

```

import tensorflow as tf

from tensorflow.keras.preprocessing.sequence import pad_sequences

from tensorflow.keras.models import Sequential

from tensorflow.keras.layers import Embedding, LSTM, Dense, Dropout

from tensorflow.keras.datasets import imdb


# Load the IMDb dataset

vocab_size = 10000

max_length = 100


(train_data, train_labels), (test_data, test_labels) = imdb.load_data(num_words=vocab_size)


# Preprocess the data: Pad sequences to ensure uniform input size

train_padded = pad_sequences(train_data, maxlen=max_length, padding='post', truncating='post')

test_padded = pad_sequences(test_data, maxlen=max_length, padding='post', truncating='post')


# Build the RNN model

model = Sequential([

    Embedding(input_dim=vocab_size, output_dim=32, input_length=max_length), # Embedding
    layer

    LSTM(64), # LSTM layer with 64 units

    Dropout(0.5), # Dropout for regularization

    Dense(1, activation='sigmoid') # Output layer for binary classification

])


# Compile the model

model.compile(optimizer='adam', loss='binary_crossentropy', metrics=['accuracy'])


# Train the model

model.fit(train_padded, train_labels, epochs=10, validation_data=(test_padded, test_labels))

```