# Import necessary libraries

import pandas as pd

from sklearn.model\_selection import train\_test\_split

from sklearn.feature\_extraction.text import TfidfVectorizer

from sklearn.naive\_bayes import MultinomialNB

from sklearn.metrics import accuracy\_score, classification\_report

# Assume you have a dataset with columns 'plot\_summary' and 'genre'

# Replace 'your\_dataset.csv' with your actual dataset file

dataset = pd.read\_csv('your\_dataset.csv')

# Split the dataset into training and testing sets

train\_data, test\_data, train\_labels, test\_labels = train\_test\_split(

dataset['plot\_summary'], dataset['genre'], test\_size=0.2, random\_state=42

)

# Convert plot summaries to TF-IDF features

tfidf\_vectorizer = TfidfVectorizer(max\_features=5000)

tfidf\_train = tfidf\_vectorizer.fit\_transform(train\_data)

tfidf\_test = tfidf\_vectorizer.transform (test\_data)

# Train a Naive Bayes classifier

naive\_bayes\_classifier = MultinomialNB ()

naive\_bayes\_classifier.fit(tfidf\_train, train\_labels)

# Make predictions on the test set

predictions = naive\_bayes\_classifier.predict(tfidf\_test)

# Evaluate the model

Accuracy = accuracy\_score (test\_labels, predictions)

Print (f'Accuracy: {accuracy:.2f}')

# Display classification report

Print ('\nClassification Report:')

Print (classification\_report(test\_labels, predictions))