**Practical No :2a**

import numpy as np

from tensorflow.keras.datasets import imdb

from tensorflow.keras.preprocessing.sequence import pad\_sequences

from tensorflow.keras.models import Sequential

from tensorflow.keras.layers import Dense, Embedding, Flatten

# Load the IMDB dataset

max\_features = 10000

(train\_data, train\_labels), (test\_data, test\_labels) = imdb.load\_data(*num\_words*=max\_features)

# Preprocess the data

maxlen = 500

train\_data = pad\_sequences(train\_data, *maxlen*=maxlen)

test\_data = pad\_sequences(test\_data, *maxlen*=maxlen)

# Define the model

model = Sequential()

model.add(Embedding(max\_features, 128, *input\_length*=maxlen))

model.add(Flatten())

model.add(Dense(1, *activation*='sigmoid'))

# Compile the model

model.compile(*optimizer*='adam', *loss*='binary\_crossentropy', *metrics*=['accuracy'])

# Train the model

batch\_size = 32

model.fit(train\_data, train\_labels, *epochs*=1, *batch\_size*=batch\_size, *validation\_split*=0.2)

# Evaluate the model

test\_loss, test\_accuracy = model.evaluate(test\_data, test\_labels)

print("Test Accuracy:", test\_accuracy)