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Table of contents

Table of Contents

Table of contents 2
I. Abstract 5
II. Acknowledgement 6
Introduction 7
1. Analyze the problem 8
2. Coding 10
3. Test Case Table 46
4. Screenshots of Test Cases 47

List Of Tables

Table 1-Test case Table 46

List of Figures

Figure 1-test case01 47
Figure 2-testcase02 48
Figure 3-test case03 49
Figure 4-test case04 50
Figure 5-test case05 51
Figure 6-test case06 ..... **Error! Bookmark not defined.**
Figure 7-test case07 53
Figure 8-test case08 54
Figure 9-test case09 55
Figure 10-test case10 56
Figure 11-test case11 57

I. Abstract

The report is on problem solving using coding python. Below logical solutions to problem with a set of Coding.

II. Acknowledgement

In the first instance, I would like to thank Mr.Sutharshana Welihinda, Mr.Nishan Harankahawa whose wise counsel and vast experience enabled me to successfully complete this assessment.

I would also like to thank all my family and friends, who helped me in some way.

Introduction

Problem-solving is the process identifying a problem, developing algorithm for the identified problem, and finally implementing the coding to develop a computer program. Below a set of coding used to solve problem for certain scenario.

1. Analyze the problem

It is required to create an Automated management system for ABC store Because it is hard

Maintain manual file management system for ABC store to store process and retrieve data for large number of crowds, so to overcome these challenges by replacing by automated computerized system. if we implement automated management system, it is easy to add, delete, search user required books without spending more time. easy to maintain books data without confusion. maintain a database of books to track down and update books query.

ABC Store Requirements:

- Create information about each book in the bookstore.
  - Book No, Title, Subject Code, Author, Publisher, Price, Location, Quantity, genre, description Taken as input for creating a record of the book.

- Create information about each book chapters in the bookstore.
  - Book No, Chapter No, Title, starting page no, ending page no taken as input for creating a record of the book chapters.

- Ability to create book subjects. The books on the site should be grouped into several categories to make it easier for users to find the books they need.
  - Subject Code, Name taken as input for creating a sub category for searching books and identify the books categorized subject.

- To find books on the site, user need to use a direct search option to find information about book records
  - book number, Book Title, Author, Publisher and location taken as input and search query to display book records.
- It should be possible to add, edit, or delete book-related information.

- Below, a program solution is created for two types of users by considering the ABC Store.

  User_1: -Administrator(owner):-who can add, edit, delete search and maintain the book records.

  User_2:-Customer:-Who can view books, chapters information and search required books by certain inputs.

  Package used in coding:

  - art5.5(pip install art) package is used to write store heading and welcome message.
  - Install by cmd
  - Package reference in reference page

2. Coding

1.1 Main Program Code

```
#Connect Mysql Database
import mysql.connector
db=mysql.connector.connect (host="localhost", user="root", password="")
#Heading Package
from art import tprint
tprint(" ABC STORE",font="blockhead")
tprint("WElCOME TO ABC STORE",font="random")
#Import time for login Details
import time
#Identify the user
while True:
   print("IDENTIFY YOURSELF\n1.CUSTOMER\n2.ADMINISTRATOR")
   opt=int(input("Please Enter Your Option - 1 or 2 :"))
   print()
   if opt==1:
      print("Directed you to the site as a customer")
      break
   elif opt==2:
      print("WELCOME TO THE SITE ADMIN")
      break
   else:
      print("***PLEASE SELECT THE CORRECT NUMBER***")

#CREATING DATABASE AND TABLE
cursor=db.cursor(buffered=True)
cursor.execute("create database if not exists abc_store")
cursor.execute("use abc_store")
```

```
cursor.execute("create table if not exists customer_login_details(user varchar(50),password varchar(50),login_date date,login_time time)")

cursor.execute("create table if not exists admin_login_details(admin varchar(50),password varchar(50),login_date date,login_time time)")



#Customer account details

while (True):

   if opt==1:

      print("1.Sign up for ABC STORE\n2.Login into ABC STORE")

      cus_opt=int(input("Please Enter Your Option- 1 or 2 :"))


      #Customer signup

      if cus_opt==1:

         user=input("ENTER YOUR USERNAME:")

         p_word=input("ENTER YOUR PASSWORD:")

         sg_date=time.strftime('%Y-%m-%d')

         sg_time=time.strftime('%H:%M:%S')

         cursor.execute("insert into customer_login_details values('"+user+"','"+p_word+"','"+sg_date+"','"+sg_time+"')")

         db.commit()

         print()

         print("YOU HAVE SUCCESSFULLY CREATED YOUR ACCOUNT")


         print()

         print("PLEASE LOGIN TO THE SITE")

         user=input("ENTER YOUR USERNAME:")

         cursor.execute("select user from customer_login_details where user='"+user+"'")

         pot=cursor.fetchone()

         if pot is not None:

            print("VALID USERNAME!!!!!!")

            p_word=input("ENTER YOUR PASSWORD:")

            cursor.execute("select password from customer_login_details where password='"+p_word+"'")

            a=cursor.fetchone()
```

```
        if a is not None:
            print("succesdfully loged in")
            #signup customer Books record Menu
            while(True):
                print("1:View Chapter Information\n2:Direct Search\n3:Search By subject Code\n4:Exit")
                cus_chs=int(input("Enter your choice:"))
                if cus_chs==1:
                    import chapter
                    chapter.vw_chap()
                elif cus_chs==2:
                    print("1:Search By Book No\n2:Search By Book Title\n3:Search By Author\n4:Search By
Publisher\n5.Search By Location\n6:Exit")
                    cus_chs02=int(input("Enter your choice:"))
                    while(True):
                        if cus_chs02==1:
                            import search_books
                            search_books.sc_bkno()
                        elif cus_chs02==2:
                            import search_books
                            search_books.sc_bktit()
                        elif cus_chs02==3:
                            import search_books
                            search_books.sc_auth()
                        elif cus_chs02==4:
                            import search_books
                            search_books.sc_pub()
                        elif cus_chs02==5:
                            import search_books
                            search_books.sc_loc()
                        elif cus_chs02==6:
                            print("welcome")
                            break
                        else:
```

```
                    print("---Please Select Correct Option---")
                elif cus_chs==3:
                    import subject
                    subject.sc_sjcod()
                elif cus_chs==4:
                    print("welcome")
                    break
                else:
                    print("---Please Select Correct Option---")
            break
        else:
            print("""++++++++++++++++++++++++INCORRECT PASSWORD++++++++++++++++++++++++""")
    else:
        print("""++++++++++++++++++++++INVALID USERNAME++++++++++++++++++++++""")



#Customer Login
elif cus_opt==2:
    user=input("ENTER YOUR USERNAME:")
    sg_date=time.strftime('%Y-%m-%d')
    sg_time=time.strftime('%H:%M:%S')
    cursor.execute("select user from customer_login_details where user='"+user+"'")
    top=cursor.fetchone()
    if top is not None:
        print("VALID USERNAME!!!!!!")
        p_word=input("ENTER YOUR PASSWORD:")
        cursor.execute("select password from customer_login_details where password='"+p_word+"' ")
        q=cursor.fetchall()
        cursor.execute("insert into customer_login_details
values('"+user+"','"+p_word+"','"+sg_date+"','"+sg_time+"')")
        db.commit()
        if q is not None:
            print("succesdfully loged in")
```

```
            #login customer Books Record Menu
            while(True):
               print("1:View Chapter Information\n2:Direct Search\n3:Search By subject Code\n4:Exit")
               cus_chs=int(input("Enter your choice:"))
               if cus_chs==1:
                  import chapter
                  chapter.vw_chap()
               elif cus_chs==2:
                  print("1:Search By Book No\n2:Search By Book Title\n3:Search By Author\n4:Search By
Publisher\n5.Search By Location\n6:Exit")
                  cus_chs02=int(input("Enter your choice:"))
                  while(True):
                     if cus_chs02==1:
                        import search_books
                        search_books.sc_bkno()
                     elif cus_chs02==2:
                        import search_books
                        search_books.sc_bktit()
                     elif cus_chs02==3:
                        import search_books
                        search_books.sc_auth()
                     elif cus_chs02==4:
                        import search_books
                        search_books.sc_pub()
                     elif cus_chs02==5:
                        import search_books
                        search_books.sc_loc()
                     elif cus_chs02==6:
                        print("welcome")
                        break
                     else:
                        print("---Please Select Correct Option---")
               elif cus_chs==3:
```

```
                    import subject
                    subject.sc_sjcod()
                elif cus_chs==4:
                    print("welcome")
                    break
                else:
                    print("---Please Select Correct Option---")




            break
        else:
            print("""++++++++++++++++++++++++++INCORRECT PASSWORD++++++++++++++++++++++++++""")
    else:
        print("""++++++++++++++++++++++INVALID USERNAME++++++++++++++++++++++""")



#Adinistrato Sign up
elif opt==2:
    print("1.Sign up for ABC STORE\n2.Login into ABC STORE")
    adm_opt=int(input("Please Enter Your Option- 1 or 2 :"))

    if adm_opt==1:
        admin=input("ENTER YOUR USERNAME:")
        p_word=input("ENTER YOUR PASSWORD:")
        sg_date=time.strftime('%Y-%m-%d')
        sg_time=time.strftime('%H:%M:%S')
        cursor.execute("insert into admin_login_details
values('"+admin+"','"+p_word+"','"+sg_date+"','"+sg_time+"')")
        db.commit()
```

```
        print()
        print("YOU HAVE SUCCESSFULLY CREATED YOUR ACCOUNT")


        print()
        print("PLEASE LOGIN TO THE SITE")
        admin=input("ENTER YOUR USERNAME:")
        cursor.execute("select admin from admin_login_details where admin='"+admin+"'")
        pot=cursor.fetchone()
        if pot is not None:
           print("VALID USERNAME!!!!!!")
           p_word=input("ENTER YOUR PASSWORD:")
           cursor.execute("select password from admin_login_details where password='"+p_word+"'")
           a=cursor.fetchone()
           if a is not None:
              print("succesdfully loged in")
              #sign up administrator Book Menu
              while(True):
                 print("1:Add Books\n2:Delete Books\n3:Edit books\n4:Direct search\n5:Search By subject code\n6:View Book chapters\n7:Exit ")
                 chs=int(input("Enter your choice:"))
                 while(True):
                    if chs==1:
                       import book
                       book.b_info()
                    elif chs==2:
                       import bk
                       book.Del_book()
                    elif chs==3:
                       print("1:Edit Book NO\n2:Edit Title\n3:Edit Subject Code\n4:Edit Author\n5:Edit Publisher\n6:Edit Price\n7:Edit Quantity\n8:Edit Location\n9:Edit Genre\n10:Edit description\n11.Exit")
                       chs1=int(input("Enter your choice:"))
                       while(True):
                          if chs1==1:
                             import book
```

```
        book.Edit_b_no()
    elif chs1==2:
        import book
        book.Edit_title()
    elif chs1==3:
        import book
        book.Edit_sj_code()
    elif chs1==4:
        import book
        book.Edit_author()
    elif chs1==5:
        import book
        book.Edit_publish()
    elif chs1==6:
        import book
        book.Edit_price()
    elif chs1==7:
        import book
        book.Edit_qty()
    elif chs1==8:
        import book
        book.Edit_loc()
    elif chs1==9:
        import book
        book.Edit_gen()
    elif chs1==10:
        import book
        book.Edit_des()
    elif chs1==11:
        print("welcome")
        break
    else:
        print("---Please Select Correct Option---")
```

```
                elif chs==4:
                    print("1:Search By Book No\n2:Search By Book Title\n3:Search By Author\n4:Search By Publisher\n5.Search By Location\n6:Exit")
                    chs2=int(input("Enter your choice:"))
                    while(True):
                        if chs2==1:
                            import search_books
                            search_books.sc_bkno()
                        elif chs2==2:
                            import search_books
                            search_books.sc_bktit()
                        elif chs2==3:
                            import search_books
                            search_books.sc_auth()
                        elif chs2==4:
                            import search_books
                            search_books.sc_pub()
                        elif chs2==5:
                            import search_books
                            search_books.sc_loc()
                        elif chs2==6:
                            print("welcome")
                            break
                        else:
                            print("---Please Select Correct Option---")
                elif chs==5:
                    print("1:Search By Subject Code\n2:Add subject Code\n3:Delete Subject Code\n4:Edit Subject Code\n5:Exit")
                    chs3=int(input("Enter your choice:"))
                    while(True):
                        if chs3==1:
                            import subject
                            subject.sc_sjcod()
                        elif chs3==2:
```

```
            import subject
            subject.add_sjcod()
        elif chs3==3:
            import subject
            subject.sj_del()
        elif chs3==4:
            print("1:Edit Subject Code No\n2:Edit Subject Code Name\n3:Exit")
            chs03=int(input("Enter your choice:"))
            while(True):
                if chs03==1:
                    import subject
                    subject.sj_editcod()
                elif chs03==2:
                    import subject
                    subject.sj_editname()
                elif chs03==3:
                    print("welcome")
                    break
                else:
                    print("---Please Select Correct Option---")
        elif chs3==5:
            print("welcome")
            break
        else:
            print("---Please Select Correct Option---")
elif chs==6:
    print("1:View Chapter Information\n2:Add Chapter\3:Delete Chapter\4.Edit Chapter\n5:Exit")
    chs06=int(input("Enter your choice:"))
    while(True):
        if chs06==1:
            import chapter
            chapter.vw_chap()
        elif chs06==2:
```

```
                    import chapter
                    chapter.add_chap()
                elif chs06==3:
                    import chapter
                    chapter.del_chap()
                elif chs06==4:
                    print("1:Edit Chapter Book NO\n2:Edit Chapter NO\n3:Edit Chapter Title\4:Edit Chapter Starting Page\5.Edit Chapter Ending Page\n6:Exit")
                    chs006=int(input("Enter your choice:"))
                    while(True):
                        if chs006==1:
                            import chapter
                            chapter.edit_bnocha()
                        elif chs006==2:
                            import chapter
                            chapter.edit_chano()
                        elif chs006==3:
                            import chapter
                            chapter.edit_title()
                        elif chs006==4:
                            import chapter
                            chapter.edit_stpg()
                        elif chs006==5:
                            import chapter
                            chapter.edit_edpg()
                        elif chs006==6:
                            print("welcome")
                            break
                        else:
                            print("---Please Select Correct Option---")
                elif chs06==5:
                    print("welcome")
                    break
```

```
                    else:
                        print("---Please Select Correct Option---")
                elif chs==7:
                    print("welcome")
                    break
                else:
                    print("---Please Select Correct Option---")
            else:
                print("""++++++++++++++++++++++++INCORRECT PASSWORD++++++++++++++++++++++++""")
        else:
            print("""++++++++++++++++++++++INVALID USERNAME++++++++++++++++++++++""")


    #login Administrator books record Menu
    elif adm_opt==2:
        admin=input("ENTER YOUR USERNAME:")
        sg_date=time.strftime('%Y-%m-%d')
        sg_time=time.strftime('%H:%M:%S')
        cursor.execute("select admin from admin_login_details where admin='"+admin+"'")
        top=cursor.fetchone()
        if top is not None:
            print("VALID USERNAME!!!!!!")
            p_word=input("ENTER YOUR PASSWORD:")
            cursor.execute("select password from admin_login_details where password='"+p_word+"'" )
            q=cursor.fetchall()
            cursor.execute("insert into admin_login_details
values('"+admin+"','"+p_word+"','"+sg_date+"','"+sg_time+"')")
            db.commit()
            if q is not None:
                print("succesdfully loged in")
                while(True):
                    print("1:Add Books\n2:Delete Books\n3:Edit books\n4:Direct search\n5:Search By subject
code\n6:View Book chapters\n7:Exit ")
                    chs=int(input("Enter your choice:"))
```

```
            while(True):
                if chs==1:
                    import book
                    book.b_info()
                elif chs==2:
                    import book
                    book.Del_book()
                elif chs==3:
                    print("1:Edit Book NO\n2:Edit Title\n3:Edit Subject Code\n4:Edit Author\n5:Edit Publisher\n6:Edit Price\n7:Edit Quantity\n8:Edit Location\n9:Edit Genre\n10:Edit description\n11.Exit")
                    chs1=int(input("Enter your choice:"))
                    while(True):
                        if chs1==1:
                            import book
                            book.Edit_b_no()
                        elif chs1==2:
                            import book
                            book.Edit_title()
                        elif chs1==3:
                            import book
                            book.Edit_sj_code()
                        elif chs1==4:
                            import book
                            book.Edit_author()
                        elif chs1==5:
                            import book
                            book.Edit_publish()
                        elif chs1==6:
                            import book
                            book.Edit_price()
                        elif chs1==7:
                            import book
                            book.Edit_qty()
```

```
                elif chs1==8:
                    import book
                    book.Edit_loc()
                elif chs1==9:
                    import book
                    book.Edit_gen()
                elif chs1==10:
                    import book
                    book.Edit_des()
                elif chs1==11:
                    print("welcome")
                    break
                else:
                    print("---Please Select Correct Option---")
            elif chs==4:
                print("1:Search By Book No\n2:Search By Book Title\n3:Search By Author\n4:Search By Publisher\n5.Search By Location\n6:Exit")
                chs2=int(input("Enter your choice:"))
                while(True):
                    if chs2==1:
                        import search_books
                        search_books.sc_bkno()
                    elif chs2==2:
                        import search_books
                        search_books.sc_bktit()
                    elif chs2==3:
                        import search_books
                        search_books.sc_auth()
                    elif chs2==4:
                        import search_books
                        search_books.sc_pub()
                    elif chs2==5:
                        import search_books
```

```
                    search_books.sc_loc()
                elif chs2==6:
                    print("welcome")
                    break
                else:
                    print("---Please Select Correct Option---")
            elif chs==5:
                print("1:Search By Subject Code\n2:Add subject Code\n3:Delete Subject Code\n4:Edit Subject Code\n5:Exit")
                chs3=int(input("Enter your choice:"))
                while(True):
                    if chs3==1:
                        import subject
                        subject.sc_sjcod()
                    elif chs3==2:
                        import subject
                        subject.add_sjcod()
                    elif chs3==3:
                        import subject
                        subject.sj_del()
                    elif chs3==4:
                        print("1:Edit Subject Code No\n2:Edit Subject Code Name\n3:Exit")
                        chs03=int(input("Enter your choice:"))
                        while(True):
                            if chs03==1:
                                import subject
                                subject.sj_editcod()
                            elif chs03==2:
                                import subject
                                subject.sj_editname()
                            elif chs03==3:
                                print("welcome")
                                break
```

```
                    else:
                        print("---Please Select Correct Option---")
                elif chs3==5:
                    print("welcome")
                    break
                else:
                    print("---Please Select Correct Option---")
            elif chs==6:
                print("1:View Chapter Information\n2:Add Chapter\n3:Delete Chapter\n4.Edit Chapter\n5:Exit")
                chs06=int(input("Enter your choice:"))
                while(True):
                    if chs06==1:
                        import chapter
                        chapter.vw_chap()
                    elif chs06==2:
                        import chapter
                        chapter.add_chap()
                    elif chs06==3:
                        import chapter
                        chapter.del_chap()
                    elif chs06==4:
                        print("1:Edit Chapter Book NO\n2:Edit Chapter NO\n3:Edit Chapter Title\4:Edit Chapter
Starting Page\5.Edit Chapter Ending Page\n6:Exit")
                        chs006=int(input("Enter your choice:"))
                        while(True):
                            if chs006==1:
                                import chapter
                                chapter.edit_bnocha()
                            elif chs006==2:
                                import chapter
                                chapter.edit_chano()
                            elif chs006==3:
                                import chapter
```

```
                        chapter.edit_title()
                    elif chs006==4:
                        import chapter
                        chapter.edit_stpg()
                    elif chs006==5:
                        import chapter
                        chapter.edit_edpg()
                    elif chs006==6:
                        print("welcome")
                        break
                    else:
                        print("---Please Select Correct Option---")
                elif chs06==5:
                    print("welcome")
                    break
                else:
                    print("---Please Select Correct Option---")
            elif chs==7:
                print("welcome")
                break
            else:
                print("---Please Select Correct Option---")
        break
    else:
        print("""++++++++++++++++++++++++++INCORRECT PASSWORD++++++++++++++++++++++++++""")
else:
    print("""++++++++++++++++++++++INVALID USERNAME++++++++++++++++++++++""")

else:
    break
```

1.2 Functions Code

Books Function:

```
#connect Sql Database
import mysql.connector
#Add book Information
def b_info():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        cursor.execute("create database if not exists abc_store")
```

```
        cursor.execute("use abc_store")
        cursor.execute("create table if not exists Books_info(book_no int(50) primary key,title varchar(100),subject_code varchar(50),author varchar(50),publisher varchar(50),price decimal(60,6),quantity int(50),location varchar(50),genre char(50),description varchar(100))")




        query=("insert into books_info values(%s,%s,%s,%s,%s,%s,%s,%s,%s,%s)")
        book_no=int(input("Enter Book Number:"))
        title =str(input("Enter The Book Title:"))
        sub_co=str(input("Enter The subject Code:"))
        author=str(input("Enter The Author Name:"))
        publi=str(input("Enter The Publisher Name:"))
        price=int(input("Enter Price:"))
        quantity=int(input("Enter Book quantity:"))
        location=str(input("Enter The Location:"))
        genre=str(input("Enter The Book Genre:"))
        descr=str(input("Enter The Book Description:"))
        data=(book_no,title,sub_co,author,publi,price,quantity,location,genre,descr)
        cursor.execute(query,data)
        db.commit()
        cursor.close()
        db.close
        print("added")
    except:
        db.close()


#Delete Books
def Del_book():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book No:"))
        dele=("delete from books_info where book_no=%s")
        val=(bno,)
```

```
        cursor.execute(dele,val)
        db.commit()
        print(cursor.rowcount,"record deleted")
    except:
        db.close()
#Edit Book Number
def Edit_b_no():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_no=int(input("Enter The New Book No to Update:"))
        c_query=("update books_info set book_no=%s where book_no=%s")
        data=(ch_no,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit Book Title
def Edit_title():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_title=str(input("Enter The New Title Name to Update:"))
        c_query=("update books_info set title=%s where book_no=%s")
        data=(ch_title,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
```

```
        db.close
    except:
        db.close
#Edit Subject Code
def Edit_sj_code():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_sjc=int(input("Enter The New Subject Code to Update:"))
        c_query=("update books_info set subject_code=%s where book_no=%s")
        data=(ch_sjc,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit author
def Edit_author():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_author=str(input("Enter The New Author Name to Update:"))
        c_query=("update books_info set author=%s where book_no=%s")
        data=(ch_author,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
```

```
        db.close
#Edit Publisher
def Edit_publish():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_publish=str(input("Enter The New Publisher Name to Update:"))
        c_query=("update books_info set publisher=%s where book_no=%s")
        data=(ch_publish,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit Price
def Edit_price():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_price=int(input("Enter The New Price to Update:"))
        c_query=("update books_info set price=%s where book_no=%s")
        data=(ch_price,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit Quantity
```

```
def Edit_qty():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_qty=int(input("Enter The New Quantity to Update:"))
        c_query=("update books_info set quantity=%s where book_no=%s")
        data=(ch_qty,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit LOcation
def Edit_loc():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_loc=str(input("Enter The New Location to Update:"))
        c_query=("update books_info set location=%s where book_no=%s")
        data=(ch_loc,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit Genre
def Edit_gen():
    try:
```

```
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_gen=str(input("Enter The New Genre to Update:"))
        c_query=("update books_info set genre=%s where book_no=%s")
        data=(ch_gen,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit Description
def Edit_des():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_des=str(input("Enter The New Description to Update:"))
        c_query=("update books_info set description=%s where book_no=%s")
        data=(ch_des,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
```

Chapter Code:

```
#Connect Sql database
```

```
import mysql.connector
#view book chapters
def vw_chap():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)

        bno=int(input("Enter Book No:"))
        query=("select * from chapters where book_no=%s")
        val=(bno,)
        cursor.execute(query,val)
        sc=cursor.fetchone()
        if sc:
            print("BOOKNO\tCHAPTERNO\tTITLE\tSTARTING_PAGE_NO\tENDING_PAGE_NO")
            print(sc[0],"\t",sc[1],"\t\t",sc[2],"\t",sc[3],"\t\t\t",sc[4])
            db.commit()
            cursor.close()
            db.close
    except:
        db.close

#Adding Book chapter
def add_chap():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        cursor.execute("create database if not exists abc_store")
        cursor.execute("use abc_store")
        cursor.execute("create table if not exists chapters(book_no int(50),chapter_no varchar(20),title
varchar(50),starting_page_no int(30),ending_page_no int(30),FOREIGN KEY(book_no) REFERENCES
books_info(book_no))")

        count=1
        cursor.execute("select book_no from books_info")
        sc=cursor.fetchall()
```

```
        if sc:
            print("BOOKNO")
            for sc1 in sc:
                print(sc1[0])
                count=count+1
        query=("insert into chapters values(%s,%s,%s,%s,%s)")
        bno=int(input("Enter Book Number:"))
        ch_no=int(input("Enter The Chapter Number:"))
        ch_tit=str(input("Enter The Chapter Title:"))
        st_pg=int(input("Enter the Starting Page NO:"))
        ed_pg=int(input("Enter the Ending Page NO:"))
        data=(bno,ch_no,ch_tit,st_pg,ed_pg,)
        cursor.execute(query,data)
        db.commit()
        print("Added To The Chapters")
        cursor.close()
        db.close

    except:
        db.close
#delete chapter
def del_chap():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book No:"))
        dele=("delete from chapters where book_no=%s")
        val=(bno,)
        cursor.execute(dele,val)
        db.commit()
        print(cursor.rowcount,"record deleted")
        cursor.close
        db.close
    except:
```

```
        db.close
#Edit Book chapter Number
def edit_bnocha():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        bno=int(input("Enter Book NO:"))
        ch_no=int(input("Enter The New Book No to Update:"))
        c_query=("update chapters set book_no=%s where book_no=%s")
        data=(ch_no,bno)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit Chapter Number
def edit_chano():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        chap_no=int(input("Enter Chapter NO:"))
        ch_no1=int(input("Enter The New Chapter to Update:"))
        c_query=("update chapters set chapter_no=%s where chapter_no=%s")
        data=(ch_no1,chap_no)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit chapter Title
```

```
def edit_title():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        ch_ti=str(input("Enter chapter Title:"))
        ch_title=str(input("Enter The New Title Name to Update:"))
        c_query=("update chapters set title=%s where title=%s")
        data=(ch_title,ch_ti)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit starting Page Number
def edit_stpg():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        ch_st=int(input("Enter chapter Starting Page NO:"))
        ch_stp=int(input("Enter The New chapter Starting Page NO to Update:"))
        c_query=("update chapters set starting_page_no=%s where starting_page_no=%s")
        data=(ch_stp,ch_st)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
#Edit Ending Page Number
def edit_edpg():
    try:
```

```
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        ch_ed=int(input("Enter chapter Ending Page NO:"))
        ch_end=int(input("Enter The New chapter Ending Page NO to Update:"))
        c_query=("update chapters set ending_page_no=%s where ending_page_no=%s")
        data=(ch_end,ch_ed)
        cursor.execute(c_query,data)
        db.commit()
        print(cursor.rowcount,"records affected")
        cursor.close()
        db.close
    except:
        db.close
```

Subjcet Code:

```
#connect sql Database
import mysql.connector
#Add subject code
def add_sjcod():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        cursor.execute("create database if not exists abc_store")
        cursor.execute("use abc_store")
        cursor.execute("create table if not exists subject(subject_code varchar(50),name char(50),FOREIGN
KEY(subject_code) REFERENCES books_info(subject_code))")
        db.commit()

        cursor.execute("select subject_code from books_info")
        res=cursor.fetchall()
        for subject_code in res:
            print(subject_code)
        query=("insert into subject values(%s,%s)")
```

```
        sub_co=int(input("Enter The Subject Code to Add:"))
        sub_name=str(input("Enter The Subject Name to Add :"))
        data=(sub_co,sub_name)
        cursor.execute(query,data)
        db.commit()
        cursor.close()
        db.close
        print("subject values added")
    except:
        db.close


#search By subject code
def sc_sjcod():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        count=1
        cursor.execute("select * from subject")
        sc=cursor.fetchall()
        if sc:
            print("SUBJECT-CODE\tNAME")
            for sc1 in sc:
                print(sc1[0],"\t\t",sc1[1])
                count=count+1
        sj_id=int(input("Enter The Subject Code:"))
        query=("select * from books_info where subject_code=%s")
        data=(sj_id,)
        cursor.execute(query,data)
        bc=cursor.fetchall()
        if bc:
            print("BOOK_NO\tTITLE\tSUBJECT-
CODE\tAUTHOR\tPUBLISHER\tPRICE\tQUANTITY\tLOCATION\tGENRE\tDESCRIPTION")
            for bc1 in bc:
```

```
print(bc1[0],"\t",bc1[1],"\t",bc1[2],"\t\t",bc1[3],"\t",bc1[4],"\t\t",bc1[5],"\t",bc1[6],"\t\t",bc1[7],"\t\t",bc1[8],"\t",bc1[9]
)
            count=count+1
            cursor.close()
            db.close
    except:
        db.close
#delete subject code
def sj_del():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        sj_no=str(input("Enter Subject code To delete:"))
        dele=("delete from subject where subject_code=%s")
        val=(sj_no,)
        cursor.execute(dele,val)
        db.commit()
        print(cursor.rowcount,"record deleted")
        cursor.close
        db.close
    except:
        db.close
#Edit subject code
def sj_editcod():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        count=1
        cursor.execute("select * from subject")
        sc=cursor.fetchall()
        if sc:
            print("SUBJECT-CODE\tNAME")
            for sc1 in sc:
                print(sc1[0],"\t\t",sc1[1])
```

```
            count=count+1
        sj_id=int(input("Enter The Subject Code:"))
        ch_id1=int(input("Enter The New Subject code to Update:"))
        query=("update subject set subject_code=%s where subject_code=%s")
        data=(ch_id1,sj_id)
        cursor.execute(query,data)
        db.commit()
        cursor.close()
        db.close
        print("subject values affected")
    except:
        db.close
#Edit Subject Name
def sj_editname():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        count=1
        cursor.execute("select * from subject")
        sc=cursor.fetchall()
        if sc:
            print("SUBJECT-CODE\tNAME")
            for sc1 in sc:
                print(sc1[0],"\t\t",sc1[1])
                count=count+1
        sj_id=int(input("Enter The Subject Code:"))
        ch_title=str(input("Enter The New Subject Name to Update:"))
        query=("update subject set name=%s where subject_code=%s")
        data=(ch_title,sj_id)
        cursor.execute(query,data)
        db.commit()
        cursor.close()
        db.close
        print("subject values affected")
```

```
    except:
        db.close
```

Search Books code:

```
#Connect sql database
import mysql.connector
def sc_bkno():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        book_no=int(input("Enter The Book No:"))
        query=("select * from books_info where book_no=%s")
        data=(book_no,)
        cursor.execute(query,data)
        bc=cursor.fetchone()
        if bc:
            print("BOOK_NO\tTITLE\tSUBJECT-
CODE\tAUTHOR\tPUBLISHER\tPRICE\tQUANTITY\tLOCATION\tGENRE\tDESCRIPTION")
            print(bc[0],"\t",bc[1],"\t",bc[2],"\t\t",bc[3],"\t",bc[4],"\t\t",bc[5],"\t",bc[6],"\t\t",bc[7],"\t\t",bc[8],"\t",bc[9])
            cursor.close()
            db.close
    except:
        db.close
#Search by title
def sc_bktit():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        book_title=str(input("Enter The Book Title:"))
        query=("select * from books_info where title=%s")
        data=(book_title,)
        cursor.execute(query,data)
        bc=cursor.fetchone()
        if bc:
```

```
        print("BOOK_NO\tTITLE\tSUBJECT-
CODE\tAUTHOR\tPUBLISHER\tPRICE\tQUANTITY\tLOCATION\tGENRE\tDESCRIPTION")
        print(bc[0],"\t",bc[1],"\t",bc[2],"\t\t",bc[3],"\t",bc[4],"\t\t",bc[5],"\t",bc[6],"\t\t",bc[7],"\t\t",bc[8],"\t",bc[9])
        cursor.close()
        db.close
    except:
        db.close
#Search by author
def sc_auth():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        count=0
        book_auth=str(input("Enter The Book Author:"))
        query=("select * from books_info where author=%s")
        data=(book_auth,)
        cursor.execute(query,data)
        bc=cursor.fetchall()
        if bc:
            print("BOOK_NO\tTITLE\tSUBJECT-
CODE\tAUTHOR\tPUBLISHER\tPRICE\tQUANTITY\tLOCATION\tGENRE\tDESCRIPTION")
            for bc1 in bc:

print(bc1[0],"\t",bc1[1],"\t",bc1[2],"\t\t",bc1[3],"\t",bc1[4],"\t\t",bc1[5],"\t",bc1[6],"\t\t",bc1[7],"\t\t",bc1[8],"\t",bc1[9]
)
                count=count+1
                cursor.close()
                db.close
    except:
        db.close
#Search by publisher
def sc_pub():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        count=0
```

```
        book_pub=str(input("Enter The Book Publisher:"))
        query=("select * from books_info where publisher=%s")
        data=(book_pub,)
        cursor.execute(query,data)
        bc=cursor.fetchall()
        if bc:
            print("BOOK_NO\tTITLE\tSUBJECT-
CODE\tAUTHOR\tPUBLISHER\tPRICE\tQUANTITY\tLOCATION\tGENRE\tDESCRIPTION")
            for bc1 in bc:

print(bc1[0],"\t",bc1[1],"\t",bc1[2],"\t\t",bc1[3],"\t",bc1[4],"\t\t",bc1[5],"\t",bc1[6],"\t\t",bc1[7],"\t\t",bc1[8],"\t",bc1[9]
)
                count=count+1
                cursor.close()
                db.close
    except:
        db.close
#Search by location
def sc_loc():
    try:
        db=mysql.connector.connect(host="localhost",database="abc_store",user="root",password="")
        cursor=db.cursor(buffered=True)
        count=0
        book_loc=str(input("Enter The Book Location:"))
        query=("select * from books_info where location=%s")
        data=(book_loc,)
        cursor.execute(query,data)
        bc=cursor.fetchall()
        if bc:
            print("BOOK_NO\tTITLE\tSUBJECT-
CODE\tAUTHOR\tPUBLISHER\tPRICE\tQUANTITY\tLOCATION\tGENRE\tDESCRIPTION")
            for bc1 in bc:

print(bc1[0],"\t",bc1[1],"\t",bc1[2],"\t\t",bc1[3],"\t",bc1[4],"\t\t",bc1[5],"\t",bc1[6],"\t\t",bc1[7],"\t\t",bc1[8],"\t",bc1[9]
)
                count=count+1
```

```
            cursor.close()
            db.close
    except:
        db.close
```

3. Test Case Table

Table 1-Test case Table

Test Case No	Test Description	Expected Output	Actual Output	Remarks
Test case_1	Login as administrator	Logged into the site	Logged into the site	Pass
Test case_2	Adding books to database	Books information added to the database	Books information added to the database	pass
Test case_3	Delete books in database	Books information deleted in the database	Books information deleted in the database	pass
Test case_4	Different fields edit options	Option to Edit required fields	Option to Edit required fields	pass
Test case_5	Edit subject code	Changed subject code	Changed subject code	pass
Test case_5	View Book chapter	View required book chapter	View required book chapter	pass
Test case_6	Add book chapter	Adding book chapter information	Adding book chapter information	pass
Test case_7	Search by subject	Display information book For subject	Display information book For subject	pass
Test case_8	Search by book Number	Display information book For Book Number	Display information book For Book Number	pass
Test case_9	Edit book Number	Changed book number	Changed book number	pass
Test case_10	Add description to the book	Changed description	Changed description	pass
Test case_11	Sign up function	Account Created	Account Created	pass

4. Screenshots of Test Cases

Test Case01

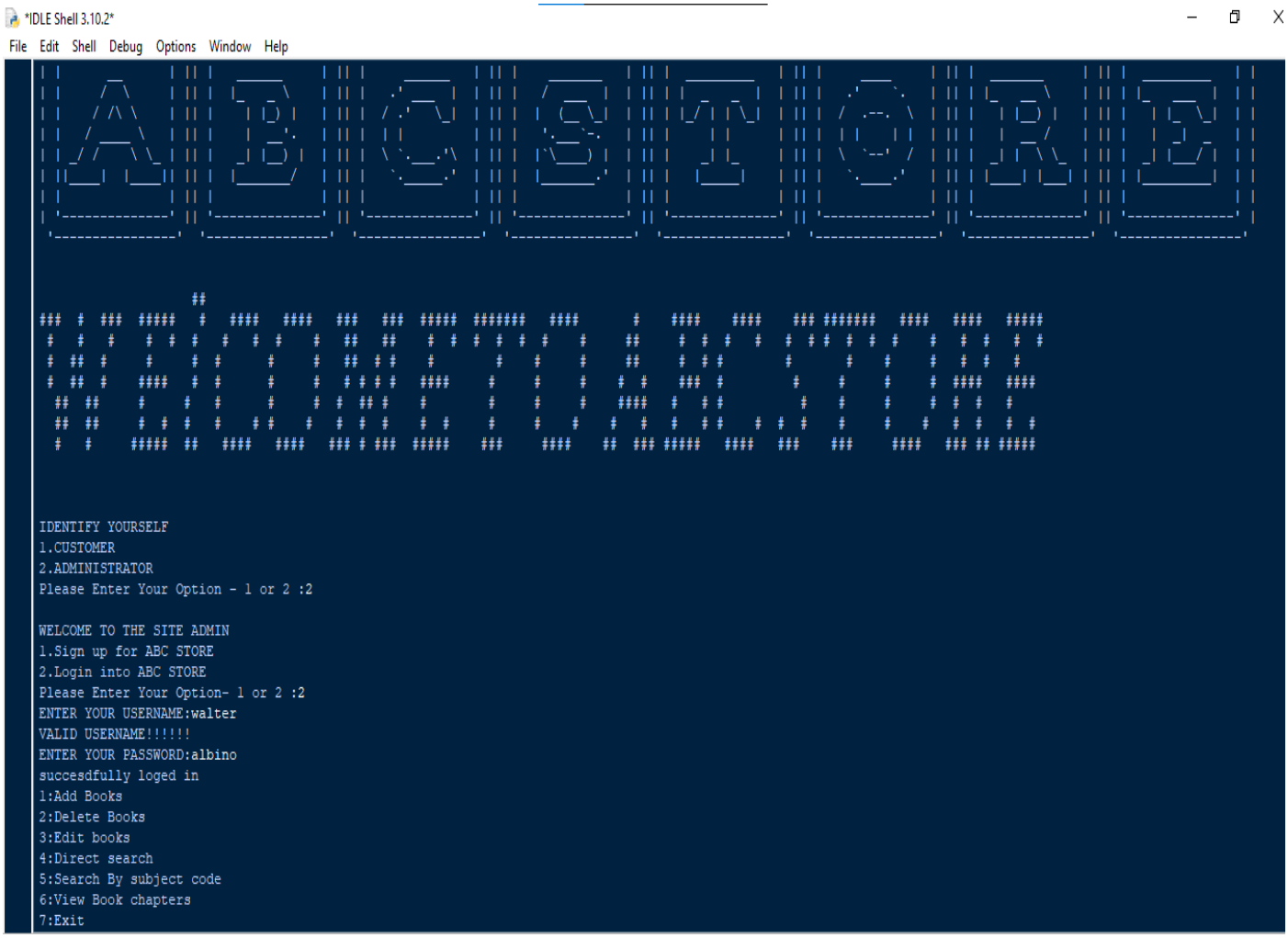

Figure 1-test case01

Test Case 02

```
IDENTIFY YOURSELF
1.CUSTOMER
2.ADMINISTRATOR
Please Enter Your Option - 1 or 2 :2

WELCOME TO THE SITE ADMIN
1.Sign up for ABC STORE
2.Login into ABC STORE
Please Enter Your Option- 1 or 2 :2
ENTER YOUR USERNAME:walter
VALID USERNAME!!!!!!
ENTER YOUR PASSWORD:albino
succesdfully loged in
1:Add Books
2:Delete Books
3:Edit books
4:Direct search
5:Search By subject code
6:View Book chapters
7:Exit
Enter your choice:1
Enter Book Number:1301
Enter The Book Title:Jane Eyre
Enter The subject Code:N111
Enter The Author Name:Charlotte
Enter The Publisher Name:Smith, Elder And Co.
Enter Price:1400
Enter Book quantity:3
Enter The Location:America
Enter The Book Genre:Romance
Enter The Book Description:The novel follows the story of Jane
added
```

Figure 2-testcase02

Test Case 03

IDLE Shell 3.10.2

File Edit Shell Debug Options Window Help

```
                                                    ##                    ##

 ##   ##  ######   ##        ####     ####    ##   ##  ######   ##      ######    ####    ##
#####    ######
 ##   ##  ##       ##       ##  ##   ##  ##   #######  ##      ##        ##     ##  ##   ##
##  ##   ##
 ## # ##  #####    ##       ##       ##  ##   ## # ##  #####    ######    ##     ##  ##   ######
#####    #####
 ### ###  ##       ##       ##  ##   ##  ##   ## # ##  ##                ##     ##  ##           ##
##  ##   ##
 ##   ##  ######   ######    ####     ####    ## # ##  ######            ##      ####            ##
##  ##   ######



IDENTIFY YOURSELF
1.CUSTOMER
2.ADMINISTRATOR
Please Enter Your Option - 1 or 2 :2

WELCOME TO THE SITE ADMIN
1.Sign up for ABC STORE
2.Login into ABC STORE
Please Enter Your Option- 1 or 2 :2
ENTER YOUR USERNAME:walter
VALID USERNAME!!!!!!
ENTER YOUR PASSWORD:albino
succesdfully loged in
1:Add Books
2:Delete Books
3:Edit books
4:Direct search
5:Search By subject code
6:View Book chapters
7:Exit
Enter your choice:2
Enter Book No:1301
1 record deleted
```

Figure 3-test case03

Test Case 04

```
File  Edit  Shell  Debug  Options  Window  Help
[..        [..[........[...   [....      [....     [..       [..[........      [..       [....      [..         [..[.... [..
[....     [..      [..[........



IDENTIFY YOURSELF
1.CUSTOMER
2.ADMINISTRATOR
Please Enter Your Option - 1 or 2 :2

WELCOME TO THE SITE ADMIN
1.Sign up for ABC STORE
2.Login into ABC STORE
Please Enter Your Option- 1 or 2 :2
ENTER YOUR USERNAME:walter
VALID USERNAME!!!!!!
ENTER YOUR PASSWORD:albino
succesdfully loged in
1:Add Books
2:Delete Books
3:Edit books
4:Direct search
5:Search By subject code
6:View Book chapters
7:Exit
Enter your choice:3
1:Edit Book NO
2:Edit Title
3:Edit Subject Code
4:Edit Author
5:Edit Publisher
6:Edit Price
7:Edit Quantity
8:Edit Location
9:Edit Genre
10:Edit description
11.Exit
Enter your choice:3
Enter Book NO:1678
Enter The New Subject Code to Update:1679
1 records affected
```

Figure 4-test case04

Test Case 05

```
File  Edit  Shell  Debug  Options  Window  Help
[..        [..[........[...   [....      [....      [..       [..[........      [..        [....      [..         [..[.... [..
[....     [..      [..[........



IDENTIFY YOURSELF
1.CUSTOMER
2.ADMINISTRATOR
Please Enter Your Option - 1 or 2 :2

WELCOME TO THE SITE ADMIN
1.Sign up for ABC STORE
2.Login into ABC STORE
Please Enter Your Option- 1 or 2 :2
ENTER YOUR USERNAME:walter
VALID USERNAME!!!!!!
ENTER YOUR PASSWORD:albino
succesdfully loged in
1:Add Books
2:Delete Books
3:Edit books
4:Direct search
5:Search By subject code
6:View Book chapters
7:Exit
Enter your choice:3
1:Edit Book NO
2:Edit Title
3:Edit Subject Code
4:Edit Author
5:Edit Publisher
6:Edit Price
7:Edit Quantity
8:Edit Location
9:Edit Genre
10:Edit description
11.Exit
Enter your choice:3
Enter Book NO:1678
Enter The New Subject Code to Update:1679
1 records affected
```

Figure 5-test case05

Test Case 06

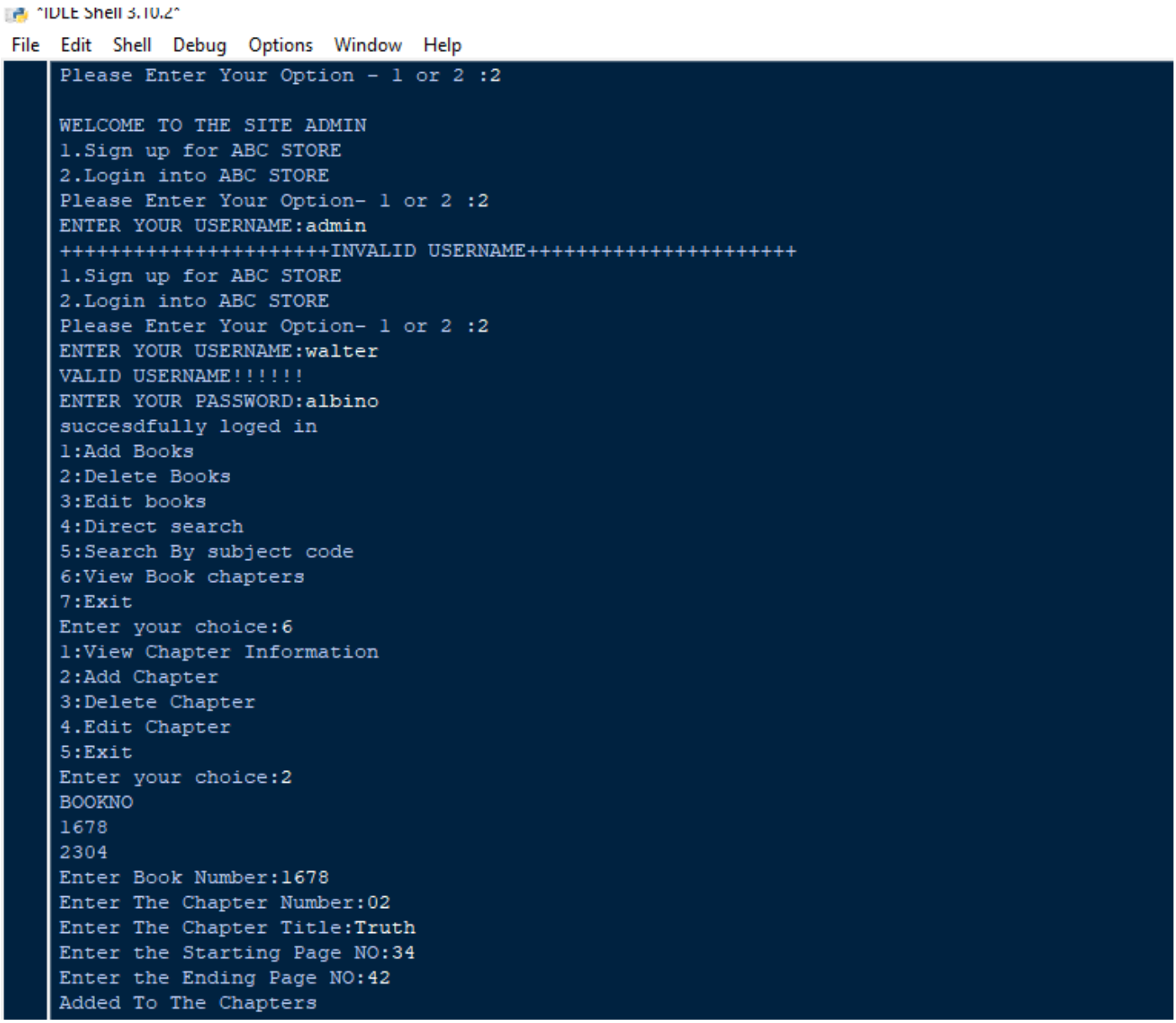

Figure 6-test case06

Test Case 07

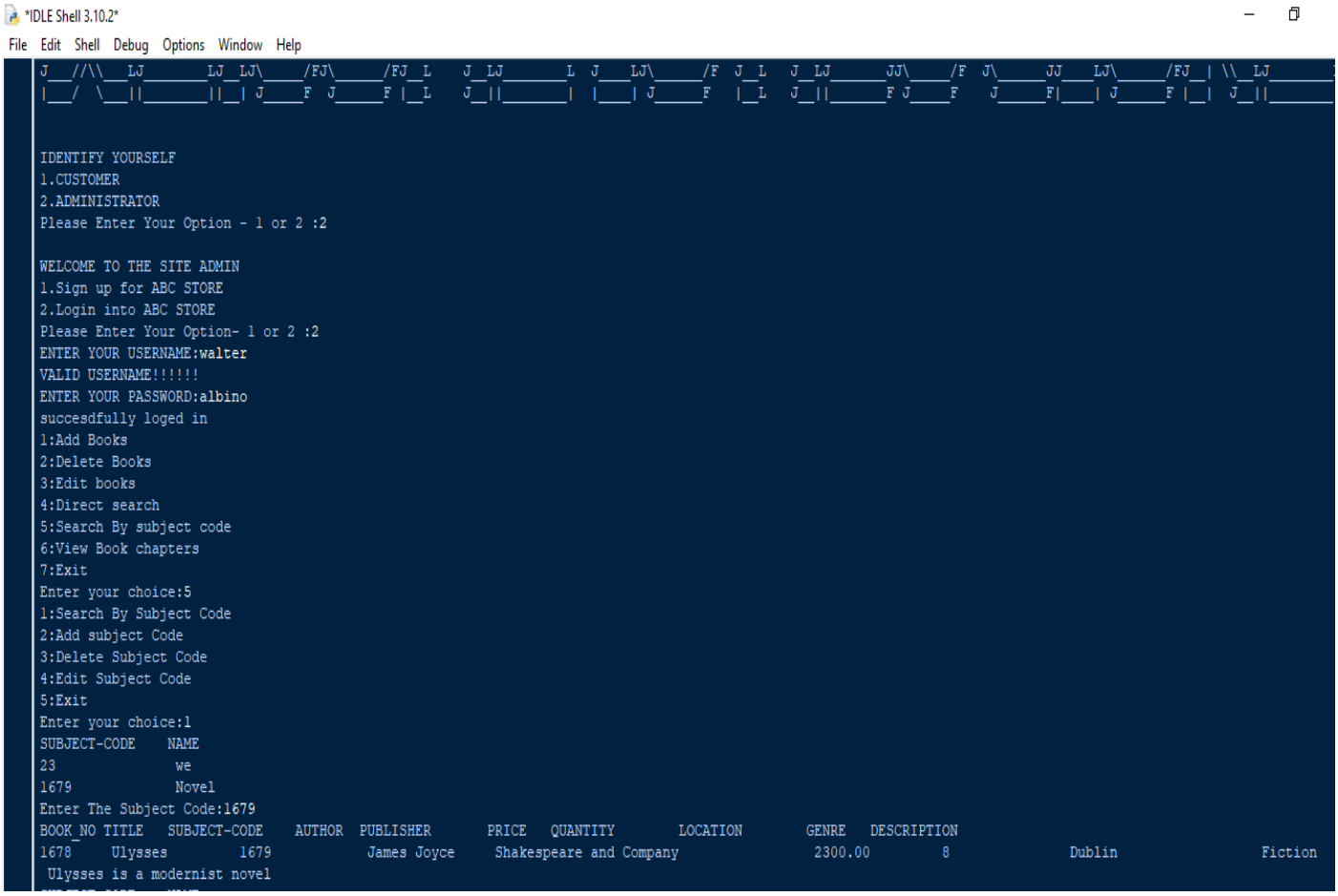

Figure 7-test case07

Test Case 08

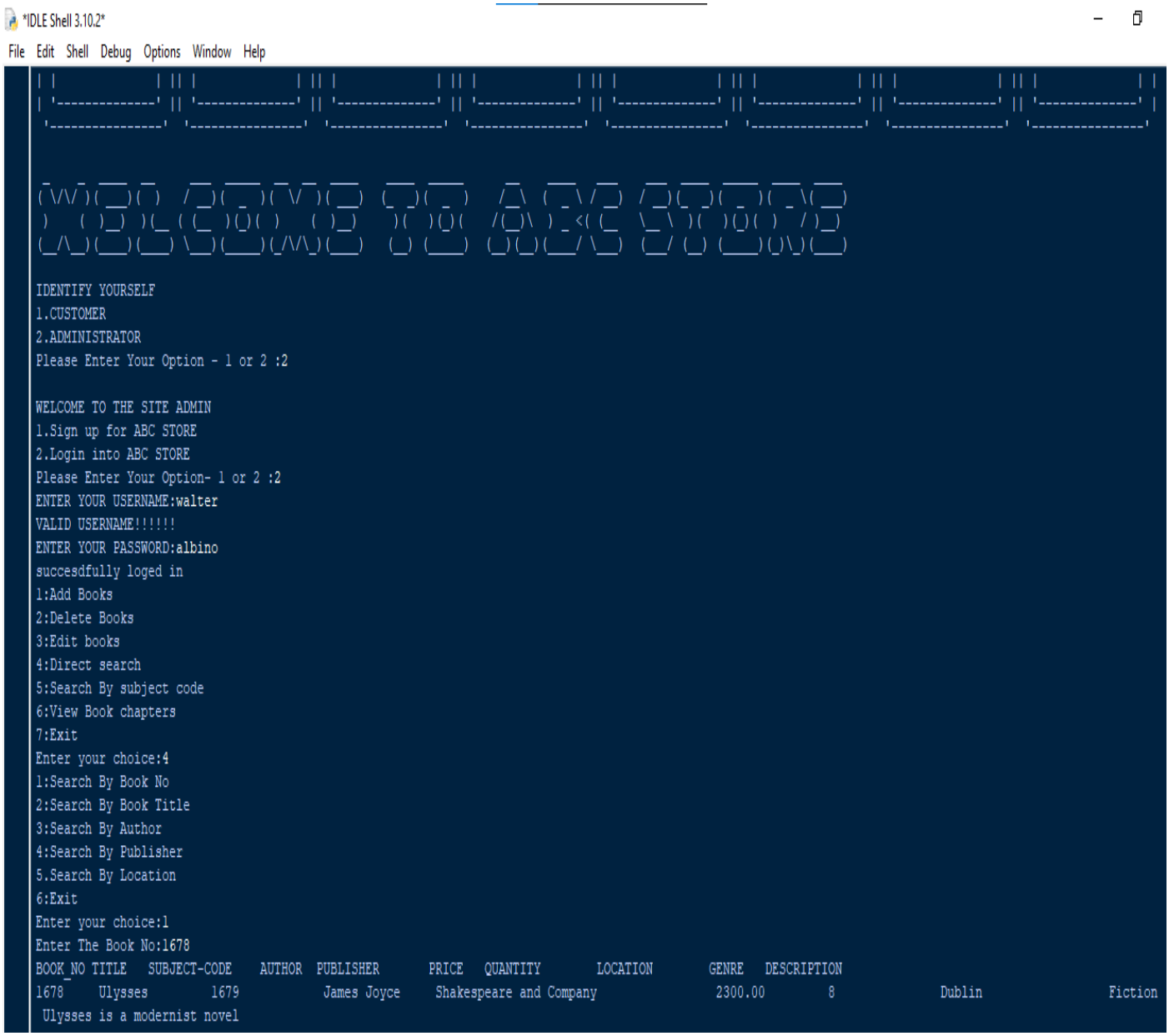

Figure 8-test case08

Test Case 09

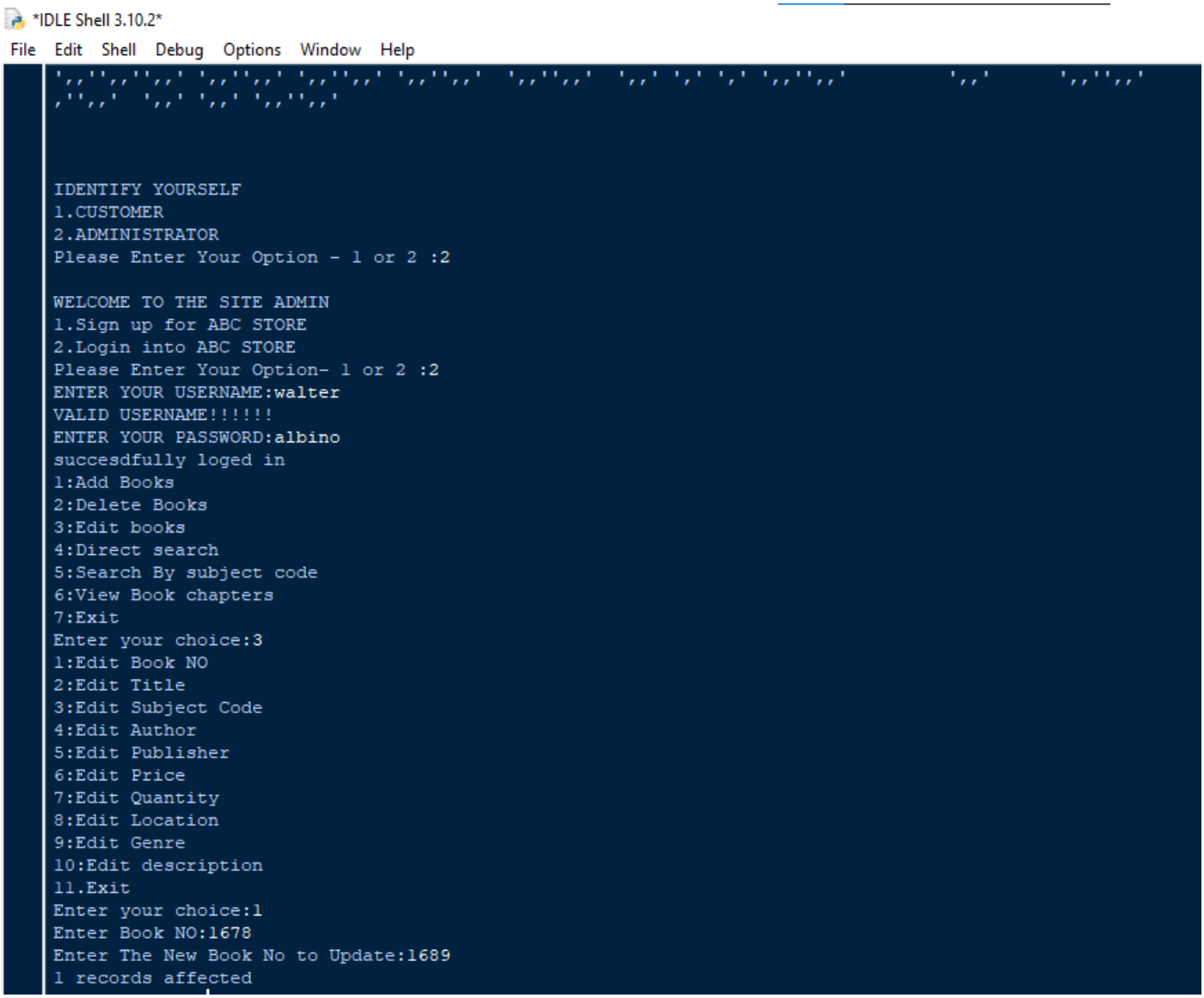

Figure 9-test case09

Test Case 10

IDLE Shell 3.10.2

File Edit Shell Debug Options Window Help

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| '--'W|| '--'E|| '--'L|| '--'C|| '--'O|| '--'M|| '--'E|  ((1)) | '--'T|| '--'O|  ((1)) | '--'A|| '--'B|| '--'O
`------'`------'`------'`------'`------'`------'`------'   '-'  `------'`------'   '-'  `------'`------'`------

IDENTIFY YOURSELF
1.CUSTOMER
2.ADMINISTRATOR
Please Enter Your Option - 1 or 2 :2

WELCOME TO THE SITE ADMIN
1.Sign up for ABC STORE
2.Login into ABC STORE
Please Enter Your Option- 1 or 2 :2
ENTER YOUR USERNAME:walter
VALID USERNAME!!!!!!
ENTER YOUR PASSWORD:albino
succesdfully loged in
1:Add Books
2:Delete Books
3:Edit books
4:Direct search
5:Search By subject code
6:View Book chapters
7:Exit
Enter your choice:3
1:Edit Book NO
2:Edit Title
3:Edit Subject Code
4:Edit Author
5:Edit Publisher
6:Edit Price
7:Edit Quantity
8:Edit Location
9:Edit Genre
10:Edit description
11.Exit
Enter your choice:10
Enter Book NO:1689
Enter The New Description to Update:talk about modern changes
1 records affected
```

Figure 10-test case10

Test Case 11

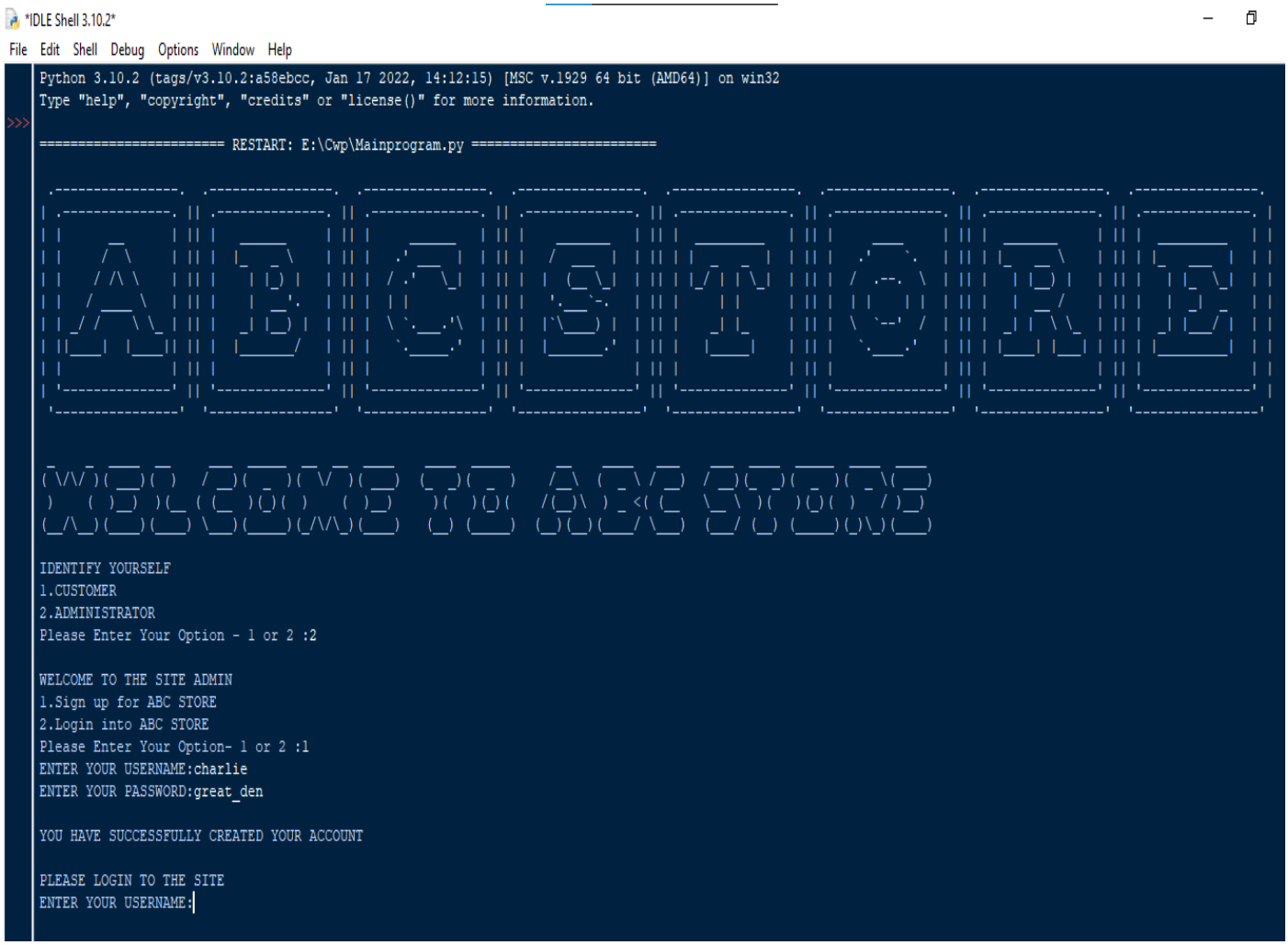

Figure 11-test case11

Reference for the package

Haghighi, S. (n.d.). *art: ASCII Art Library For Python*. [online] PyPI. Available at: https://pypi.org/project/art/.