0.6724, Val Loss=0.6661, Acc=0.7487, Val Acc=0.7460  
Epoch 5/500: Loss=0.6662, Val Loss=0.6602, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.6604, Val Loss=0.6546, Acc=0.7487, Val Acc=0.7460  
Epoch 7/500: Loss=0.6548, Val Loss=0.6493, Acc=0.7490, Val Acc=0.7460  
Epoch 8/500: Loss=0.6495, Val Loss=0.6443, Acc=0.7493, Val Acc=0.7460  
Epoch 9/500: Loss=0.6445, Val Loss=0.6396, Acc=0.7493, Val Acc=0.7460  
Early stop at epoch 9  
accuracy= 0.763  
Epoch 1/500: Loss=0.6931, Val Loss=0.6016, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.6019, Val Loss=0.5705, Acc=0.7613, Val Acc=0.7710  
Epoch 3/500: Loss=0.5697, Val Loss=0.5576, Acc=0.7633, Val Acc=0.7690  
Epoch 4/500: Loss=0.5555, Val Loss=0.5514, Acc=0.7650, Val Acc=0.7700  
Epoch 5/500: Loss=0.5483, Val Loss=0.5483, Acc=0.7660, Val Acc=0.7670  
Early stop at epoch 5  
accuracy= 0.767  
Epoch 1/10: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/10: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/10: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/10: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/10: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/10: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/10: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
accuracy= 0.763  
Epoch 1/10: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/10: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/10: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/10: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/10: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Epoch 7/10: Loss=0.5364, Val Loss=0.5431, Acc=0.7587, Val Acc=0.7660  
Epoch 8/10: Loss=0.5362, Val Loss=0.5427, Acc=0.7577, Val Acc=0.7660  
Epoch 9/10: Loss=0.5360, Val Loss=0.5424, Acc=0.7583, Val Acc=0.7660  
Epoch 10/10: Loss=0.5359, Val Loss=0.5421, Acc=0.7580, Val Acc=0.7650  
accuracy= 0.765  
Epoch 1/10: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/10: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/10: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/10: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/10: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/10: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/10: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
accuracy= 0.763  
Epoch 1/10: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690



Epoch 2/10: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/10: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/10: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/10: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/10: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Early stop at epoch 6  
accuracy= 0.766

Epoch 1/10: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/10: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/10: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/10: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/10: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/10: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/10: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/10: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/10: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
accuracy= 0.763

Epoch 1/10: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/10: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/10: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Early stop at epoch 4  
accuracy= 0.768

Epoch 1/50: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/50: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/50: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/50: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/50: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/50: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/50: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/50: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/50: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/50: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/50: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/50: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/50: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/50: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/50: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/50: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/50: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/50: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/50: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Epoch 23/50: Loss=0.5383, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 24/50: Loss=0.5379, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 25/50: Loss=0.5375, Val Loss=0.5406, Acc=0.7493, Val Acc=0.7550  
Epoch 26/50: Loss=0.5371, Val Loss=0.5403, Acc=0.7490, Val Acc=0.7540  
Epoch 27/50: Loss=0.5369, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 28/50: Loss=0.5366, Val Loss=0.5400, Acc=0.7497, Val Acc=0.7530  
Epoch 29/50: Loss=0.5364, Val Loss=0.5398, Acc=0.7500, Val Acc=0.7530  
Epoch 30/50: Loss=0.5362, Val Loss=0.5397, Acc=0.7503, Val Acc=0.7530  
Epoch 31/50: Loss=0.5360, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7530  
Epoch 32/50: Loss=0.5359, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 33/50: Loss=0.5357, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 34/50: Loss=0.5356, Val Loss=0.5393, Acc=0.7497, Val Acc=0.7530  
Epoch 35/50: Loss=0.5355, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 36/50: Loss=0.5354, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530

Epoch 37/50: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7530  
Epoch 38/50: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7540  
Early stop at epoch 38  
accuracy= 0.766

Epoch 1/50: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/50: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/50: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/50: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/50: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Epoch 7/50: Loss=0.5364, Val Loss=0.5431, Acc=0.7587, Val Acc=0.7660  
Epoch 8/50: Loss=0.5362, Val Loss=0.5427, Acc=0.7577, Val Acc=0.7660  
Epoch 9/50: Loss=0.5360, Val Loss=0.5424, Acc=0.7583, Val Acc=0.7660  
Epoch 10/50: Loss=0.5359, Val Loss=0.5421, Acc=0.7580, Val Acc=0.7650  
Epoch 11/50: Loss=0.5357, Val Loss=0.5419, Acc=0.7573, Val Acc=0.7650  
Epoch 12/50: Loss=0.5356, Val Loss=0.5416, Acc=0.7563, Val Acc=0.7640  
Epoch 13/50: Loss=0.5355, Val Loss=0.5414, Acc=0.7550, Val Acc=0.7620  
Epoch 14/50: Loss=0.5354, Val Loss=0.5412, Acc=0.7550, Val Acc=0.7610  
Epoch 15/50: Loss=0.5353, Val Loss=0.5410, Acc=0.7550, Val Acc=0.7610  
Epoch 16/50: Loss=0.5353, Val Loss=0.5409, Acc=0.7540, Val Acc=0.7610  
Epoch 17/50: Loss=0.5352, Val Loss=0.5407, Acc=0.7533, Val Acc=0.7610  
Epoch 18/50: Loss=0.5351, Val Loss=0.5406, Acc=0.7533, Val Acc=0.7600  
Epoch 19/50: Loss=0.5351, Val Loss=0.5404, Acc=0.7527, Val Acc=0.7600  
Epoch 20/50: Loss=0.5350, Val Loss=0.5403, Acc=0.7520, Val Acc=0.7600  
Epoch 21/50: Loss=0.5350, Val Loss=0.5402, Acc=0.7517, Val Acc=0.7600  
Epoch 22/50: Loss=0.5350, Val Loss=0.5401, Acc=0.7507, Val Acc=0.7580  
Epoch 23/50: Loss=0.5349, Val Loss=0.5400, Acc=0.7507, Val Acc=0.7580  
Epoch 24/50: Loss=0.5349, Val Loss=0.5399, Acc=0.7503, Val Acc=0.7580  
Epoch 25/50: Loss=0.5349, Val Loss=0.5399, Acc=0.7513, Val Acc=0.7580  
Epoch 26/50: Loss=0.5349, Val Loss=0.5398, Acc=0.7517, Val Acc=0.7580  
Epoch 27/50: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7590  
Epoch 28/50: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7580  
Epoch 29/50: Loss=0.5348, Val Loss=0.5396, Acc=0.7513, Val Acc=0.7580  
Epoch 30/50: Loss=0.5348, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7590  
Epoch 31/50: Loss=0.5348, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7590  
Epoch 32/50: Loss=0.5348, Val Loss=0.5394, Acc=0.7503, Val Acc=0.7580  
Early stop at epoch 32  
accuracy= 0.758

Epoch 1/50: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/50: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/50: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/50: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/50: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/50: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/50: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/50: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/50: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/50: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/50: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/50: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/50: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/50: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/50: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/50: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/50: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/50: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/50: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530

Early stop at epoch 22  
accuracy= 0.765  
Epoch 1/50: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/50: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/50: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/50: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/50: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Early stop at epoch 6  
accuracy= 0.766  
Epoch 1/50: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/50: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/50: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/50: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/50: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/50: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/50: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/50: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 11  
accuracy= 0.765  
Epoch 1/50: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/50: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/50: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Early stop at epoch 4  
accuracy= 0.768  
Epoch 1/100: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/100: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/100: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/100: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/100: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/100: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/100: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/100: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/100: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/100: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/100: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/100: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/100: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/100: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/100: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/100: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/100: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/100: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/100: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Epoch 23/100: Loss=0.5383, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 24/100: Loss=0.5379, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 25/100: Loss=0.5375, Val Loss=0.5406, Acc=0.7493, Val Acc=0.7550  
Epoch 26/100: Loss=0.5371, Val Loss=0.5403, Acc=0.7490, Val Acc=0.7540  
Epoch 27/100: Loss=0.5369, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 28/100: Loss=0.5366, Val Loss=0.5400, Acc=0.7497, Val Acc=0.7530  
Epoch 29/100: Loss=0.5364, Val Loss=0.5398, Acc=0.7500, Val Acc=0.7530  
Epoch 30/100: Loss=0.5362, Val Loss=0.5397, Acc=0.7503, Val Acc=0.7530  
Epoch 31/100: Loss=0.5360, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7530

Epoch 32/100: Loss=0.5359, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 33/100: Loss=0.5357, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 34/100: Loss=0.5356, Val Loss=0.5393, Acc=0.7497, Val Acc=0.7530  
Epoch 35/100: Loss=0.5355, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 36/100: Loss=0.5354, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 37/100: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7530  
Epoch 38/100: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7540  
Early stop at epoch 38

accuracy= 0.766

Epoch 1/100: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/100: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/100: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/100: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/100: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Epoch 7/100: Loss=0.5364, Val Loss=0.5431, Acc=0.7587, Val Acc=0.7660  
Epoch 8/100: Loss=0.5362, Val Loss=0.5427, Acc=0.7577, Val Acc=0.7660  
Epoch 9/100: Loss=0.5360, Val Loss=0.5424, Acc=0.7583, Val Acc=0.7660  
Epoch 10/100: Loss=0.5359, Val Loss=0.5421, Acc=0.7580, Val Acc=0.7650  
Epoch 11/100: Loss=0.5357, Val Loss=0.5419, Acc=0.7573, Val Acc=0.7650  
Epoch 12/100: Loss=0.5356, Val Loss=0.5416, Acc=0.7563, Val Acc=0.7640  
Epoch 13/100: Loss=0.5355, Val Loss=0.5414, Acc=0.7550, Val Acc=0.7620  
Epoch 14/100: Loss=0.5354, Val Loss=0.5412, Acc=0.7550, Val Acc=0.7610  
Epoch 15/100: Loss=0.5353, Val Loss=0.5410, Acc=0.7550, Val Acc=0.7610  
Epoch 16/100: Loss=0.5353, Val Loss=0.5409, Acc=0.7540, Val Acc=0.7610  
Epoch 17/100: Loss=0.5352, Val Loss=0.5407, Acc=0.7533, Val Acc=0.7610  
Epoch 18/100: Loss=0.5351, Val Loss=0.5406, Acc=0.7533, Val Acc=0.7600  
Epoch 19/100: Loss=0.5351, Val Loss=0.5404, Acc=0.7527, Val Acc=0.7600  
Epoch 20/100: Loss=0.5350, Val Loss=0.5403, Acc=0.7520, Val Acc=0.7600  
Epoch 21/100: Loss=0.5350, Val Loss=0.5402, Acc=0.7517, Val Acc=0.7600  
Epoch 22/100: Loss=0.5350, Val Loss=0.5401, Acc=0.7507, Val Acc=0.7580  
Epoch 23/100: Loss=0.5349, Val Loss=0.5400, Acc=0.7507, Val Acc=0.7580  
Epoch 24/100: Loss=0.5349, Val Loss=0.5399, Acc=0.7503, Val Acc=0.7580  
Epoch 25/100: Loss=0.5349, Val Loss=0.5399, Acc=0.7513, Val Acc=0.7580  
Epoch 26/100: Loss=0.5349, Val Loss=0.5398, Acc=0.7517, Val Acc=0.7580  
Epoch 27/100: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7590  
Epoch 28/100: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7580  
Epoch 29/100: Loss=0.5348, Val Loss=0.5396, Acc=0.7513, Val Acc=0.7580  
Epoch 30/100: Loss=0.5348, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7590  
Epoch 31/100: Loss=0.5348, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7590  
Epoch 32/100: Loss=0.5348, Val Loss=0.5394, Acc=0.7503, Val Acc=0.7580

Early stop at epoch 32

accuracy= 0.758

Epoch 1/100: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/100: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/100: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/100: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/100: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/100: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/100: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/100: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/100: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/100: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/100: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/100: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/100: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/100: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500

Epoch 18/100: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/100: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/100: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/100: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/100: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Early stop at epoch 22  
accuracy= 0.765

Epoch 1/100: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/100: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/100: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/100: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/100: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Early stop at epoch 6  
accuracy= 0.766

Epoch 1/100: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/100: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/100: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/100: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/100: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/100: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/100: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/100: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/100: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/100: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 11  
accuracy= 0.765

Epoch 1/100: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/100: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/100: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Early stop at epoch 4  
accuracy= 0.768

Epoch 1/150: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/150: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/150: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/150: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/150: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/150: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/150: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/150: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/150: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/150: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/150: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/150: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/150: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/150: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/150: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/150: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/150: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/150: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/150: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Epoch 23/150: Loss=0.5383, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 24/150: Loss=0.5379, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 25/150: Loss=0.5375, Val Loss=0.5406, Acc=0.7493, Val Acc=0.7550  
Epoch 26/150: Loss=0.5371, Val Loss=0.5403, Acc=0.7490, Val Acc=0.7540

Epoch 27/150: Loss=0.5369, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 28/150: Loss=0.5366, Val Loss=0.5400, Acc=0.7497, Val Acc=0.7530  
Epoch 29/150: Loss=0.5364, Val Loss=0.5398, Acc=0.7500, Val Acc=0.7530  
Epoch 30/150: Loss=0.5362, Val Loss=0.5397, Acc=0.7503, Val Acc=0.7530  
Epoch 31/150: Loss=0.5360, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7530  
Epoch 32/150: Loss=0.5359, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 33/150: Loss=0.5357, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 34/150: Loss=0.5356, Val Loss=0.5393, Acc=0.7497, Val Acc=0.7530  
Epoch 35/150: Loss=0.5355, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 36/150: Loss=0.5354, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 37/150: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7530  
Epoch 38/150: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7540  
Early stop at epoch 38

accuracy= 0.766

Epoch 1/150: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/150: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/150: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/150: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/150: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Epoch 7/150: Loss=0.5364, Val Loss=0.5431, Acc=0.7587, Val Acc=0.7660  
Epoch 8/150: Loss=0.5362, Val Loss=0.5427, Acc=0.7577, Val Acc=0.7660  
Epoch 9/150: Loss=0.5360, Val Loss=0.5424, Acc=0.7583, Val Acc=0.7660  
Epoch 10/150: Loss=0.5359, Val Loss=0.5421, Acc=0.7580, Val Acc=0.7650  
Epoch 11/150: Loss=0.5357, Val Loss=0.5419, Acc=0.7573, Val Acc=0.7650  
Epoch 12/150: Loss=0.5356, Val Loss=0.5416, Acc=0.7563, Val Acc=0.7640  
Epoch 13/150: Loss=0.5355, Val Loss=0.5414, Acc=0.7550, Val Acc=0.7620  
Epoch 14/150: Loss=0.5354, Val Loss=0.5412, Acc=0.7550, Val Acc=0.7610  
Epoch 15/150: Loss=0.5353, Val Loss=0.5410, Acc=0.7550, Val Acc=0.7610  
Epoch 16/150: Loss=0.5353, Val Loss=0.5409, Acc=0.7540, Val Acc=0.7610  
Epoch 17/150: Loss=0.5352, Val Loss=0.5407, Acc=0.7533, Val Acc=0.7610  
Epoch 18/150: Loss=0.5351, Val Loss=0.5406, Acc=0.7533, Val Acc=0.7600  
Epoch 19/150: Loss=0.5351, Val Loss=0.5404, Acc=0.7527, Val Acc=0.7600  
Epoch 20/150: Loss=0.5350, Val Loss=0.5403, Acc=0.7520, Val Acc=0.7600  
Epoch 21/150: Loss=0.5350, Val Loss=0.5402, Acc=0.7517, Val Acc=0.7600  
Epoch 22/150: Loss=0.5350, Val Loss=0.5401, Acc=0.7507, Val Acc=0.7580  
Epoch 23/150: Loss=0.5349, Val Loss=0.5400, Acc=0.7507, Val Acc=0.7580  
Epoch 24/150: Loss=0.5349, Val Loss=0.5399, Acc=0.7503, Val Acc=0.7580  
Epoch 25/150: Loss=0.5349, Val Loss=0.5399, Acc=0.7513, Val Acc=0.7580  
Epoch 26/150: Loss=0.5349, Val Loss=0.5398, Acc=0.7517, Val Acc=0.7580  
Epoch 27/150: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7590  
Epoch 28/150: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7580  
Epoch 29/150: Loss=0.5348, Val Loss=0.5396, Acc=0.7513, Val Acc=0.7580  
Epoch 30/150: Loss=0.5348, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7590  
Epoch 31/150: Loss=0.5348, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7590  
Epoch 32/150: Loss=0.5348, Val Loss=0.5394, Acc=0.7503, Val Acc=0.7580  
Early stop at epoch 32

accuracy= 0.758

Epoch 1/150: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/150: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/150: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/150: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/150: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/150: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/150: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/150: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/150: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500

Epoch 13/150: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/150: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/150: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/150: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/150: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/150: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/150: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/150: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/150: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/150: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Early stop at epoch 22  
accuracy= 0.765

Epoch 1/150: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/150: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/150: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/150: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/150: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Early stop at epoch 6  
accuracy= 0.766

Epoch 1/150: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/150: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/150: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/150: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/150: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/150: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/150: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/150: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/150: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/150: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 11  
accuracy= 0.765

Epoch 1/150: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/150: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/150: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Early stop at epoch 4  
accuracy= 0.768

Epoch 1/500: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/500: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/500: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/500: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/500: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/500: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/500: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/500: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/500: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/500: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/500: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/500: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/500: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/500: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/500: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/500: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/500: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/500: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530

Epoch 22/500: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Epoch 23/500: Loss=0.5383, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 24/500: Loss=0.5379, Val Loss=0.5409, Acc=0.7493, Val Acc=0.7530  
Epoch 25/500: Loss=0.5375, Val Loss=0.5406, Acc=0.7493, Val Acc=0.7550  
Epoch 26/500: Loss=0.5371, Val Loss=0.5403, Acc=0.7490, Val Acc=0.7540  
Epoch 27/500: Loss=0.5369, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 28/500: Loss=0.5366, Val Loss=0.5400, Acc=0.7497, Val Acc=0.7530  
Epoch 29/500: Loss=0.5364, Val Loss=0.5398, Acc=0.7500, Val Acc=0.7530  
Epoch 30/500: Loss=0.5362, Val Loss=0.5397, Acc=0.7503, Val Acc=0.7530  
Epoch 31/500: Loss=0.5360, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7530  
Epoch 32/500: Loss=0.5359, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 33/500: Loss=0.5357, Val Loss=0.5394, Acc=0.7500, Val Acc=0.7530  
Epoch 34/500: Loss=0.5356, Val Loss=0.5393, Acc=0.7497, Val Acc=0.7530  
Epoch 35/500: Loss=0.5355, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 36/500: Loss=0.5354, Val Loss=0.5392, Acc=0.7500, Val Acc=0.7530  
Epoch 37/500: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7530  
Epoch 38/500: Loss=0.5353, Val Loss=0.5391, Acc=0.7503, Val Acc=0.7540  
Early stop at epoch 38

accuracy= 0.766

Epoch 1/500: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/500: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/500: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/500: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/500: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Epoch 7/500: Loss=0.5364, Val Loss=0.5431, Acc=0.7587, Val Acc=0.7660  
Epoch 8/500: Loss=0.5362, Val Loss=0.5427, Acc=0.7577, Val Acc=0.7660  
Epoch 9/500: Loss=0.5360, Val Loss=0.5424, Acc=0.7583, Val Acc=0.7660  
Epoch 10/500: Loss=0.5359, Val Loss=0.5421, Acc=0.7580, Val Acc=0.7650  
Epoch 11/500: Loss=0.5357, Val Loss=0.5419, Acc=0.7573, Val Acc=0.7650  
Epoch 12/500: Loss=0.5356, Val Loss=0.5416, Acc=0.7563, Val Acc=0.7640  
Epoch 13/500: Loss=0.5355, Val Loss=0.5414, Acc=0.7550, Val Acc=0.7620  
Epoch 14/500: Loss=0.5354, Val Loss=0.5412, Acc=0.7550, Val Acc=0.7610  
Epoch 15/500: Loss=0.5353, Val Loss=0.5410, Acc=0.7550, Val Acc=0.7610  
Epoch 16/500: Loss=0.5353, Val Loss=0.5409, Acc=0.7540, Val Acc=0.7610  
Epoch 17/500: Loss=0.5352, Val Loss=0.5407, Acc=0.7533, Val Acc=0.7610  
Epoch 18/500: Loss=0.5351, Val Loss=0.5406, Acc=0.7533, Val Acc=0.7600  
Epoch 19/500: Loss=0.5351, Val Loss=0.5404, Acc=0.7527, Val Acc=0.7600  
Epoch 20/500: Loss=0.5350, Val Loss=0.5403, Acc=0.7520, Val Acc=0.7600  
Epoch 21/500: Loss=0.5350, Val Loss=0.5402, Acc=0.7517, Val Acc=0.7600  
Epoch 22/500: Loss=0.5350, Val Loss=0.5401, Acc=0.7507, Val Acc=0.7580  
Epoch 23/500: Loss=0.5349, Val Loss=0.5400, Acc=0.7507, Val Acc=0.7580  
Epoch 24/500: Loss=0.5349, Val Loss=0.5399, Acc=0.7503, Val Acc=0.7580  
Epoch 25/500: Loss=0.5349, Val Loss=0.5399, Acc=0.7513, Val Acc=0.7580  
Epoch 26/500: Loss=0.5349, Val Loss=0.5398, Acc=0.7517, Val Acc=0.7580  
Epoch 27/500: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7590  
Epoch 28/500: Loss=0.5348, Val Loss=0.5397, Acc=0.7517, Val Acc=0.7580  
Epoch 29/500: Loss=0.5348, Val Loss=0.5396, Acc=0.7513, Val Acc=0.7580  
Epoch 30/500: Loss=0.5348, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7590  
Epoch 31/500: Loss=0.5348, Val Loss=0.5395, Acc=0.7500, Val Acc=0.7590  
Epoch 32/500: Loss=0.5348, Val Loss=0.5394, Acc=0.7503, Val Acc=0.7580  
Early stop at epoch 32

accuracy= 0.758

Epoch 1/500: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/500: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/500: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/500: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480



Epoch 8/500: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/500: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/500: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/500: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Epoch 12/500: Loss=0.5524, Val Loss=0.5518, Acc=0.7497, Val Acc=0.7500  
Epoch 13/500: Loss=0.5497, Val Loss=0.5498, Acc=0.7490, Val Acc=0.7500  
Epoch 14/500: Loss=0.5476, Val Loss=0.5482, Acc=0.7490, Val Acc=0.7490  
Epoch 15/500: Loss=0.5458, Val Loss=0.5468, Acc=0.7490, Val Acc=0.7500  
Epoch 16/500: Loss=0.5442, Val Loss=0.5456, Acc=0.7497, Val Acc=0.7500  
Epoch 17/500: Loss=0.5429, Val Loss=0.5446, Acc=0.7500, Val Acc=0.7500  
Epoch 18/500: Loss=0.5418, Val Loss=0.5438, Acc=0.7500, Val Acc=0.7500  
Epoch 19/500: Loss=0.5409, Val Loss=0.5431, Acc=0.7497, Val Acc=0.7510  
Epoch 20/500: Loss=0.5401, Val Loss=0.5425, Acc=0.7493, Val Acc=0.7520  
Epoch 21/500: Loss=0.5394, Val Loss=0.5420, Acc=0.7497, Val Acc=0.7530  
Epoch 22/500: Loss=0.5388, Val Loss=0.5416, Acc=0.7490, Val Acc=0.7530  
Early stop at epoch 22

accuracy= 0.765

Epoch 1/500: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/500: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/500: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Epoch 5/500: Loss=0.5369, Val Loss=0.5439, Acc=0.7603, Val Acc=0.7660  
Epoch 6/500: Loss=0.5366, Val Loss=0.5434, Acc=0.7583, Val Acc=0.7660  
Early stop at epoch 6

accuracy= 0.766

Epoch 1/500: Loss=0.6931, Val Loss=0.6585, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6587, Val Loss=0.6326, Acc=0.7487, Val Acc=0.7460  
Epoch 3/500: Loss=0.6327, Val Loss=0.6131, Acc=0.7493, Val Acc=0.7460  
Epoch 4/500: Loss=0.6131, Val Loss=0.5982, Acc=0.7490, Val Acc=0.7450  
Epoch 5/500: Loss=0.5980, Val Loss=0.5867, Acc=0.7487, Val Acc=0.7460  
Epoch 6/500: Loss=0.5863, Val Loss=0.5778, Acc=0.7487, Val Acc=0.7480  
Epoch 7/500: Loss=0.5771, Val Loss=0.5708, Acc=0.7487, Val Acc=0.7480  
Epoch 8/500: Loss=0.5699, Val Loss=0.5653, Acc=0.7493, Val Acc=0.7490  
Epoch 9/500: Loss=0.5640, Val Loss=0.5608, Acc=0.7490, Val Acc=0.7490  
Epoch 10/500: Loss=0.5593, Val Loss=0.5572, Acc=0.7493, Val Acc=0.7490  
Epoch 11/500: Loss=0.5555, Val Loss=0.5542, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 11

accuracy= 0.765

Epoch 1/500: Loss=0.6931, Val Loss=0.5884, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.5752, Val Loss=0.5523, Acc=0.7613, Val Acc=0.7650  
Epoch 3/500: Loss=0.5419, Val Loss=0.5456, Acc=0.7627, Val Acc=0.7620  
Epoch 4/500: Loss=0.5373, Val Loss=0.5444, Acc=0.7587, Val Acc=0.7680  
Early stop at epoch 4

accuracy= 0.768

Epoch 1/10: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/10: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/10: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/10: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/10: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/10: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/10: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/10: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/10: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520

accuracy= 0.766

Epoch 1/10: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/10: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/10: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/10: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450

Early stop at epoch 5

accuracy= 0.745

Epoch 1/10: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/10: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/10: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/10: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/10: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/10: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/10: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/10: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/10: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520

accuracy= 0.766

Epoch 1/10: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/10: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/10: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/10: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450

Early stop at epoch 5

accuracy= 0.745

Epoch 1/10: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/10: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/10: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/10: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/10: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/10: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/10: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500

Early stop at epoch 8

accuracy= 0.767

Epoch 1/10: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/10: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/10: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/10: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450

Early stop at epoch 5

accuracy= 0.745

Epoch 1/50: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/50: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/50: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/50: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/50: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/50: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/50: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/50: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/50: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/50: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/50: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/50: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/50: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Epoch 15/50: Loss=0.5361, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7530  
Epoch 16/50: Loss=0.5358, Val Loss=0.5393, Acc=0.7500, Val Acc=0.7530  
Epoch 17/50: Loss=0.5355, Val Loss=0.5392, Acc=0.7497, Val Acc=0.7530  
Epoch 18/50: Loss=0.5354, Val Loss=0.5391, Acc=0.7500, Val Acc=0.7530  
Epoch 19/50: Loss=0.5352, Val Loss=0.5390, Acc=0.7503, Val Acc=0.7540  
Epoch 20/50: Loss=0.5351, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 21/50: Loss=0.5350, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 22/50: Loss=0.5349, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540

Early stop at epoch 22

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accuracy= 0.766
Epoch 1/50: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690
Epoch 2/50: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660
Epoch 3/50: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560
Epoch 4/50: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640
Epoch 5/50: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450
Early stop at epoch 5
accuracy= 0.745
Epoch 1/50: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460
Epoch 2/50: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450
Epoch 3/50: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480
Epoch 4/50: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480
Epoch 5/50: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490
Epoch 6/50: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500
Epoch 7/50: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490
Epoch 8/50: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500
Epoch 9/50: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510
Epoch 10/50: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520
Epoch 11/50: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530
Epoch 12/50: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550
Epoch 13/50: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530
Epoch 14/50: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530
Early stop at epoch 14
accuracy= 0.767
Epoch 1/50: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690
Epoch 2/50: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660
Epoch 3/50: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560
Epoch 4/50: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640
Epoch 5/50: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450
Early stop at epoch 5
accuracy= 0.745
Epoch 1/50: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460
Epoch 2/50: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450
Epoch 3/50: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480
Epoch 4/50: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480
Epoch 5/50: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490
Epoch 6/50: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500
Epoch 7/50: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490
Epoch 8/50: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500
Early stop at epoch 8
accuracy= 0.767
Epoch 1/50: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690
Epoch 2/50: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660
Epoch 3/50: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560
Epoch 4/50: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640
Epoch 5/50: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450
Early stop at epoch 5
accuracy= 0.745
Epoch 1/100: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460
Epoch 2/100: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450
Epoch 3/100: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480
Epoch 4/100: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480
Epoch 5/100: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490
Epoch 6/100: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500
Epoch 7/100: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490
Epoch 8/100: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500
Epoch 9/100: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510
Epoch 10/100: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520
Epoch 11/100: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530
Epoch 12/100: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550
```

Epoch 13/100: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/100: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Epoch 15/100: Loss=0.5361, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7530  
Epoch 16/100: Loss=0.5358, Val Loss=0.5393, Acc=0.7500, Val Acc=0.7530  
Epoch 17/100: Loss=0.5355, Val Loss=0.5392, Acc=0.7497, Val Acc=0.7530  
Epoch 18/100: Loss=0.5354, Val Loss=0.5391, Acc=0.7500, Val Acc=0.7530  
Epoch 19/100: Loss=0.5352, Val Loss=0.5390, Acc=0.7503, Val Acc=0.7540  
Epoch 20/100: Loss=0.5351, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 21/100: Loss=0.5350, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 22/100: Loss=0.5349, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Early stop at epoch 22  
accuracy= 0.766

Epoch 1/100: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/100: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/100: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/100: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.745

Epoch 1/100: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/100: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/100: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/100: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/100: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/100: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/100: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/100: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/100: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/100: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/100: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/100: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/100: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Early stop at epoch 14  
accuracy= 0.767

Epoch 1/100: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/100: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/100: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/100: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.745

Epoch 1/100: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/100: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/100: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/100: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/100: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/100: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/100: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 8  
accuracy= 0.767

Epoch 1/100: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/100: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/100: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/100: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.745

Epoch 1/150: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460

Epoch 2/150: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/150: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/150: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/150: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/150: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/150: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/150: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/150: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/150: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/150: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/150: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/150: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/150: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Epoch 15/150: Loss=0.5361, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7530  
Epoch 16/150: Loss=0.5358, Val Loss=0.5393, Acc=0.7500, Val Acc=0.7530  
Epoch 17/150: Loss=0.5355, Val Loss=0.5392, Acc=0.7497, Val Acc=0.7530  
Epoch 18/150: Loss=0.5354, Val Loss=0.5391, Acc=0.7500, Val Acc=0.7530  
Epoch 19/150: Loss=0.5352, Val Loss=0.5390, Acc=0.7503, Val Acc=0.7540  
Epoch 20/150: Loss=0.5351, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 21/150: Loss=0.5350, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 22/150: Loss=0.5349, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Early stop at epoch 22

accuracy= 0.766

Epoch 1/150: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/150: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/150: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/150: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5

accuracy= 0.745

Epoch 1/150: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/150: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/150: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/150: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/150: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/150: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/150: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/150: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/150: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/150: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/150: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/150: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/150: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Early stop at epoch 14

accuracy= 0.767

Epoch 1/150: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/150: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/150: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/150: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5

accuracy= 0.745

Epoch 1/150: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/150: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/150: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/150: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/150: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/150: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490

Epoch 8/150: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 8  
accuracy= 0.767

Epoch 1/150: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/150: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/150: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/150: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.745

Epoch 1/500: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/500: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/500: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/500: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/500: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/500: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/500: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/500: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/500: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/500: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/500: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/500: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/500: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Epoch 15/500: Loss=0.5361, Val Loss=0.5395, Acc=0.7503, Val Acc=0.7530  
Epoch 16/500: Loss=0.5358, Val Loss=0.5393, Acc=0.7500, Val Acc=0.7530  
Epoch 17/500: Loss=0.5355, Val Loss=0.5392, Acc=0.7497, Val Acc=0.7530  
Epoch 18/500: Loss=0.5354, Val Loss=0.5391, Acc=0.7500, Val Acc=0.7530  
Epoch 19/500: Loss=0.5352, Val Loss=0.5390, Acc=0.7503, Val Acc=0.7540  
Epoch 20/500: Loss=0.5351, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 21/500: Loss=0.5350, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Epoch 22/500: Loss=0.5349, Val Loss=0.5389, Acc=0.7500, Val Acc=0.7540  
Early stop at epoch 22  
accuracy= 0.766

Epoch 1/500: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/500: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/500: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/500: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.745

Epoch 1/500: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/500: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/500: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/500: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/500: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/500: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/500: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Epoch 9/500: Loss=0.5419, Val Loss=0.5431, Acc=0.7500, Val Acc=0.7510  
Epoch 10/500: Loss=0.5401, Val Loss=0.5420, Acc=0.7493, Val Acc=0.7520  
Epoch 11/500: Loss=0.5388, Val Loss=0.5412, Acc=0.7493, Val Acc=0.7530  
Epoch 12/500: Loss=0.5378, Val Loss=0.5405, Acc=0.7493, Val Acc=0.7550  
Epoch 13/500: Loss=0.5371, Val Loss=0.5401, Acc=0.7490, Val Acc=0.7530  
Epoch 14/500: Loss=0.5365, Val Loss=0.5398, Acc=0.7497, Val Acc=0.7530  
Early stop at epoch 14  
accuracy= 0.767

Epoch 1/500: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/500: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560

Epoch 4/500: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/500: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.745

Epoch 1/500: Loss=0.6931, Val Loss=0.6290, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.6291, Val Loss=0.5943, Acc=0.7487, Val Acc=0.7450  
Epoch 3/500: Loss=0.5939, Val Loss=0.5745, Acc=0.7487, Val Acc=0.7480  
Epoch 4/500: Loss=0.5736, Val Loss=0.5626, Acc=0.7487, Val Acc=0.7480  
Epoch 5/500: Loss=0.5612, Val Loss=0.5551, Acc=0.7497, Val Acc=0.7490  
Epoch 6/500: Loss=0.5533, Val Loss=0.5503, Acc=0.7490, Val Acc=0.7500  
Epoch 7/500: Loss=0.5480, Val Loss=0.5470, Acc=0.7490, Val Acc=0.7490  
Epoch 8/500: Loss=0.5444, Val Loss=0.5447, Acc=0.7490, Val Acc=0.7500  
Early stop at epoch 8  
accuracy= 0.767

Epoch 1/500: Loss=0.6931, Val Loss=0.8296, Acc=0.6060, Val Acc=0.7690  
Epoch 2/500: Loss=0.7941, Val Loss=0.6036, Acc=0.7613, Val Acc=0.7660  
Epoch 3/500: Loss=0.5846, Val Loss=0.5453, Acc=0.7620, Val Acc=0.7560  
Epoch 4/500: Loss=0.5395, Val Loss=0.5482, Acc=0.7527, Val Acc=0.7640  
Epoch 5/500: Loss=0.5406, Val Loss=0.5457, Acc=0.7613, Val Acc=0.7450  
Early stop at epoch 5  
accuracy= 0.745

Epoch 1/10: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/10: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/10: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Epoch 5/10: Loss=0.5347, Val Loss=0.5388, Acc=0.7497, Val Acc=0.7560  
Early stop at epoch 5  
accuracy= 0.765

Epoch 1/10: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/10: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/10: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/10: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/10: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/10: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Early stop at epoch 4  
accuracy= 0.765

Epoch 1/10: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/10: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/10: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/10: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/10: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/10: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Early stop at epoch 3  
accuracy= 0.765

Epoch 1/10: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/10: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/10: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/10: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/10: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/50: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/50: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/50: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Epoch 5/50: Loss=0.5347, Val Loss=0.5388, Acc=0.7497, Val Acc=0.7560  
Early stop at epoch 5  
accuracy= 0.765

Epoch 1/50: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/50: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/50: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/50: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/50: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/50: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Early stop at epoch 4  
accuracy= 0.765

Epoch 1/50: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/50: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/50: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/50: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/50: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Early stop at epoch 3  
accuracy= 0.765

Epoch 1/50: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/50: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/50: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/50: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/50: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/100: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/100: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/100: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Epoch 5/100: Loss=0.5347, Val Loss=0.5388, Acc=0.7497, Val Acc=0.7560  
Early stop at epoch 5  
accuracy= 0.765

Epoch 1/100: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/100: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/100: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/100: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/100: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/100: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Early stop at epoch 4  
accuracy= 0.765

Epoch 1/100: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690



Epoch 2/100: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/100: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/100: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/100: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/100: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/100: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Early stop at epoch 3  
accuracy= 0.765

Epoch 1/100: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/100: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/100: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/100: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/100: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/150: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/150: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/150: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Epoch 5/150: Loss=0.5347, Val Loss=0.5388, Acc=0.7497, Val Acc=0.7560  
Early stop at epoch 5  
accuracy= 0.765

Epoch 1/150: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/150: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/150: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/150: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/150: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Epoch 4/150: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560  
Early stop at epoch 4  
accuracy= 0.765

Epoch 1/150: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/150: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/150: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

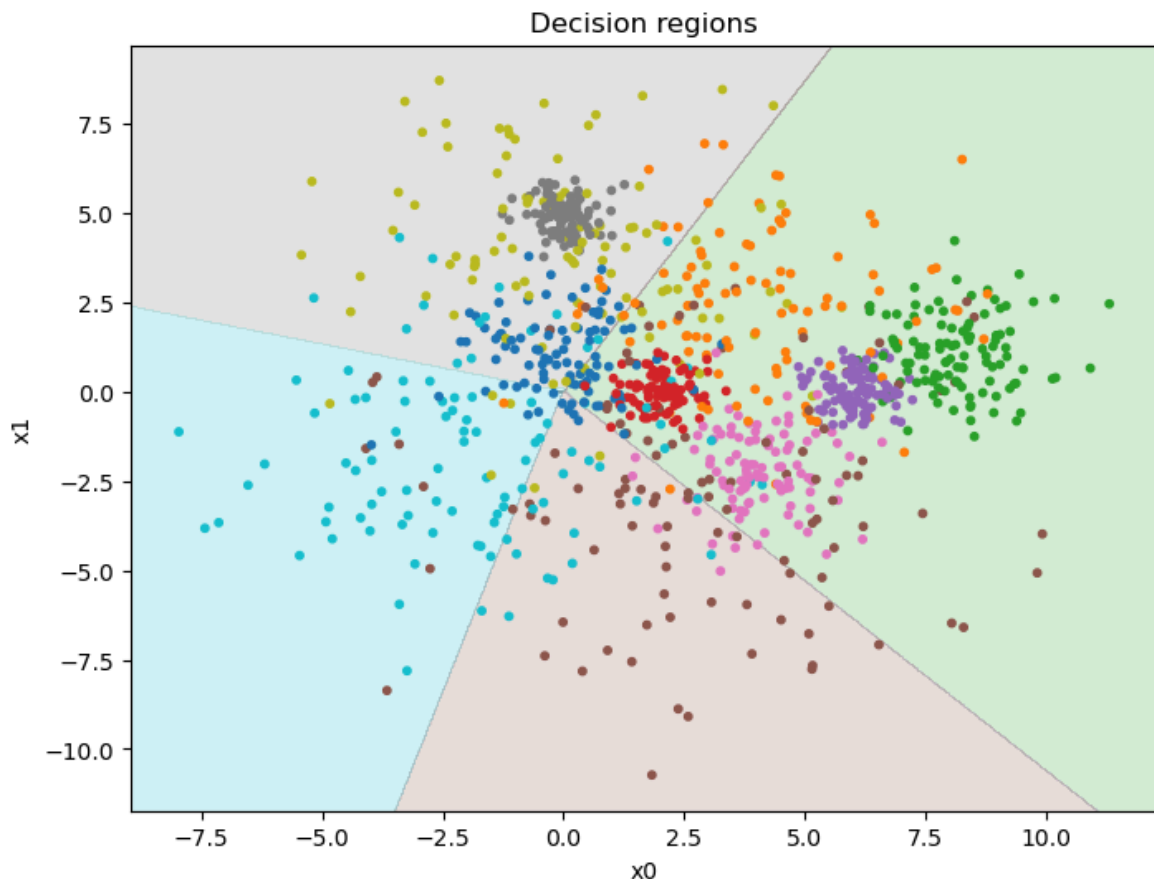
Epoch 1/150: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/150: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/150: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560  
Early stop at epoch 3  
accuracy= 0.765

Epoch 1/150: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690  
Epoch 2/150: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690  
Epoch 3/150: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340  
Epoch 4/150: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140  
Epoch 5/150: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680  
Early stop at epoch 5  
accuracy= 0.768

Epoch 1/500: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460  
Epoch 2/500: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540  
Epoch 3/500: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560

```
Epoch 4/500: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560
Epoch 5/500: Loss=0.5347, Val Loss=0.5388, Acc=0.7497, Val Acc=0.7560
Early stop at epoch 5
    accuracy= 0.765
Epoch 1/500: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690
Epoch 2/500: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690
Epoch 3/500: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340
Epoch 4/500: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140
Epoch 5/500: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680
Early stop at epoch 5
    accuracy= 0.768
Epoch 1/500: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460
Epoch 2/500: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540
Epoch 3/500: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560
Epoch 4/500: Loss=0.5347, Val Loss=0.5388, Acc=0.7500, Val Acc=0.7560
Early stop at epoch 4
    accuracy= 0.765
Epoch 1/500: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690
Epoch 2/500: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690
Epoch 3/500: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340
Epoch 4/500: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140
Epoch 5/500: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680
Early stop at epoch 5
    accuracy= 0.768
Epoch 1/500: Loss=0.6931, Val Loss=0.5440, Acc=0.6060, Val Acc=0.7460
Epoch 2/500: Loss=0.5371, Val Loss=0.5392, Acc=0.7487, Val Acc=0.7540
Epoch 3/500: Loss=0.5348, Val Loss=0.5388, Acc=0.7510, Val Acc=0.7560
Early stop at epoch 3
    accuracy= 0.765
Epoch 1/500: Loss=0.6931, Val Loss=3.1922, Acc=0.6060, Val Acc=0.7690
Epoch 2/500: Loss=3.0143, Val Loss=1.5987, Acc=0.7613, Val Acc=0.7690
Epoch 3/500: Loss=1.5143, Val Loss=1.5877, Acc=0.7570, Val Acc=0.3340
Epoch 4/500: Loss=1.5619, Val Loss=4.2574, Acc=0.3283, Val Acc=0.7140
Epoch 5/500: Loss=4.2513, Val Loss=3.7013, Acc=0.7080, Val Acc=0.7680
Early stop at epoch 5
    accuracy= 0.768

The best accuracy reached was 0.772
    with lr= 0.001
    epoch= 150
    tol= 0.0001
    scaled data= False
```



## Part 2 Multi-layer neural networks

### A first non-linear classifier

The following code is a simple implementation of a multi-layer perceptron or feed-forward neural network. For now, it is quite restricted. There is only one hidden layer with 6 neurons. It can only handle binary classification. In addition, it uses a simple final layer similar to the linear regression classifier above. One way to look at it is what happens when we add a hidden layer to the linear regression classifier.

The MLP class below misses the implementation of the `forward()` function. Your first task is to implement it.

Remember that in the forward pass, we "feed" the input to the model, the model processes it and produces the output. The function should make use of the logistic activation function and bias.

```
In [270... # First, we define the logistic function and its derivative:
def logistic(x):
    return 1/(1+np.exp(-x))

def logistic_diff(y):
    return y * (1 - y)
```

```
In [271... class MLPBinaryLinRegClass(NumpyClassifier):
    """A multi-layer neural network with one hidden layer"""
```

```

def __init__(self, bias=-1, dim_hidden = 6):
    """Intialize the hyperparameters"""
    self.bias = bias
    # Dimensionality of the hidden layer
    self.dim_hidden = dim_hidden

    self.activ = logistic

    self.activ_diff = logistic_diff

def forward(self, X):
    """Perform one forward step.
    Return a pair consisting of the outputs of the hidden_layer
    and the outputs on the final layer"""

    # hidden layer
    hidden_inputs = X @ self.weights1 # Pre-activation
    hidden_activations = self.activ(hidden_inputs) # Apply logistic

    # adding the bias to the hidden layer outputs
    hidden_outs = add_bias(hidden_activations, self.bias) #shape: (N

    # output layer
    output_inputs = hidden_outs @ self.weights2 # Pre-activation
    outputs = self.activ(output_inputs) # Apply logistic activation

    return hidden_outs, outputs

def fit(self, X_train, t_train, lr=0.001, epochs = 100):
    """Initialize the weights. Train *epochs* many epochs.

    X_train is a NxM matrix, N data points, M features
    t_train is a vector of length N of targets values for the trainin
    where the values are 0 or 1.
    lr is the learning rate
    """
    self.lr = lr

    # Turn t_train into a column vector, a N*1 matrix:
    T_train = t_train.reshape(-1,1)

    dim_in = X_train.shape[1]
    dim_out = T_train.shape[1]

    # Initialize the weights
    self.weights1 = (np.random.rand(
        dim_in + 1,
        self.dim_hidden) * 2 - 1)/np.sqrt(dim_in)
    self.weights2 = (np.random.rand(
        self.dim_hidden+1,
        dim_out) * 2 - 1)/np.sqrt(self.dim_hidden)
    X_train_bias = add_bias(X_train, self.bias)

    for e in range(epochs):
        # One epoch
        # The forward step:
        hidden_outs, outputs = self.forward(X_train_bias)
        # The delta term on the output node:

```

```

out_deltas = (outputs - T_train)
# The delta terms at the output of the hidden layer:
hiddenout_diffs = out_deltas @ self.weights2.T
# The deltas at the input to the hidden layer:
hiddenact_deltas = (hiddenout_diffs[:, 1:] *
                    self.activ_diff(hidden_outs[:, 1:]))

# Update the weights:
self.weights2 -= self.lr * hidden_outs.T @ out_deltas
self.weights1 -= self.lr * X_train_bias.T @ hiddenact_deltas

def predict(self, X):
    """Predict the class for the members of X"""
    Z = add_bias(X, self.bias)
    forw = self.forward(Z)[1]
    score = forw[:, 0]
    return (score > 0.5)

```

When implemented, this model can be used to make a non-linear classifier for the set  $(X, t_2)$ . Experiment with settings for learning rate and epochs and see how good results you can get. Report results for various settings. Be prepared to train for a long time (but you can control it via the number of epochs and hidden size).

Plot the training set together with the decision regions as in Part I.

```
In [272... #hyper-parameter settings
l_rates = [0.001, 0.005, 0.01, 0.05, 0.1, 0.5, 1.0, 5.0]
epoch_values = [10, 50, 100, 150, 500]
hidden_sizes = [6, 12, 24]

best_accuracy = 0
best_params = tuple[float,int,int]

for lr in l_rates:
    print(f"Training MLP with lr={lr}")
    for epochs in epoch_values:
        print(f"\tepochs={epochs}")
        for hidden_size in hidden_sizes:
            print(f"\t\t\thidden_size={hidden_size}")
            model = MLPBinaryLinRegClass(dim_hidden=hidden_size)
            model.fit(X_train, t2_train, lr=lr, epochs=epochs)

            #predictions on validation set
            predictions = model.predict(X_val)
            acc = np.mean(predictions == t2_val)

            print(f"Validation Accuracy: {acc:.4f}\n")

            #keep best model
            if acc > best_accuracy:
                best_accuracy = acc
                best_params = lr, epochs, hidden_size

print(f"Best Model: lr={best_params[0]}, epochs={best_params[1]}, hidden_
print(f"Best Validation Accuracy: {best accuracy:.4f}"))
```

```
Training MLP with lr=0.001
    epochs=10
        hidden_size=6
Validation Accuracy: 0.7560

        hidden_size=12
Validation Accuracy: 0.7470

        hidden_size=24
Validation Accuracy: 0.6810

    epochs=50
        hidden_size=6
Validation Accuracy: 0.8240

        hidden_size=12
Validation Accuracy: 0.8290

        hidden_size=24
Validation Accuracy: 0.8160

    epochs=100
        hidden_size=6
Validation Accuracy: 0.8190

        hidden_size=12
Validation Accuracy: 0.8510

        hidden_size=24
Validation Accuracy: 0.8440

    epochs=150
        hidden_size=6
Validation Accuracy: 0.8210

        hidden_size=12
Validation Accuracy: 0.8490

        hidden_size=24
Validation Accuracy: 0.8360

    epochs=500
        hidden_size=6
Validation Accuracy: 0.8500

        hidden_size=12
Validation Accuracy: 0.8550

        hidden_size=24
Validation Accuracy: 0.8550

Training MLP with lr=0.005
    epochs=10
        hidden_size=6
Validation Accuracy: 0.7930

        hidden_size=12
Validation Accuracy: 0.7280

        hidden_size=24
```

Validation Accuracy: 0.6850

epochs=50

hidden\_size=6

Validation Accuracy: 0.8060

hidden\_size=12

Validation Accuracy: 0.7480

hidden\_size=24

Validation Accuracy: 0.7930

epochs=100

hidden\_size=6

Validation Accuracy: 0.8010

hidden\_size=12

Validation Accuracy: 0.7690

hidden\_size=24

Validation Accuracy: 0.7800

epochs=150

hidden\_size=6

Validation Accuracy: 0.8140

hidden\_size=12

Validation Accuracy: 0.7770

hidden\_size=24

Validation Accuracy: 0.7840

epochs=500

hidden\_size=6

Validation Accuracy: 0.8310

hidden\_size=12

Validation Accuracy: 0.7930

hidden\_size=24

Validation Accuracy: 0.7860

Training MLP with lr=0.01

epochs=10

hidden\_size=6

Validation Accuracy: 0.4030

hidden\_size=12

Validation Accuracy: 0.7370

hidden\_size=24

Validation Accuracy: 0.4030

epochs=50

hidden\_size=6

Validation Accuracy: 0.5970

hidden\_size=12

Validation Accuracy: 0.7110

```
hidden_size=24
```

```
/var/folders/4j/7lhn2f8s1t50d9y3vrkcytq80000gn/T/ipykernel_80938/70283799  
7.py:3: RuntimeWarning: overflow encountered in exp  
    return 1/(1+np.exp(-x))
```



Validation Accuracy: 0.7660

epochs=100

hidden\_size=6

Validation Accuracy: 0.8200

hidden\_size=12

Validation Accuracy: 0.4030

hidden\_size=24

Validation Accuracy: 0.8250

epochs=150

hidden\_size=6

Validation Accuracy: 0.8060

hidden\_size=12

Validation Accuracy: 0.8510

hidden\_size=24

Validation Accuracy: 0.8300

epochs=500

hidden\_size=6

Validation Accuracy: 0.7910

hidden\_size=12

Validation Accuracy: 0.8240

hidden\_size=24

Validation Accuracy: 0.7620

Training MLP with lr=0.05

epochs=10

hidden\_size=6

Validation Accuracy: 0.7640

hidden\_size=12

Validation Accuracy: 0.7330

hidden\_size=24

Validation Accuracy: 0.7350

epochs=50

hidden\_size=6

Validation Accuracy: 0.7210

hidden\_size=12

Validation Accuracy: 0.6480

hidden\_size=24

Validation Accuracy: 0.8200

epochs=100

hidden\_size=6

Validation Accuracy: 0.7600

hidden\_size=12

Validation Accuracy: 0.8320

hidden\_size=24  
Validation Accuracy: 0.7490

epochs=150  
hidden\_size=6  
Validation Accuracy: 0.7670

hidden\_size=12  
Validation Accuracy: 0.4030

hidden\_size=24  
Validation Accuracy: 0.7310

epochs=500  
hidden\_size=6  
Validation Accuracy: 0.7850

hidden\_size=12  
Validation Accuracy: 0.7860

hidden\_size=24  
Validation Accuracy: 0.8330

Training MLP with lr=0.1  
epochs=10  
hidden\_size=6  
Validation Accuracy: 0.6210

hidden\_size=12  
Validation Accuracy: 0.6190

hidden\_size=24  
Validation Accuracy: 0.7520

epochs=50  
hidden\_size=6  
Validation Accuracy: 0.4030

hidden\_size=12  
Validation Accuracy: 0.7150

hidden\_size=24  
Validation Accuracy: 0.6410

epochs=100  
hidden\_size=6  
Validation Accuracy: 0.8090

hidden\_size=12  
Validation Accuracy: 0.8280

hidden\_size=24  
Validation Accuracy: 0.6470

epochs=150  
hidden\_size=6  
Validation Accuracy: 0.7710

hidden\_size=12  
Validation Accuracy: 0.7730

```
        hidden_size=24
Validation Accuracy: 0.7900
```

```
        epochs=500
        hidden_size=6
Validation Accuracy: 0.7970
```

```
        hidden_size=12
Validation Accuracy: 0.8450
```

```
        hidden_size=24
Validation Accuracy: 0.7830
```

```
Training MLP with lr=0.5
        epochs=10
        hidden_size=6
Validation Accuracy: 0.7930
```

```
        hidden_size=12
Validation Accuracy: 0.6140
```

```
        hidden_size=24
Validation Accuracy: 0.7360
```

```
        epochs=50
        hidden_size=6
Validation Accuracy: 0.5970
```

```
        hidden_size=12
Validation Accuracy: 0.7610
```

```
        hidden_size=24
Validation Accuracy: 0.7750
```

```
        epochs=100
        hidden_size=6
Validation Accuracy: 0.4030
```

```
        hidden_size=12
Validation Accuracy: 0.6060
```

```
        hidden_size=24
Validation Accuracy: 0.7940
```

```
        epochs=150
        hidden_size=6
Validation Accuracy: 0.6800
```

```
        hidden_size=12
Validation Accuracy: 0.7920
```

```
        hidden_size=24
Validation Accuracy: 0.7230
```

```
        epochs=500
        hidden_size=6
Validation Accuracy: 0.7650
```

```
        hidden_size=12
```

Validation Accuracy: 0.8300

hidden\_size=24  
Validation Accuracy: 0.8080

Training MLP with lr=1.0  
epochs=10  
hidden\_size=6  
Validation Accuracy: 0.4030

hidden\_size=12  
Validation Accuracy: 0.6620

hidden\_size=24  
Validation Accuracy: 0.7130

epochs=50  
hidden\_size=6  
Validation Accuracy: 0.7970

hidden\_size=12  
Validation Accuracy: 0.7660

hidden\_size=24  
Validation Accuracy: 0.7810

epochs=100  
hidden\_size=6  
Validation Accuracy: 0.7320

hidden\_size=12  
Validation Accuracy: 0.6120

hidden\_size=24  
Validation Accuracy: 0.7090

epochs=150  
hidden\_size=6  
Validation Accuracy: 0.5430

hidden\_size=12  
Validation Accuracy: 0.7260

hidden\_size=24  
Validation Accuracy: 0.8130

epochs=500  
hidden\_size=6  
Validation Accuracy: 0.4030

hidden\_size=12  
Validation Accuracy: 0.6540

hidden\_size=24  
Validation Accuracy: 0.7870

Training MLP with lr=5.0  
epochs=10  
hidden\_size=6  
Validation Accuracy: 0.4480

```
        hidden_size=12
Validation Accuracy: 0.7700
```

```
        hidden_size=24
Validation Accuracy: 0.6090
```

```
    epochs=50
        hidden_size=6
Validation Accuracy: 0.5970
```

```
        hidden_size=12
Validation Accuracy: 0.5970
```

```
        hidden_size=24
Validation Accuracy: 0.7540
```

```
    epochs=100
        hidden_size=6
Validation Accuracy: 0.6600
```

```
        hidden_size=12
Validation Accuracy: 0.7870
```

```
        hidden_size=24
Validation Accuracy: 0.7580
```

```
    epochs=150
        hidden_size=6
Validation Accuracy: 0.6250
```

```
        hidden_size=12
Validation Accuracy: 0.6090
```

```
        hidden_size=24
Validation Accuracy: 0.7830
```

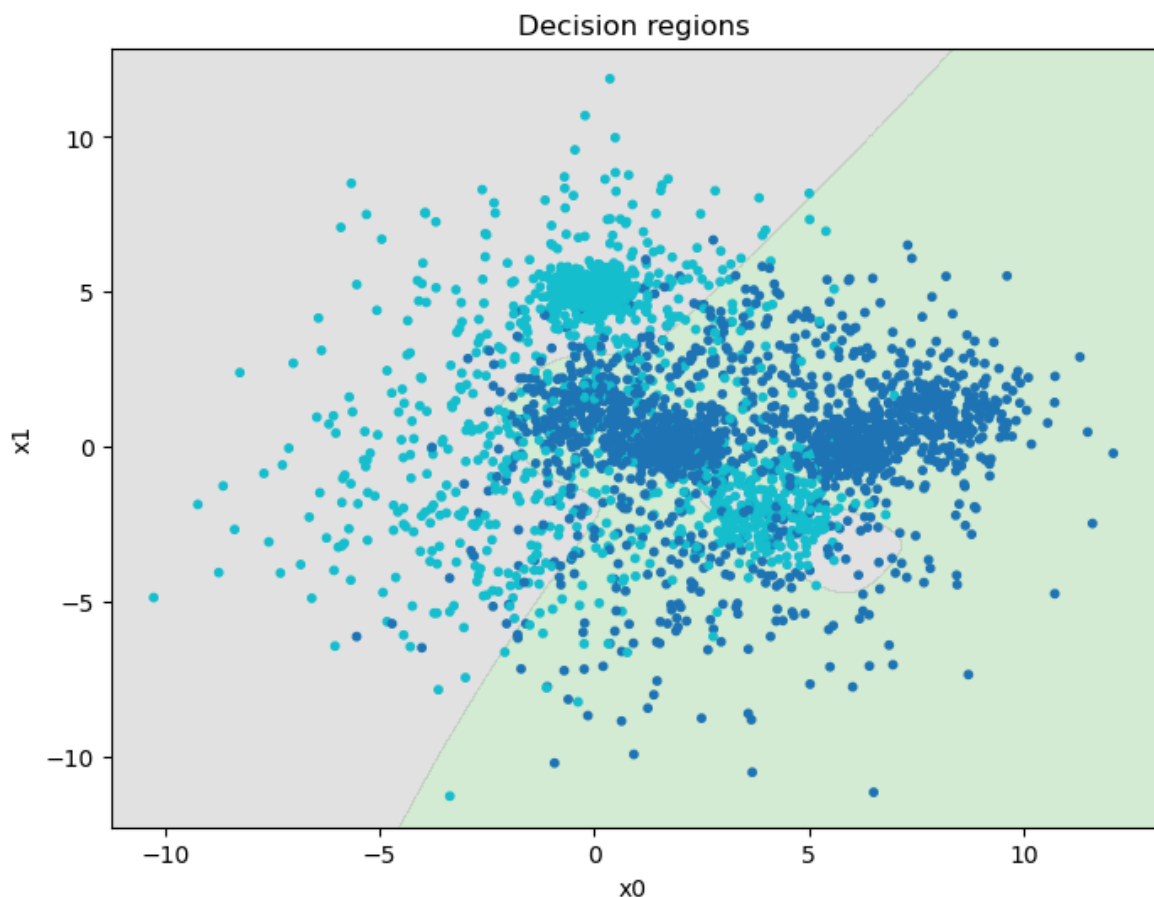
```
    epochs=500
        hidden_size=6
Validation Accuracy: 0.6870
```

```
        hidden_size=12
Validation Accuracy: 0.7550
```

```
        hidden_size=24
Validation Accuracy: 0.6080
```

```
Best Model: lr=0.001, epochs=500, hidden_size=12
Best Validation Accuracy: 0.8550
```

```
In [273... best_model = MLPBinaryLinRegClass(dim_hidden=best_params[2])
best_model.fit(X_train, t2_train, lr=best_params[0], epochs=best_params[1]
plot_decision_regions(X_train, t2_train, best_model)
```



## Improving the MLP classifier

You should now make changes to the classifier similarly to what you did with the logistic regression classifier in part 1.

a) In addition to the `predict()` method, which predicts a class for the data, include the `predict_probabilities()` method which predict the probability of the data belonging to the positive class. The training should be based on these values, as with logistic regression.

b) Calculate the loss and the accuracy after each epoch and store them for inspection after training.

c) Extend the `fit()` method with optional arguments for a validation set (`X_val`, `t_val`) . If a validation set is included in the call to `fit()` , calculate the loss and the accuracy for the validation set after each epoch.

d) Extend the `fit()` method with two keyword arguments, `tol` (tolerance) and `n_epochs_no_update` and stop training when the loss has not improved for more than `tol` after `n_epochs_no_update` . A possible default value for `n_epochs_no_update` is 2. Add an attribute to the classifier which tells us after fitting how many epochs it was trained on.

e) Tune the hyper-parameters: `lr`, `tol` and `dim-hidden` (size of the hidden layer). Also, consider the effect of scaling the data.

f) After a succesful training with the best setting for the hyper-parameters, plot both training loss and validation loss as functions of the number of epochs in one figure, and both training and validation accuracies as functions of the number of epochs in another figure. Comment on what you see.

g) The MLP algorithm contains an element of non-determinism. Hence, train the classifier 3 times with the optimal hyper-parameters and report the mean and standard deviation of the accuracies over the 3 runs.

steps a-d)

```
In [274... class MLPBinaryLinReg(NumpyClassifier):
    """A multi-layer neural network with one hidden layer"""

    def __init__(self, bias=-1, dim_hidden = 6):
        """Intialize the hyperparameters"""
        self.bias = bias
        # Dimensionality of the hidden layer
        self.dim_hidden = dim_hidden

        self.activ = logistic

        self.activ_diff = logistic_diff

    def forward(self, X):
        """Perform one forward step.
        Return a pair consisting of the outputs of the hidden_layer
        and the outputs on the final layer"""

        # hidden layer
        hidden_inputs = X @ self.weights1 # Pre-activation
        hidden_activations = self.activ(hidden_inputs) # Apply logistic

        # adding the bias to the hidden layer outputs
        hidden_outs = add_bias(hidden_activations, self.bias) #shape: (N

        # output layer
        output_inputs = hidden_outs @ self.weights2 # Pre-activation
        outputs = self.activ(output_inputs) # Apply logistic activation

        return hidden_outs, outputs

    def fit(self, X_train, t_train, lr=0.001, epochs=100, scale_data=False,
            X_val=None, t_val=None, tol=1e-4, n_epochs_no_update=2):
        """Initialize the weights. Train *epochs* many epochs.

        X_train is a NxM matrix, N data points, M features
        t_train is a vector of length N of targets values for the training
        where the values are 0 or 1.
        lr is the learning rate
        """

        if scale_data:
            X_train, mean, std = standard_scaler(X_train)
            if X_val is not None:
                X_val = (X_val - mean) / std
```

```

self.lr = lr
self.trained_epochs = 0

# Turn t_train into a column vector, a N*1 matrix:
T_train = t_train.reshape(-1,1)

dim_in = X_train.shape[1]
dim_out = T_train.shape[1]

# Initialize the weights
self.weights1 = (np.random.rand(
    dim_in + 1,
    self.dim_hidden) * 2 - 1)/np.sqrt(dim_in)
self.weights2 = (np.random.rand(
    self.dim_hidden+1,
    dim_out) * 2 - 1)/np.sqrt(self.dim_hidden)
X_train_bias = add_bias(X_train, self.bias)

#losses & accuracies
self.train_losses = []
self.train_accuracies = []

self.val_losses = []
self.val_accuracies = []

best_loss = float('inf')
epochs_without_improvement = 0

for e in range(epochs):
    # One epoch
    # The forward step:
    hidden_outs, outputs = self.forward(X_train_bias)
    # The delta term on the output node:
    out_deltas = (outputs - T_train)
    # The delta terms at the output of the hidden layer:
    hiddenout_diffs = out_deltas @ self.weights2.T
    # The deltas at the input to the hidden layer:
    hiddenact_deltas = (hiddenout_diffs[:, 1:] *
                        self.activ_diff(hidden_outs[:, 1:]))

    # Update the weights:
    self.weights2 -= self.lr * hidden_outs.T @ out_deltas
    self.weights1 -= self.lr * X_train_bias.T @ hiddenact_deltas

    # Compute binary cross-entropy loss;
    loss = -np.mean(T_train * np.log(outputs + 1e-8) + (1 - T_train) * np.log(1 - outputs + 1e-8))

    # Compute accuracy:
    predictions = (outputs > 0.5).astype(int)
    accuracy = np.mean(predictions == T_train)

    # Store values:
    self.train_losses.append(loss)
    self.train_accuracies.append(accuracy)

    # If validation set is provided
    if X_val is not None and t_val is not None:
        X_val_bias = add_bias(X_val, self.bias)

```





```
# Predictions on validation set
predictions = model.predict(X_val)
acc = accuracy(predictions, t2_val)

print(f"Validation Accuracy: {acc:.4f}\n")

# Keep best model
if acc > best_accuracy:
    best_accuracy = acc
    best_params = lr, epochs, hidden_size, scale_data

print(f"Best Model: lr={best_params[0]}, epochs={best_params[1]}, hidden_
print(f"Best Validation Accuracy: {best_accuracy:.4f}")
```

Training MLP with lr=0.001

epochs=10

hidden\_size=6

Epoch 1/10: Loss=0.6911, Val Loss=0.6873, Acc=0.3930, Val Acc=0.5970  
Epoch 2/10: Loss=0.6727, Val Loss=0.6873, Acc=0.6060, Val Acc=0.5433  
Epoch 3/10: Loss=0.6548, Val Loss=0.6820, Acc=0.7603, Val Acc=0.5970  
Epoch 4/10: Loss=0.6415, Val Loss=0.6858, Acc=0.6060, Val Acc=0.5479  
Epoch 5/10: Loss=0.6286, Val Loss=0.6851, Acc=0.7757, Val Acc=0.5947  
Early stopping at epoch 5  
Validation Accuracy: 0.7490

hidden\_size=6

Epoch 1/10: Loss=0.6666, Val Loss=0.6777, Acc=0.6060, Val Acc=0.5970  
Epoch 2/10: Loss=0.6372, Val Loss=0.6824, Acc=0.6060, Val Acc=0.5844  
Epoch 3/10: Loss=0.6146, Val Loss=0.6927, Acc=0.6587, Val Acc=0.5786  
Early stopping at epoch 3  
Validation Accuracy: 0.6560

hidden\_size=12

Epoch 1/10: Loss=0.8728, Val Loss=1.2307, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=1.2313, Val Loss=1.1000, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=1.0416, Val Loss=1.3396, Acc=0.3940, Val Acc=0.5970  
Epoch 4/10: Loss=1.2965, Val Loss=0.9125, Acc=0.6060, Val Acc=0.4036  
Epoch 5/10: Loss=0.8132, Val Loss=1.0436, Acc=0.3957, Val Acc=0.5970  
Epoch 6/10: Loss=0.9375, Val Loss=0.9310, Acc=0.6060, Val Acc=0.4193  
Early stopping at epoch 6  
Validation Accuracy: 0.7080

hidden\_size=12

Epoch 1/10: Loss=0.9616, Val Loss=1.7556, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=1.5553, Val Loss=0.8011, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=0.7301, Val Loss=1.1628, Acc=0.3943, Val Acc=0.5970  
Epoch 4/10: Loss=0.9059, Val Loss=0.8699, Acc=0.6060, Val Acc=0.4556  
Early stopping at epoch 4  
Validation Accuracy: 0.6300

hidden\_size=24

Epoch 1/10: Loss=0.6942, Val Loss=1.1836, Acc=0.4113, Val Acc=0.5970  
Epoch 2/10: Loss=1.0975, Val Loss=2.2213, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=2.1868, Val Loss=2.8689, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/10: Loss=0.8268, Val Loss=2.4265, Acc=0.3773, Val Acc=0.5970  
Epoch 2/10: Loss=2.1344, Val Loss=2.2310, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=2.1582, Val Loss=3.5687, Acc=0.3940, Val Acc=0.5970  
Epoch 4/10: Loss=3.4025, Val Loss=1.0434, Acc=0.6060, Val Acc=0.5541  
Epoch 5/10: Loss=0.6782, Val Loss=1.0462, Acc=0.7660, Val Acc=0.4990  
Epoch 6/10: Loss=0.6590, Val Loss=1.0108, Acc=0.6640, Val Acc=0.5780  
Epoch 7/10: Loss=0.6753, Val Loss=1.1208, Acc=0.6863, Val Acc=0.4845  
Epoch 8/10: Loss=0.7117, Val Loss=1.0850, Acc=0.6190, Val Acc=0.5832  
Early stopping at epoch 8  
Validation Accuracy: 0.6480

epochs=50

hidden\_size=6

Epoch 1/50: Loss=0.6775, Val Loss=0.6862, Acc=0.6060, Val Acc=0.5673  
Epoch 2/50: Loss=0.6721, Val Loss=0.6844, Acc=0.7537, Val Acc=0.5970  
Epoch 3/50: Loss=0.6688, Val Loss=0.6949, Acc=0.6060, Val Acc=0.5033

Epoch 4/50: Loss=0.6647, Val Loss=0.6955, Acc=0.6523, Val Acc=0.5970  
Early stopping at epoch 4  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/50: Loss=0.7176, Val Loss=0.6819, Acc=0.5877, Val Acc=0.5687  
Epoch 2/50: Loss=0.6581, Val Loss=0.6878, Acc=0.6403, Val Acc=0.5770  
Epoch 3/50: Loss=0.6288, Val Loss=0.6965, Acc=0.6583, Val Acc=0.5566  
Early stopping at epoch 3  
Validation Accuracy: 0.6490

hidden\_size=12

Epoch 1/50: Loss=0.7318, Val Loss=0.8497, Acc=0.3940, Val Acc=0.5970  
Epoch 2/50: Loss=0.8110, Val Loss=0.9138, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=0.8880, Val Loss=1.2093, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/50: Loss=0.6407, Val Loss=0.7838, Acc=0.7703, Val Acc=0.5925  
Epoch 2/50: Loss=0.6220, Val Loss=0.8875, Acc=0.6360, Val Acc=0.4730  
Epoch 3/50: Loss=0.7003, Val Loss=1.2070, Acc=0.5787, Val Acc=0.5968  
Early stopping at epoch 3  
Validation Accuracy: 0.5980

hidden\_size=24

Epoch 1/50: Loss=0.7394, Val Loss=1.2364, Acc=0.2297, Val Acc=0.5970  
Epoch 2/50: Loss=1.1802, Val Loss=2.5868, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=2.5933, Val Loss=3.1195, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/50: Loss=0.6980, Val Loss=1.3776, Acc=0.4610, Val Acc=0.5970  
Epoch 2/50: Loss=1.1024, Val Loss=2.7168, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=2.6276, Val Loss=3.8302, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=100

hidden\_size=6

Epoch 1/100: Loss=0.6917, Val Loss=0.6971, Acc=0.4153, Val Acc=0.5970  
Epoch 2/100: Loss=0.6805, Val Loss=0.6851, Acc=0.6060, Val Acc=0.5790  
Epoch 3/100: Loss=0.6664, Val Loss=0.6870, Acc=0.6723, Val Acc=0.5970  
Epoch 4/100: Loss=0.6572, Val Loss=0.6816, Acc=0.6060, Val Acc=0.5799  
Epoch 5/100: Loss=0.6466, Val Loss=0.6845, Acc=0.6717, Val Acc=0.5970  
Epoch 6/100: Loss=0.6372, Val Loss=0.6832, Acc=0.6060, Val Acc=0.5722  
Early stopping at epoch 6  
Validation Accuracy: 0.6650

hidden\_size=6

Epoch 1/100: Loss=0.6761, Val Loss=0.6792, Acc=0.6060, Val Acc=0.5945  
Epoch 2/100: Loss=0.6271, Val Loss=0.7085, Acc=0.6210, Val Acc=0.5879  
Epoch 3/100: Loss=0.5937, Val Loss=0.7070, Acc=0.6493, Val Acc=0.5427  
Early stopping at epoch 3  
Validation Accuracy: 0.7610

hidden\_size=12

Epoch 1/100: Loss=0.7629, Val Loss=1.0027, Acc=0.3940, Val Acc=0.5970  
Epoch 2/100: Loss=0.9569, Val Loss=1.0644, Acc=0.6060, Val Acc=0.4030

Epoch 3/100: Loss=1.0387, Val Loss=1.4393, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/100: Loss=0.6930, Val Loss=0.9670, Acc=0.6353, Val Acc=0.5970  
Epoch 2/100: Loss=0.7885, Val Loss=1.2223, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=1.1693, Val Loss=2.3107, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/100: Loss=0.6714, Val Loss=0.8880, Acc=0.6060, Val Acc=0.5970  
Epoch 2/100: Loss=0.7997, Val Loss=2.0115, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=2.0186, Val Loss=3.6116, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/100: Loss=0.6994, Val Loss=1.1560, Acc=0.4053, Val Acc=0.5970  
Epoch 2/100: Loss=0.9149, Val Loss=2.1062, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=1.8446, Val Loss=2.7392, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=150

hidden\_size=6

Epoch 1/150: Loss=0.6610, Val Loss=0.6755, Acc=0.6060, Val Acc=0.5970  
Epoch 2/150: Loss=0.6482, Val Loss=0.6775, Acc=0.6060, Val Acc=0.5970  
Epoch 3/150: Loss=0.6357, Val Loss=0.6806, Acc=0.6070, Val Acc=0.5941  
Early stopping at epoch 3  
Validation Accuracy: 0.6470

hidden\_size=6

Epoch 1/150: Loss=0.6806, Val Loss=0.6872, Acc=0.6060, Val Acc=0.5970  
Epoch 2/150: Loss=0.6503, Val Loss=0.6791, Acc=0.6060, Val Acc=0.5956  
Epoch 3/150: Loss=0.6282, Val Loss=0.7035, Acc=0.6110, Val Acc=0.5943  
Epoch 4/150: Loss=0.6098, Val Loss=0.6951, Acc=0.6230, Val Acc=0.5404  
Early stopping at epoch 4  
Validation Accuracy: 0.7570

hidden\_size=12

Epoch 1/150: Loss=0.7581, Val Loss=0.9612, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=0.9163, Val Loss=0.9668, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=0.9557, Val Loss=1.2751, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/150: Loss=0.7055, Val Loss=0.6783, Acc=0.6057, Val Acc=0.5954  
Epoch 2/150: Loss=0.6310, Val Loss=0.7111, Acc=0.6203, Val Acc=0.5920  
Epoch 3/150: Loss=0.6002, Val Loss=0.7268, Acc=0.6353, Val Acc=0.5116  
Early stopping at epoch 3  
Validation Accuracy: 0.7070

hidden\_size=24

Epoch 1/150: Loss=0.8061, Val Loss=2.1499, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=2.0366, Val Loss=2.0580, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=2.0489, Val Loss=3.5391, Acc=0.3940, Val Acc=0.5970  
Epoch 4/150: Loss=3.2818, Val Loss=0.7728, Acc=0.6060, Val Acc=0.5712

Epoch 5/150: Loss=0.5845, Val Loss=0.8492, Acc=0.7380, Val Acc=0.4686  
Epoch 6/150: Loss=0.6861, Val Loss=1.4907, Acc=0.5933, Val Acc=0.5970  
Early stopping at epoch 6  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/150: Loss=0.8914, Val Loss=1.9462, Acc=0.3387, Val Acc=0.5970  
Epoch 2/150: Loss=1.6557, Val Loss=1.9966, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=1.6449, Val Loss=2.7337, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=500

hidden\_size=6

Epoch 1/500: Loss=0.7474, Val Loss=0.8128, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=0.7769, Val Loss=0.7582, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=0.7433, Val Loss=0.8279, Acc=0.3940, Val Acc=0.5970  
Epoch 4/500: Loss=0.7652, Val Loss=0.7500, Acc=0.6060, Val Acc=0.4067  
Epoch 5/500: Loss=0.7114, Val Loss=0.8088, Acc=0.4107, Val Acc=0.5970  
Epoch 6/500: Loss=0.7169, Val Loss=0.7369, Acc=0.6060, Val Acc=0.4593  
Epoch 7/500: Loss=0.6672, Val Loss=0.7846, Acc=0.6257, Val Acc=0.5970  
Epoch 8/500: Loss=0.6603, Val Loss=0.7302, Acc=0.6060, Val Acc=0.4864  
Epoch 9/500: Loss=0.6237, Val Loss=0.7684, Acc=0.6100, Val Acc=0.5925  
Epoch 10/500: Loss=0.6118, Val Loss=0.7332, Acc=0.6333, Val Acc=0.5056  
Early stopping at epoch 10  
Validation Accuracy: 0.7700

hidden\_size=6

Epoch 1/500: Loss=0.6797, Val Loss=0.6941, Acc=0.6060, Val Acc=0.5409  
Epoch 2/500: Loss=0.6213, Val Loss=0.6968, Acc=0.7640, Val Acc=0.5534  
Epoch 3/500: Loss=0.5872, Val Loss=0.7181, Acc=0.7813, Val Acc=0.5378  
Early stopping at epoch 3  
Validation Accuracy: 0.7600

hidden\_size=12

Epoch 1/500: Loss=0.7004, Val Loss=0.7386, Acc=0.5957, Val Acc=0.5970  
Epoch 2/500: Loss=0.7175, Val Loss=0.8217, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=0.8174, Val Loss=1.2277, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/500: Loss=0.7050, Val Loss=0.7829, Acc=0.4927, Val Acc=0.5970  
Epoch 2/500: Loss=0.6873, Val Loss=0.9342, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=0.8351, Val Loss=1.5608, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/500: Loss=0.7633, Val Loss=1.5165, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=1.5034, Val Loss=2.3534, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=2.2333, Val Loss=2.6135, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/500: Loss=0.6651, Val Loss=1.1093, Acc=0.6077, Val Acc=0.5966  
Epoch 2/500: Loss=0.8225, Val Loss=2.3803, Acc=0.6090, Val Acc=0.4030  
Epoch 3/500: Loss=2.3403, Val Loss=4.2034, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3

Validation Accuracy: 0.5970

Training MLP with lr=0.005  
epochs=10

hidden\_size=6

Epoch 1/10: Loss=0.7493, Val Loss=2.7339, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=2.7717, Val Loss=3.2258, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=3.4190, Val Loss=2.4523, Acc=0.3940, Val Acc=0.5970  
Epoch 4/10: Loss=2.3923, Val Loss=0.6818, Acc=0.6060, Val Acc=0.5892  
Epoch 5/10: Loss=0.6613, Val Loss=0.7402, Acc=0.6453, Val Acc=0.5970  
Epoch 6/10: Loss=0.7000, Val Loss=0.9833, Acc=0.6077, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.4030

hidden\_size=6

Epoch 1/10: Loss=0.6953, Val Loss=2.6827, Acc=0.4223, Val Acc=0.5970  
Epoch 2/10: Loss=2.5531, Val Loss=4.8995, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=4.1565, Val Loss=1.9416, Acc=0.3940, Val Acc=0.5970  
Epoch 4/10: Loss=1.8358, Val Loss=1.6033, Acc=0.6060, Val Acc=0.4030  
Epoch 5/10: Loss=1.2318, Val Loss=1.6935, Acc=0.3940, Val Acc=0.5817  
Epoch 6/10: Loss=1.4104, Val Loss=1.3531, Acc=0.6680, Val Acc=0.4802  
Epoch 7/10: Loss=0.8629, Val Loss=1.4732, Acc=0.7033, Val Acc=0.5923  
Epoch 8/10: Loss=1.1424, Val Loss=2.0451, Acc=0.6270, Val Acc=0.4030  
Early stopping at epoch 8  
Validation Accuracy: 0.4030

hidden\_size=12

Epoch 1/10: Loss=0.7267, Val Loss=4.0022, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=3.8130, Val Loss=4.8146, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=5.3100, Val Loss=2.4057, Acc=0.3940, Val Acc=0.5970  
Epoch 4/10: Loss=2.2790, Val Loss=0.7196, Acc=0.6060, Val Acc=0.4414  
Epoch 5/10: Loss=0.6772, Val Loss=1.0388, Acc=0.5597, Val Acc=0.5970  
Epoch 6/10: Loss=0.9070, Val Loss=1.4647, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.6250

hidden\_size=12

Epoch 1/10: Loss=0.6888, Val Loss=3.1586, Acc=0.3803, Val Acc=0.5970  
Epoch 2/10: Loss=2.5522, Val Loss=7.7636, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=6.9291, Val Loss=2.4703, Acc=0.3940, Val Acc=0.5966  
Epoch 4/10: Loss=2.5263, Val Loss=2.3678, Acc=0.6063, Val Acc=0.4038  
Epoch 5/10: Loss=1.4219, Val Loss=1.8111, Acc=0.3967, Val Acc=0.5722  
Epoch 6/10: Loss=1.2825, Val Loss=1.8076, Acc=0.6830, Val Acc=0.5149  
Epoch 7/10: Loss=0.9507, Val Loss=1.2407, Acc=0.7310, Val Acc=0.5759  
Epoch 8/10: Loss=0.8472, Val Loss=2.4915, Acc=0.6780, Val Acc=0.4030  
Epoch 9/10: Loss=1.3992, Val Loss=1.6358, Acc=0.3940, Val Acc=0.5619  
Early stopping at epoch 9  
Validation Accuracy: 0.7160

hidden\_size=24

Epoch 1/10: Loss=0.6719, Val Loss=1.9469, Acc=0.6060, Val Acc=0.5970  
Epoch 2/10: Loss=1.6928, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=1.9823, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/10: Loss=0.6765, Val Loss=2.5592, Acc=0.6060, Val Acc=0.5667  
Epoch 2/10: Loss=1.3963, Val Loss=10.5544, Acc=0.7250, Val Acc=0.4030  
Epoch 3/10: Loss=10.7418, Val Loss=3.8511, Acc=0.3940, Val Acc=0.5970

Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=50

hidden\_size=6

Epoch 1/50: Loss=0.6768, Val Loss=1.1746, Acc=0.6060, Val Acc=0.5970  
Epoch 2/50: Loss=1.0547, Val Loss=4.4666, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=4.5558, Val Loss=2.3532, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/50: Loss=0.6496, Val Loss=1.0325, Acc=0.6347, Val Acc=0.5607  
Epoch 2/50: Loss=0.6548, Val Loss=2.7793, Acc=0.7397, Val Acc=0.4030  
Epoch 3/50: Loss=2.6023, Val Loss=3.9280, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/50: Loss=0.6797, Val Loss=2.4689, Acc=0.6127, Val Acc=0.5970  
Epoch 2/50: Loss=2.2223, Val Loss=6.9875, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=7.5197, Val Loss=2.0748, Acc=0.3940, Val Acc=0.5970  
Epoch 4/50: Loss=2.0642, Val Loss=0.8689, Acc=0.6060, Val Acc=0.4030  
Epoch 5/50: Loss=0.8784, Val Loss=1.6089, Acc=0.3940, Val Acc=0.5970  
Epoch 6/50: Loss=1.5334, Val Loss=1.2336, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.6160

hidden\_size=12

Epoch 1/50: Loss=0.6963, Val Loss=3.3186, Acc=0.3670, Val Acc=0.5970  
Epoch 2/50: Loss=2.4420, Val Loss=7.8413, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=7.1567, Val Loss=3.8292, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/50: Loss=0.7008, Val Loss=2.1237, Acc=0.6020, Val Acc=0.5970  
Epoch 2/50: Loss=1.8467, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=1.9631, Acc=0.3940, Val Acc=0.5970  
Epoch 4/50: Loss=2.1956, Val Loss=1.0448, Acc=0.6060, Val Acc=0.4046  
Epoch 5/50: Loss=1.1156, Val Loss=1.8580, Acc=0.3823, Val Acc=0.5970  
Epoch 6/50: Loss=1.8602, Val Loss=1.0151, Acc=0.6060, Val Acc=0.4030  
Epoch 7/50: Loss=1.0176, Val Loss=1.8598, Acc=0.3940, Val Acc=0.5970  
Epoch 8/50: Loss=1.7966, Val Loss=1.0703, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 8  
Validation Accuracy: 0.5940

hidden\_size=24

Epoch 1/50: Loss=0.9320, Val Loss=7.4230, Acc=0.3703, Val Acc=0.5970  
Epoch 2/50: Loss=7.2561, Val Loss=4.5958, Acc=0.6060, Val Acc=0.4092  
Epoch 3/50: Loss=3.4142, Val Loss=5.4290, Acc=0.4187, Val Acc=0.5949  
Epoch 4/50: Loss=4.3013, Val Loss=4.1277, Acc=0.6150, Val Acc=0.5256  
Epoch 5/50: Loss=1.8635, Val Loss=2.5348, Acc=0.7553, Val Acc=0.4998  
Epoch 6/50: Loss=1.0639, Val Loss=1.8684, Acc=0.7663, Val Acc=0.5446  
Epoch 7/50: Loss=0.8295, Val Loss=2.2887, Acc=0.7640, Val Acc=0.4175  
Epoch 8/50: Loss=1.7112, Val Loss=5.5462, Acc=0.4427, Val Acc=0.5970  
Early stopping at epoch 8  
Validation Accuracy: 0.5970

epochs=100



hidden\_size=6  
Epoch 1/100: Loss=0.6848, Val Loss=1.9249, Acc=0.6360, Val Acc=0.5970  
Epoch 2/100: Loss=1.8292, Val Loss=5.3618, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=5.6136, Val Loss=2.0359, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6  
Epoch 1/100: Loss=0.6786, Val Loss=0.7957, Acc=0.6360, Val Acc=0.5805  
Epoch 2/100: Loss=0.6434, Val Loss=2.8090, Acc=0.6663, Val Acc=0.4030  
Epoch 3/100: Loss=2.4844, Val Loss=3.9436, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12  
Epoch 1/100: Loss=0.8143, Val Loss=6.5646, Acc=0.3940, Val Acc=0.5970  
Epoch 2/100: Loss=6.3560, Val Loss=2.6003, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=2.8636, Val Loss=2.9573, Acc=0.3940, Val Acc=0.5970  
Epoch 4/100: Loss=2.6944, Val Loss=0.7637, Acc=0.6060, Val Acc=0.5962  
Epoch 5/100: Loss=0.6140, Val Loss=0.8900, Acc=0.6153, Val Acc=0.4307  
Epoch 6/100: Loss=0.7356, Val Loss=1.6051, Acc=0.5150, Val Acc=0.5970  
Early stopping at epoch 6  
Validation Accuracy: 0.5970

hidden\_size=12  
Epoch 1/100: Loss=0.7000, Val Loss=3.7211, Acc=0.4017, Val Acc=0.5970  
Epoch 2/100: Loss=2.9391, Val Loss=6.6541, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=6.0319, Val Loss=3.6929, Acc=0.3940, Val Acc=0.5970  
Epoch 4/100: Loss=3.6958, Val Loss=1.6158, Acc=0.6060, Val Acc=0.5161  
Epoch 5/100: Loss=0.8877, Val Loss=1.0830, Acc=0.7270, Val Acc=0.5396  
Epoch 6/100: Loss=0.5725, Val Loss=0.9912, Acc=0.7713, Val Acc=0.4693  
Epoch 7/100: Loss=0.6712, Val Loss=2.4538, Acc=0.6913, Val Acc=0.5970  
Epoch 8/100: Loss=1.8816, Val Loss=2.8641, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 8  
Validation Accuracy: 0.4030

hidden\_size=24  
Epoch 1/100: Loss=0.7137, Val Loss=5.8869, Acc=0.2717, Val Acc=0.5970  
Epoch 2/100: Loss=5.4815, Val Loss=9.4719, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=10.1113, Val Loss=2.2470, Acc=0.3940, Val Acc=0.5970  
Epoch 4/100: Loss=2.2305, Val Loss=0.7889, Acc=0.6060, Val Acc=0.4038  
Epoch 5/100: Loss=0.7888, Val Loss=1.3617, Acc=0.3903, Val Acc=0.5970  
Epoch 6/100: Loss=1.2758, Val Loss=1.4415, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.6100

hidden\_size=24  
Epoch 1/100: Loss=0.7049, Val Loss=2.9083, Acc=0.6060, Val Acc=0.4030  
Epoch 2/100: Loss=2.7837, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/100: Loss=7.2577, Val Loss=4.4674, Acc=0.6060, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=150  
hidden\_size=6  
Epoch 1/150: Loss=0.6522, Val Loss=0.6955, Acc=0.6060, Val Acc=0.5580  
Epoch 2/150: Loss=0.5926, Val Loss=0.7685, Acc=0.7747, Val Acc=0.5491  
Epoch 3/150: Loss=0.5548, Val Loss=0.9871, Acc=0.7753, Val Acc=0.4581  
Early stopping at epoch 3  
Validation Accuracy: 0.7410

hidden\_size=6

Epoch 1/150: Loss=0.7751, Val Loss=2.2233, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=2.1638, Val Loss=5.0443, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=4.6678, Val Loss=2.7138, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/150: Loss=0.7303, Val Loss=4.9372, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=4.6387, Val Loss=5.1794, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=5.6994, Val Loss=2.5186, Acc=0.3940, Val Acc=0.5970  
Epoch 4/150: Loss=2.3452, Val Loss=0.7068, Acc=0.6060, Val Acc=0.4748  
Epoch 5/150: Loss=0.6453, Val Loss=0.9267, Acc=0.6070, Val Acc=0.5970  
Epoch 6/150: Loss=0.7781, Val Loss=1.3097, Acc=0.6060, Val Acc=0.4047  
Early stopping at epoch 6  
Validation Accuracy: 0.6860

hidden\_size=12

Epoch 1/150: Loss=0.7219, Val Loss=4.0032, Acc=0.3750, Val Acc=0.5970  
Epoch 2/150: Loss=3.3892, Val Loss=6.7154, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=6.4565, Val Loss=2.5951, Acc=0.3940, Val Acc=0.5970  
Epoch 4/150: Loss=2.7553, Val Loss=2.5818, Acc=0.6060, Val Acc=0.4030  
Epoch 5/150: Loss=1.5156, Val Loss=1.9616, Acc=0.3940, Val Acc=0.5834  
Epoch 6/150: Loss=1.3954, Val Loss=2.5173, Acc=0.6493, Val Acc=0.5052  
Epoch 7/150: Loss=1.1592, Val Loss=1.5775, Acc=0.7587, Val Acc=0.5450  
Epoch 8/150: Loss=0.7677, Val Loss=1.3270, Acc=0.7733, Val Acc=0.5091  
Epoch 9/150: Loss=0.5309, Val Loss=1.1130, Acc=0.7770, Val Acc=0.5704  
Epoch 10/150: Loss=0.6844, Val Loss=2.8375, Acc=0.7310, Val Acc=0.4030  
Epoch 11/150: Loss=1.5787, Val Loss=2.0036, Acc=0.3940, Val Acc=0.5854  
Early stopping at epoch 11  
Validation Accuracy: 0.6430

hidden\_size=24

Epoch 1/150: Loss=0.7134, Val Loss=4.9660, Acc=0.3743, Val Acc=0.5970  
Epoch 2/150: Loss=4.8569, Val Loss=10.9685, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1365, Val Loss=2.2041, Acc=0.3940, Val Acc=0.5970  
Epoch 4/150: Loss=2.1592, Val Loss=0.8073, Acc=0.6060, Val Acc=0.4030  
Epoch 5/150: Loss=0.7927, Val Loss=1.4473, Acc=0.3947, Val Acc=0.5970  
Epoch 6/150: Loss=1.3245, Val Loss=1.4034, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.6150

hidden\_size=24

Epoch 1/150: Loss=0.7500, Val Loss=5.6297, Acc=0.3837, Val Acc=0.5970  
Epoch 2/150: Loss=4.2545, Val Loss=10.9240, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.0488, Val Loss=3.7168, Acc=0.3940, Val Acc=0.5970  
Epoch 4/150: Loss=4.3668, Val Loss=2.3327, Acc=0.6060, Val Acc=0.4044  
Epoch 5/150: Loss=1.6500, Val Loss=3.2762, Acc=0.3970, Val Acc=0.5970  
Epoch 6/150: Loss=3.7296, Val Loss=3.8363, Acc=0.6060, Val Acc=0.4082  
Early stopping at epoch 6  
Validation Accuracy: 0.4180

epochs=500

hidden\_size=6

Epoch 1/500: Loss=0.7777, Val Loss=3.7684, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=3.5894, Val Loss=2.2964, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=2.3689, Val Loss=2.8404, Acc=0.3940, Val Acc=0.5970  
Epoch 4/500: Loss=2.5819, Val Loss=0.7060, Acc=0.6060, Val Acc=0.5904  
Epoch 5/500: Loss=0.5917, Val Loss=0.7348, Acc=0.6427, Val Acc=0.5198

Epoch 6/500: Loss=0.5675, Val Loss=0.8465, Acc=0.7260, Val Acc=0.5838  
Early stopping at epoch 6  
Validation Accuracy: 0.7670

hidden\_size=6

Epoch 1/500: Loss=0.6873, Val Loss=1.2369, Acc=0.6230, Val Acc=0.5970  
Epoch 2/500: Loss=0.9370, Val Loss=5.0599, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=5.1389, Val Loss=3.3258, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/500: Loss=0.6568, Val Loss=1.0904, Acc=0.6060, Val Acc=0.4030  
Epoch 2/500: Loss=1.0657, Val Loss=7.4219, Acc=0.3940, Val Acc=0.5970  
Epoch 3/500: Loss=7.2542, Val Loss=0.8832, Acc=0.6060, Val Acc=0.5093  
Epoch 4/500: Loss=0.6007, Val Loss=0.8455, Acc=0.6873, Val Acc=0.4773  
Epoch 5/500: Loss=0.5999, Val Loss=0.9088, Acc=0.6043, Val Acc=0.5970  
Epoch 6/500: Loss=0.6255, Val Loss=0.9492, Acc=0.6060, Val Acc=0.4486  
Early stopping at epoch 6  
Validation Accuracy: 0.7450

hidden\_size=12

Epoch 1/500: Loss=0.6681, Val Loss=4.5220, Acc=0.5807, Val Acc=0.5970  
Epoch 2/500: Loss=3.7476, Val Loss=6.4319, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=5.6571, Val Loss=2.8506, Acc=0.3940, Val Acc=0.5970  
Epoch 4/500: Loss=2.9327, Val Loss=2.1451, Acc=0.6060, Val Acc=0.4030  
Epoch 5/500: Loss=1.3258, Val Loss=2.0179, Acc=0.3940, Val Acc=0.5780  
Epoch 6/500: Loss=1.5589, Val Loss=2.2640, Acc=0.6710, Val Acc=0.4911  
Epoch 7/500: Loss=1.0672, Val Loss=1.5190, Acc=0.7323, Val Acc=0.5790  
Epoch 8/500: Loss=0.9871, Val Loss=2.9978, Acc=0.6923, Val Acc=0.4783  
Epoch 9/500: Loss=1.4235, Val Loss=1.8232, Acc=0.7407, Val Acc=0.5543  
Early stopping at epoch 9  
Validation Accuracy: 0.7630

hidden\_size=24

Epoch 1/500: Loss=0.7107, Val Loss=6.3414, Acc=0.3913, Val Acc=0.5970  
Epoch 2/500: Loss=6.1912, Val Loss=9.6829, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=10.1360, Val Loss=2.3265, Acc=0.3940, Val Acc=0.5970  
Epoch 4/500: Loss=2.3370, Val Loss=0.7271, Acc=0.6060, Val Acc=0.4034  
Epoch 5/500: Loss=0.7379, Val Loss=1.0222, Acc=0.3917, Val Acc=0.5970  
Epoch 6/500: Loss=0.9983, Val Loss=1.4820, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.4030

hidden\_size=24

Epoch 1/500: Loss=0.6631, Val Loss=3.8373, Acc=0.6110, Val Acc=0.5970  
Epoch 2/500: Loss=2.8783, Val Loss=9.6262, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=9.4004, Val Loss=2.0684, Acc=0.3940, Val Acc=0.5970  
Epoch 4/500: Loss=2.0166, Val Loss=3.3396, Acc=0.6060, Val Acc=0.4030  
Epoch 5/500: Loss=2.1101, Val Loss=2.9571, Acc=0.3950, Val Acc=0.5625  
Early stopping at epoch 5  
Validation Accuracy: 0.6770

Training MLP with lr=0.01  
epochs=10

hidden\_size=6

Epoch 1/10: Loss=0.7265, Val Loss=5.3436, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=5.1543, Val Loss=4.9766, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=5.2942, Val Loss=4.5518, Acc=0.3940, Val Acc=0.5970  
Epoch 4/10: Loss=4.4396, Val Loss=0.8119, Acc=0.6060, Val Acc=0.4030

Epoch 5/10: Loss=0.7553, Val Loss=2.7082, Acc=0.3940, Val Acc=0.5970  
Epoch 6/10: Loss=2.4782, Val Loss=4.2770, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.4030

hidden\_size=6

Epoch 1/10: Loss=0.6300, Val Loss=1.8670, Acc=0.6090, Val Acc=0.5912  
Epoch 2/10: Loss=1.2084, Val Loss=10.1149, Acc=0.6420, Val Acc=0.4030  
Epoch 3/10: Loss=10.4194, Val Loss=5.6722, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/10: Loss=0.6819, Val Loss=3.6595, Acc=0.6060, Val Acc=0.5970  
Epoch 2/10: Loss=3.3054, Val Loss=10.9504, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1246, Val Loss=3.2879, Acc=0.3940, Val Acc=0.5970  
Epoch 4/10: Loss=3.0424, Val Loss=2.5295, Acc=0.6060, Val Acc=0.4030  
Epoch 5/10: Loss=2.0838, Val Loss=5.3553, Acc=0.3940, Val Acc=0.5970  
Epoch 6/10: Loss=4.8198, Val Loss=1.8128, Acc=0.6060, Val Acc=0.5456  
Epoch 7/10: Loss=0.6540, Val Loss=1.5867, Acc=0.7797, Val Acc=0.5407  
Epoch 8/10: Loss=0.6318, Val Loss=2.1723, Acc=0.7740, Val Acc=0.5819  
Epoch 9/10: Loss=1.3477, Val Loss=3.4987, Acc=0.6763, Val Acc=0.4030  
Early stopping at epoch 9  
Validation Accuracy: 0.4030

hidden\_size=12

Epoch 1/10: Loss=0.7090, Val Loss=6.8010, Acc=0.3853, Val Acc=0.5970  
Epoch 2/10: Loss=5.9545, Val Loss=9.5580, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=9.0044, Val Loss=5.0812, Acc=0.3940, Val Acc=0.5970  
Epoch 4/10: Loss=5.4159, Val Loss=3.5700, Acc=0.6060, Val Acc=0.4030  
Epoch 5/10: Loss=2.3788, Val Loss=4.9767, Acc=0.3940, Val Acc=0.5968  
Epoch 6/10: Loss=4.5165, Val Loss=4.3768, Acc=0.6073, Val Acc=0.4903  
Early stopping at epoch 6  
Validation Accuracy: 0.7670

hidden\_size=24

Epoch 1/10: Loss=0.7253, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=6.1774, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=6.8330, Val Loss=4.4522, Acc=0.3940, Val Acc=0.5912  
Epoch 4/10: Loss=3.8892, Val Loss=1.5782, Acc=0.6373, Val Acc=0.5475  
Epoch 5/10: Loss=0.7624, Val Loss=1.7383, Acc=0.7207, Val Acc=0.5807  
Epoch 6/10: Loss=1.0897, Val Loss=3.8803, Acc=0.6727, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.4030

hidden\_size=24

Epoch 1/10: Loss=0.6868, Val Loss=2.8836, Acc=0.6060, Val Acc=0.4030  
Epoch 2/10: Loss=1.9970, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/10: Loss=7.2577, Val Loss=7.3252, Acc=0.6060, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=50

hidden\_size=6

Epoch 1/50: Loss=0.6727, Val Loss=1.2723, Acc=0.6060, Val Acc=0.5970  
Epoch 2/50: Loss=1.1365, Val Loss=9.4163, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=9.9467, Val Loss=3.6481, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/50: Loss=0.6609, Val Loss=3.0276, Acc=0.7450, Val Acc=0.5970  
Epoch 2/50: Loss=2.5097, Val Loss=10.5832, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=10.6331, Val Loss=3.4213, Acc=0.3940, Val Acc=0.5945  
Early stopping at epoch 3  
Validation Accuracy: 0.6060

hidden\_size=12

Epoch 1/50: Loss=0.6722, Val Loss=1.3485, Acc=0.6060, Val Acc=0.4030  
Epoch 2/50: Loss=1.2349, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/50: Loss=7.2577, Val Loss=2.1540, Acc=0.6060, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/50: Loss=0.7652, Val Loss=6.8383, Acc=0.3940, Val Acc=0.5970  
Epoch 2/50: Loss=6.8615, Val Loss=6.5112, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=6.3520, Val Loss=5.5522, Acc=0.3940, Val Acc=0.5970  
Epoch 4/50: Loss=5.5397, Val Loss=3.7677, Acc=0.6060, Val Acc=0.4866  
Epoch 5/50: Loss=2.0769, Val Loss=3.3005, Acc=0.7307, Val Acc=0.5838  
Epoch 6/50: Loss=2.4139, Val Loss=4.1165, Acc=0.6593, Val Acc=0.4030  
Epoch 7/50: Loss=2.1124, Val Loss=4.0110, Acc=0.3940, Val Acc=0.5828  
Early stopping at epoch 7  
Validation Accuracy: 0.6540

hidden\_size=24

Epoch 1/50: Loss=0.7372, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=5.4449, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=5.9961, Val Loss=4.8382, Acc=0.3940, Val Acc=0.5970  
Epoch 4/50: Loss=4.6624, Val Loss=0.7713, Acc=0.6060, Val Acc=0.5724  
Epoch 5/50: Loss=0.6230, Val Loss=1.2154, Acc=0.6943, Val Acc=0.5894  
Epoch 6/50: Loss=0.9999, Val Loss=4.4539, Acc=0.6423, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.4030

hidden\_size=24

Epoch 1/50: Loss=0.7488, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=9.2173, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=8.3464, Val Loss=6.0163, Acc=0.3940, Val Acc=0.5970  
Epoch 4/50: Loss=5.8131, Val Loss=3.5849, Acc=0.6060, Val Acc=0.5231  
Epoch 5/50: Loss=2.1585, Val Loss=3.2391, Acc=0.7290, Val Acc=0.5677  
Epoch 6/50: Loss=2.0271, Val Loss=3.2682, Acc=0.6617, Val Acc=0.4792  
Epoch 7/50: Loss=1.7546, Val Loss=5.1240, Acc=0.7450, Val Acc=0.5953  
Early stopping at epoch 7  
Validation Accuracy: 0.6060

epochs=100

hidden\_size=6

Epoch 1/100: Loss=0.7584, Val Loss=5.5397, Acc=0.3930, Val Acc=0.5970  
Epoch 2/100: Loss=5.2043, Val Loss=3.9702, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=4.1225, Val Loss=4.8458, Acc=0.3940, Val Acc=0.5970  
Epoch 4/100: Loss=4.7315, Val Loss=0.6789, Acc=0.6060, Val Acc=0.5968  
Epoch 5/100: Loss=0.6719, Val Loss=0.9005, Acc=0.6053, Val Acc=0.5970  
Epoch 6/100: Loss=0.8722, Val Loss=3.5495, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.4030

hidden\_size=6

Epoch 1/100: Loss=0.7497, Val Loss=5.5654, Acc=0.2430, Val Acc=0.5970  
Epoch 2/100: Loss=5.3754, Val Loss=7.8387, Acc=0.6060, Val Acc=0.4030

```
Epoch 3/100: Loss=7.7773, Val Loss=4.8276, Acc=0.3940, Val Acc=0.5970
Epoch 4/100: Loss=4.8579, Val Loss=3.1613, Acc=0.6060, Val Acc=0.4199
Epoch 5/100: Loss=1.6870, Val Loss=4.2438, Acc=0.4040, Val Acc=0.5962
Epoch 6/100: Loss=3.7385, Val Loss=2.5079, Acc=0.6120, Val Acc=0.4030
Epoch 7/100: Loss=1.2444, Val Loss=3.4861, Acc=0.3940, Val Acc=0.5786
Epoch 8/100: Loss=2.6292, Val Loss=2.9329, Acc=0.6747, Val Acc=0.4139
Early stopping at epoch 8
Validation Accuracy: 0.4130
```

```
hidden_size=12
```

```
Epoch 1/100: Loss=0.7158, Val Loss=6.8795, Acc=0.3590, Val Acc=0.5970
```

```
/var/folders/4j/7lhn2f8s1t50d9y3vrkcytq80000gn/T/ipykernel_80938/70283799
7.py:3: RuntimeWarning: overflow encountered in exp
  return 1/(1+np.exp(-x))
```

Epoch 2/100: Loss=6.4265, Val Loss=6.8646, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=7.4444, Val Loss=3.9051, Acc=0.3940, Val Acc=0.5970  
Epoch 4/100: Loss=3.5308, Val Loss=1.9758, Acc=0.6067, Val Acc=0.4030  
Epoch 5/100: Loss=1.2450, Val Loss=4.6928, Acc=0.3940, Val Acc=0.5964  
Epoch 6/100: Loss=4.0372, Val Loss=2.4658, Acc=0.6100, Val Acc=0.5316  
Early stopping at epoch 6  
Validation Accuracy: 0.7730

hidden\_size=12

Epoch 1/100: Loss=0.6704, Val Loss=1.9654, Acc=0.6323, Val Acc=0.5520  
Epoch 2/100: Loss=1.1219, Val Loss=9.4371, Acc=0.7707, Val Acc=0.4030  
Epoch 3/100: Loss=9.6481, Val Loss=7.4232, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/100: Loss=0.7133, Val Loss=7.4235, Acc=0.3937, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=7.2326, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=7.8647, Val Loss=4.0638, Acc=0.3940, Val Acc=0.5931  
Epoch 4/100: Loss=3.5785, Val Loss=2.0405, Acc=0.6247, Val Acc=0.4030  
Epoch 5/100: Loss=0.9384, Val Loss=3.7432, Acc=0.3940, Val Acc=0.5892  
Epoch 6/100: Loss=2.7738, Val Loss=3.1982, Acc=0.6450, Val Acc=0.4044  
Early stopping at epoch 6  
Validation Accuracy: 0.6590

hidden\_size=24

Epoch 1/100: Loss=0.6657, Val Loss=7.3471, Acc=0.7150, Val Acc=0.5970  
Epoch 2/100: Loss=7.0548, Val Loss=10.9111, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.0181, Val Loss=4.6073, Acc=0.3940, Val Acc=0.5925  
Epoch 4/100: Loss=4.3167, Val Loss=4.5269, Acc=0.6280, Val Acc=0.4073  
Epoch 5/100: Loss=2.5912, Val Loss=5.2436, Acc=0.3937, Val Acc=0.5718  
Epoch 6/100: Loss=3.3439, Val Loss=3.5595, Acc=0.6837, Val Acc=0.5064  
Epoch 7/100: Loss=1.4067, Val Loss=2.3525, Acc=0.7843, Val Acc=0.5493  
Epoch 8/100: Loss=0.8621, Val Loss=3.6978, Acc=0.7837, Val Acc=0.4680  
Epoch 9/100: Loss=1.9906, Val Loss=4.3371, Acc=0.6973, Val Acc=0.5970  
Early stopping at epoch 9  
Validation Accuracy: 0.5970

epochs=150

hidden\_size=6

Epoch 1/150: Loss=0.8410, Val Loss=7.3758, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=7.2501, Val Loss=2.2146, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=2.3303, Val Loss=5.6422, Acc=0.3940, Val Acc=0.5970  
Epoch 4/150: Loss=5.4937, Val Loss=0.9891, Acc=0.6060, Val Acc=0.5970  
Epoch 5/150: Loss=0.9494, Val Loss=3.9088, Acc=0.6060, Val Acc=0.4030  
Epoch 6/150: Loss=3.9530, Val Loss=4.7653, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 6  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/150: Loss=0.6802, Val Loss=6.0424, Acc=0.3923, Val Acc=0.5970  
Epoch 2/150: Loss=4.9804, Val Loss=7.7821, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=7.4118, Val Loss=5.7159, Acc=0.3940, Val Acc=0.5970  
Epoch 4/150: Loss=5.4013, Val Loss=1.6419, Acc=0.6060, Val Acc=0.4831  
Epoch 5/150: Loss=1.0593, Val Loss=2.0651, Acc=0.6220, Val Acc=0.5873  
Epoch 6/150: Loss=1.3696, Val Loss=5.8429, Acc=0.6383, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.4030

hidden\_size=12

Epoch 1/150: Loss=0.7021, Val Loss=7.0465, Acc=0.4013, Val Acc=0.5970  
Epoch 2/150: Loss=6.7344, Val Loss=6.7287, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=7.3153, Val Loss=3.9667, Acc=0.3940, Val Acc=0.5953  
Epoch 4/150: Loss=3.6359, Val Loss=1.5429, Acc=0.6213, Val Acc=0.4030  
Epoch 5/150: Loss=1.0784, Val Loss=4.2995, Acc=0.3940, Val Acc=0.5933  
Epoch 6/150: Loss=3.8322, Val Loss=1.5569, Acc=0.6327, Val Acc=0.5345  
Early stopping at epoch 6  
Validation Accuracy: 0.7510

hidden\_size=12

Epoch 1/150: Loss=0.7024, Val Loss=6.0195, Acc=0.3663, Val Acc=0.5970  
Epoch 2/150: Loss=5.2802, Val Loss=10.4957, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=10.5972, Val Loss=5.2056, Acc=0.3940, Val Acc=0.5970  
Epoch 4/150: Loss=5.7157, Val Loss=4.2302, Acc=0.6060, Val Acc=0.4030  
Epoch 5/150: Loss=2.4462, Val Loss=4.4144, Acc=0.3940, Val Acc=0.5815  
Epoch 6/150: Loss=3.1287, Val Loss=3.5585, Acc=0.6653, Val Acc=0.5184  
Epoch 7/150: Loss=1.7304, Val Loss=2.1991, Acc=0.7423, Val Acc=0.5378  
Epoch 8/150: Loss=0.9414, Val Loss=1.5910, Acc=0.7820, Val Acc=0.5372  
Epoch 9/150: Loss=0.6514, Val Loss=1.2887, Acc=0.7753, Val Acc=0.5572  
Epoch 10/150: Loss=0.6601, Val Loss=2.7540, Acc=0.7537, Val Acc=0.4032  
Epoch 11/150: Loss=1.5660, Val Loss=4.8250, Acc=0.3957, Val Acc=0.5970  
Early stopping at epoch 11  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/150: Loss=0.7226, Val Loss=7.4235, Acc=0.3927, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=7.6465, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=8.2828, Val Loss=4.1826, Acc=0.3940, Val Acc=0.5927  
Epoch 4/150: Loss=3.6689, Val Loss=1.6261, Acc=0.6320, Val Acc=0.4077  
Epoch 5/150: Loss=0.7304, Val Loss=3.1136, Acc=0.4147, Val Acc=0.5859  
Epoch 6/150: Loss=2.2487, Val Loss=3.5788, Acc=0.6587, Val Acc=0.4038  
Early stopping at epoch 6  
Validation Accuracy: 0.5440

hidden\_size=24

Epoch 1/150: Loss=0.7014, Val Loss=7.3327, Acc=0.3850, Val Acc=0.5970  
Epoch 2/150: Loss=7.0084, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=6.0008, Acc=0.3940, Val Acc=0.5970  
Epoch 4/150: Loss=6.6029, Val Loss=5.1634, Acc=0.6060, Val Acc=0.4267  
Epoch 5/150: Loss=3.2907, Val Loss=5.2661, Acc=0.4600, Val Acc=0.5640  
Epoch 6/150: Loss=3.1749, Val Loss=4.4953, Acc=0.7163, Val Acc=0.4961  
Epoch 7/150: Loss=1.8891, Val Loss=4.1642, Acc=0.7870, Val Acc=0.5863  
Epoch 8/150: Loss=3.1504, Val Loss=6.7819, Acc=0.6637, Val Acc=0.4030  
Epoch 9/150: Loss=4.6500, Val Loss=6.2497, Acc=0.3940, Val Acc=0.5524  
Early stopping at epoch 9  
Validation Accuracy: 0.7550

epochs=500

hidden\_size=6

Epoch 1/500: Loss=0.6910, Val Loss=2.5482, Acc=0.5877, Val Acc=0.5970  
Epoch 2/500: Loss=2.3672, Val Loss=8.3818, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=8.6823, Val Loss=3.5804, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/500: Loss=0.7451, Val Loss=5.3691, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=5.0993, Val Loss=7.4344, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=6.9947, Val Loss=5.5924, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3



Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/500: Loss=0.6903, Val Loss=4.5826, Acc=0.6047, Val Acc=0.5970  
Epoch 2/500: Loss=4.2571, Val Loss=8.8920, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=9.2332, Val Loss=3.5632, Acc=0.3940, Val Acc=0.5925  
Epoch 4/500: Loss=3.1586, Val Loss=2.1819, Acc=0.6307, Val Acc=0.4030  
Epoch 5/500: Loss=1.4065, Val Loss=4.9637, Acc=0.3940, Val Acc=0.5941  
Epoch 6/500: Loss=4.2916, Val Loss=2.8506, Acc=0.6210, Val Acc=0.5394  
Early stopping at epoch 6  
Validation Accuracy: 0.7730

hidden\_size=12

Epoch 1/500: Loss=0.6488, Val Loss=1.4804, Acc=0.6060, Val Acc=0.5762  
Epoch 2/500: Loss=0.8680, Val Loss=10.9788, Acc=0.6740, Val Acc=0.4030  
Epoch 3/500: Loss=11.1457, Val Loss=5.8762, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/500: Loss=0.7163, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=6.7293, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=7.2847, Val Loss=4.2896, Acc=0.3940, Val Acc=0.5941  
Epoch 4/500: Loss=3.8200, Val Loss=1.4632, Acc=0.6290, Val Acc=0.4156  
Epoch 5/500: Loss=0.7158, Val Loss=2.7851, Acc=0.4497, Val Acc=0.5859  
Epoch 6/500: Loss=2.0047, Val Loss=3.9453, Acc=0.6623, Val Acc=0.4030  
Early stopping at epoch 6  
Validation Accuracy: 0.6040

hidden\_size=24

Epoch 1/500: Loss=0.7680, Val Loss=7.4233, Acc=0.3587, Val Acc=0.5970  
Epoch 2/500: Loss=7.2567, Val Loss=10.8693, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=10.9640, Val Loss=6.9113, Acc=0.3940, Val Acc=0.5970  
Epoch 4/500: Loss=6.5190, Val Loss=6.0546, Acc=0.6060, Val Acc=0.5010  
Epoch 5/500: Loss=2.8734, Val Loss=4.0520, Acc=0.7273, Val Acc=0.5340  
Epoch 6/500: Loss=1.3617, Val Loss=4.3787, Acc=0.7637, Val Acc=0.4794  
Epoch 7/500: Loss=3.2450, Val Loss=5.7751, Acc=0.6123, Val Acc=0.5512  
Early stopping at epoch 7  
Validation Accuracy: 0.7430

Training MLP with lr=0.05

epochs=10

hidden\_size=6

Epoch 1/10: Loss=0.7224, Val Loss=7.4235, Acc=0.3870, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/10: Loss=0.7009, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 2/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/10: Loss=7.2577, Val Loss=7.3588, Acc=0.6060, Val Acc=0.5970  
Epoch 4/10: Loss=7.2371, Val Loss=9.2729, Acc=0.6060, Val Acc=0.4521  
Epoch 5/10: Loss=11.4898, Val Loss=7.0185, Acc=0.3250, Val Acc=0.5813  
Epoch 6/10: Loss=5.8169, Val Loss=7.5828, Acc=0.6330, Val Acc=0.4030  
Epoch 7/10: Loss=6.7212, Val Loss=7.2320, Acc=0.3943, Val Acc=0.5970  
Early stopping at epoch 7  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/10: Loss=0.7732, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9913, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1526, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/10: Loss=0.7701, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4216, Acc=0.3940, Val Acc=0.5970  
Epoch 4/10: Loss=7.2537, Val Loss=7.4392, Acc=0.6060, Val Acc=0.4802  
Epoch 5/10: Loss=4.1049, Val Loss=7.9225, Acc=0.7470, Val Acc=0.5440  
Early stopping at epoch 5  
Validation Accuracy: 0.7680

hidden\_size=24

Epoch 1/10: Loss=0.6688, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.3615, Acc=0.3940, Val Acc=0.5929  
Epoch 4/10: Loss=7.0298, Val Loss=9.8986, Acc=0.6103, Val Acc=0.4030  
Epoch 5/10: Loss=9.7410, Val Loss=6.9716, Acc=0.3940, Val Acc=0.5929  
Epoch 6/10: Loss=5.6560, Val Loss=8.6438, Acc=0.6287, Val Acc=0.5169  
Epoch 7/10: Loss=4.8721, Val Loss=8.6883, Acc=0.7270, Val Acc=0.5229  
Early stopping at epoch 7  
Validation Accuracy: 0.4880

hidden\_size=24

Epoch 1/10: Loss=0.6936, Val Loss=7.4235, Acc=0.3967, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=50

hidden\_size=6

Epoch 1/50: Loss=0.6741, Val Loss=7.4235, Acc=0.6113, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4224, Acc=0.3940, Val Acc=0.5970  
Epoch 4/50: Loss=7.2553, Val Loss=8.2005, Acc=0.6060, Val Acc=0.4030  
Epoch 5/50: Loss=7.5739, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 5  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/50: Loss=0.6645, Val Loss=10.2830, Acc=0.6060, Val Acc=0.4030  
Epoch 2/50: Loss=10.1888, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/50: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 4/50: Loss=7.2575, Val Loss=10.9695, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 4  
Validation Accuracy: 0.4030

hidden\_size=12

Epoch 1/50: Loss=0.7142, Val Loss=7.4235, Acc=0.3990, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4123, Acc=0.3940, Val Acc=0.5964  
Epoch 4/50: Loss=7.2729, Val Loss=2.6096, Acc=0.6043, Val Acc=0.4208  
Epoch 5/50: Loss=2.6773, Val Loss=7.4235, Acc=0.4283, Val Acc=0.5970  
Epoch 6/50: Loss=7.2577, Val Loss=6.3616, Acc=0.6060, Val Acc=0.5966  
Early stopping at epoch 6

Validation Accuracy: 0.3670

hidden\_size=12

Epoch 1/50: Loss=0.7717, Val Loss=7.4235, Acc=0.3160, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/50: Loss=0.7043, Val Loss=7.4235, Acc=0.3837, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=6.6970, Acc=0.3940, Val Acc=0.5596  
Epoch 4/50: Loss=4.8667, Val Loss=8.2769, Acc=0.7187, Val Acc=0.5151  
Epoch 5/50: Loss=4.8256, Val Loss=6.7865, Acc=0.7160, Val Acc=0.5444  
Early stopping at epoch 5  
Validation Accuracy: 0.4810

hidden\_size=24

Epoch 1/50: Loss=0.7273, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=100

hidden\_size=6

Epoch 1/100: Loss=0.6866, Val Loss=10.9522, Acc=0.6060, Val Acc=0.4030  
Epoch 2/100: Loss=11.1376, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/100: Loss=7.2577, Val Loss=7.4137, Acc=0.6060, Val Acc=0.5970  
Epoch 4/100: Loss=7.2456, Val Loss=9.4684, Acc=0.6060, Val Acc=0.4030  
Epoch 5/100: Loss=9.1387, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 5  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/100: Loss=0.6985, Val Loss=4.6693, Acc=0.5787, Val Acc=0.5902  
Epoch 2/100: Loss=5.2149, Val Loss=10.9971, Acc=0.6157, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/100: Loss=0.6631, Val Loss=6.8594, Acc=0.6060, Val Acc=0.4030  
Epoch 2/100: Loss=6.0271, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/100: Loss=7.2577, Val Loss=7.1139, Acc=0.6060, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/100: Loss=0.6753, Val Loss=2.8077, Acc=0.6060, Val Acc=0.5823  
Epoch 2/100: Loss=2.6056, Val Loss=10.9971, Acc=0.6250, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/100: Loss=0.7006, Val Loss=7.4235, Acc=0.3700, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.3829, Acc=0.3940, Val Acc=0.5935

Epoch 4/100: Loss=7.3811, Val Loss=7.6666, Acc=0.5940, Val Acc=0.4030  
Epoch 5/100: Loss=6.9244, Val Loss=7.3612, Acc=0.3940, Val Acc=0.5960  
Epoch 6/100: Loss=6.9888, Val Loss=8.1376, Acc=0.6107, Val Acc=0.5402  
Epoch 7/100: Loss=3.5735, Val Loss=5.1170, Acc=0.7953, Val Acc=0.5460  
Epoch 8/100: Loss=1.8342, Val Loss=7.9921, Acc=0.7940, Val Acc=0.4030  
Epoch 9/100: Loss=7.3936, Val Loss=7.0592, Acc=0.3940, Val Acc=0.5859  
Early stopping at epoch 9  
Validation Accuracy: 0.4980

hidden\_size=24  
Epoch 1/100: Loss=0.8344, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.5003, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=10.7689, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=150  
hidden\_size=6  
Epoch 1/150: Loss=0.6734, Val Loss=7.5673, Acc=0.6060, Val Acc=0.4030  
Epoch 2/150: Loss=7.4673, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/150: Loss=7.2577, Val Loss=7.4221, Acc=0.6060, Val Acc=0.5970  
Epoch 4/150: Loss=7.2564, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 5/150: Loss=11.1779, Val Loss=7.4235, Acc=0.3930, Val Acc=0.5970  
Early stopping at epoch 5  
Validation Accuracy: 0.5970

hidden\_size=6  
Epoch 1/150: Loss=0.7544, Val Loss=7.4227, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=7.2572, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12  
Epoch 1/150: Loss=0.7031, Val Loss=7.4235, Acc=0.3973, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4274, Acc=0.3940, Val Acc=0.5958  
Early stopping at epoch 3  
Validation Accuracy: 0.3460

hidden\_size=12  
Epoch 1/150: Loss=0.7999, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9507, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1141, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24  
Epoch 1/150: Loss=0.6634, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4242, Acc=0.3940, Val Acc=0.5953  
Early stopping at epoch 3  
Validation Accuracy: 0.3540

hidden\_size=24  
Epoch 1/150: Loss=0.7188, Val Loss=7.4235, Acc=0.5563, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

```
epochs=500
    hidden_size=6
Epoch 1/500: Loss=0.6636, Val Loss=1.1912, Acc=0.6060, Val Acc=0.5120
Epoch 2/500: Loss=0.6674, Val Loss=7.1562, Acc=0.6983, Val Acc=0.5970
Epoch 3/500: Loss=7.0393, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Early stopping at epoch 3
Validation Accuracy: 0.4030
```

```
    hidden_size=6
Epoch 1/500: Loss=0.7279, Val Loss=7.4235, Acc=0.4047, Val Acc=0.5970
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
    hidden_size=12
Epoch 1/500: Loss=0.7655, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
    hidden_size=12
Epoch 1/500: Loss=0.6768, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 2/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 3/500: Loss=7.2577, Val Loss=7.4227, Acc=0.6060, Val Acc=0.5970
Epoch 4/500: Loss=7.2570, Val Loss=4.3560, Acc=0.6060, Val Acc=0.5473
Epoch 5/500: Loss=4.1932, Val Loss=10.9672, Acc=0.6247, Val Acc=0.4030
Epoch 6/500: Loss=11.1279, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 6
Validation Accuracy: 0.5970
```

```
    hidden_size=24
Epoch 1/500: Loss=0.7904, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 2/500: Loss=7.2577, Val Loss=10.9874, Acc=0.6060, Val Acc=0.4030
Epoch 3/500: Loss=11.1535, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
    hidden_size=24
Epoch 1/500: Loss=0.7535, Val Loss=7.4235, Acc=0.3467, Val Acc=0.5970
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

Training MLP with lr=0.1

```
    epochs=10
        hidden_size=6
Epoch 1/10: Loss=0.7733, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
        hidden_size=6
Epoch 1/10: Loss=0.8078, Val Loss=7.4235, Acc=0.3777, Val Acc=0.5970
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
```

Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/10: Loss=0.6781, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.3850

hidden\_size=12

Epoch 1/10: Loss=0.6805, Val Loss=7.4235, Acc=0.6087, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/10: Loss=0.6890, Val Loss=7.4235, Acc=0.6000, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4988, Acc=0.3940, Val Acc=0.5894  
Early stopping at epoch 3  
Validation Accuracy: 0.2890

hidden\_size=24

Epoch 1/10: Loss=0.8825, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.6938, Acc=0.6060, Val Acc=0.4088  
Epoch 3/10: Loss=10.1950, Val Loss=7.4235, Acc=0.4310, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=50

hidden\_size=6

Epoch 1/50: Loss=0.8111, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9953, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1574, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/50: Loss=0.7424, Val Loss=7.4235, Acc=0.2230, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/50: Loss=0.6939, Val Loss=7.4235, Acc=0.4360, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4184, Acc=0.3940, Val Acc=0.5958  
Epoch 4/50: Loss=7.3384, Val Loss=6.3624, Acc=0.6007, Val Acc=0.4253  
Epoch 5/50: Loss=6.2209, Val Loss=7.4235, Acc=0.4477, Val Acc=0.5970  
Epoch 6/50: Loss=7.2577, Val Loss=7.4034, Acc=0.6060, Val Acc=0.5953  
Early stopping at epoch 6  
Validation Accuracy: 0.3660

hidden\_size=12

Epoch 1/50: Loss=0.6334, Val Loss=7.4235, Acc=0.7500, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970

Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/50: Loss=0.6815, Val Loss=3.8537, Acc=0.6060, Val Acc=0.5970  
Epoch 2/50: Loss=2.5716, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.3890

hidden\_size=24

Epoch 1/50: Loss=0.6370, Val Loss=7.4235, Acc=0.7363, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=100

hidden\_size=6

Epoch 1/100: Loss=0.7371, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/100: Loss=0.8147, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/100: Loss=0.6763, Val Loss=6.2005, Acc=0.6060, Val Acc=0.5970  
Epoch 2/100: Loss=5.0974, Val Loss=10.9971, Acc=0.6073, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4161, Acc=0.3940, Val Acc=0.5960  
Early stopping at epoch 3  
Validation Accuracy: 0.3370

hidden\_size=12

Epoch 1/100: Loss=0.6949, Val Loss=6.9005, Acc=0.6060, Val Acc=0.5904  
Epoch 2/100: Loss=5.8870, Val Loss=10.9971, Acc=0.6283, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4087, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/100: Loss=0.7426, Val Loss=7.4235, Acc=0.3740, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.3887, Acc=0.3940, Val Acc=0.5970  
Epoch 4/100: Loss=7.2578, Val Loss=5.4186, Acc=0.6060, Val Acc=0.4408  
Epoch 5/100: Loss=4.8413, Val Loss=7.4235, Acc=0.4863, Val Acc=0.5970  
Epoch 6/100: Loss=7.2577, Val Loss=2.4771, Acc=0.6060, Val Acc=0.5962  
Epoch 7/100: Loss=1.5024, Val Loss=10.5410, Acc=0.6043, Val Acc=0.4102  
Epoch 8/100: Loss=10.5062, Val Loss=7.4235, Acc=0.4177, Val Acc=0.5970  
Early stopping at epoch 8  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/100: Loss=0.7231, Val Loss=7.4235, Acc=0.2490, Val Acc=0.5970

Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=150

hidden\_size=6

Epoch 1/150: Loss=0.7000, Val Loss=10.1972, Acc=0.6060, Val Acc=0.4030  
Epoch 2/150: Loss=10.7917, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/150: Loss=7.2577, Val Loss=4.2505, Acc=0.6060, Val Acc=0.4030  
Epoch 4/150: Loss=4.5866, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 5/150: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Early stopping at epoch 5  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/150: Loss=0.6806, Val Loss=7.4158, Acc=0.6060, Val Acc=0.5970  
Epoch 2/150: Loss=7.2345, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/150: Loss=0.6942, Val Loss=7.4235, Acc=0.4203, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/150: Loss=0.7033, Val Loss=7.4235, Acc=0.6003, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/150: Loss=0.6807, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4864, Acc=0.3940, Val Acc=0.5906  
Early stopping at epoch 3  
Validation Accuracy: 0.3080

hidden\_size=24

Epoch 1/150: Loss=0.7908, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=500

hidden\_size=6

Epoch 1/500: Loss=0.7820, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/500: Loss=0.7386, Val Loss=7.4235, Acc=0.2637, Val Acc=0.5970



Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/500: Loss=0.6976, Val Loss=7.4235, Acc=0.4777, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.7840, Acc=0.3940, Val Acc=0.5757  
Early stopping at epoch 3  
Validation Accuracy: 0.4130

hidden\_size=12

Epoch 1/500: Loss=0.7279, Val Loss=7.4235, Acc=0.2487, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/500: Loss=0.7014, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.5027, Acc=0.3940, Val Acc=0.5904  
Early stopping at epoch 3  
Validation Accuracy: 0.3080

hidden\_size=24

Epoch 1/500: Loss=0.7748, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

Training MLP with lr=0.5

epochs=10

hidden\_size=6

Epoch 1/10: Loss=0.6686, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 2/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/10: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 4/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 4  
Validation Accuracy: 0.4480

hidden\_size=6

Epoch 1/10: Loss=0.6697, Val Loss=6.6795, Acc=0.6060, Val Acc=0.5545  
Epoch 2/10: Loss=5.4924, Val Loss=10.9971, Acc=0.6147, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/10: Loss=0.7051, Val Loss=7.4235, Acc=0.4087, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/10: Loss=0.7597, Val Loss=7.4235, Acc=0.3660, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030

Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/10: Loss=0.6870, Val Loss=7.4235, Acc=0.5997, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.6296, Acc=0.3940, Val Acc=0.5842  
Early stopping at epoch 3  
Validation Accuracy: 0.3450

hidden\_size=24

Epoch 1/10: Loss=0.7381, Val Loss=7.4235, Acc=0.4077, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=50

hidden\_size=6

Epoch 1/50: Loss=0.6920, Val Loss=7.4235, Acc=0.5393, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/50: Loss=0.6952, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 2/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/50: Loss=7.2577, Val Loss=7.5843, Acc=0.6060, Val Acc=0.5883  
Epoch 4/50: Loss=7.8226, Val Loss=10.5541, Acc=0.5753, Val Acc=0.4269  
Early stopping at epoch 4  
Validation Accuracy: 0.4440

hidden\_size=12

Epoch 1/50: Loss=0.6648, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.3300

hidden\_size=12

Epoch 1/50: Loss=0.6608, Val Loss=7.4235, Acc=0.7393, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/50: Loss=0.7191, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/50: Loss=0.8211, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3

Validation Accuracy: 0.5970

epochs=100

hidden\_size=6

Epoch 1/100: Loss=0.7785, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/100: Loss=0.6353, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 2/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/100: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 4/100: Loss=7.2577, Val Loss=7.6767, Acc=0.6060, Val Acc=0.4961  
Early stopping at epoch 4  
Validation Accuracy: 0.3230

hidden\_size=12

Epoch 1/100: Loss=0.7736, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/100: Loss=0.6932, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 2/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/100: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 4/100: Loss=7.2577, Val Loss=10.4790, Acc=0.6060, Val Acc=0.4311  
Early stopping at epoch 4  
Validation Accuracy: 0.3460

hidden\_size=24

Epoch 1/100: Loss=0.6935, Val Loss=7.4235, Acc=0.5687, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.5316, Acc=0.3940, Val Acc=0.5904  
Early stopping at epoch 3  
Validation Accuracy: 0.3120

hidden\_size=24

Epoch 1/100: Loss=0.6937, Val Loss=7.4235, Acc=0.3707, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=150

hidden\_size=6

Epoch 1/150: Loss=0.7220, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/150: Loss=0.7372, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3

Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/150: Loss=0.6783, Val Loss=7.4235, Acc=0.5287, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/150: Loss=0.6584, Val Loss=7.4235, Acc=0.7077, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/150: Loss=0.6827, Val Loss=7.4235, Acc=0.6233, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4258, Acc=0.3940, Val Acc=0.5966  
Early stopping at epoch 3  
Validation Accuracy: 0.3660

hidden\_size=24

Epoch 1/150: Loss=0.6848, Val Loss=7.4235, Acc=0.7163, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=500

hidden\_size=6

Epoch 1/500: Loss=0.7464, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/500: Loss=0.6890, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 2/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/500: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 4/500: Loss=7.2577, Val Loss=10.4683, Acc=0.6060, Val Acc=0.4317  
Early stopping at epoch 4  
Validation Accuracy: 0.3430

hidden\_size=12

Epoch 1/500: Loss=0.6685, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.3720

hidden\_size=12

Epoch 1/500: Loss=0.7309, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

```
hidden_size=24
Epoch 1/500: Loss=0.6363, Val Loss=6.5488, Acc=0.6210, Val Acc=0.5528
Epoch 2/500: Loss=3.3794, Val Loss=10.9971, Acc=0.7740, Val Acc=0.4030
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.6730
```

```
hidden_size=24
Epoch 1/500: Loss=0.6607, Val Loss=7.4235, Acc=0.6670, Val Acc=0.5970
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
Training MLP with lr=1.0
epochs=10
```

```
hidden_size=6
Epoch 1/10: Loss=0.6593, Val Loss=10.9773, Acc=0.6060, Val Acc=0.4034
Epoch 2/10: Loss=11.1336, Val Loss=7.4235, Acc=0.3953, Val Acc=0.5970
Epoch 3/10: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970
Epoch 4/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Early stopping at epoch 4
Validation Accuracy: 0.3830
```

```
hidden_size=6
Epoch 1/10: Loss=0.6606, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 2/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 3/10: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970
Epoch 4/10: Loss=7.2577, Val Loss=10.6040, Acc=0.6060, Val Acc=0.4243
Early stopping at epoch 4
Validation Accuracy: 0.3470
```

```
hidden_size=12
Epoch 1/10: Loss=0.7869, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
hidden_size=12
Epoch 1/10: Loss=0.6755, Val Loss=10.0663, Acc=0.6060, Val Acc=0.4534
Epoch 2/10: Loss=13.6717, Val Loss=7.4235, Acc=0.2573, Val Acc=0.5970
Epoch 3/10: Loss=7.2577, Val Loss=10.8328, Acc=0.6060, Val Acc=0.4119
Epoch 4/10: Loss=11.3226, Val Loss=7.4235, Acc=0.3853, Val Acc=0.5970
Early stopping at epoch 4
Validation Accuracy: 0.5970
```

```
hidden_size=24
Epoch 1/10: Loss=0.7150, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
hidden_size=24
Epoch 1/10: Loss=0.7177, Val Loss=7.4235, Acc=0.4433, Val Acc=0.5970
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
epochs=50
    hidden_size=6
Epoch 1/50: Loss=0.7622, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
    hidden_size=6
Epoch 1/50: Loss=0.6476, Val Loss=7.4235, Acc=0.7710, Val Acc=0.5970
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
    hidden_size=12
Epoch 1/50: Loss=0.6612, Val Loss=7.4235, Acc=0.6237, Val Acc=0.5970
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/50: Loss=11.1629, Val Loss=7.4294, Acc=0.3940, Val Acc=0.5966
Early stopping at epoch 3
Validation Accuracy: 0.3320
```

```
    hidden_size=12
Epoch 1/50: Loss=0.6747, Val Loss=7.4672, Acc=0.6060, Val Acc=0.5935
Epoch 2/50: Loss=7.0337, Val Loss=10.9971, Acc=0.6180, Val Acc=0.4030
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 4/50: Loss=7.2577, Val Loss=10.9900, Acc=0.6060, Val Acc=0.4034
Epoch 5/50: Loss=11.1322, Val Loss=7.4235, Acc=0.3957, Val Acc=0.5970
Early stopping at epoch 5
Validation Accuracy: 0.5970
```

```
    hidden_size=24
Epoch 1/50: Loss=0.7085, Val Loss=7.4235, Acc=0.5773, Val Acc=0.5970
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/50: Loss=11.1629, Val Loss=7.5915, Acc=0.3940, Val Acc=0.5879
Early stopping at epoch 3
Validation Accuracy: 0.4110
```

```
    hidden_size=24
Epoch 1/50: Loss=0.7765, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
Validation Accuracy: 0.5970
```

```
epochs=100
    hidden_size=6
Epoch 1/100: Loss=0.6933, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 2/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 3/100: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970
Epoch 4/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Early stopping at epoch 4
Validation Accuracy: 0.3620
```

```
    hidden_size=6
Epoch 1/100: Loss=0.8730, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970
Early stopping at epoch 3
```

Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/100: Loss=0.7039, Val Loss=7.4235, Acc=0.3950, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4843, Acc=0.3940, Val Acc=0.5937  
Early stopping at epoch 3  
Validation Accuracy: 0.3280

hidden\_size=12

Epoch 1/100: Loss=0.7500, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/100: Loss=0.6720, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.3190

hidden\_size=24

Epoch 1/100: Loss=0.7370, Val Loss=7.4235, Acc=0.2513, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=150

hidden\_size=6

Epoch 1/150: Loss=0.7320, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/150: Loss=0.7693, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/150: Loss=0.6915, Val Loss=7.4235, Acc=0.4903, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4759, Acc=0.3940, Val Acc=0.5937  
Early stopping at epoch 3  
Validation Accuracy: 0.3510

hidden\_size=12

Epoch 1/150: Loss=0.6854, Val Loss=7.4235, Acc=0.6050, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/150: Loss=0.6534, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.3360

hidden\_size=24  
Epoch 1/150: Loss=0.6891, Val Loss=7.4235, Acc=0.4280, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=500  
hidden\_size=6  
Epoch 1/500: Loss=0.7374, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6  
Epoch 1/500: Loss=0.7238, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12  
Epoch 1/500: Loss=0.6647, Val Loss=7.4235, Acc=0.6070, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.9896, Acc=0.3940, Val Acc=0.5656  
Early stopping at epoch 3  
Validation Accuracy: 0.3980

hidden\_size=12  
Epoch 1/500: Loss=0.7546, Val Loss=7.4235, Acc=0.2680, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24  
Epoch 1/500: Loss=0.7263, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24  
Epoch 1/500: Loss=0.6621, Val Loss=7.4235, Acc=0.7227, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

Training MLP with lr=5.0  
epochs=10  
hidden\_size=6  
Epoch 1/10: Loss=0.6752, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030



Epoch 2/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/10: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 4/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 4  
Validation Accuracy: 0.5160

hidden\_size=6

Epoch 1/10: Loss=0.7182, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/10: Loss=0.7270, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.6665, Acc=0.3940, Val Acc=0.5838  
Early stopping at epoch 3  
Validation Accuracy: 0.2810

hidden\_size=12

Epoch 1/10: Loss=0.7925, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/10: Loss=0.6809, Val Loss=9.3140, Acc=0.6060, Val Acc=0.4944  
Epoch 2/10: Loss=12.4340, Val Loss=7.4235, Acc=0.3247, Val Acc=0.5970  
Epoch 3/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 4/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 4  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/10: Loss=0.7040, Val Loss=7.4235, Acc=0.3733, Val Acc=0.5970  
Epoch 2/10: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/10: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=50

hidden\_size=6

Epoch 1/50: Loss=0.6659, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 2/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 3/50: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 4/50: Loss=7.2577, Val Loss=10.9900, Acc=0.6060, Val Acc=0.4034  
Early stopping at epoch 4  
Validation Accuracy: 0.4730

hidden\_size=6

Epoch 1/50: Loss=0.7240, Val Loss=7.4235, Acc=0.3327, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/50: Loss=0.6787, Val Loss=10.7325, Acc=0.6060, Val Acc=0.4168

Epoch 2/50: Loss=10.5335, Val Loss=7.4235, Acc=0.4273, Val Acc=0.5970  
Epoch 3/50: Loss=7.2577, Val Loss=9.8822, Acc=0.6060, Val Acc=0.4635  
Epoch 4/50: Loss=10.2665, Val Loss=7.4235, Acc=0.4427, Val Acc=0.5970  
Early stopping at epoch 4  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/50: Loss=0.6730, Val Loss=7.4235, Acc=0.5950, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/50: Loss=0.7043, Val Loss=7.4235, Acc=0.3990, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.5486, Acc=0.3940, Val Acc=0.5902  
Early stopping at epoch 3  
Validation Accuracy: 0.3430

hidden\_size=24

Epoch 1/50: Loss=0.6943, Val Loss=7.4235, Acc=0.3720, Val Acc=0.5970  
Epoch 2/50: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=100

hidden\_size=6

Epoch 1/100: Loss=0.7334, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/100: Loss=0.7587, Val Loss=7.4235, Acc=0.3887, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/100: Loss=0.6820, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.4490

hidden\_size=12

Epoch 1/100: Loss=0.7687, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/100: Loss=0.6717, Val Loss=7.4235, Acc=0.6100, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4807, Acc=0.3940, Val Acc=0.5939

Early stopping at epoch 3  
Validation Accuracy: 0.4060

hidden\_size=24

Epoch 1/100: Loss=0.6651, Val Loss=7.4235, Acc=0.6467, Val Acc=0.5970  
Epoch 2/100: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/100: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=150

hidden\_size=6

Epoch 1/150: Loss=0.6602, Val Loss=9.0033, Acc=0.6060, Val Acc=0.5109  
Epoch 2/150: Loss=5.7288, Val Loss=10.5898, Acc=0.6890, Val Acc=0.4251  
Epoch 3/150: Loss=11.8322, Val Loss=7.4235, Acc=0.3577, Val Acc=0.5970  
Epoch 4/150: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 5/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 5  
Validation Accuracy: 0.3930

hidden\_size=6

Epoch 1/150: Loss=0.6971, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/150: Loss=0.7786, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=12

Epoch 1/150: Loss=0.6938, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/150: Loss=0.6860, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4271, Acc=0.3940, Val Acc=0.5968  
Early stopping at epoch 3  
Validation Accuracy: 0.4410

hidden\_size=24

Epoch 1/150: Loss=0.7453, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/150: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/150: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

epochs=500

hidden\_size=6

Epoch 1/500: Loss=0.8047, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970

Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=6

Epoch 1/500: Loss=0.7353, Val Loss=9.9537, Acc=0.6033, Val Acc=0.4596  
Epoch 2/500: Loss=13.9997, Val Loss=7.4235, Acc=0.2400, Val Acc=0.5970  
Epoch 3/500: Loss=7.2577, Val Loss=7.4235, Acc=0.6060, Val Acc=0.5970  
Epoch 4/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Early stopping at epoch 4  
Validation Accuracy: 0.4030

hidden\_size=12

Epoch 1/500: Loss=0.7062, Val Loss=7.4235, Acc=0.2670, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.5986, Acc=0.3940, Val Acc=0.5875  
Early stopping at epoch 3  
Validation Accuracy: 0.2840

hidden\_size=12

Epoch 1/500: Loss=0.7037, Val Loss=7.4235, Acc=0.3480, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

hidden\_size=24

Epoch 1/500: Loss=0.6929, Val Loss=7.4235, Acc=0.5230, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4521, Acc=0.3940, Val Acc=0.5954  
Early stopping at epoch 3  
Validation Accuracy: 0.3520

hidden\_size=24

Epoch 1/500: Loss=0.7024, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Epoch 2/500: Loss=7.2577, Val Loss=10.9971, Acc=0.6060, Val Acc=0.4030  
Epoch 3/500: Loss=11.1629, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
Early stopping at epoch 3  
Validation Accuracy: 0.5970

Best Model: lr=0.01, epochs=100, hidden\_size=12, scaled\_data=True  
Best Validation Accuracy: 0.7730

step f)

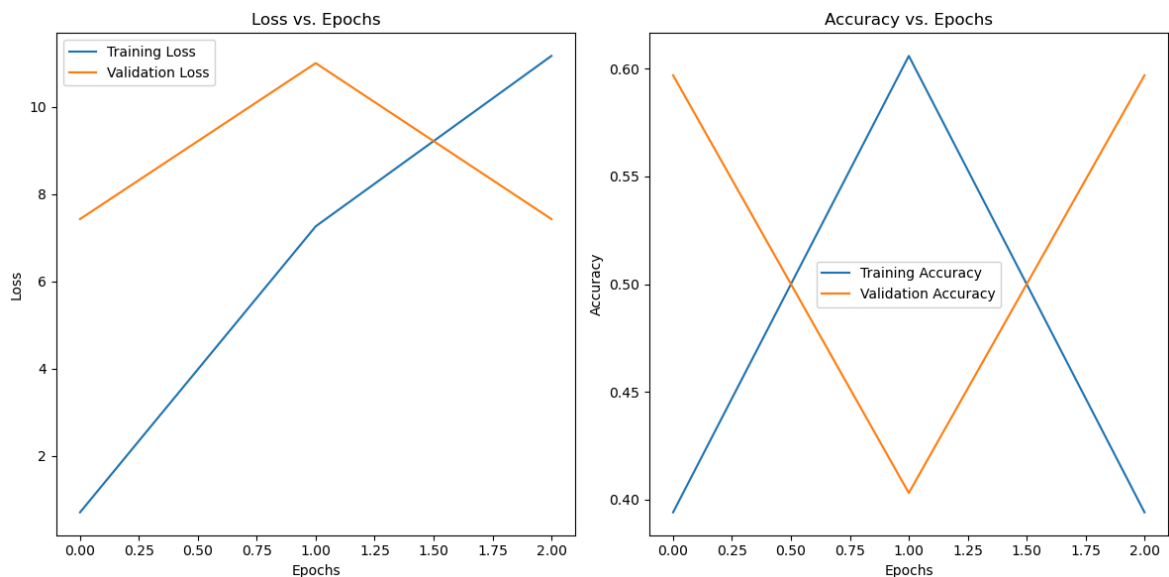
```
In [276... plt.figure(figsize=(12, 6))

# Plotting training loss and validation loss
plt.subplot(1, 2, 1)
plt.plot(model.train_losses, label='Training Loss')
plt.plot(model.val_losses, label='Validation Loss')
plt.title("Loss vs. Epochs")
plt.xlabel("Epochs")
plt.ylabel("Loss")
plt.legend()

# Plotting training accuracy and validation accuracy
plt.subplot(1, 2, 2)
plt.plot(model.train_accuracies, label='Training Accuracy')
plt.plot(model.val_accuracies, label='Validation Accuracy')
```

```
plt.title("Accuracy vs. Epochs")
plt.xlabel("Epochs")
plt.ylabel("Accuracy")
plt.legend()

plt.tight_layout()
plt.show()
```



step g)

```
In [277... ## Training the classifier 3 times with the optimal hyper-parameters
## to see the mean and standard deviation of the accuracies over the 3 runs

# optimal hyperparameters (from previous tuning)
optimal_lr = best_params[0]
optimal_epochs = best_params[1]
optimal_hidden_size = best_params[2]

accuracies = []

for x in range(3):
    print(f"Run {x+1}/3 - Training with optimal parameters: lr={optimal_lr}, epochs={optimal_epochs}, hidden_size={optimal_hidden_size}")

    model = MLPBinaryLinReg(dim_hidden=optimal_hidden_size)
    model.fit(X_train, t2_train, lr=optimal_lr, epochs=optimal_epochs, seed=x)

    predictions = model.predict(X_val)
    acc = accuracy(predictions, t2_val)

    print(f"Validation Accuracy for Run {x+1}: {acc:.4f}\n")
    accuracies.append(acc)

#mean and standard deviation
mean_accuracy = np.mean(accuracies)
std_accuracy = np.std(accuracies)

print(f"Mean validation accuracy for 3 runs: {mean_accuracy:.4f}")
print(f"Standard deviation of accuracy over 3 runs: {std_accuracy:.4f}")
```

Run 1/3 – Training with optimal parameters: lr=0.01, epochs=100, hidden\_size=12

Epoch 1/100: Loss=0.7308, Val Loss=7.2110, Acc=0.3940, Val Acc=0.5970  
 Epoch 2/100: Loss=6.8584, Val Loss=5.4834, Acc=0.6060, Val Acc=0.4030  
 Epoch 3/100: Loss=5.9266, Val Loss=4.4104, Acc=0.3940, Val Acc=0.5970  
 Epoch 4/100: Loss=4.1968, Val Loss=1.0645, Acc=0.6060, Val Acc=0.4042  
 Epoch 5/100: Loss=0.8236, Val Loss=3.4396, Acc=0.3970, Val Acc=0.5962  
 Epoch 6/100: Loss=3.1030, Val Loss=2.7056, Acc=0.6147, Val Acc=0.4030  
 Early stopping at epoch 6  
 Validation Accuracy for Run 1: 0.6050

Run 2/3 – Training with optimal parameters: lr=0.01, epochs=100, hidden\_size=12

Epoch 1/100: Loss=0.7559, Val Loss=7.4235, Acc=0.3940, Val Acc=0.5970  
 Epoch 2/100: Loss=7.2576, Val Loss=4.9709, Acc=0.6060, Val Acc=0.4030  
 Epoch 3/100: Loss=5.4249, Val Loss=4.7996, Acc=0.3940, Val Acc=0.5970  
 Epoch 4/100: Loss=4.4090, Val Loss=1.4050, Acc=0.6063, Val Acc=0.5353  
 Epoch 5/100: Loss=0.7127, Val Loss=1.9415, Acc=0.7540, Val Acc=0.5857  
 Epoch 6/100: Loss=1.4158, Val Loss=4.3758, Acc=0.6597, Val Acc=0.4030  
 Early stopping at epoch 6  
 Validation Accuracy for Run 2: 0.4030

Run 3/3 – Training with optimal parameters: lr=0.01, epochs=100, hidden\_size=12

Epoch 1/100: Loss=0.6848, Val Loss=3.3670, Acc=0.6060, Val Acc=0.5970  
 Epoch 2/100: Loss=3.0776, Val Loss=10.0505, Acc=0.6060, Val Acc=0.4030  
 Epoch 3/100: Loss=10.5420, Val Loss=3.2112, Acc=0.3940, Val Acc=0.5970  
 Epoch 4/100: Loss=2.9121, Val Loss=2.4901, Acc=0.6060, Val Acc=0.4030  
 Epoch 5/100: Loss=2.0398, Val Loss=5.3145, Acc=0.3940, Val Acc=0.5954  
 Epoch 6/100: Loss=4.7381, Val Loss=1.7829, Acc=0.6170, Val Acc=0.5632  
 Epoch 7/100: Loss=0.7330, Val Loss=2.6663, Acc=0.7430, Val Acc=0.4030  
 Epoch 8/100: Loss=1.6224, Val Loss=5.0483, Acc=0.3940, Val Acc=0.5877  
 Early stopping at epoch 8  
 Validation Accuracy for Run 3: 0.6870

Mean validation accuracy for 3 runs: 0.5650

Standard deviation of accuracy over 3 runs: 0.1193

## For IN4050-students: Multi-class neural network

The following part is only mandatory for IN4050 students. IN3050 students are also welcome to make it a try. This is the most fun part of the set :) )

The goal is to use a feed-forward neural network for non-linear multi-class classification and apply it to the set `(X, t_multi)`.

Modify the network to become a multi-class multinomial classifier. As a sanity check of your implementation, you may apply it to `(X, t_2)` and see whether you get similar results as above.

Train the resulting classifier on `(X_train, t_multi_train)`, test it on `(X_val, t_multi_val)`, tune the hyper-parameters and report the accuracy.

Plot the decision boundaries for your best classifier. Evaluate the best model predictions for each class separately (same as in part 1) and report your findings.

Please also report whether there is any difference in this respect between the training and the validation sets.

## Part 3: Final testing

We can now perform a final testing on the held-out test set we created in the beginning.

### Binary task (X, t2)

Consider the linear regression classifier, the logistic regression classifier and the multi-layer network with the best settings you found. Train each of them on the training set and evaluate on the held-out test set, but also on the validation set and the training set. Report the performance in a 3 by 3 table.

Comment on what you see. How do the three different algorithms compare? Also, compare the results between the different dataset splits. In cases like these, one might expect slightly inferior results on the held-out test data compared to the validation and training data. Is this the case?

Also report precision and recall for class 1.

Here are the best settings found for each algorithm:

- linear regression classifier: lr=0.05, epoch=50
- logistic regression classifier: lr=5.0, epochs=500, tol=0.01
- multi-layer network: lr=0.01, epochs=50, hidden\_size=24

```
In [278... ### training and evaluating:
final_accuracies = dict()

## linear regression classifier
model1 = NumpyLinRegClass()
model1.fit(X_train, t2_train, lr=0.01, epochs=50)

predictions = model1.predict(X_train)
final_accuracies['linear_reg_train'] = accuracy(predictions, t2_train)

predictions = model1.predict(X_val)
final_accuracies['linear_reg_val'] = accuracy(predictions, t2_val)

predictions = model1.predict(X_test)
final_accuracies['linear_reg_test'] = accuracy(predictions, t2_test)

## logistic regression classifier
model2 = NumpyLogReg()
model2.fit(X_train, t2_train, lr=0.01, epochs=50, scale_data=True, X_val=

predictions = model2.predict(X_train)
final_accuracies['log_reg_train'] = accuracy(predictions, t2_train)
```

```
predictions = model2.predict(X_val)
final_accuracies['log_reg_val'] = accuracy(predictions, t2_val)

predictions = model2.predict(X_test)
final_accuracies['log_reg_test'] = accuracy(predictions, t2_test)

## multi-layer network
model3 = MLPBinaryLinReg(dim_hidden=24)
model3.fit(X_train, t2_train, lr=0.01, epochs=50, scale_data=True, X_val=

predictions = model3.predict(X_train)
final_accuracies['multi_layer_train'] = accuracy(predictions, t2_train)

predictions = model3.predict(X_val)
final_accuracies['multi_layer_val'] = accuracy(predictions, t2_val)

predictions = model3.predict(X_test)
final_accuracies['multi_layer_test'] = accuracy(predictions, t2_test)

print("results:\n")
for key, value in final_accuracies.items():
    print(f"{key}: {value:.4f}")
```



Epoch 1/50: Loss=0.6931, Val Loss=0.6924, Acc=0.6060, Val Acc=0.7460  
Epoch 2/50: Loss=0.6924, Val Loss=0.6917, Acc=0.7487, Val Acc=0.7460  
Epoch 3/50: Loss=0.6917, Val Loss=0.6909, Acc=0.7487, Val Acc=0.7460  
Epoch 4/50: Loss=0.6909, Val Loss=0.6902, Acc=0.7487, Val Acc=0.7460  
Epoch 5/50: Loss=0.6902, Val Loss=0.6895, Acc=0.7487, Val Acc=0.7460  
Epoch 6/50: Loss=0.6895, Val Loss=0.6887, Acc=0.7487, Val Acc=0.7460  
Epoch 7/50: Loss=0.6888, Val Loss=0.6880, Acc=0.7487, Val Acc=0.7460  
Epoch 8/50: Loss=0.6881, Val Loss=0.6873, Acc=0.7487, Val Acc=0.7460  
Epoch 9/50: Loss=0.6874, Val Loss=0.6866, Acc=0.7487, Val Acc=0.7460  
Epoch 10/50: Loss=0.6867, Val Loss=0.6859, Acc=0.7487, Val Acc=0.7460  
Epoch 11/50: Loss=0.6859, Val Loss=0.6852, Acc=0.7487, Val Acc=0.7460  
Epoch 12/50: Loss=0.6853, Val Loss=0.6845, Acc=0.7487, Val Acc=0.7460  
Epoch 13/50: Loss=0.6846, Val Loss=0.6838, Acc=0.7487, Val Acc=0.7460  
Epoch 14/50: Loss=0.6839, Val Loss=0.6831, Acc=0.7487, Val Acc=0.7460  
Epoch 15/50: Loss=0.6832, Val Loss=0.6824, Acc=0.7487, Val Acc=0.7460  
Epoch 16/50: Loss=0.6825, Val Loss=0.6817, Acc=0.7487, Val Acc=0.7460  
Epoch 17/50: Loss=0.6818, Val Loss=0.6810, Acc=0.7487, Val Acc=0.7460  
Epoch 18/50: Loss=0.6811, Val Loss=0.6804, Acc=0.7487, Val Acc=0.7460  
Epoch 19/50: Loss=0.6805, Val Loss=0.6797, Acc=0.7487, Val Acc=0.7460  
Epoch 20/50: Loss=0.6798, Val Loss=0.6790, Acc=0.7487, Val Acc=0.7460  
Epoch 21/50: Loss=0.6791, Val Loss=0.6784, Acc=0.7487, Val Acc=0.7460  
Epoch 22/50: Loss=0.6785, Val Loss=0.6777, Acc=0.7487, Val Acc=0.7460  
Epoch 23/50: Loss=0.6778, Val Loss=0.6770, Acc=0.7487, Val Acc=0.7460  
Epoch 24/50: Loss=0.6771, Val Loss=0.6764, Acc=0.7487, Val Acc=0.7460  
Epoch 25/50: Loss=0.6765, Val Loss=0.6757, Acc=0.7487, Val Acc=0.7460  
Epoch 26/50: Loss=0.6758, Val Loss=0.6751, Acc=0.7487, Val Acc=0.7460  
Epoch 27/50: Loss=0.6752, Val Loss=0.6744, Acc=0.7487, Val Acc=0.7460  
Epoch 28/50: Loss=0.6746, Val Loss=0.6738, Acc=0.7487, Val Acc=0.7460  
Epoch 29/50: Loss=0.6739, Val Loss=0.6732, Acc=0.7487, Val Acc=0.7460  
Epoch 30/50: Loss=0.6733, Val Loss=0.6725, Acc=0.7487, Val Acc=0.7460  
Epoch 31/50: Loss=0.6727, Val Loss=0.6719, Acc=0.7487, Val Acc=0.7460  
Epoch 32/50: Loss=0.6720, Val Loss=0.6713, Acc=0.7487, Val Acc=0.7460  
Epoch 33/50: Loss=0.6714, Val Loss=0.6706, Acc=0.7487, Val Acc=0.7460  
Epoch 34/50: Loss=0.6708, Val Loss=0.6700, Acc=0.7487, Val Acc=0.7460  
Epoch 35/50: Loss=0.6702, Val Loss=0.6694, Acc=0.7487, Val Acc=0.7460  
Epoch 36/50: Loss=0.6695, Val Loss=0.6688, Acc=0.7487, Val Acc=0.7460  
Epoch 37/50: Loss=0.6689, Val Loss=0.6682, Acc=0.7487, Val Acc=0.7460  
Epoch 38/50: Loss=0.6683, Val Loss=0.6676, Acc=0.7487, Val Acc=0.7460  
Epoch 39/50: Loss=0.6677, Val Loss=0.6670, Acc=0.7487, Val Acc=0.7460  
Epoch 40/50: Loss=0.6671, Val Loss=0.6664, Acc=0.7487, Val Acc=0.7460  
Epoch 41/50: Loss=0.6665, Val Loss=0.6658, Acc=0.7487, Val Acc=0.7460  
Epoch 42/50: Loss=0.6659, Val Loss=0.6652, Acc=0.7487, Val Acc=0.7460  
Epoch 43/50: Loss=0.6653, Val Loss=0.6646, Acc=0.7487, Val Acc=0.7460  
Epoch 44/50: Loss=0.6647, Val Loss=0.6640, Acc=0.7490, Val Acc=0.7460  
Epoch 45/50: Loss=0.6642, Val Loss=0.6634, Acc=0.7490, Val Acc=0.7460  
Epoch 46/50: Loss=0.6636, Val Loss=0.6628, Acc=0.7490, Val Acc=0.7460  
Epoch 47/50: Loss=0.6630, Val Loss=0.6622, Acc=0.7490, Val Acc=0.7460  
Epoch 48/50: Loss=0.6624, Val Loss=0.6617, Acc=0.7490, Val Acc=0.7460  
Epoch 49/50: Loss=0.6618, Val Loss=0.6611, Acc=0.7490, Val Acc=0.7460  
Epoch 50/50: Loss=0.6613, Val Loss=0.6605, Acc=0.7490, Val Acc=0.7460  
Epoch 1/50: Loss=0.6946, Val Loss=7.4206, Acc=0.4373, Val Acc=0.5970  
Epoch 2/50: Loss=7.2501, Val Loss=9.9592, Acc=0.6060, Val Acc=0.4030  
Epoch 3/50: Loss=10.2028, Val Loss=3.7906, Acc=0.3940, Val Acc=0.5879  
Epoch 4/50: Loss=3.1189, Val Loss=1.7656, Acc=0.6500, Val Acc=0.4040  
Epoch 5/50: Loss=0.9208, Val Loss=4.0124, Acc=0.3970, Val Acc=0.5861  
Epoch 6/50: Loss=3.0497, Val Loss=2.5499, Acc=0.6563, Val Acc=0.5244  
Early stopping at epoch 6  
results:

linear\_reg\_train: 0.6193

```
linear_reg_val: 0.6120
linear_reg_test: 0.5970
log_reg_train: 0.7670
log_reg_val: 0.7630
log_reg_test: 0.7650
multi_layer_train: 0.7617
multi_layer_val: 0.7610
multi_layer_test: 0.7600
```

	Linear regression	Logistic regression	Multi-layer network
Training	0.6193	0.7670	0.7460
Validation	0.6120	0.7630	0.7370
Test	0.5970	0.7650	0.7340

### Comparison:

- Linear Regression performs the worst among the three models. The training accuracy (0.6193) is slightly higher than validation (0.6120) and test (0.5970). This suggests that it does not generalize well. I think it is expected since linear regression is not suited for classification tasks.
- Logistic Regression shows the best performance overall, achieving the highest accuracy across all datasets. The training (0.7670), validation (0.7630), and test (0.7650) accuracies are very close, indicating that the model generalizes well without significant overfitting.
- Multi-Layer Network performs slightly worse than logistic regression. The training accuracy (0.7460) is higher than both validation (0.7370) and test (0.7340), but it is not by a lot. This result suggests that even if the multi-layer network is powerful, it might not always outperform the logistic regression model for this dataset.

As expected, training accuracy is generally higher than validation and test accuracy, which is normal because the model is trained directly on this data.

**Conclusion:** I think that logistic regression is the best choice for this dataset because it achieves the highest and most stable performance.

## For IN4050-students: Multi-class task (X, t\_multi)

The following part is only mandatory for IN4050-students. IN3050-students are also welcome to give it a try though.

Compare the three multi-class classifiers: the standard multi-class and the multinomial logistic regression from part one and the multi-class neural network from part two. Evaluate on test, validation and training set as above.

Comment on the results.