PAASHA ~ BOOK RECOMMENDATION CHATBOT  
  
import pandas as pd  
import csv  
import nltk  
from nltk.tokenize import word\_tokenize  
from nltk.corpus import stopwords  
from nltk.stem import PorterStemmer  
from sklearn.feature\_extraction.text import TfidfVectorizer  
from sklearn.metrics.pairwise import cosine\_similarity  
  
# Download NLTK resources if not already downloaded  
nltk.download('punkt')  
nltk.download('stopwords')  
  
# Load the dataset of books  
books\_data = pd.read\_csv('books.csv')  
  
# Preprocess the book descriptions  
def preprocess(text):  
    # Tokenization  
    tokens = word\_tokenize(text.lower())  
    # Remove stopwords and punctuation  
    stop\_words = set(stopwords.words('english'))  
    filtered\_tokens = [word for word in tokens if word.isalnum() and word not in stop\_words]  
    # Stemming  
    porter = PorterStemmer()  
    stemmed\_tokens = [porter.stem(word) for word in filtered\_tokens]  
    return ' '.join(stemmed\_tokens)  
  
books\_data['processed\_description'] = books\_data['description'].apply(preprocess)  
  
# TF-IDF Vectorization  
tfidf\_vectorizer = TfidfVectorizer()  
tfidf\_matrix = tfidf\_vectorizer.fit\_transform(books\_data['processed\_description'])  
  
# Define a function to recommend books based on user preferences  
def recommend\_books(author=None, genre=None, n=5):  
    if author:  
        author\_books = books\_data[books\_data['author'].apply(lambda x: author.lower() in x.lower())]  
    else:  
        author\_books = books\_data.copy()  
    if genre:  
        genre\_books = books\_data[books\_data['genre'].apply(lambda x: genre.lower() in x.lower())]  
    else:  
        genre\_books = books\_data.copy()  
     
    recommended\_books = pd.concat([author\_books, genre\_books]).drop\_duplicates().head(n)  
    return recommended\_books[['title', 'author', 'description']]  
  
# Define a function to interact with the user and recommend books  
def chatbot():  
    print("Welcome to the PAASHA ~ Book Recommendation Chatbot!")  
    print("Please answer the following questions to help us recommend books for you.")  
     
    favorite\_author = input("Who is your favorite author? (Enter 'None' if you don't have one): ")  
    preferred\_genre = input("What genre of books do you prefer to read? (Enter 'None' if you don't have a preference): ")  
     
    recommended\_books = recommend\_books(author=favorite\_author, genre=preferred\_genre)  
     
    print("\nRecommended Books:")  
    print(recommended\_books)  
  
# Run the chatbot  
chatbot()  
  
OUTPUT:   
Welcome to the PAASHA ~ Book Recommendation Chatbot!

Please answer the following questions to help us recommend books for you.

Who is your favorite author? (Enter 'None' if you don't have one): none

What genre of books do you prefer to read? (Enter 'None' if you don't have a preference): fiction

Recommended Books:

title author description

0 To Kill a Mockingbird Harper Lee To Kill a Mockingbird is a novel by Harper Lee...

1 1984 George Orwell 1984 is a dystopian novel by George Orwell pub...

3 The Catcher in the Rye J.D. Salinger The Catcher in the Rye is a novel by J. D. Sal...

4 The Great Gatsby F. Scott Fitzgerald The Great Gatsby is a 1925 novel by American w...

9 Gone with the Wind Margaret Mitchell Gone with the Wind is a novel by American writ...

Welcome to the PAASHA ~ Book Recommendation Chatbot!

Please answer the following questions to help us recommend books for you.

Who is your favorite author? (Enter 'None' if you don't have one): Mark Twain

What genre of books do you prefer to read? (Enter 'None' if you don't have a preference): Adventure

Recommended Books:

title author description

13 The Adventures of Huckleberry Finn Mark Twain Adventures of Huckleberry Finn is a novel by M...  
--------------------------------------------------------------------------------------------------------------------------------------

PAASHA ~ BOOK RECOMMENDATION CHATBOT (NO NLTK)

import pandas as pd  
from sklearn.feature\_extraction.text import TfidfVectorizer  
from sklearn.metrics.pairwise import cosine\_similarity  
  
# Load the dataset of books  
books\_data = pd.read\_csv('books.csv')  
  
# TF-IDF Vectorization  
tfidf\_vectorizer = TfidfVectorizer(stop\_words='english')  
tfidf\_matrix = tfidf\_vectorizer.fit\_transform(books\_data['description'])  
  
# Define a function to recommend books based on user preferences  
def recommend\_books(author=None, genre=None, n=5):  
    if author:  
        author\_books = books\_data[books\_data['author'].str.contains(author, case=False)]  
    else:  
        author\_books = books\_data.copy()  
    if genre:  
        genre\_books = books\_data[books\_data['genre'].str.contains(genre, case=False)]  
    else:  
        genre\_books = books\_data.copy()  
     
    recommended\_books = pd.concat([author\_books, genre\_books]).drop\_duplicates().head(n)  
    return recommended\_books[['title', 'author', 'description']]  
  
# Define a function to interact with the user and recommend books  
def chatbot():  
    print("Welcome to the Book Recommendation Chatbot!")  
    print("Please answer the following questions to help us recommend books for you.")  
     
    favorite\_author = input("Who is your favorite author? (Enter 'None' if you don't have one): ")  
    preferred\_genre = input("What genre of books do you prefer to read? (Enter 'None' if you don't have a preference): ")  
     
    recommended\_books = recommend\_books(author=favorite\_author, genre=preferred\_genre)  
     
    print("\nRecommended Books:")  
    print(recommended\_books)  
  
# Run the chatbot  
chatbot()

OUTPUT:  
Welcome to the Book Recommendation Chatbot!

Please answer the following questions to help us recommend books for you.

Who is your favorite author? (Enter 'None' if you don't have one): none

What genre of books do you prefer to read? (Enter 'None' if you don't have a preference): fantasy

Recommended Books:

title author description

5 Harry Potter and the Philosopher's Stone J.K. Rowling Harry Potter and the Philosopher's Stone is a ...

6 The Hobbit J.R.R. Tolkien The Hobbit, or There and Back Again is a child...

7 The Lord of the Rings J.R.R. Tolkien The Lord of the Rings is an epic high-fantasy ...

14 The Chronicles of Narnia C.S. Lewis The Chronicles of Narnia is a series of seven ...

Welcome to the Book Recommendation Chatbot!

Please answer the following questions to help us recommend books for you.

Who is your favorite author? (Enter 'None' if you don't have one): none

What genre of books do you prefer to read? (Enter 'None' if you don't have a preference): Science Fiction

Recommended Books:

title author description

10 The Hunger Games Suzanne Collins The Hunger Games is a dystopian novel by the A...

17 The Martian Andy Weir The Martian is a 2011 science fiction novel wr...