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Table of Contents

I.	List of Figures.....	III
II.	List of Tables	IV
1.	Question.....	1
1.1.	Problem.....	1
1.2.	Problem Understanding and Solution.....	2
2.	Python Code	4
2.1.	Main Program	4
2.2.	Assistant program	7
3.	Test Case Table	20
4.	Screenshots of the Test Cases	25

I. List of Figures

Figure 1: Screenshot of the console in test case 1	25
Figure 2: Screenshot of the console in test case 2	25
Figure 3: Screenshot of the console in test case 3	26
Figure 4: Screenshot of the console in test case 4	26
Figure 5: Screenshot of the console in test case 5	26
Figure 6: Screenshot of the console in test case 6	26
Figure 7: Screenshot of the console in test case 7	26
Figure 8: Screenshot of the console in test case 8	26
Figure 9: Screenshot of the console in test case 9	26
Figure 10: Screenshot of the console in test case 10	26
Figure 11: Screenshot of the console in test case 11	26
Figure 12: Screenshot of the console in test case 12	26
Figure 13: Screenshot of the console in test case 13	26
Figure 14: Screenshot of the 'books' table in test case 13	26
Figure 15: Screenshot of the console in test case 14	26
Figure 16: Screenshot of the 'books' table in test case 14	26
Figure 17: Screenshot of the console in test case 15	26
Figure 18: Screenshot of the console in test case 16	26
Figure 19: Screenshot of the 'subject' table in test case 16	26
Figure 20: Screenshot of the console in test case 17	26
Figure 21: Screenshot of the 'subject table in test case 17'	26
Figure 22: Screenshot of the console in test case 18	26
Figure 23: Screenshot of the console in test case 19	26
Figure 24: Screenshot of the 'book_chapter' table in test case 19	26
Figure 25: Screenshot of the Notepad in test case 19	26
Figure 26: Screenshot of the console in test case 20	26
Figure 27: Screenshot of the 'book_chapter' table in test case 20	26
Figure 28: Screenshot of the Notepad in test case 20	26
Figure 29: Screenshot of the console in test case 21	26
Figure 30: Screenshot of the console in test case 22	26
Figure 31: Screenshot of the console in test case 23	26
Figure 32: Screenshot of the console in test case 24	26
Figure 33: Screenshot of the console in test case 25	26
Figure 34: Screenshot of the 'books' table in test case 25	26
Figure 35: Screenshot of the console in test case 26	26
Figure 36: Screenshot of the console in test case 27	26
Figure 37: Screenshot of the console in test case 28	26
Figure 38: Screenshot of the 'books' table in test case 28	26
Figure 39: Screenshot of the 'book_chapter' table in test case 28	26
Figure 40: Screenshot of the console in test case 29	26
Figure 41: Screenshot of the console in test case 30	26

II. List of Tables

Table 1: Test cases 24

1. Question

1.1.Problem

You are to create a console Python 3.x program which will allow users to demonstrate a small program for a library.

Scenario

Currently all books available at ABC books store are managed using a manual process. Users should search for books from the racks which is a time taking process. With the increase of software development in every field developing book management software will be helpful task. It is needed to develop a system which is useful for maintain books in a procedure-oriented manner. Users should be able to easily search for books from index page and search for books to find their required book.

Design and develop fully transactional console-based application which has the following functionalities.

1. **Books:** Facility to create information related each book in the bookstore.

Input: Book No (Primary Key), Title, Subject Code, Author, Publisher, Price, Location, AND any other information you think it is useful to have.

2. **Books Chapters:** Facility to create books chapter information. For every book available on the site has to have a clear view to read each chapter using books chapter's view.

Input: Book No, Chapter No, Title, starting page no, Ending page no

3. **Subjects:** Facility to create subjects. Books available on the site should sub divided into different category which will help users to easily find required category books.

Input: Subject Code, Name

4. **Books Query:** Direct search is needed to find books available on the site. Users must be able to search by book number, Book Title, Author OR Publisher.

5. **Add/Edit/Delete Books:** Facility should be provided add, edit, or delete information related to a book.

1.2.Problem Understanding and Solution

Since ABC books store uses a manual process to manage their books, a book management software is needed to increase the convenience and the productivity. For that, the task was to develop a console-based application with a proper menu system for the use of ABC books store. A Database(DB) will be used to store book data of the store.

Based on the user requirements given in the question, a menu was created with the following options.

1-Search Book

2-Insert New Book

3-Insert Subjects

4-Insert Book Chapters

5-View Book Chapters

6-Update Book Information

7-Delete book information

8-Exit

From the “Search Book” option, users are able to directly search for a book, providing book number, book title, author or publisher as keys. Users can store a new book information from “Insert New Book” option. Since the books in the store are categorized by the subjects, the ability to insert new subjects and subject codes should be provided. Users are able to do that from “Insert Subjects” option. Also, chapters of each book can be stored as text files by the “Insert Book Chapters” option. The stored book chapters can be viewed from the “View Book Chapters” option. If some information related to a stored book needs to be changed, users can edit/update them from “Update Book Information” option. Moreover, if a book is no longer needed to the store, it can be deleted from the “Delete Book Information” option. Finally, the Exit option is there to quit from the system.

Stating the assumptions made throughout the python program

1. A particular book categorized only under one subject. One book cannot have two or more subjects.
2. A book has many chapters and a chapter represented as a text file in this system. Users can insert chapters from the system.
3. When the user stores a new book into the database, the edition of the book and the total count of the chapters in a book is being inserted additionally.
4. The users need to view and read the chapters of a book as mentioned in the question. Before viewing the chapters, a function will display the available books with the book numbers, titles as well as the total number of chapters. So, the users can have a clear idea on how many chapters are there in the book and they can copy-paste the book numbers where necessary to view the chapters.

For the test purposes, the chapter count of the books in the database is lesser than the actual chapter count in the original book.

For the test purposes, only a custom text will be displayed instead of the original chapters while viewing the chapters of a book.

2. Python Code

2.1. Main Program

#Main Program

#Calling from a package

import Sub.asstProg

#Calling "displayMenuFun" function inside "asstProg" module

selectOP = Sub.asstProg.displayMenuFun()

#Selecting function based on the option

while selectOP!=8:

#Calling "searchBookFun" function inside "asstProg" module

if selectOP==1:

print("\n*****SEARCH BOOK*****")

Sub.asstProg.searchBookFun()

#Calling "insertBookFun" function inside "asstProg" module

elif selectOP==2:

print("\n*****INSERT NEW BOOK*****")

Sub.asstProg.insertBookFun()

#Calling "insertSubFun" function inside "asstProg" module


```
elif selectOP==3:

    print("\n****INSERT SUBJECTS****")

    Sub.asstProg.insertSubFun()

#Calling "insertChaptFun" function inside "asstProg" module

elif selectOP==4:

    print("\n****INSERT BOOK CHAPTERS****")

    Sub.asstProg.insertChaptFun()

#Calling "viewChaptFun" function inside "asstProg" module

elif selectOP==5:

    print("\n****VIEW BOOK CHAPTERS****")

    Sub.asstProg.viewChaptFun()

#Calling "searchBookFun" function inside "asstProg" module

elif selectOP==6:

    print("\n****UPDATE BOOK INFORMATION****")

    Sub.asstProg.updateBookFun()

#Calling "deltBookFun" function inside "asstProg" module

elif selectOP==7:

    print("\n****DELETE BOOK INFORMATION****")

    Sub.asstProg.deltBookFun()
```

#Validating the user inputs

else:

```
print("\nPlease insert a valid number.\n\\\\\\\\Returning to the Menu...\\\\\\\\")
```

#Returning to the menu

```
selectOP = Sub.asstProg.displayMenuFun()
```

#Exit program

```
print("\nThank you for using our system.\n*****Goodbye!*****")
```

#End of the program

2.2. Assistant program

#Assistant Program

#-----Display menu function-----

def displayMenuFun():

print("\nABC BOOKS STORE\n\n*****MENU*****\n\n1-Search Book\n2-Insert New Book\n3-Insert Subjects\n4-Insert Book Chapters\n5-View Book Chapters\n6-Update Book Information\n7-Delete book information\n8-Exit")

#Select the option from the menu

selectOP=int(input("\nPlease enter the number of your selected option : "))

return (selectOP)

#-----Search book function-----

def searchBookFun():

print("\nSearch available books from below...")

import mysql.connector

#Open database connection with a dictionary

conDict= {'host':'localhost',
 'database':'abc_books_store',
 'user':'root',
 'password':''}

db=mysql.connector.connect(**conDict)

#Prepare a cursor object using cursor() method

```

cursor=db.cursor()

#Creating variables
contOption="Y"

#Repeat the search query based on user input Y/N
while contOption=='Y' or contOption=='y':
    #Read the user input
    searchWord=input("Please enter the book number(Only Numeric)/book title/author of
the book/book publisher you are searching for : ")

    #Execute SQL query using cursor method
    searchtxt="SELECT * FROM books WHERE bookNo = " + searchWord + " OR title =
" + searchWord + " OR author = " + searchWord + " OR publisher = " + searchWord + ""
    cursor.execute(searchtxt)

    #Fetch results using fetchall() method
    data = cursor.fetchall()

    #Validate searched query results
    if data:
        #Display searched query results
        for item in data:
            print("\nBook No:",item[0])
            print("Title :",item[1])
            print("Subject Code :",item[2])
            print("Author :",item[3])
            print("Publisher :",item[4])
            print("Price :",item[5])
            print("Location :",item[6])
            print("Edition :",item[7])

```

```

else:

    print("\nYour searched item is not available.")

    contOption=input("Do you want to continue? (Y/N)")

#Disconnect from server
db.close()

return

#-----Insert Book Function-----

def insertBookFun():

    print("\nEnter new book information from below...")

import mysql.connector

#Open database connection with a dictionary
conDict= {'host':'localhost',
          'database':'abc_books_store',
          'user':'root',
          'password':''}

db= mysql.connector.connect(**conDict)

#Prepare a cursor object using cursor() method
cursor=db.cursor()

#Create variables
contOption="Y"

#Repeat the search query based on user input Y/N

```

```

while contOption=='Y' or contOption=='y':

    #Read User Input

    uBookNo=int(input("Type Book Number(Only numeric) :"))

    uTitle=input("Type Book Title :")

    uSubCode=input("Type Subject Code :")

    uAuthor=input("Type Author Name :")

    uPublisher=input("Type Publisher Name :")

    uPrice=input("Enter Book Price(Only numeric) :")

    uLocation=input("Type Book Location :")

    uEdition=input("Type Book Edition(Only numeric) :")

    uChaptCount=input("Type How Many Chapters Are There(Only numeric) :")


    #Execute SQL query using execute() method

    newBookText="INSERT INTO books
(bookNo,title,subjectCode,author,publisher,price,location,edition,chapters_count)
VALUES(%s,%s,%s,%s,%s,%s,%s,%s,%s)"

    bookValues=(uBookNo,uTitle,uSubCode,uAuthor,uPublisher,uPrice,uLocation,uEdition,uCh
aptCount)

    cursor.execute(newBookText, bookValues)


    #Commit the change

    db.commit()


    #Display how many records added

    print("\n",cursor.rowcount,"Record Added")


    contOption=input("Do you want to continue? (Y/N)")


    #Disconnect from server

    db.close()

    return

```

```

#-----Insert Subject Function-----

def insertSubFun():
    print("\nEnter new subject information from below...")

    import mysql.connector

    #Open database connection with a dictionary
    conDict= {'host':'localhost',
              'database':'abc_books_store',
              'user':'root',
              'password':''}

    db= mysql.connector.connect(**conDict)

    #Prepare a cursor object using cursor() method
    cursor=db.cursor()

    #Create variables
    contOption="Y"
    f=0

    #Repeat the search query based on user input Y/N
    while contOption=="Y" or contOption=="y":
        #Read User Input
        uSubCode=input("Type Subject Code (Maximum 5 characters.) :")
        uSubName=input("Type Subject Name :")

```

```
#Execute SQL query using execute() method
subTxt="INSERT INTO subject (subject_code,name) VALUES(%s,%s)"
subValues=(uSubCode,uSubName)
cursor.execute(subTxt, subValues)
```

```
#Commit the change
db.commit()
```

```
#Display how many records added
print("\n",cursor.rowcount,"Record Added")
```

```
contOption=input("Do you want to continue? (Y/N)")
```

```
#Disconnect from server
db.close()
return
```

```
#-----Insert Book Chapters Function-----
```

```
def insertChaptFun():
    print("\nEnter new chapter information from below...")
```

```
import mysql.connector
```

```
#Open database connection with a dictionary
```

```
conDict= {'host':'localhost',
          'database':'abc_books_store',
          'user':'root',
          'password':''}
```



```

db= mysql.connector.connect(**conDict)

#Prepare a cursor object using cursor() method
cursor=db.cursor()

#Read User Input
uBookNo=input("Type Book No(Only Numeric) :")

#Create Variable
contOption="Y"
f=0

#Repeat the search query based on user input Y/N
while contOption=="Y" or contOption=="y":

    #Read other inputs
    uChaptNo=input("Type Chapter Number(Only Numeric) :")
    uChaptTitle=input("Type Chapter Title :")
    uStartPg=input("Type starting page number of the chapter(Only Numeric) :")
    uEndPg=input("Type ending page number of the chapter(Only Numeric) :")

    #Enter chapters
    chapters=input("Please enter the chapter name and the chapter as a text here :")
    with open(uBookNo + "_" + uChaptNo + ".txt","w")as f:
        f.write(chapters)
        f.close()

    #Execute SQL query using execute() method
    chaptTxt="INSERT INTO book_chapter
(bookNo,chapterNo,chapter_title,starting_page_No,ending_page_No)
VALUES(%s,%s,%s,%s,%s)"

```

```

    chaptValues=(uBookNo,uChaptNo,uChaptTitle,uStartPg,uEndPg)
    cursor.execute(chaptTxt, chaptValues)

    #Commit the change
    db.commit()

    #Display how many records added
    print("\n",cursor.rowcount,"Record Added")

    contOption=input("Do you want to continue? (Y/N)")

    #Disconnect from server
    db.close()
    return

#-----View Book Chapters Function-----
def viewChaptFun():
    print("\nSelect a book from below to view its chapters...")

import mysql.connector

#Open database connection with a dictionary
conDict= {'host':'localhost',
          'database':'abc_books_store',
          'user':'root',
          'password':''}

db=mysql.connector.connect(**conDict)

#Prepare a cursor object using cursor() method

```

```

cursor=db.cursor()

#Execute SQL query using cursor method
cursor.execute("SELECT bookNo, title, chapters_count FROM books")

#Fetch results using fetchall() method
data = cursor.fetchall()

#Display query results
for item in data:
    print("\nBook No:",item[0])
    print("Book Title:",item[1])
    print("Available Chapters Count :",item[2])

#Disconnect from server
db.close()

#Create Variables
contOption='Y'
f=0

#Repeat the search query based on user input Y/N
while contOption=='Y' or contOption=='y':
    #Read user inputs
    ubookNo=input("\nEnter the Book Number(Only Numeric) :")
    uChaptNo=input("Enter the Chapter Number :")
    f=open(ubookNo + "_" + uChaptNo + ".txt","r")
    print("\n" + f.read())

    contOption=input("Do you want to continue? (Y/N)")

```

```

return

#-----Update book function-----
def updateBookFun():
    print("\nUpdate book information from below...")

import mysql.connector

#Open database connection with a dictionary
conDict= {'host':'localhost',
          'database':'abc_books_store',
          'user':'root',
          'password':''}

db= mysql.connector.connect(**conDict)

#Prepare a cursor object using cursor() method
cursor=db.cursor()

#Create Variables
contOption="Y"

#Repeat the search query based on user input Y/N
while contOption=="Y" or contOption=="y":
    #Get user inputs on updates
    uBookNo=input("Enter the Book Number(Only Numeric) :")
    columnName=input("Enter what needs to be
changed(bookNo/title/subjectCode/author/publisher/price/location/edition/chapters_count) :")
    newValue=input("Enter new value/Text :")

```

```

#Execute SQL query using execute() method

updValue= " UPDATE books SET " + columnName + "= " + newValue + " WHERE
bookNo =" + uBookNo

cursor.execute(updValue)


#Commit the change

db.commit()


#Validate update query results

if cursor.rowcount==0:

    print("\nYour data cannot be updated. Please check and insert the correct Book
Number.")

else:

    #Display how many records added

    print("\n",cursor.rowcount,"Record Updated")


contOption=input("Do you want to continue? (Y/N)")


#Disconnect from server

db.close()

return


#-----Delete book function-----

def deltBookFun():

    print("\nDelete unnecessary records from below...")


import mysql.connector


#Open database connection with a dictionary

conDict= {'host':'localhost',

```

```

        'database':'abc_books_store',
        'user':'root',
        'password':''}

db= mysql.connector.connect(**conDict)

#Prepare a cursor object using cursor() method
cursor=db.cursor()

#Create Variables
contOption="Y"

#Repeat the search query based on user input Y/N
while contOption=="Y" or contOption=="y":
    #Get user input on deleting information
    uBookNo=input("Enter the Book Number(Only Numeric) :")

    #Execute SQL query using execute() method
    cursor.execute("DELETE FROM books WHERE bookNo =" + uBookNo + "")
    cursor.execute("DELETE FROM book_chapter WHERE bookNo =" + uBookNo + "")

    #Commit the change
    db.commit()

    #Validate update query results
    if cursor.rowcount==0:
        print("\nYour data cannot be deleted. Please check and insert the correct Book
Number.")
    else:
        #Display how many records deleted
        print("\n",cursor.rowcount,"Record Deleted")

```

```
contOption=input("Do you want to continue? (Y/N)")
```

```
#Disconnect from server
```

```
db.close()
```

```
return
```

3. Test Case Table

Test Case No & Scenario	Inputs	Expected Results	Actual Results	Remarks Pass/Fail
1.Select option No.1 from the menu	1	<p>****SEARCH BOOK****</p> <p>Search available books from below...</p> <p>Please enter the book number/book title/author of the book/book publisher you are searching for :</p>	<p>****SEARCH BOOK****</p> <p>Search available books from below...</p> <p>Please enter the book number/book title/author of the book/book publisher you are searching for :</p>	Pass
2.Select option No.2 from the menu	2	<p>****INSERT NEW BOOK****</p> <p>Enter new book information from below...</p> <p>Type Book Number(Only numeric) :</p>	<p>****INSERT NEW BOOK****</p> <p>Enter new book information from below...</p> <p>Type Book Number(Only numeric) :</p>	Pass
3.Select option No.3 from the menu	3	<p>****INSERT SUBJECTS****</p> <p>Enter new subject information from below...</p> <p>Type Subject Code (Maximum 5 characters.) :</p>	<p>****INSERT SUBJECTS****</p> <p>Enter new subject information from below...</p> <p>Type Subject Code (Maximum 5 characters.) :</p>	Pass
4.Select option No.4 from the menu	4	<p>****INSERT BOOK CHAPTERS****</p> <p>Enter new chapter information from below...</p> <p>Type Book No(Only Numeric) :</p>	<p>****INSERT BOOK CHAPTERS****</p> <p>Enter new chapter information from below...</p> <p>Type Book No(Only Numeric) :</p>	Pass

5.Select option No.5 from the menu	5	<p>****VIEW BOOK CHAPTERS****</p> <p>Displays the available book numbers, titles and the chapters count of the book.</p> <p>Enter the Book Number(Only Numeric) :</p>	<p>****VIEW BOOK CHAPTERS****</p> <p>Displays the available book numbers, titles and the chapters count of the book.</p> <p>Enter the Book Number(Only Numeric) :</p>	Pass
6.Select option No.6 from the menu	6	<p>****UPDATE BOOK INFORMATION****</p> <p>Update book information from below...</p> <p>Enter the Book Number(Only Numeric) :</p>	<p>****UPDATE BOOK INFORMATION****</p> <p>Update book information from below...</p> <p>Enter the Book Number(Only Numeric) :</p>	Pass
7.Select option No.7 from the menu	7	<p>****DELETE BOOK INFORMATION****</p> <p>Delete unnecessary records from below...</p> <p>Enter the Book Number(Only Numeric) :</p>	<p>****DELETE BOOK INFORMATION****</p> <p>Delete unnecessary records from below...</p> <p>Enter the Book Number(Only Numeric) :</p>	Pass
8.Select option No.8 from the menu	8	<p>Thank you for using our system.</p> <p>*****Goodbye!*****</p> <p>****</p>	<p>Thank you for using our system.</p> <p>*****Goodbye!***</p> <p>*****</p>	Pass
9.Enter invalid number	10	<p>Please insert a valid number.</p> <p>\\Returning to the Menu...\\</p> <p>Display Menu</p>	<p>Please insert a valid number.</p> <p>\\Returning to the Menu...\\</p> <p>Menu displayed</p>	Pass
10. Search a book	22001	<p>Book No: 22001</p> <p>Title : Harry Potter and the Half-Blood Prince</p> <p>Subject Code : FAN</p> <p>Author : J.K. Rowling</p> <p>Publisher : Bloomsbury</p> <p>Price : 5680.0</p> <p>Location : A001</p> <p>Edition : 5</p> <p>Do you want to continue? (Y/N)</p>	<p>Book No: 22001</p> <p>Title : Harry Potter and the Half-Blood Prince</p> <p>Subject Code : FAN</p> <p>Author : J.K. Rowling</p> <p>Publisher : Bloomsbury</p> <p>Price : 5680.0</p> <p>Location : A001</p> <p>Edition : 5</p> <p>Do you want to continue? (Y/N)</p>	Pass

11. Search a book again by invalid book No	Y, 100	Your searched item is not available. Do you want to continue? (Y/N)	Your searched item is not available. Do you want to continue? (Y/N)	Pass
12. End searchin-g for books	N	Return to the menu. Display the menu. Select option.	Returned to the menu. Menu displayed. Select option.	Pass
13. Insert a new book	22005, Dune, SCI, Frank Herbert, Chilton Books, 4000,1,5	1 Record Added Do you want to continue? (Y/N) Update Database with new book information	1 Record Added Do you want to continue? (Y/N) Database updated with new book information	Pass
14. Insert a new book again	Y, 22006, 1776, HIS, David McCullough, Simon & Schuster, 5600, H007, 2, 3	1 Record Added Do you want to continue? (Y/N) Update Database with new book information	1 Record Added Do you want to continue? (Y/N) Database updated with new book information	Pass
15. End Insertin-g books	N	Return to the menu. Display the menu. Select option.	Returned to the menu. Menu displayed. Select option.	Pass
16. Insert a new subject	NOV, novel	1 Record Added Do you want to continue? (Y/N) Update Database with a new subject	1 Record Added Do you want to continue? (Y/N) Database updated with a new subject	Pass
17. Insert a new subject again	Y, KID, kids	1 Record Added Do you want to continue? (Y/N) Update Database with a new subject	1 Record Added Do you want to continue? (Y/N) Database updated with a new subject	Pass

18.End Inserting subjects	N	Return to the menu. Display the menu. Select option.	Returned to the menu. Menu displayed. Select option.	Pass
19. Insert book chapters	22005,1, CHAPTER ONE DUNE,13,45, This is chapter number one. You are viewing the chapter.	1 Record Added Do you want to continue? (Y/N) Update Database with new book chapters. Create 22005_1.txt	1 Record Added Do you want to continue? (Y/N) Database updated with new book chapters. Create 22005_1.txt	Pass
20. Insert book chapters again	Y, 2, CHAPTER TWO DUNE,46,70, This is chapter number two. You are viewing the chapter.	1 Record Added Do you want to continue? (Y/N) Update Database with new book chapters. Create 22005_2.txt	1 Record Added Do you want to continue? (Y/N) Database updated with new book chapters. Create 22005_.txt	Pass
21. End inserting book chapters	N	Return to the menu. Display the menu. Select option.	Returned to the menu. Menu displayed. Select option.	Pass
22.View book chapters	22001, 1	01-The Other Minister This is chapter number one. You are viewing the chapter. Do you want to continue? (Y/N)	01-The Other Minister This is chapter number one. You are viewing the chapter. Do you want to continue? (Y/N)	Pass
23. View book chapters again	Y, 22003,3	03- We capture a flag This is chapter number three. You are viewing the chapter. Do you want to continue? (Y/N)	03- We capture a flag This is chapter number three. You are viewing the chapter. Do you want to continue? (Y/N)	Pass

24. End viewing book chapters	n	Return to the menu. Display the menu. Select option.	Returned to the menu. Menu displayed. Select option.	Pass
25. Update book information	22001, edition, 3	1 Record Added Do you want to continue? (Y/N) Update Database	1 Record Added Do you want to continue? (Y/N) Database updated	Pass
26. Update a invalid book information	Y, 22000, title, NewTitle	Your data cannot be updated. Please check and insert the correct Book Number. Do you want to continue? (Y/N)	Your data cannot be updated. Please check and insert the correct Book Number. Do you want to continue? (Y/N))	Pass
27. End updating book information	n	Return to the menu. Display the menu. Select option.	Returned to the menu. Menu displayed. Select option.	Pass
28. Delete book information	22006	2 Records Deleted Do you want to continue? (Y/N) Delete book information from 'books' table. Delete chapter information from 'book_chapter' table	2 Records Deleted Do you want to continue? (Y/N) Book information deleted from 'books' table. Chapter information deleted from 'book_chapter' table	Pass
29. Delete invalid book information	Continue=y 100	Your data cannot be deleted. Please check and insert the correct Book Number. Do you want to continue? (Y/N)	Your data cannot be deleted. Please check and insert the correct Book Number. Do you want to continue? (Y/N)	Pass
30. End deleting book information	n	Return to the menu. Display the menu. Select option.	Returned to the menu. Menu displayed. Select option.	Pass

Table 1: Test cases

4. Screenshots of the Test Cases

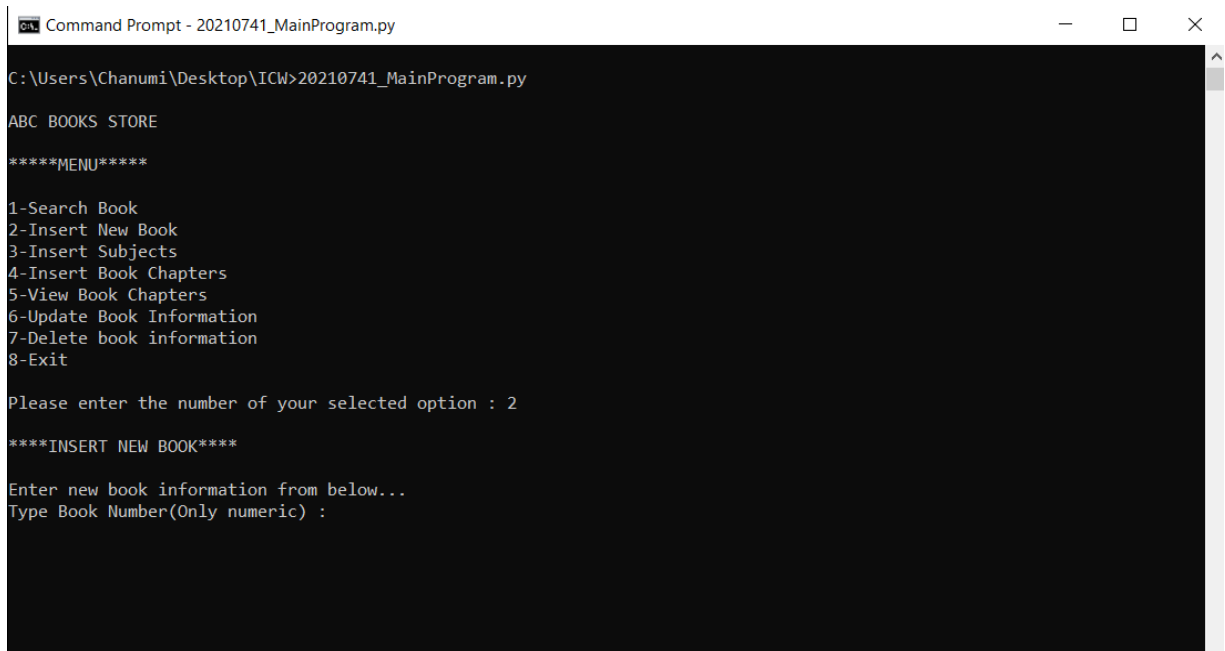
Test Case 1



```
Command Prompt - 20210741_MainProgram.py
C:\Users\Chanumi\Desktop\ICW>20210741_MainProgram.py
ABC BOOKS STORE
*****MENU*****
1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit
Please enter the number of your selected option : 1
*****SEARCH BOOK*****
Search available books from below...
Please enter the book number(Only Numeric)/book title/author of the book/book publisher you are searching for :
```

Figure 1: Screenshot of the console in test case 1

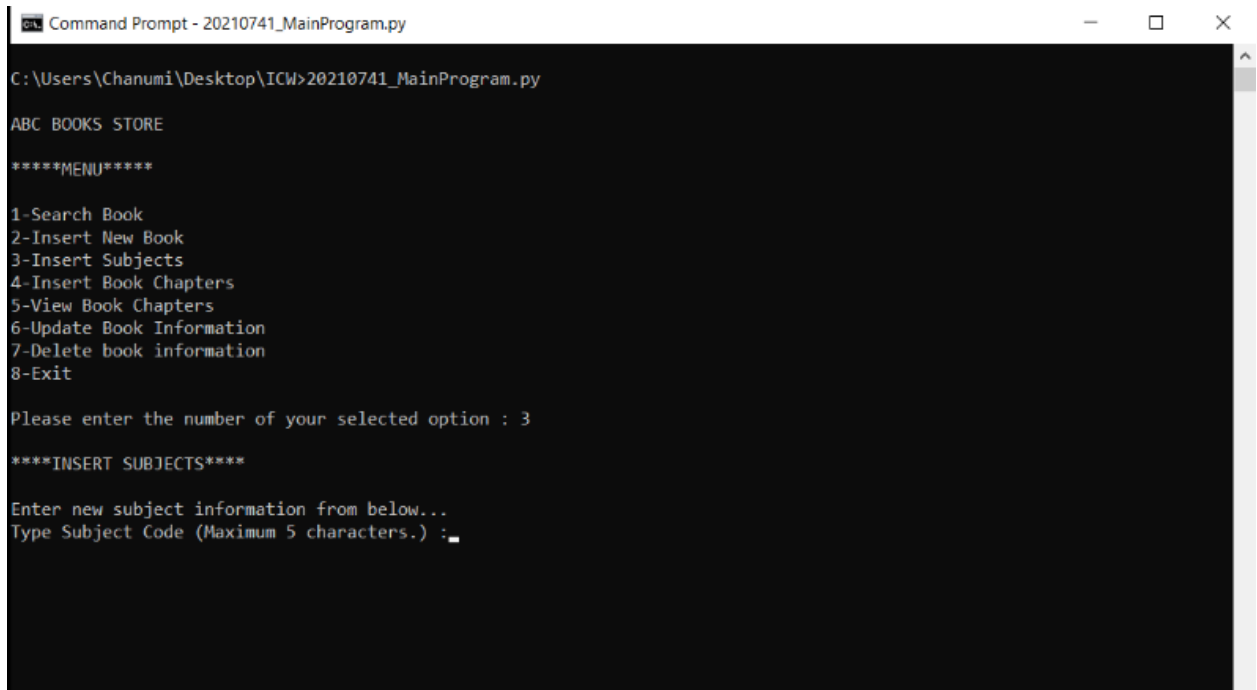
Test Case 2



```
Command Prompt - 20210741_MainProgram.py
C:\Users\Chanumi\Desktop\ICW>20210741_MainProgram.py
ABC BOOKS STORE
*****MENU*****
1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit
Please enter the number of your selected option : 2
*****INSERT NEW BOOK*****
Enter new book information from below...
Type Book Number(Only numeric) :
```

Figure 2: Screenshot of the console in test case 2

Test Case 3



```
Command Prompt - 20210741_MainProgram.py
C:\Users\Chanumi\Desktop\ICW>20210741_MainProgram.py

ABC BOOKS STORE

*****MENU*****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

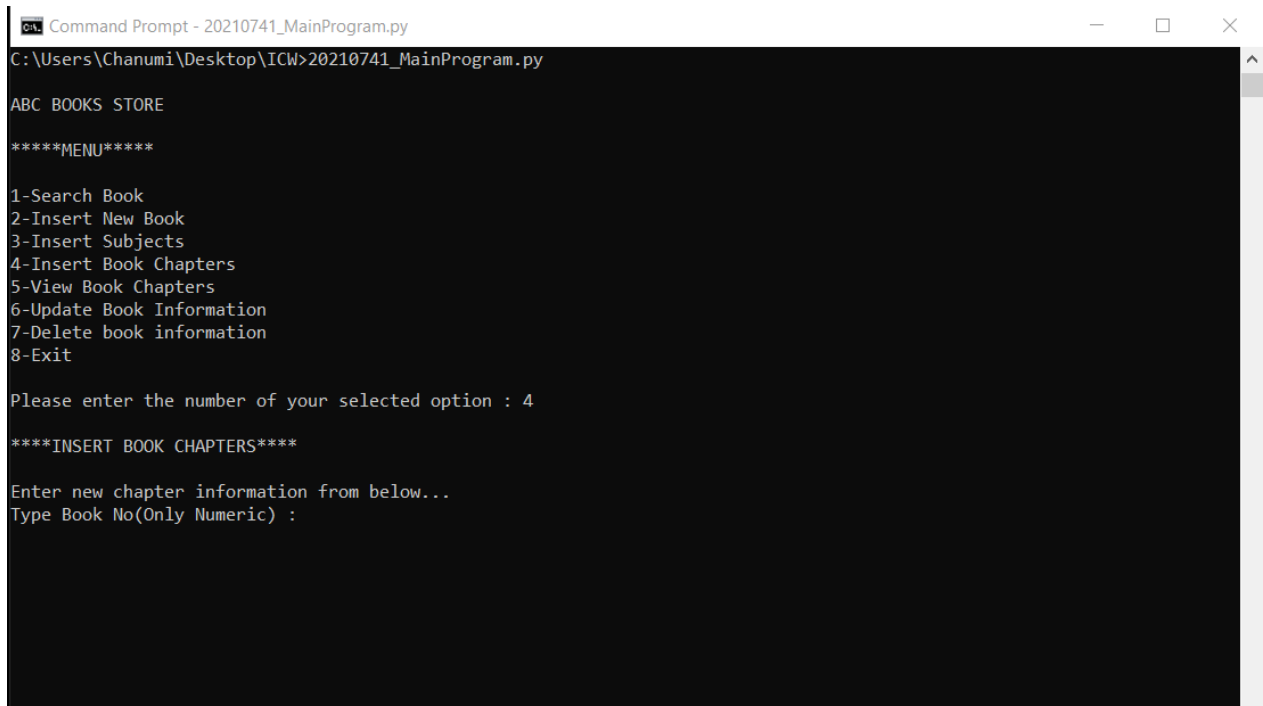
Please enter the number of your selected option : 3

***INSERT SUBJECTS***

Enter new subject information from below...
Type Subject Code (Maximum 5 characters.) :
```

Figure 3: Screenshot of the console in test case 3

Test Case 4



```
Command Prompt - 20210741_MainProgram.py
C:\Users\Chanumi\Desktop\ICW>20210741_MainProgram.py

ABC BOOKS STORE

*****MENU*****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

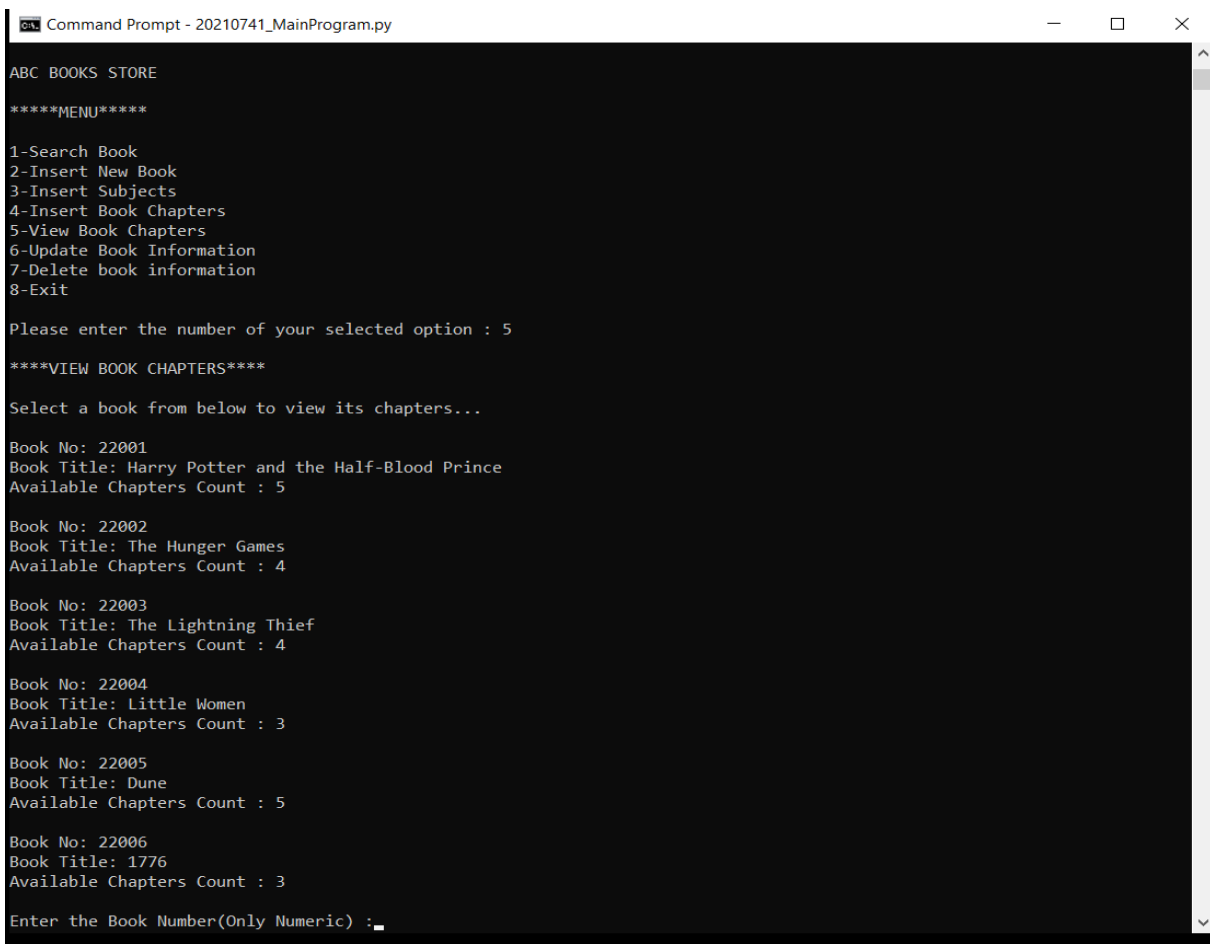
Please enter the number of your selected option : 4

***INSERT BOOK CHAPTERS***

Enter new chapter information from below...
Type Book No(Only Numeric) :
```

Figure 4: Screenshot of the console in test case 4

Test Case 5



```
Command Prompt - 20210741_MainProgram.py

ABC BOOKS STORE

*****MENU*****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

Please enter the number of your selected option : 5

****VIEW BOOK CHAPTERS****

Select a book from below to view its chapters...

Book No: 22001
Book Title: Harry Potter and the Half-Blood Prince
Available Chapters Count : 5

Book No: 22002
Book Title: The Hunger Games
Available Chapters Count : 4

Book No: 22003
Book Title: The Lightning Thief
Available Chapters Count : 4

Book No: 22004
Book Title: Little Women
Available Chapters Count : 3

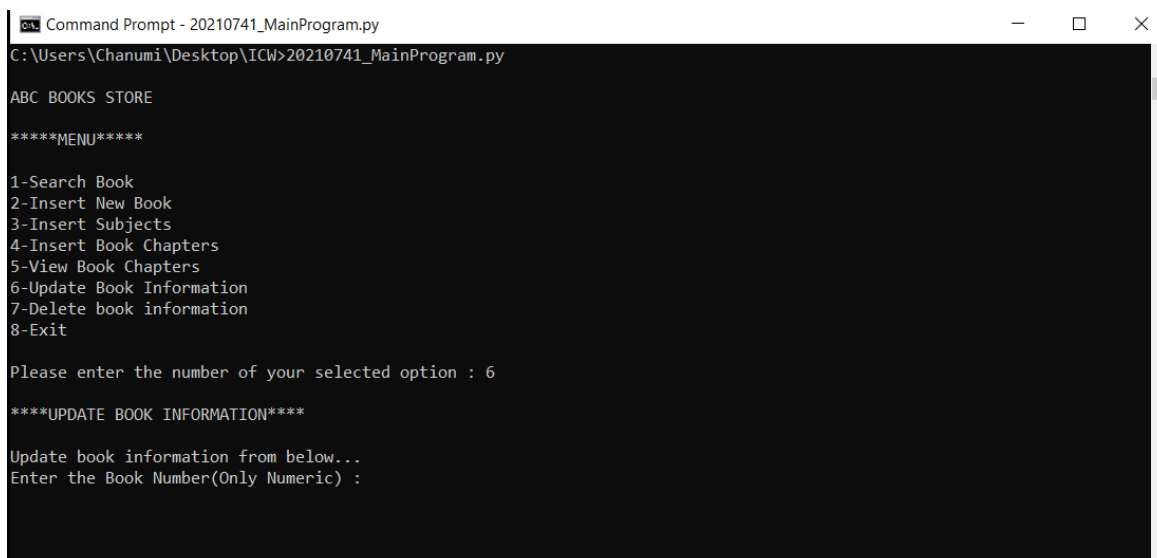
Book No: 22005
Book Title: Dune
Available Chapters Count : 5

Book No: 22006
Book Title: 1776
Available Chapters Count : 3

Enter the Book Number(Only Numeric) : _
```

Figure 5: Screenshot of the console in test case 5

Test Case 6



```
Command Prompt - 20210741_MainProgram.py
C:\Users\Chanumi\Desktop\ICW>20210741_MainProgram.py

ABC BOOKS STORE

*****MENU*****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

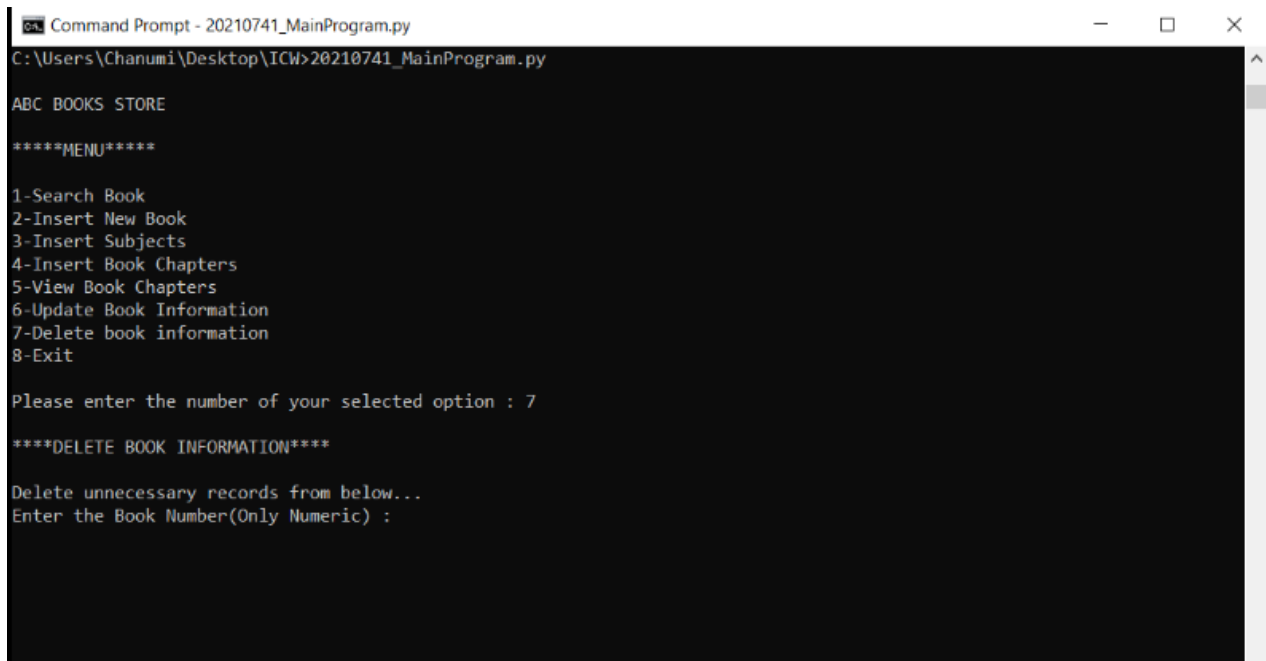
Please enter the number of your selected option : 6

****UPDATE BOOK INFORMATION****

Update book information from below...
Enter the Book Number(Only Numeric) :
```

Figure 6: Screenshot of the console in test case 6

Test Case 7



```
Command Prompt - 20210741_MainProgram.py
C:\Users\Chanumi\Desktop\ICW>20210741_MainProgram.py

ABC BOOKS STORE

*****MENU*****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

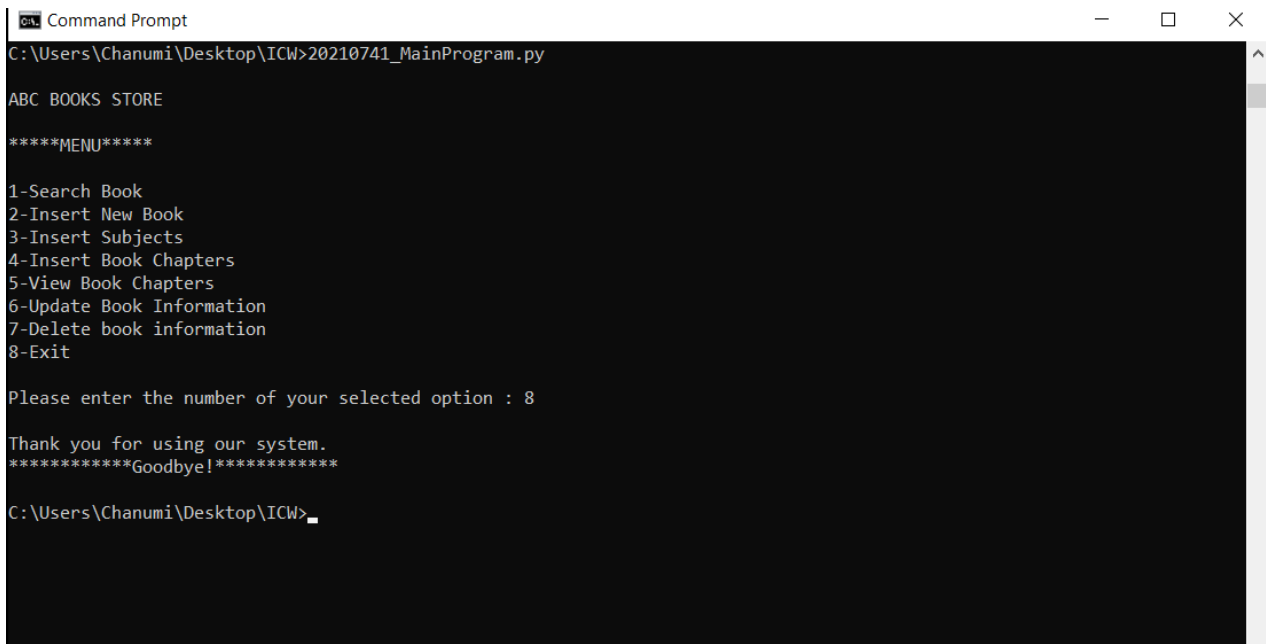
Please enter the number of your selected option : 7

****DELETE BOOK INFORMATION****

Delete unnecessary records from below...
Enter the Book Number(Only Numeric) :
```

Figure 7: Screenshot of the console in test case 7

Test Case 8



```
Command Prompt
C:\Users\Chanumi\Desktop\ICW>20210741_MainProgram.py

ABC BOOKS STORE

*****MENU*****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

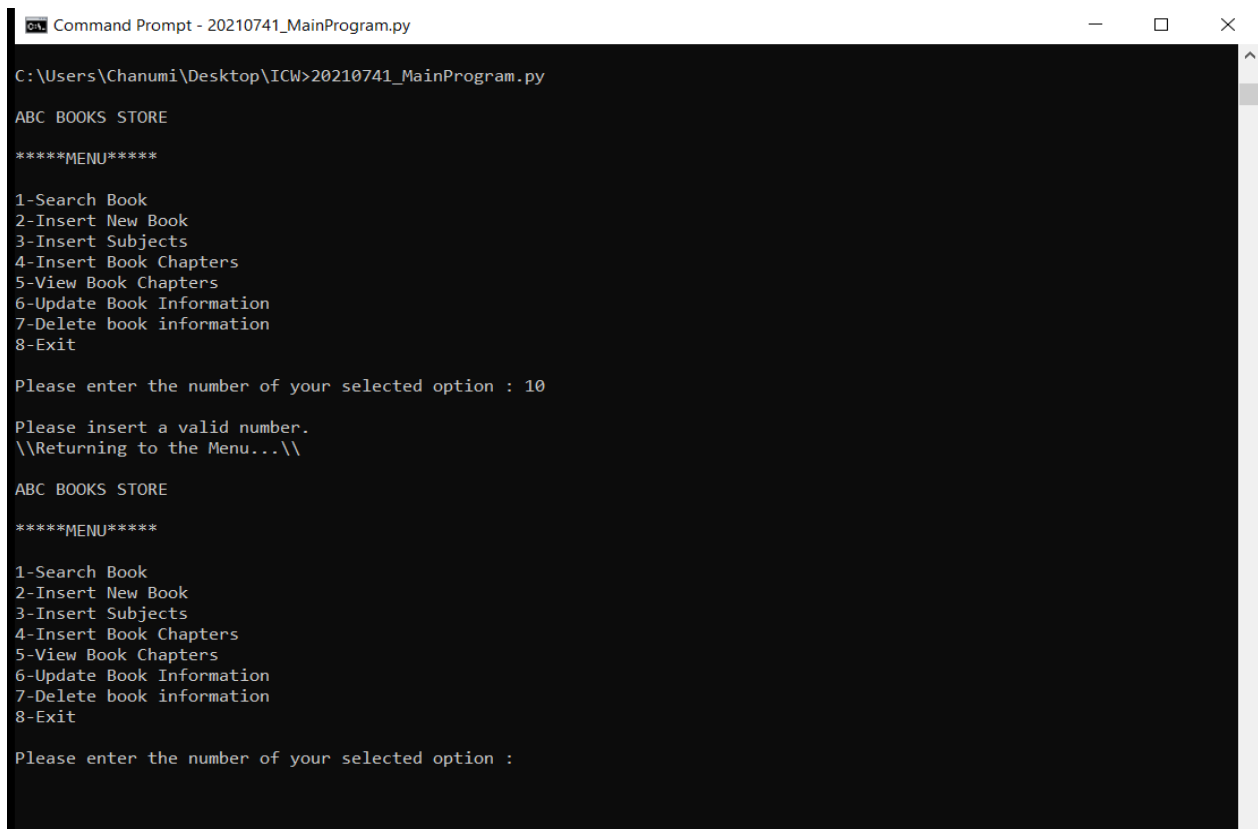
Please enter the number of your selected option : 8

Thank you for using our system.
*****Goodbye!*****

C:\Users\Chanumi\Desktop\ICW>
```

Figure 8: Screenshot of the console in test case 8

Test Case 9



```
C:\Users\Chanumi\Desktop\ICW>20210741_MainProgram.py

ABC BOOKS STORE

****MENU****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

Please enter the number of your selected option : 10

Please insert a valid number.
\\Returning to the Menu...\\

ABC BOOKS STORE

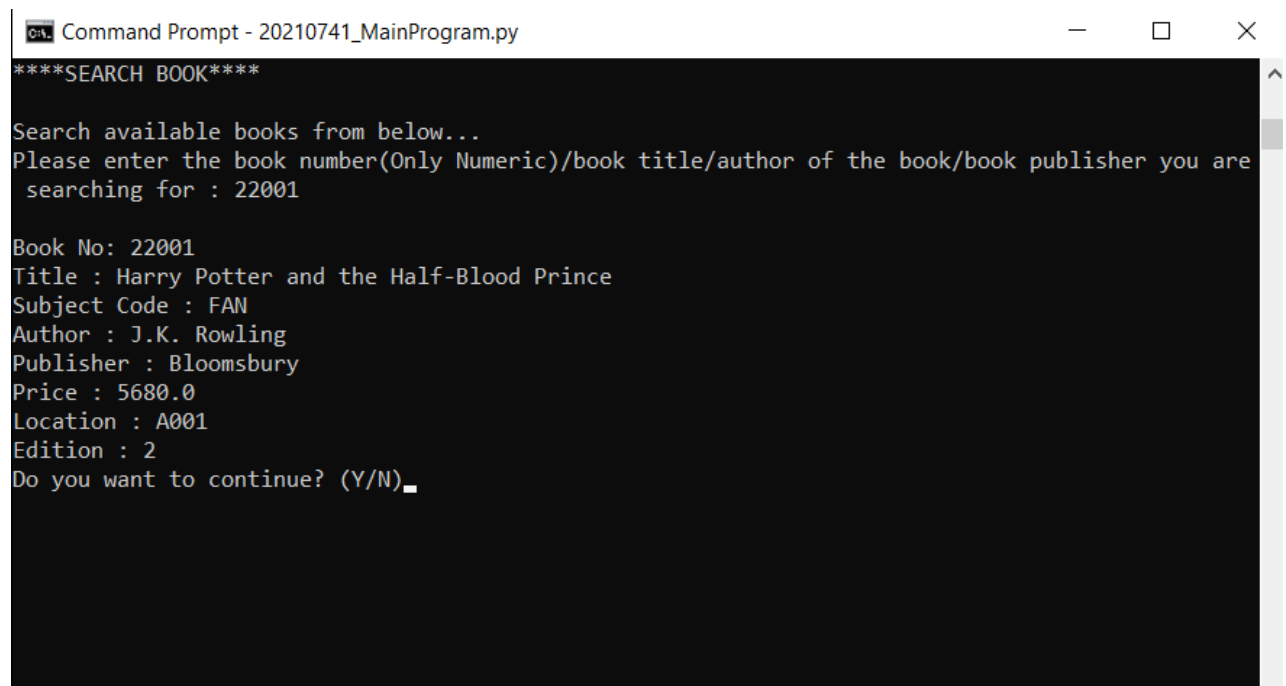
****MENU****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

Please enter the number of your selected option :
```

Figure 9: Screenshot of the console in test case 9

Test Case 10



```
Command Prompt - 20210741_MainProgram.py

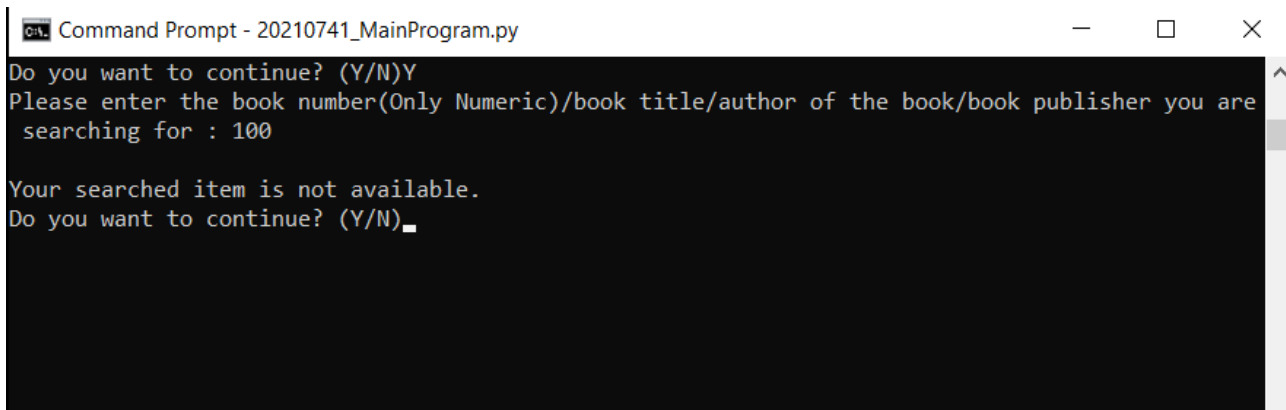
****SEARCH BOOK****

Search available books from below...
Please enter the book number(Only Numeric)/book title/author of the book/book publisher you are
searching for : 22001

Book No: 22001
Title : Harry Potter and the Half-Blood Prince
Subject Code : FAN
Author : J.K. Rowling
Publisher : Bloomsbury
Price : 5680.0
Location : A001
Edition : 2
Do you want to continue? (Y/N)_
```

Figure 10: Screenshot of the console in test case 10

Test Case 11

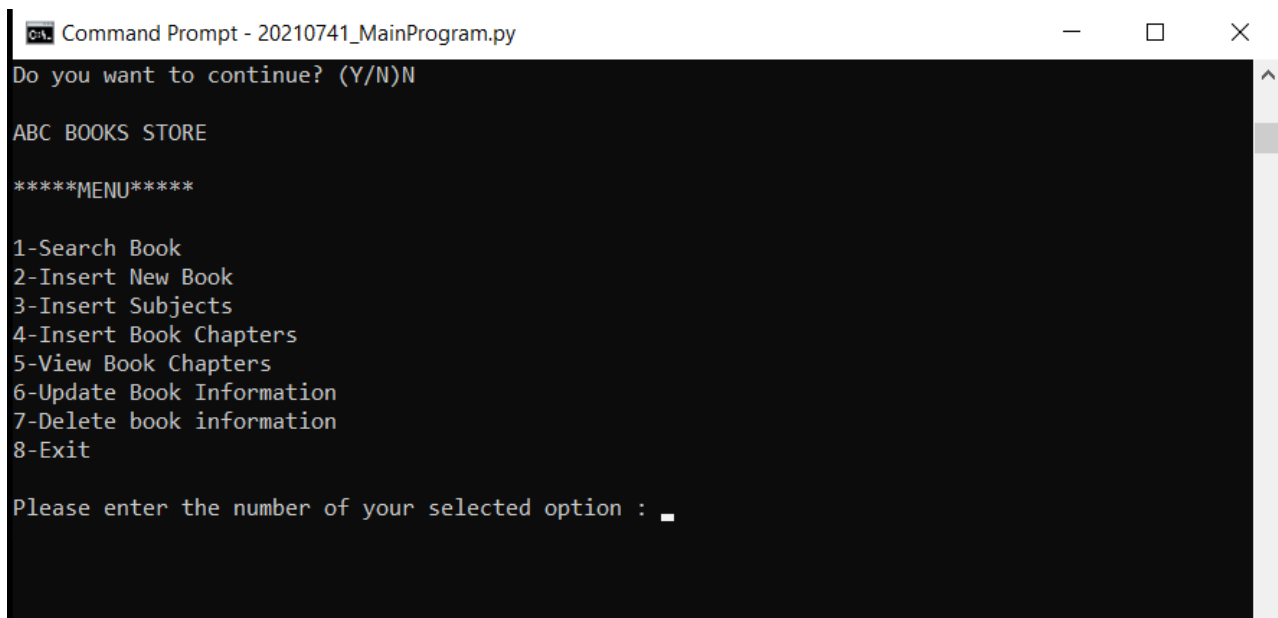


```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)Y
Please enter the book number(Only Numeric)/book title/author of the book/book publisher you are
searching for : 100

Your searched item is not available.
Do you want to continue? (Y/N)_
```

Figure 11: Screenshot of the console in test case 11

Test Case 12



```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)N

ABC BOOKS STORE

*****MENU*****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

Please enter the number of your selected option : _
```

Figure 12: Screenshot of the console in test case 12

Test Case 13

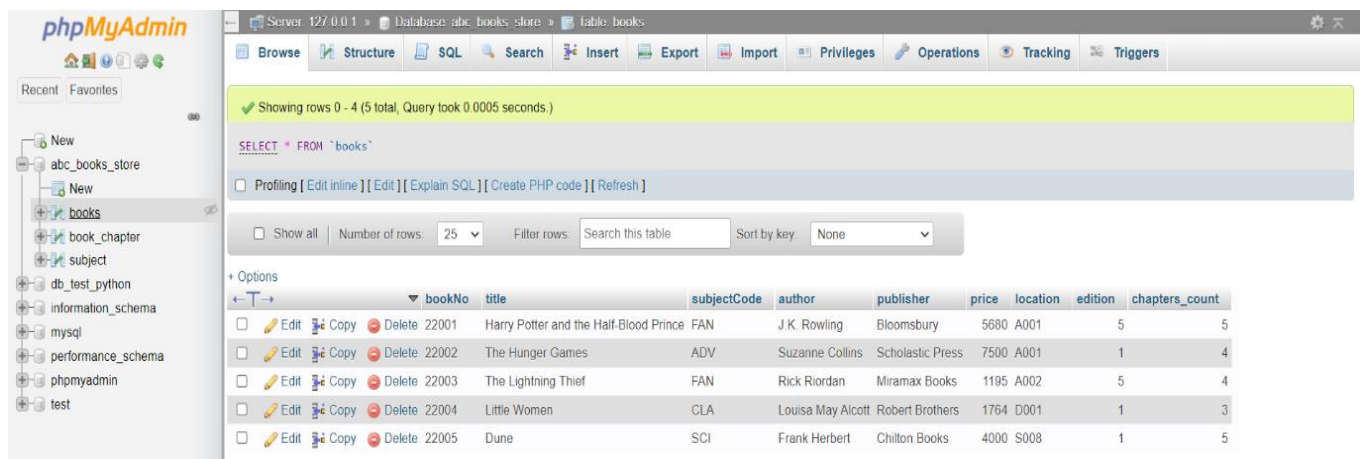
```
****INSERT NEW BOOK****

Enter new book information from below...
Type Book Number(Only numeric) :22005
Type Book Title :Dune
Type Subject Code :SCI
Type Author Name :Frank Herbert
Type Publisher Name :Chilton Books
Enter Book Price(Only numeric) :4000
Type Book Location :S008
Type Book Edition(Only numeric) :1
Type How Many Chapters Are There(Only numeric) :5

1 Record Added
Do you want to continue? (Y/N)
```

Figure 13: Screenshot of the console in test case 13

Test Case 13 (books table)



Showing rows 0 - 4 (5 total, Query took 0.0005 seconds.)

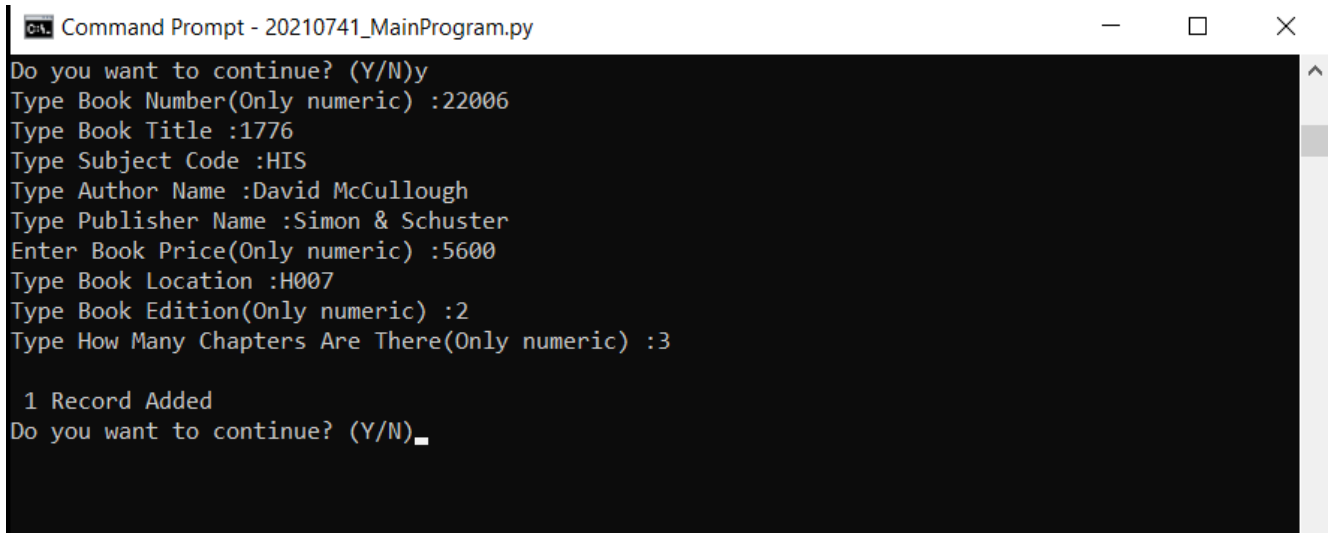
SELECT * FROM `books`

Options: Show all, Number of rows: 25, Filter rows: Search this table, Sort by key: None

	bookNo	title	subjectCode	author	publisher	price	location	edition	chapters_count
<input type="checkbox"/>	22001	Harry Potter and the Half-Blood Prince	FAN	J K. Rowling	Bloomsbury	5680	A001	5	5
<input type="checkbox"/>	22002	The Hunger Games	ADV	Suzanne Collins	Scholastic Press	7500	A001	1	4
<input type="checkbox"/>	22003	The Lightning Thief	FAN	Rick Riordan	Miramax Books	1195	A002	5	4
<input type="checkbox"/>	22004	Little Women	CLA	Louisa May Alcott	Robert Brothers	1764	D001	1	3
<input type="checkbox"/>	22005	Dune	SCI	Frank Herbert	Chilton Books	4000	S008	1	5

Figure 14: Screenshot of the 'books' table in test case 13

Test Case 14

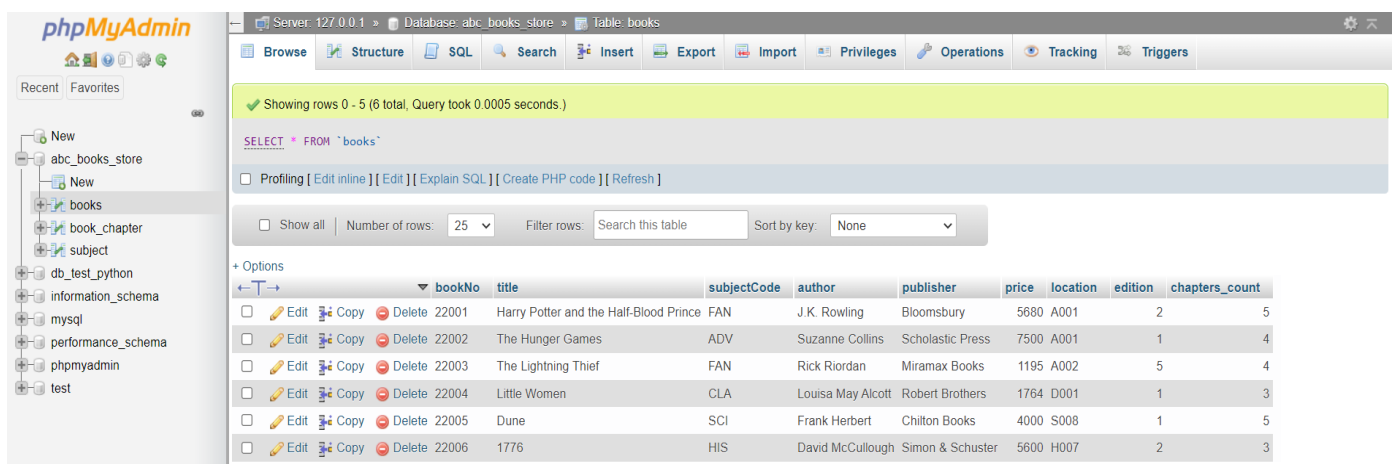


```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)y
Type Book Number(Only numeric) :22006
Type Book Title :1776
Type Subject Code :HIS
Type Author Name :David McCullough
Type Publisher Name :Simon & Schuster
Enter Book Price(Only numeric) :5600
Type Book Location :H007
Type Book Edition(Only numeric) :2
Type How Many Chapters Are There(Only numeric) :3

1 Record Added
Do you want to continue? (Y/N)_
```

Figure 15: Screenshot of the console in test case 14

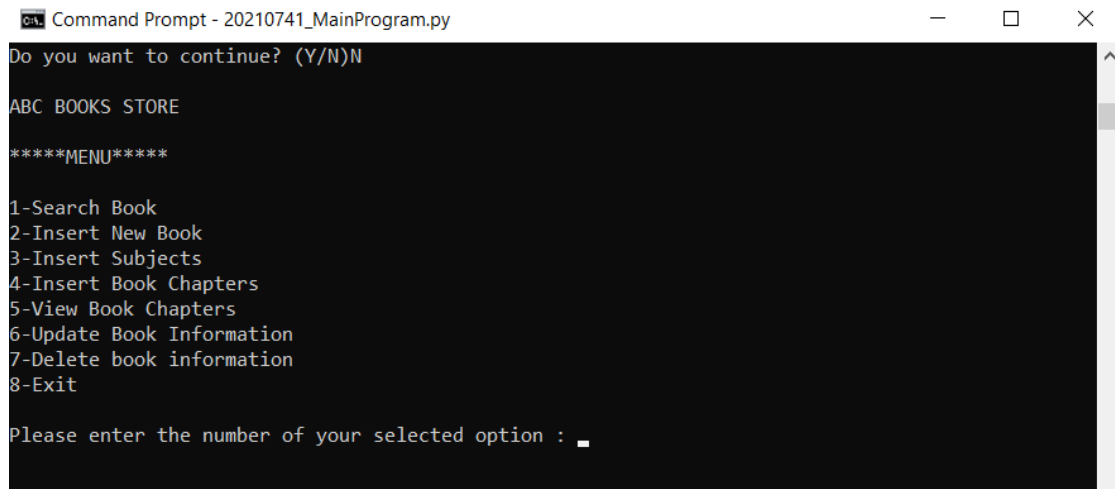
Test Case 14 (books table)



bookNo	title	subjectCode	author	publisher	price	location	edition	chapters_count
22001	Harry Potter and the Half-Blood Prince	FAN	J.K. Rowling	Bloomsbury	5680	A001	2	5
22002	The Hunger Games	ADV	Suzanne Collins	Scholastic Press	7500	A001	1	4
22003	The Lightning Thief	FAN	Rick Riordan	Miramax Books	1195	A002	5	4
22004	Little Women	CLA	Louisa May Alcott	Robert Brothers	1764	D001	1	3
22005	Dune	SCI	Frank Herbert	Chilton Books	4000	S008	1	5
22006	1776	HIS	David McCullough	Simon & Schuster	5600	H007	2	3

Figure 16: Screenshot of the 'books' table in test case 14

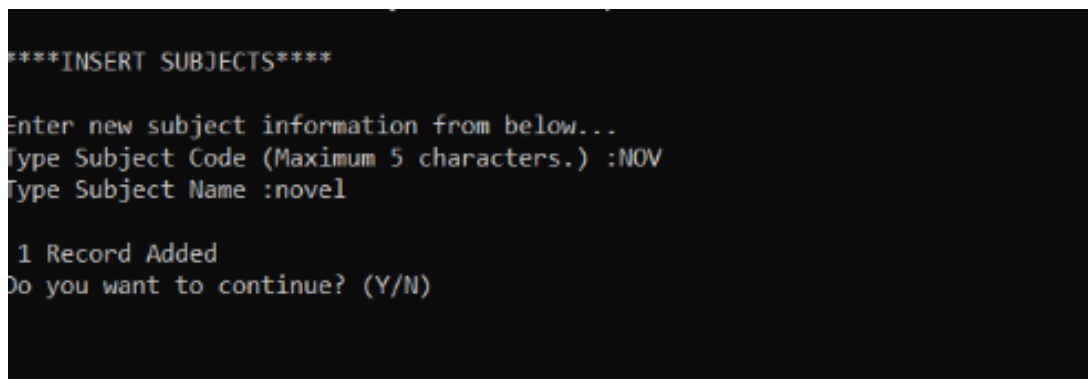
Test Case 15



```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)N
ABC BOOKS STORE
****MENU****
1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit
Please enter the number of your selected option : _
```

Figure 17: Screenshot of the console in test case 15

Test Case 16



```
****INSERT SUBJECTS****
Enter new subject information from below...
Type Subject Code (Maximum 5 characters.) :NOV
Type Subject Name :novel
1 Record Added
Do you want to continue? (Y/N)
```

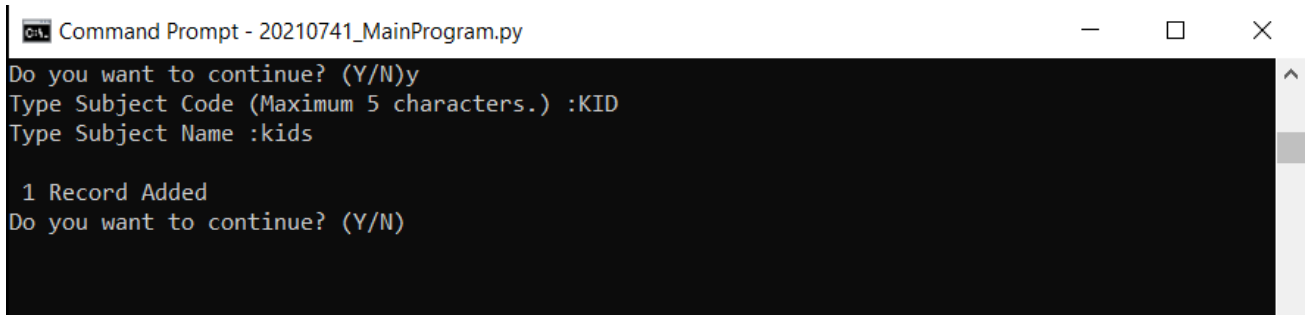
Figure 18: Screenshot of the console in test case 16

Test Case 16 ('subject' table)

subject_code	name
ADV	adventure
CLA	classic
COM	comic
FAN	fantasy
HIS	history
LIT	literary
NOV	novel
POE	poetry
SCI	science fiction
THR	thriller

Figure 19: Screenshot of the 'subject' table in test case 16

Test Case 17



```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)y
Type Subject Code (Maximum 5 characters.) :KID
Type Subject Name :kids

1 Record Added
Do you want to continue? (Y/N)
```

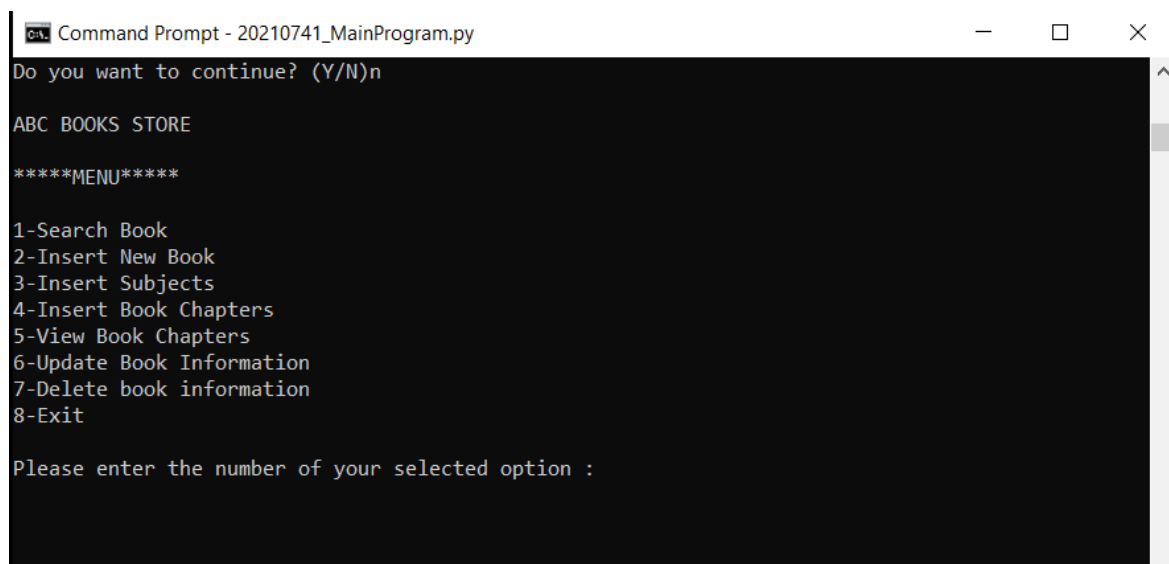
Test Case 17('subject' table)

Figure 20: Screenshot of the 'subject' table in test case 17

subject_code	name
ADV	adventure
CLA	classic
COM	comic
FAN	fantasy
HIS	history
KID	kids
LIT	literary
NOV	novel
POE	poetry
SCI	science fiction
THR	thriller

Figure 21: Screenshot of the 'subject table in test case 17'

Test Case 18



```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)n

ABC BOOKS STORE

*****MENU*****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

Please enter the number of your selected option :
```

Figure 22: Screenshot of the console in test case 18

Test Case 19

```
****INSERT BOOK CHAPTERS****

Enter new chapter information from below...
Type Book No(Only Numeric) :22005
Type Chapter Number(Only Numeric) :1
Type Chapter Title :CHAPTER ONE DUNE
Type starting page number of the chapter(Only Numeric) :13
Type ending page number of the chapter(Only Numeric) :45
Please enter the chapter as a text here :This is chapter number one. You are viewing the chapter.

1 Record Added
Do you want to continue? (Y/N)
```

Figure 23: Screenshot of the console in test case 19

Test Case 19 (book_chapter table)

+ Options

bookNo	chapterNo	chapter_title	starting_page_No	ending_page_No
22001	1	The Other Minister	4	25
22001	2	Spinner's End	26	51
22001	3	Will and Won't	52	70
22001	4	Horace Slughorn	71	94
22002	1	Chapter 1	6	31
22002	2	Chapter 2	32	68
22002	3	Chapter 3	69	110
22002	4	Chapter 4	110	151
22003	1	My Pre-algebra Teacher	3	28
22003	2	Three Old Ladies	29	56
22003	3	We capture a flag	57	75
22003	4	I am Offered a Quest	76	92
22004	1	Playing Pilgrims	6	10
22004	2	A Merry Christmas	11	26
22004	3	The Laurence Boy	27	39
22005	1	CHAPTER ONE DUNE	13	45

Figure 24: Screenshot of the 'book_chapter' table in test case 19

Test Case 19 (Text files)

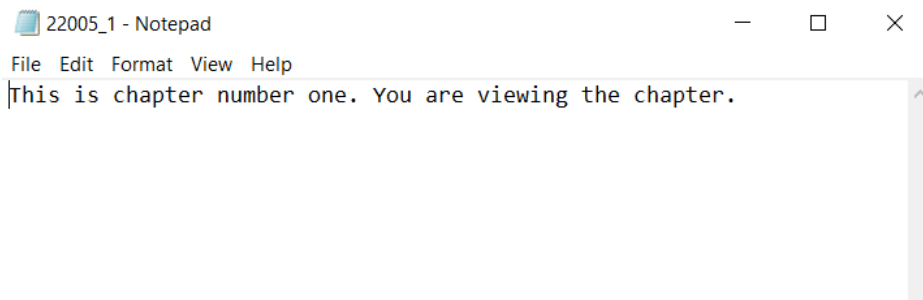
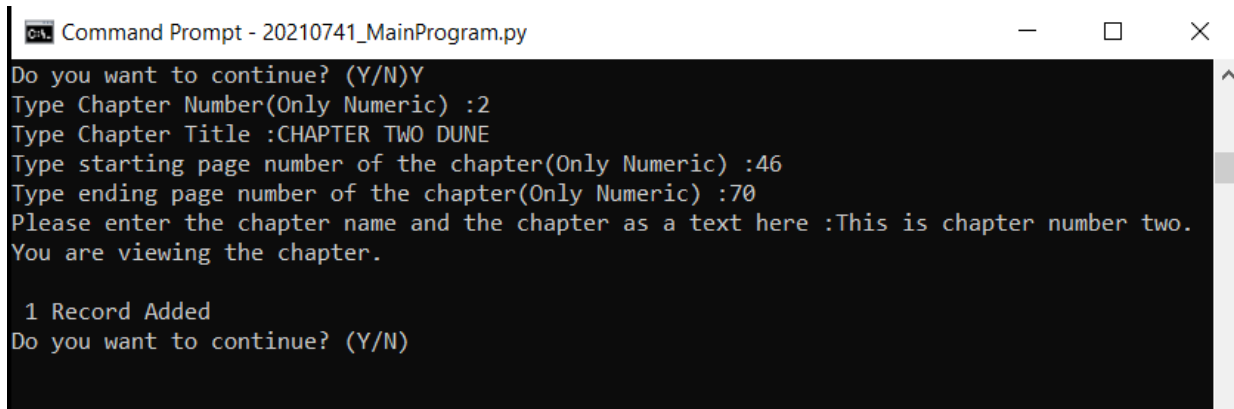


Figure 25: Screenshot of the Notepad in test case 19

Test Case 20



```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)Y
Type Chapter Number(Only Numeric) :2
Type Chapter Title :CHAPTER TWO DUNE
Type starting page number of the chapter(Only Numeric) :46
Type ending page number of the chapter(Only Numeric) :70
Please enter the chapter name and the chapter as a text here :This is chapter number two.
You are viewing the chapter.

1 Record Added
Do you want to continue? (Y/N)
```

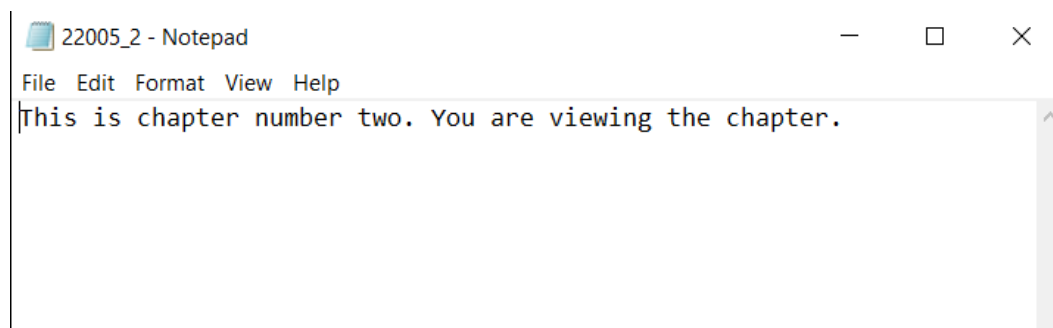
Figure 26: Screenshot of the console in test case 20

Test Case 20 (book_chapter table)

+ Options				
bookNo	chapterNo	chapter_title	starting_page_No	ending_page_No
22001	1	The Other Minister	4	25
22001	2	Spinner's End	26	51
22001	3	Will and Won't	52	70
22001	4	Horace Slughorn	71	94
22002	1	Chapter 1	6	31
22002	2	Chapter 2	32	68
22002	3	Chapter 3	69	110
22002	4	Chapter 4	110	151
22003	1	My Pre-algebra Teacher	3	28
22003	2	Three Old Ladies	29	56
22003	3	We capture a flag	57	75
22003	4	I am Offered a Quest	76	92
22004	1	Playing Pilgrims	6	10
22004	2	A Merry Christmas	11	26
22004	3	The Laurence Boy	27	39
22005	1	CHAPTER ONE DUNE	13	45
22005	2	CHAPTER TWO DUNE	46	70

Figure 27: Screenshot of the 'book_chapter' table in test case 20

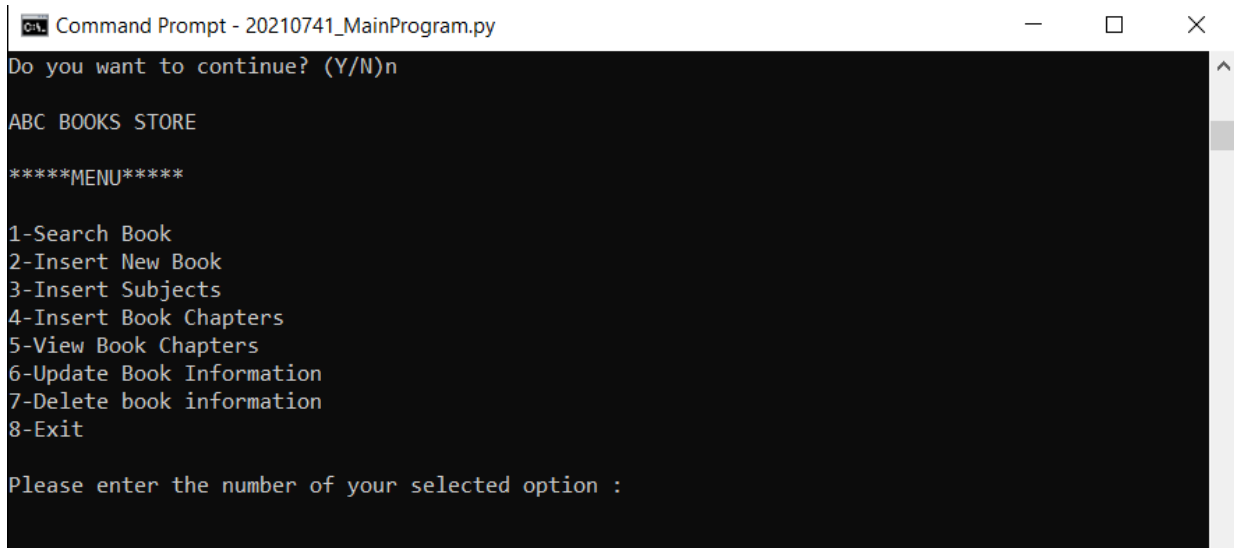
Test Case 20 (Text files)



```
22005_2 - Notepad
File Edit Format View Help
This is chapter number two. You are viewing the chapter.
```

Figure 28: Screenshot of the Notepad in test case 20

Test Case 21



```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)n

ABC BOOKS STORE

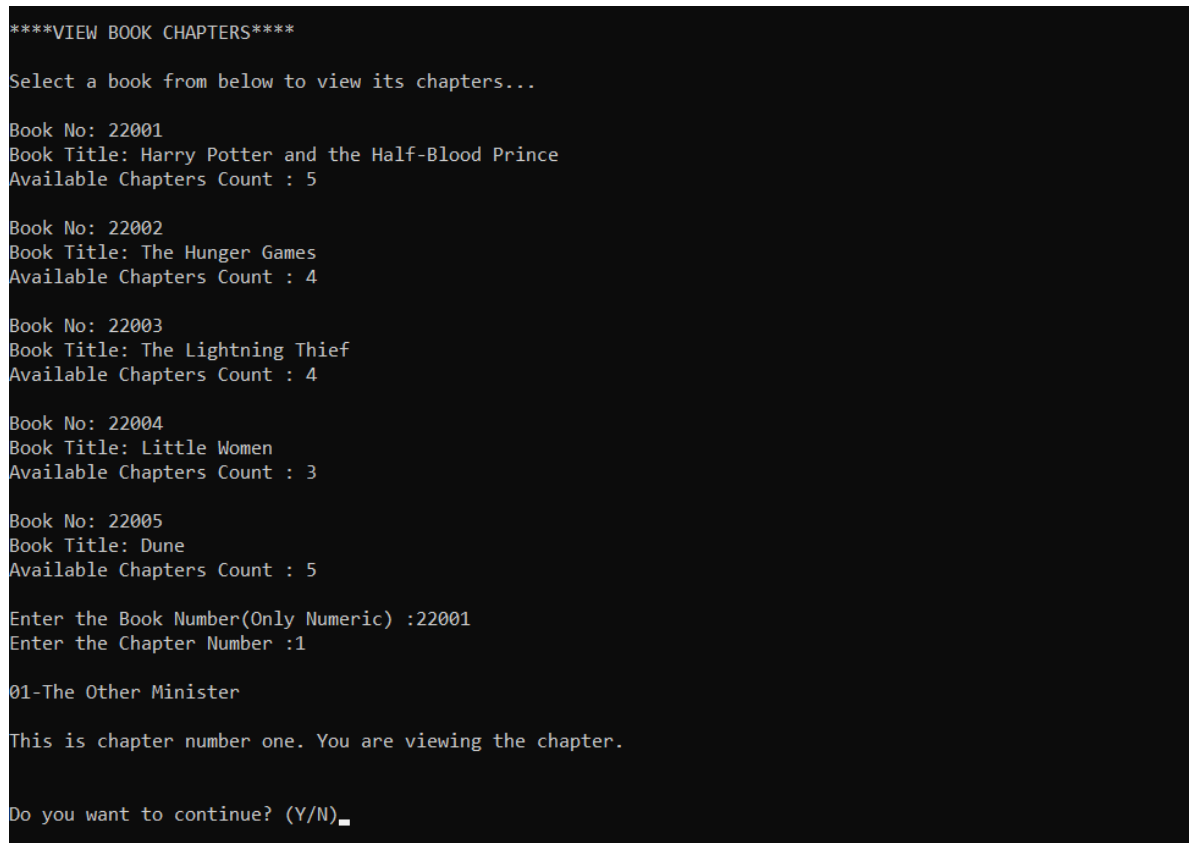
*****MENU*****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

Please enter the number of your selected option :
```

Figure 29: Screenshot of the console in test case 21

Test Case 22



```
****VIEW BOOK CHAPTERS****

Select a book from below to view its chapters...

Book No: 22001
Book Title: Harry Potter and the Half-Blood Prince
Available Chapters Count : 5

Book No: 22002
Book Title: The Hunger Games
Available Chapters Count : 4

Book No: 22003
Book Title: The Lightning Thief
Available Chapters Count : 4

Book No: 22004
Book Title: Little Women
Available Chapters Count : 3

Book No: 22005
Book Title: Dune
Available Chapters Count : 5

Enter the Book Number(Only Numeric) :22001
Enter the Chapter Number :1

01-The Other Minister

This is chapter number one. You are viewing the chapter.

Do you want to continue? (Y/N)_
```

Figure 30: Screenshot of the console in test case 22

Test Case 23

```
Do you want to continue? (Y/N)y
Enter the Book Number(Only Numeric) :22003
Enter the Chapter Number :3

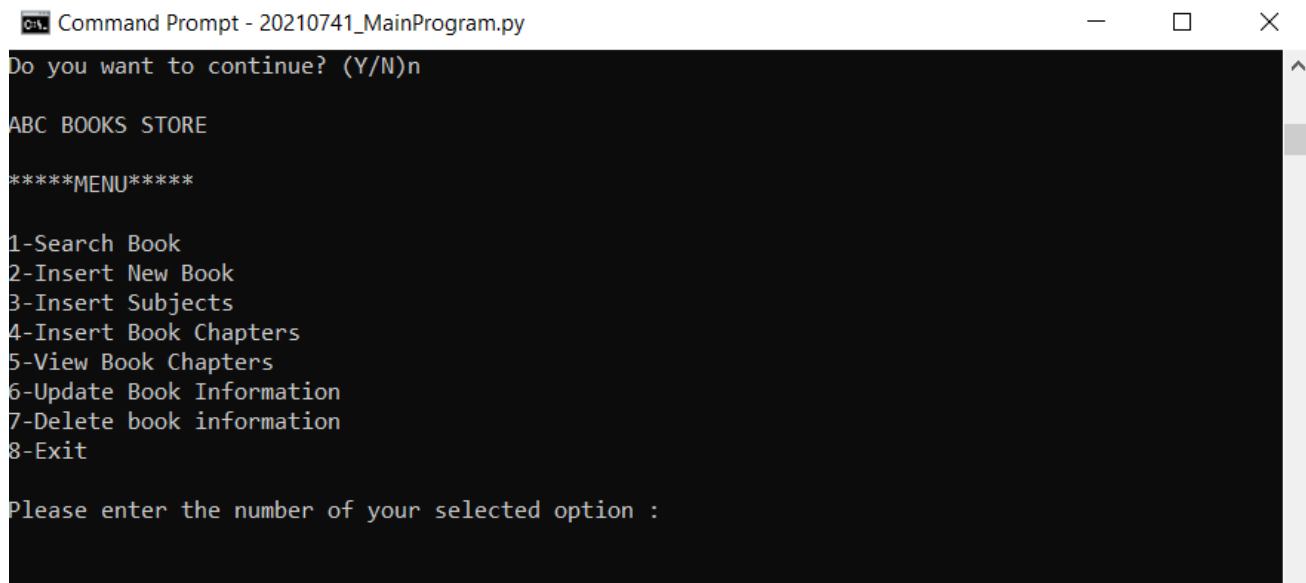
03- We capture a flag

This is chapter number three. You are viewing the chapter.

Do you want to continue? (Y/N)
```

Figure 31: Screenshot of the console in test case 23

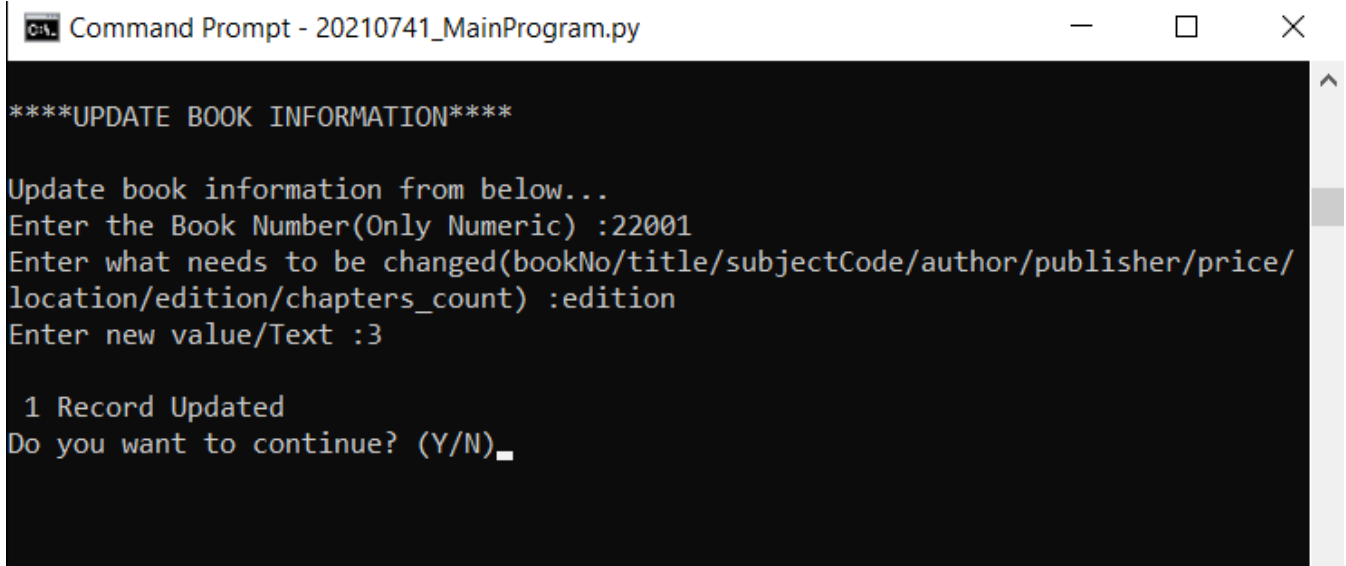
Test Case 24



```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)n
ABC BOOKS STORE
*****MENU*****
1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit
Please enter the number of your selected option :
```

Figure 32: Screenshot of the console in test case 24

Test Case 25



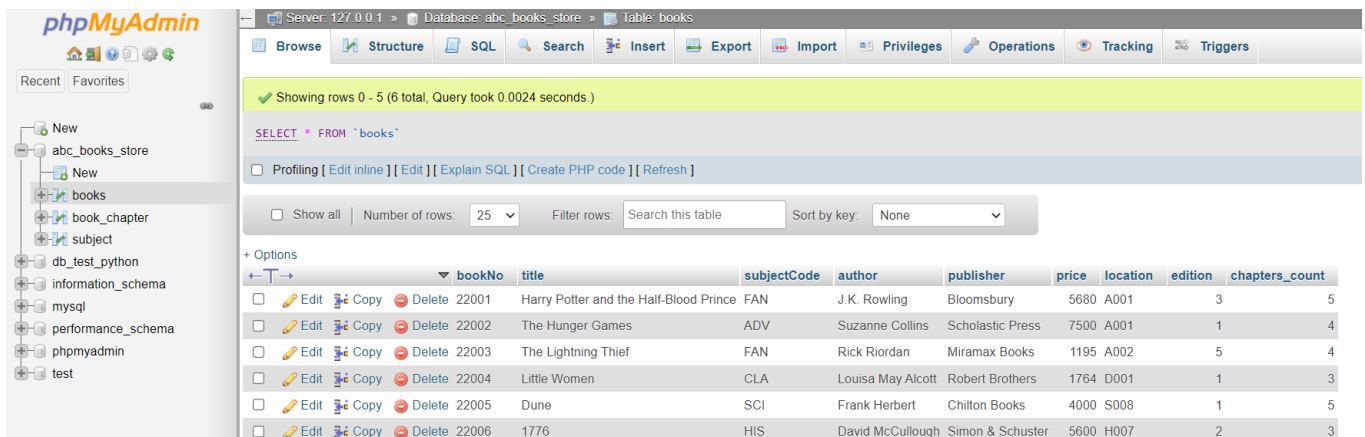
```
***UPDATE BOOK INFORMATION***

Update book information from below...
Enter the Book Number(Only Numeric) :22001
Enter what needs to be changed(bookNo/title/subjectCode/author/publisher/price/
location/edition/chapters_count) :edition
Enter new value/Text :3

1 Record Updated
Do you want to continue? (Y/N)_
```

Figure 33: Screenshot of the console in test case 25

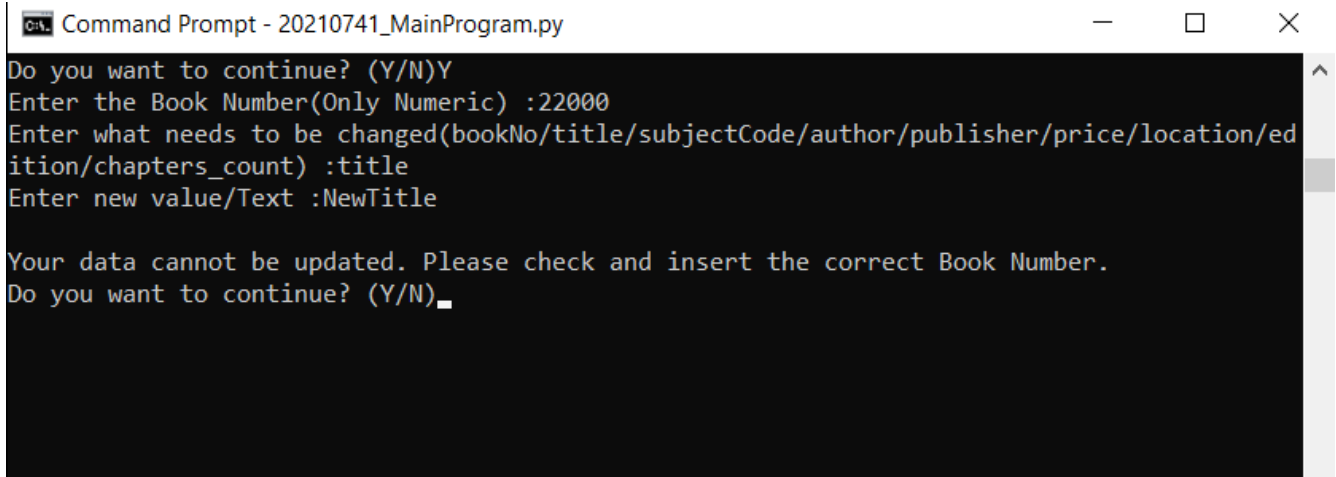
Test Case 25 (books table)



bookNo	title	subjectCode	author	publisher	price	location	edition	chapters_count
22001	Harry Potter and the Half-Blood Prince	FAN	J.K. Rowling	Bloomsbury	5680	A001	3	5
22002	The Hunger Games	ADV	Suzanne Collins	Scholastic Press	7500	A001	1	4
22003	The Lightning Thief	FAN	Rick Riordan	Miramax Books	1195	A002	5	4
22004	Little Women	CLA	Louisa May Alcott	Robert Brothers	1764	D001	1	3
22005	Dune	SCI	Frank Herbert	Chilton Books	4000	S008	1	5
22006	1776	HIS	David McCullough	Simon & Schuster	5600	H007	2	3

Figure 34: Screenshot of the 'books' table in test case 25

Test Case 26

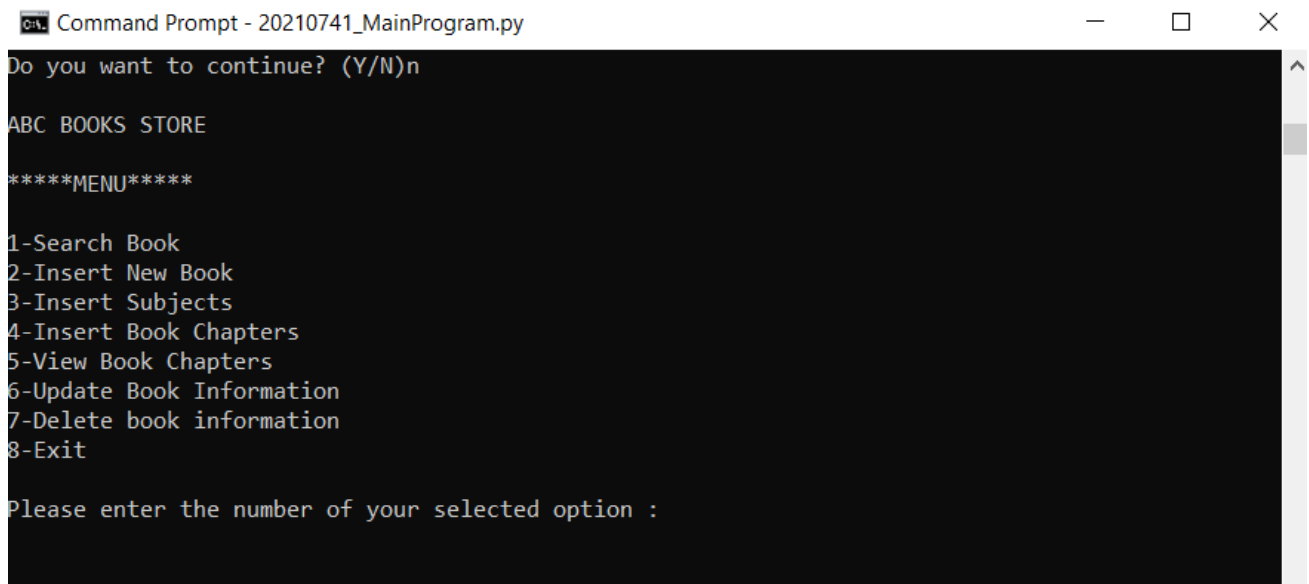


```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)Y
Enter the Book Number(Only Numeric) :22000
Enter what needs to be changed(bookNo/title/subjectCode/author/publisher/price/location/edition/chapters_count) :title
Enter new value/Text :NewTitle

Your data cannot be updated. Please check and insert the correct Book Number.
Do you want to continue? (Y/N)_
```

Figure 35: Screenshot of the console in test case 26

Test Case 27



```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)n

ABC BOOKS STORE

*****MENU*****

1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit

Please enter the number of your selected option :
```

Figure 36: Screenshot of the console in test case 27

Test Case 28

Command Prompt - 20210741_MainProgram.py

****DELETE BOOK INFORMATION****

Delete unnecessary records from below...

Enter the Book Number(Only Numeric) :22006

2 Record Deleted

Do you want to continue? (Y/N)

Figure 37: Screenshot of the console in test case 28

Test Case 28 (books table)

Options

				bookNo	title	subjectCode	author	publisher	price	location	edition	chapters_count
<input type="checkbox"/>				22001	Harry Potter and the Half-Blood Prince	FAN	J.K. Rowling	Bloomsbury	5680	A001	3	5
<input type="checkbox"/>				22002	The Hunger Games	ADV	Suzanne Collins	Scholastic Press	7500	A001	1	4
<input type="checkbox"/>				22003	The Lightning Thief	FAN	Rick Riordan	Miramax Books	1195	A002	5	4
<input type="checkbox"/>				22004	Little Women	CLA	Louisa May Alcott	Robert Brothers	1764	D001	1	3
<input type="checkbox"/>				22005	Dune	SCI	Frank Herbert	Chilton Books	4000	S008	1	5

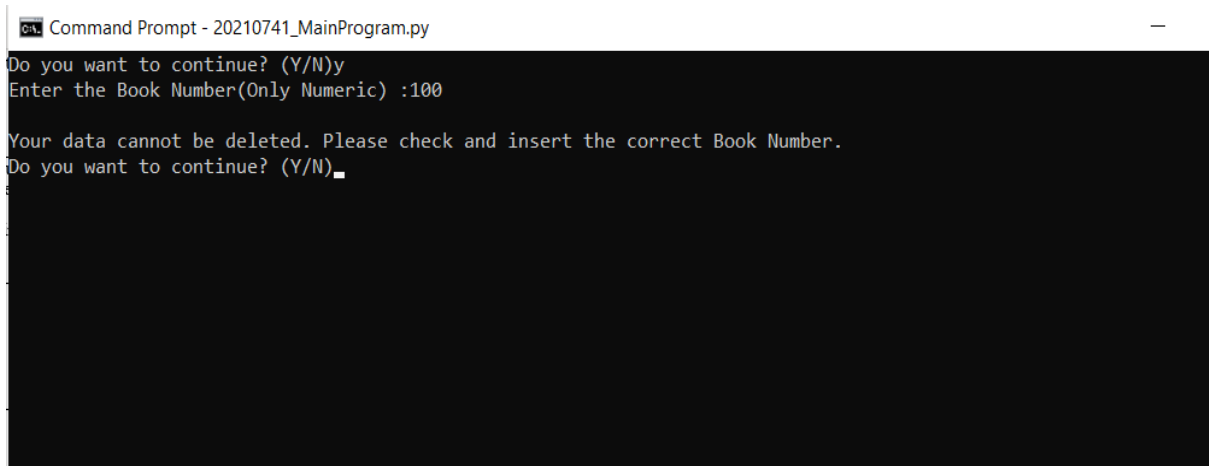
Figure 38: Screenshot of the 'books' table in test case 28

Test Case 28 (book_chapter table)

+ Options				
bookNo	chapterNo	chapter_title	starting_page_No	ending_page_No
22001	1	The Other Minister	4	25
22001	2	Spinner's End	26	51
22001	3	Will and Won't	52	70
22001	4	Horace Slughorn	71	94
22002	1	Chapter 1	6	31
22002	2	Chapter 2	32	68
22002	3	Chapter 3	69	110
22002	4	Chapter 4	110	151
22003	1	My Pre-algebra Teacher	3	28
22003	2	Three Old Ladies	29	56
22003	3	We capture a flag	57	75
22003	4	I am Offered a Quest	76	92
22004	1	Playing Pilgrims	6	10
22004	2	A Merry Christmas	11	26
22004	3	The Laurence Boy	27	39
22005	1	CHAPTER ONE DUNE	13	45
22005	2	CHAPTER TWO DUNE	46	70
22001	5	An Excess of Phlegm	95	126

Figure 39: Screenshot of the 'book_chapter' table in test case 28

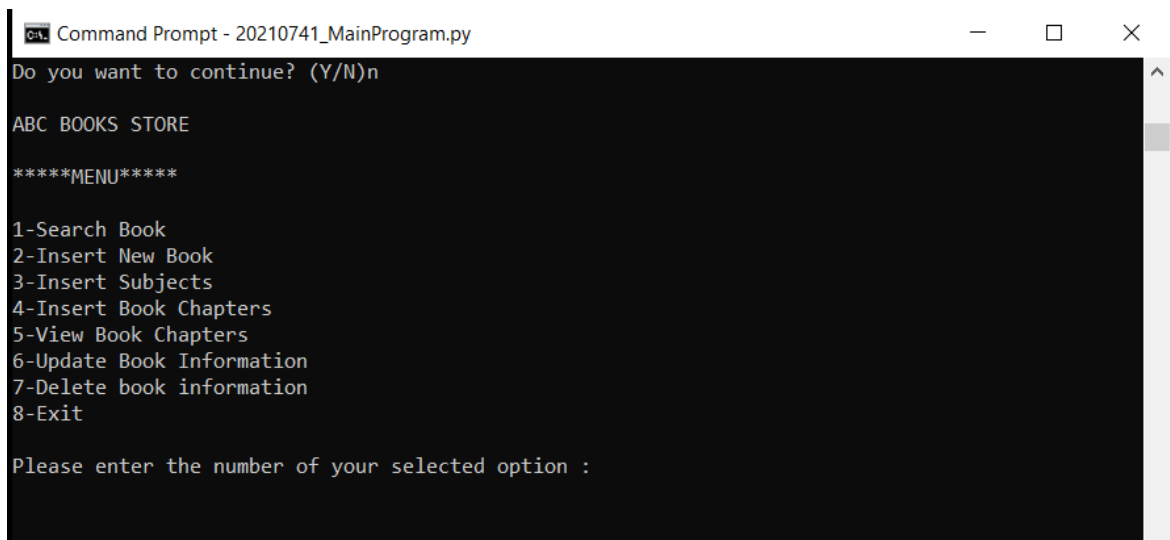
Test Case 29



```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)y
Enter the Book Number(Only Numeric) :100
Your data cannot be deleted. Please check and insert the correct Book Number.
Do you want to continue? (Y/N)_
```

Figure 40: Screenshot of the console in test case 29

Test Case 30



```
Command Prompt - 20210741_MainProgram.py
Do you want to continue? (Y/N)n
ABC BOOKS STORE
*****MENU*****
1-Search Book
2-Insert New Book
3-Insert Subjects
4-Insert Book Chapters
5-View Book Chapters
6-Update Book Information
7-Delete book information
8-Exit
Please enter the number of your selected option :
```

Figure 41: Screenshot of the console in test case 30