Ввод [5]:

```
import numpy as np
import pandas as pd
import math
import json
import time
from sklearn.model_selection import train_test_split
import scipy.sparse
from scipy.sparse import csr_matrix
import warnings; warnings.simplefilter('ignore')
%matplotlib inline
import matplotlib.pyplot as plt
import seaborn as sns
from surprise import Dataset,Reader
import pickle
from sklearn.metrics.pairwise import cosine_similarity
```

Ввод [6]:

```
def prediction_books():
    print ('Введите номер пользователя, книги которого вам понравились: \n')
    model = pickle.load(open('/kaggle/input/information1/model.sav', 'rb'))
    uid = int(input())
    ratings = pd.read_csv('../input/bookcrossing/BX-Book-Ratings.csv', sep=';', error_bad_lines=False, encoding="latin-
    ratings.columns = ['userID', 'ISBN', 'bookRating']
    books = pd.read_csv("../input/bookcrossing/BX-Books.csv", sep=";", error_bad_lines=False, encoding="latin-1",warn_b
    books.columns = ['ISBN', 'bookTitle', 'bookAuthor', 'yearOfPublication', 'publisher', 'imageUrlS', 'imageUrlM', 'im
    users = pd.read_csv('../input/bookcrossing/BX-Users.csv', sep=';', error_bad_lines=False, encoding="latin-1",warn_b
    users.columns = ['userID', 'Location', 'Age'];
    ratings_new = ratings[ratings.ISBN.isin(books.ISBN)]
    ratings_new = ratings_new[ratings.userID.isin(users.userID)]
    ratings_explicit = ratings_new[ratings_new.bookRating != 0]
    counts1 = pd.value_counts(ratings_explicit['userID'])
    ratings_explicit = ratings_explicit[ratings_explicit['userID'].isin(counts1[counts1 >= 500].index)]
    from surprise import Dataset,Reader
    reader = Reader(rating_scale=(1, 10))
    data = Dataset.load_from_df(ratings_explicit[['userID', 'ISBN', 'bookRating']], reader)
    reader = Reader(rating_scale=(1, 10))
    data = Dataset.load_from_df(ratings_explicit[['userID', 'ISBN', 'bookRating']], reader)
    # Разделим данные для обучения и тестирования
    from surprise.model_selection import train_test_split
    trainset, testset = train_test_split(data, test_size=.25,random_state=123)
    test_pred=model.test(testset)
    pred = pd.DataFrame(test_pred)
    pred1 = pred[['uid', 'iid', 'r_ui']]
    books1 = books[['ISBN', 'bookTitle', 'bookAuthor']]
    books1.columns = ['iid', 'bookTitle', 'bookAuthor']
    df = pd.merge(pred1, books1, on='iid')
    print ('Топ 10 Книг для пользователя с номером', uid)
    print (df[df['uid'] == uid][['bookTitle', 'bookAuthor']].head(10))
    print()
    return
```

Ввод [7]:

```
def beginning_books():
    print ('10 случайных пользователей, которые оценили книги: \n')
    model = pickle.load(open('/kaggle/input/information1/model.sav', 'rb'))
    ratings = pd.read_csv('../input/bookcrossing/BX-Book-Ratings.csv', sep=';', error_bad_lines=False, encoding="latin-
    ratings.columns = ['userID', 'ISBN', 'bookRating']
    books = pd.read_csv("../input/bookcrossing/BX-Books.csv", sep=";", error_bad_lines=False, encoding="latin-1",warn_b
    books.columns = ['ISBN', 'bookTitle', 'bookAuthor', 'yearOfPublication', 'publisher', 'imageUrlS', 'imageUrlM', 'im
    users = pd.read_csv('../input/bookcrossing/BX-Users.csv', sep=';', error_bad_lines=False, encoding="latin-1",warn_b
    users.columns = ['userID', 'Location', 'Age'];
    ratings_new = ratings[ratings.ISBN.isin(books.ISBN)]
    ratings_new = ratings_new[ratings.userID.isin(users.userID)]
    ratings_explicit = ratings_new[ratings_new.bookRating != 0]
    counts1 = pd.value_counts(ratings_explicit['userID'])
    ratings_explicit = ratings_explicit[ratings_explicit['userID'].isin(counts1[counts1 >= 500].index)]
    pred1 = ratings_explicit
    books1 = books[['ISBN', 'bookTitle', 'bookAuthor']]
    df = pd.merge(pred1, books1, on='ISBN')
    for i in range(10):
        uid = np.random.choice(list(np.unique(df['userID'].values)))
        print ('Книги для пользователя с номером', uid)
        print (df[df['userID'] == uid][['bookTitle', 'bookAuthor']].head(10))
        print()
```

Ввод [9]:
```
beginning_books()
```

```
10 случайных пользователей, которые оценили книги:

Книги для пользователя с номером 35859
                                                bookTitle            bookAuthor
165   The Divine Secrets of the Ya-Ya Sisterhood: A ...         Rebecca Wells
321   One for the Money (Stephanie Plum Novels (Pape...       Janet Evanovich
446                           On the Banks of Plum Creek  Laura Ingalls Wilder
516       Fried Green Tomatoes at the Whistle Stop Cafe          Fannie Flagg
639                                  Bed &amp;amp; Breakfast           Lois Battle
899   My First Book about Space (Golden Look-Look Bo...        Dinah L. Moche
968                 The Red Tent (Bestselling Backlist)         Anita Diamant
1012                          The Nanny Diaries: A Novel       Emma McLaughlin
1086  The Jeffrey Dahmer Story : An American Nightma...       Donald A. Davis
1115  Three To Get Deadly : A Stephanie Plum Novel (...       Janet Evanovich

Книги для пользователя с номером 114368
                                      bookTitle           bookAuthor
199                          When the Storm Breaks        Heather Lowell
372                                Chase the Moon           Sharon Sala
444                    Farmer Boy (Little House)  Laura Ingalls Wilder
```

Ввод [10]:
```
prediction_books()
```

```
Введите номер пользователя, книги которого вам понравились:


 248718

Топ 10 Книг для пользователя с номером 248718
                                                bookTitle            bookAuthor
47    The Oasis (Gedge, Pauline, Lords of the Two La...          Pauline Gedge
75                                    A Rose in Winter  Kathleen E. Woodiwiss
120                                    Passion's Reign           Karen Harper
130                                       Silmarillion          J R R Tolkien
163       Harry Potter and the Goblet of Fire (Book 4)          J. K. Rowling
196                           The Ultimate Asteroid Book          J. Lee Lehman
211   I Wasn't Ready to Say Goodbye: Surviving, Copi...             Brook Noel
213   Watercolor and How: Getting Started in Watercolor         Graham Scholes
229                           The Victorian Country House          Mark Girouard
232                                             Friday        Robert Heinlein
```