LIBRARY MANAGEMENT SYSTEM

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BONAFIDE CERTIFICATE

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DATE: INTERNAL EXAMINER

PRINCIPAL EXTERNAL EXAMINER

SEAL

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PROBLEM DEFINITION

A library management software is a project that manages and stores books information electronically according to students needs. The system helps both students and library manager to keep a constant track of all the books available in the library.
It allows both the admin and the student to search for the desired book. It becomes necessary for colleges to keep a continuous check on the books issued and returned and even calculate fine. This task if carried out manually will be tedious and includes chances of mistakes
These errors are avoided by allowing the system to keep track of information such as issue date, last date to return the book and even fine information and thus there is no need to keep manual track of this information which thereby avoids chances of mistakes.
Thus this system reduces manual work to a great extent allows smooth flow of library activities by removing chances of errors in the details.
The objective of this project is to develop a library database system in which a user can supply a specific book or keyword(s) within a book given a continuously expanding library. Efficiency requires that the processing time should stay relatively the same as the library content increases.
This program is interactive and convenient to use for the user. The user can make the desired choice and the output will be executed accordingly.

The user is allowed to do the following things:

- i. Register an account to get a unique Customer ID
- ii. Search for a desired book in accordance to the Author Name, Book name, Genre, language, edition and price.
- iii. Check the availability of the book and lend or buy the book.
- iv. Return a book; if late to return, then fine has to be paid.
- The manual system of managing library has now become little slow and inefficient. The chances of making an error is more and it is also time consuming to write records in a register manually. As the size of the library increases, it almost becomes impossible to manually handle all the records.

IMPACT AND BENEFITS:

- ➤ This tool provides increased efficiency to librarians and library customers alike.
- ➤ This project allows a user to **fluidly build a customised library**. They can continue to add or remove content as desired over time without limitations.
- The query function will allow the users to access desired books and content in the **most efficient manner** possible.

BASIC PROBLEM ANALYSIS

- This application will be done with the help of Python interface with MySQL.
- The objective of this program is to allow the user to access the library database system and lend books in the most convenient way.
- ➤ It also provides the admin of the library to modify the database and manage all the books and accounts of each customer.
- The program first allows the user to choose between Admin and Customer.

If the user is an Admin:

- 1. He/she will be asked for the admin id and password.
- 2. If the password is correct, then the user will be allowed access to the complete library database.
- 3. The admin will now have the option to **DELETE**, **MODIFY** or **ADD** new records into the database.
- 4. The admin can also check the customer record and find out how many books are currently lent and how many customers are late to return the book.
- 5. The admin can also add discount to the price of the books.
- 6. The admin can also check the history of the customer.
- 7. The admin can check how many books are borrowed on that particular day and how often a particular book is being borrowed.

- 8. The admin can also check the **customer demand** for a particular book.
- 9. The admin can check the list of all books to be returned anytime and he/she can also access the list of damaged or lost books.

If the user is a customer:

He/she will be asked for **customer id**. If the user doesn't already have a customer id, he/she will be asked to register the mobile number to obtain a unique customer id. Once the user has a customer id, he/she can login.

- 1. He/she can search for the required books.
- 2.He/she can use certain conditions to search as well such as Author Name, Genre, Edition, price etc.
- 3. The customer has the choice to buy or lend the book from the library.
- 4. The user will also be shown some other **suggestions** based on his/her search.
- 5.He/she will be given the date to return the book if it is lent.

If the user is a customer and he/she wants to return a lent book:

- 1. He/she can check whether the return date is due or not.
- 2. If the return date is due, then the customer will be asked to pay fine.
- 3. If return date is not due then the book will be returned and the database will be updated.

HARDWARE AND SOFTWARE REQUIREMENT

- OS Microsoft Windows 10
- System type- X64-64bit based processor
- Processor- Intel® core™ i5-6006U
- CPU 2.00 GHz
- Memory (RAM) 4.00GB
- Front end Python v3.8.2:7b3ab59, MSCv.1916 64-bit
- Back End MySQL Version 8.0

FUTURE ENHANCEMENTS

- Incorporating an interface using tkinter module to enhance the user experience.
- Creating a webpage for the library so that the program can be accessed remotely.
- ➤ Adding a "FORGOT PASSWORD" option to allow users to change their password if required after verification.
- ➤ Inserting job description, salary and date of joining to employees table to accommodate future growth.
- Allowing users to search for books by author name or book genre and apply various filters.
- Linking the users email ID, so that timely reminders can be sent to ensure books are returned without delay.
- Including options to allow multiple copies of a particular book to be available in the database.
- ➤ Addition of the option to buy a book, in case a user looses a book or wishes to purchase it.
- ➤ Allowing users to borrow multiple books and borrow books for more than the specified period with confirmation from the admin.

SOURCE CODE

☐ TABLE CREATION

```
1 • create database LIBRARY_MANAGEMENT;
 Book_Id varchar(20) primary key ,
 4
             Book_Name varchar(50) ,
             Price float,
             Author varchar(50),
             Availability varchar(50));
 use library_management;
> create table Admins(
             Admin_Id varchar(20) primary key,
                         Mobile_No varchar(20),
                         Admin_Name varchar(30));
create table Users(
     User_Id varchar(20) primary key,
         Mobile_No varchar(20),
         User_Name varchar(20),
         Book_Borrowed varchar(20),
         Due_Date date default Null );
```

□ TABLES

1. BOOKS

Book_Id	Book_Name	Price	Author	Availability
A0001	Adventures of Tom Sawyer	50	Mark Twain	Available
A0002	Agni Veena	70	Kazi Nazrul Islam	Available
A0003	Animal Farm	80	George Orwell	Unavailable
A0004	Ben Hur	90	Lewis Wallace	Available
A0005	Baburnama	50	Babur	Available
A0006	Arthashastra	40	Kautilya	Available
A0007	Anand Math	60	Bankimchandra Chattopadhyay	Available
A0008	The Vicar of Wakefield	120	Oliver Goldsmith	Available
A0009	Time Machine	80	H.G.Wells	Available
A0010	A passage to India	110	E.M.Foster	Available
A0011	Far from the Madding Crowd	100	Thomas Hardy	Available
A0012	The Merchant of Venice	90	Shakespeare	Available
A0013	Antony and Cleopatra	70	Shakespeare	Available
A0014	Geetanjali	40	Rabindranath Tagore	Available
A0015	Utopia	80	Sir Thomas Moor	Available
A0016	Crime and Punishment	80	Dostoevsky	Available
A0017	Chitra	50	Rabindranath Tagore	Available
A0018	Bisarjan	40	Rabindranath Tagore	Available
A0019	Divine Comedy	80	Dante	Available
A0020	Ancient Mariner	100	Coleridge	Unavailable
A0021	Arms and the Man	40	G.B.Shaw	Available

A0022	Around the World in Eight	60	Jules Verne	Available
A0023	Pride and Prejudice	30	Jane Austen	Available
A0024	A Dangerous Place	40	D.P.Moynihan	Available
A0025	The Lady of the Last Minstrel	50	Sir Walter Scott	Available
A0026	Raghuvamsa	30	Kalidasa	Available
A0027	Shakuntala	40	Kalidasa	Available
A0028	Discovery of India	50	Pandit jawaharlal Nehru	Available
A0029	My Experiments with Truth	50	Mahatma Gandhi	Available
A0030	The Wild Iris	30	Louis Gluck	Available
B0001	Farenheit 431	50	Ray Bradbury	Available
B0002	The Paying Guests	50	Sarah Waters	Available
B0003	Jane Evre	60	Charlotte Bronte	Available
B0004	Watership Down	40	Richard Adams	Available
B0005	Lord of the Flies	50	Willian Goliding	Available
B0005	A Town Like Alice	30	Nevil Shute	Available
				Available
B0007	The Vegetarian	50	Han Kang	
B0008	The Adventures of Huckle	60	Mark Twain	Available
B0009	The Alchemist	50	Paulo Coelho	Available
B0010	The Colour Purple	30	Alice Walker	Available
B0011	Frankenstein	60	Mary Shelley	Available
B0013	All the Light We Cannot See	70	Anthony Doerr	Available
B0014	The Handmaid's Tale	40	Margaret Atwood	Available
B0014	Animal Farm	30	George Orwell	Unavailable
B0015	Atonement	50	Ian McEwan	Available
B0018	Barnev's Version	30	Mordecai Richler	Available
B0017	The Beetle	40	Lewis Caroll	Available
B0018	The Bell Jar	30	Sylvia Plath	Available
B0019	The Book Theif	50	Markus Zusak	Available
		40		Available
B0021	The Giver		Lois Loury	
B0022	Brave New World	40	Aldous Huxley	Available
B0023	Breakfast of Champions	30	Kurt Vonnegut	Available
B0024	Catch-22	40	Joseph Heller	Available
B0025	Charlotte's Web	30	E.B.White	Available
B0026	City of Theives	30	David Benioff	Available
B0027	Clockwork Orange	30	Anthony Burgess	Available
B0028	Disgrace	20	J.M.Coetzee	Available
B0029	Dracula	30	Bram Stoker	Available
B0030	The Girl With the Dragon T		Stieg Larsson	Available
B0031	The God of Small Things	30	Arundhati Roy	Available
B0032	Gone With The Wind	50	Margaret Mitchell	Available
B0033	Grapes of Wrath	40	John Steinbeck	Available
B0034	Great Expectations	30	Charles Dickens	Available
B0035	The Great Gatsby	60	F. Scott Fitzgerald	Available
B0036	Ham on Rye	30	Charles Bukowski	Available
B0037	The Help	30	Kathryn Stockett	Available
B0038	The Hitchiker's Guide to th	60	Douglas Adams	Available
B0039	Invisible Man	80	Ralph Ellison	Available
B0040	The Kite Runner	40	Khaled Hosseini	Available
B0040	Les Miserables	80	Victor Hugo	Available
B0041	Life of Pi	50	Yann Martel	Available
B0043	The Little Prince	40	Antoine de Saint-Exupery	Available
B0043	Maus	50		Available
B0044	Middlemarch	30	Art Spiegelman	Available
			George Eliot Salman Rushdie	
B0046	Midnight's Children	50		Available
B0047	Moby Dick	60	Herman Melville	Available
	Ulysses	30	James Joyce	Available
B0048	Native Son	30	Richard Wright	Available
B0049			Elizabeth Gaskell	Available
B0049 B0050	North and South	50		
B0049		50 30	John Steinbeck	Available
B0049 B0050	North and South		John Steinbeck Ernest Hemingway	
B0049 B0050 B0051	North and South Of Nice and Men	30		Available
B0049 B0050 B0051 B0052	North and South Of Nice and Men The Old Man and the Sea	30 40	Ernest Hemingway	Available Available

B0056	1984	50	George Orwell	Available
B0057	The Sound and the Fury	50	Wiliam Faulkner	Available
B0058	The Giving Tree	40	Shel Silverstein	Available
B0059	Things Fall Apart	30	Chinua Achebe	Available
B0060	To Kill A Mockingbird	60	Harper Lee	Available
B0061	The Trial	50	Franz Kafka	Available
B0062	Tropic of Cancer	40	Henry Miller	Available
B0063	War and Peace	30	Leo Tolstoy	Available
B0064	The Secret Garden	20	Frances Hodgson Burnett	Available
B0065	Untamed	40	Glennon Doyle	Available
B0066	5 AM Club	50	Robin Sharma	Avaialble
B0067	Born a Crime	60	Trevor Noah	Avaialble
B0068	The Courage to be Disliked	40	Fumitake Koga	Available
C0001	Harry Potter and the Sorc	100	J.K.Rowling	Available
C0002	Harry Potter and the Cha	100	J.K.Rowling	Available
C0002	Harry Potter and the Priso	100	J.K.Rowling	Available
C0003	•		-	Available
C0004	Harry Potter and the Gobl Harry Potter and the Orde	120 120	J.K.Rowling	Available
			J.K.Rowling	Available
C0006	Harry Potter and the Half	120	J.K.Rowling	Available
C0007	Harry Potter and the Deat		J.K.Rowling	, , , , , , , , , , , , , , , , , , , ,
C0008	Harry Potter and the Curs	120	J.K.Rowling	Available
C0009	The Hunger Games	100	Suzanne Collins	Available
C0010	Catching Fire	100	Suzanne Collins	Available
C0011	Mockingjay	100	Suzanne Collins	Available
C0012	The Ballad of Songbirds an	120	Suzanne Collins	Available
C0013	The Fault in Our Stars	120	John Green	Available
C0014	Paper Towns	100	John Green	Available
C0015	The Hobbit	120	J.R.R.Tolkein	Available
C0016	The Lord of the Rings	250	J.R.R.Tolkein	Available
C0017	Looking for Alaska	100	John Green	Available
C0017	Divergent	100	Veronica Roth	Available
C0018	Insurgent	100	Veronica Roth	Available
C0019	Alliegant	100	Veronica Roth	Available
	_			Available
C0021	Thirteen Reasons Why	100	Jay Asher	
C0022	Twilight	80	Stephanie Meyer	Available
C0023	New Moon	80	Stephanie Meyer	Avaialble
C0024	Edipse	80	Stephanie Meyer	Available
C0025	Midnight Sun	80	Stephanie Meyer	Available
C0026	Percy Jackson and the Lig	100	Rick Riordan	Available
C0027	Percy Jackson and the Se	100	Rick Riordan	Available
C0028	Percy Jackson and the Tit	100	Rick Riordan	Available
C0029	Percy Jackson and the Bat	100	Rick Riordan	Available
C0030	Percy Jackson and the Las	100	Rick Riordan	Available
C0030	The Adventurs of Sherlock		Arthur Conan Doyle	Avaiable
C0031	Dune	120	Frank Herbert	Available
C0032	Dune Messiah	100	Frank Herbert	Available
C0033	Children of Dune	100	Frank Herbert	Available
C0034	God Emperor of Dune	100	Frank Herbert	Available
C0036	Heretics of Dune	100	Frank Herbert	Available
C0036	Chapter House Dune	100	Frank Herbert	Available
	Kane and Abel		Jeffrey Archer	Avaiable
C0038	Only Time Will Tell	70		Available
C0039		100	Jeffrey Archer	
C0040	The Sins of the Father	100	Jeffrey Archer	Available
C0041	Cometh The Hour	80	Jeffrey Archer	Avaiable
C0042	The Prodigal Daughter	80	Jeffrey Archer	Available
C0043	The Da Vinci Code	100	Dan Brown	Available
l	Angels and Demons	100	Dan Brown	Available
C0044				
C0045	Inferno	100	Dan Brown	Available
		100 100 100	Dan Brown Dan Brown Dan Brown	Available Available Avaialble

2. ADMINS

Admin_Id	Mobile_No	Admin_Name
A001	9874646323	SAMPLE1
A002	9876765654	SAMPLE2
A003	9383999293	SAMPLE3
A004	8994093849	SAMPLE4
A005	9488849304	SAMPLE5

3. USERS

User_Id	Mobile_No	User_Name	Book_Borrowed	Due_Date
A0001	9833244223	Varun Kumar	A0003	2021-09-02
A0002	9899928832	Saiyam Jain	A0020	2022-03-06
A0003	9923899200	Bharat R	None	2022-03-06
A0004	9930488554	Hari Krishnan	None	NULL
A0005	9038573992	Aditya S	None	2021-05-01
A0006	9284889390	Jamal K	None	2021-05-01
A0007	9384999093	Sejal Babel	None	2021-05-01
A0008	9899382001	Mayur S	None	2021-05-01
A0009	9383929012	Priyanka R	None	2021-05-01
A0010	8839020394	Gina Chopra	None	2021-05-01
A0011	8392394433	Vishal Menda	None	2021-05-05
A0012	9389308434	Vijay Shekar	None	2021-05-05
A0013	9382028000	Narendra Joshi	None	2021-05-05
A0014	8990392032	Jitendra Kumar	None	2021-05-05
A0015	9009309489	Vaibhav Bha	None	2021-05-05
J233	9876543210	Rajkumar Sh	None	NULL

PYTHON CODE

```
#LIBRARY MANAGEMENT SYSTEM
import mysql.connector as sqltor
mycon = sqltor.connect(host = "localhost", user = "root", passwd = "fiitjee@40625", database = "library_management")
import random
import sys
import time
alpha = ['A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', 'Z']
def CUST_LR():
   ch=int(input("Press 1 if you are a member or press 2 if you wish to register yourself;"))
   if ch==1:
       CUST_LOGIN()
   elif ch==2:
       CUST REG()
def CUST_LOGIN():
   user_id = input("Please Enter your User ID : ")
   passwd = input("Please Enter your Password : ")
    print()
   cursor2 = mycon.cursor()
   cursor2.execute("select User_Id , Mobile_No from users;")
   data1 = cursor2.fetchall()
   t = (user\_id, passwd)
   if t in data1:
       print("LOGIN SUCCESSFUL!")
time.sleep(2)
       CUST_MENU()
       print("LOGIN UNSUCCESSFUL! PLEASE TRY AGAIN! \n")
       time.sleep(2)
CUST_LOGIN()
 def CUST_REG():
    print("LET US REGISTER YOUR ACCOUNT INTO OUR DATABASE!")
   print()
   cursor = mycon.cursor()
cursor.execute("select User_
uid_data = cursor.fetchall()
                                    _Id from users")
   def USER_ID_CHECK():
      #writing new user_id
r_alpha = alpha[random.randint(1,26)]
r_no = random.randint(1,9999)
dummy = str(r_alpha) + str(r_no)
      if dummy in uid_data:
USER_ID_CHECK()
          user_id = dummy
       m_no = input("Enter your Mobile Number : ")
       print()
       u_name = input("Enter your Name : ")
       book_borrowed = "None"
       #INSERTING RECORD IN MYSQL
       cursor1 = mycon.cursor()
query1 = "insert into users (User_Id , Mobile_No , User_Name , Book_Borrowed) values(%s,%s,%s,%s,%s)"
       t = (user_id , m_no , u_name, book_borrowed)
cursor1.execute(query1, t)
       mycon.commit()
print("CONGRAGULATIONS! Your account has been successfully registered!")
       print()
print("Your User ID is " , user_id , "and your password is " , m_no )
       print()
print("Now you will be taken back to the LOGIN PAGE! Thank You! \n")
       time.sleep(2)
       print()
CUST_LOGIN()
   USER_ID_CHECK()
def CUST_MENU():
    print("Welcome to NSSS Library".center(89 , '*'))
    print('1. Search for books to borrow'.center(155))
    print("\n")
    print('2. Return books'.center(155))
    print("\n")
    print("\n")
    print('3. Check due date and fine'.center(155))
    print("\n")
```

```
print('4. Logout of website'.center(155))
ch2=int(input("Enter your choice :"))
  if ch2==1:
  SEARCH_BOOK()
elif ch2==2:
     RETURN_BOOK()
  elif ch2==3:
     CHECK_DUE()
  elif ch2 = = 4
     LOGOUT()
def SEARCH_BOOK():
  cur = mvcon.cursor()
  cur.execute("Select Book_Id , Book_Name, Price from books WHERE availability='Available';")
  def GET_BOOK():
     data = cur.fetchmany(20)
     for i in data:
        print(i)
     print()
     ch3=(input('Do you want to borrow any of the above books ? Enter y/n '))
     print()
     if ch3.lower()=="y":
data2=cur.fetchall()
        BORROW_BOOK()
     elif ch3.lower()=="n":
       x=input("Do you want to see some more books? (y/n)").lower() print()
          GET_BOOK()
       else:
          data2=cur.fetchall()
CUST_MENU()
  GET_BOOK()
def RETURN_BOOK():
  cursor1=mycon.cursor()
  mobileno=input("Enter your mobile no. ") #Use the mobile no given during log in
  cursor1.execute("Select book borrowed from users where mobile no = {}".format(mobileno,))
  book borr = cursor1.fetchone()
  if book borr[0]=="None
     print("YOU HAVE NOT LENT ANY BOOK YET. You will be taken back to the menu. Thank You! \n") time.sleep(2)
     CUST_MENU()
  q="SELECT book_name , due_date FROM books , users WHERE users.book_borrowed=books.book_id AND users.mobile_no={}".format(mobileno,)
  cursor1.execute(q)
  info=cursor1.fetchone()
bname=info[0]
  duedate=info[1]
  cursor2=mycon.cursor()
  q2="SELECT CURDATE()"
  cursor2.execute(a2)
  info2=cursor2.fetchone()
  todate=info2[0]
  f1=10
                   #fine for each extra day
  if todate<=duedate:
     print("The book you have borrowed", bname, "is due on", duedate)
     ch=input("Do you wish to return the book today? (y/n)")
     if ch=='
        q3="UPDATE books SET availability = 'Available' WHERE book_name ='{}'".format(bname,)
        cursor3.execute(q3)
        mycon.commit()
q4="UPDATE users SET book_borrowed = 'None' , due_date= NULL WHERE Mobile_no= '{}' ".format(mobileno,)
        cursor3.execute(q4)
        mycon.commit()
        print("Thank you for coming to NSSS Library. Have a great day ! \n")
        time.sleep(2)
        CUST_MENU()
        print("Thank you for coming to NSSS Library. Have a great day ! n")
        time.sleep(2)
```

```
CUST MENU()
  else:
     #Calculating the fine fine=str(f1*(todate-duedate))
     fine=int(fine[0:-14])
     print()
     print("The book you have borrowed",bname, "has crossed the due date",duedate)
     print()
     print("To return the book today, kindly pay the fine of",fine,"rupees to the librarian. \n")
     time.sleep(2)
     CUST_MENU()
def CHECK_DUE():
  cursor1=mycon.cursor()
  mobileno=input("Enter your mobile no. ") #Use the mobile no given during log in
  cursor1.execute("Select book_borrowed from users where mobile_no = {}".format(mobileno,))
  book borr = cursor1.fetchone()
  if book_borr[0]=="None":
    print("YOU HAVE NOT LENT ANY BOOK YET. You will be taken back to Choice menu. Thank You! \n")
     CUST MENU()
  q="SELECT book_name , due_date FROM books , users WHERE users.book_borrowed=books.book_id AND users.mobile_no={}".format(mobileno,)
   info=cursor1.fetchone()
   bname=info[0]
  duedate=info[1]
  cursor2=mycon.cursor()
   q2="SELECT CURDATE()
   cursor2.execute(q2)
   info2=cursor2.fetchone()
  todate=info2[0]
   f1 = 10
                     #fine for each extra day
  if todate<=duedate:</pre>
      print("The book you have borrowed,",bname,"is due on",duedate)
      print("The fine for each subsequent day is",f1,"rupees")
      print()
      time.sleep(2)
      CUST_MENU()
      #Calculating the fine
fine=str(f1*(todate-duedate))
      fine=int(fine[0:-14])
      print()
      print("The book you have borrowed", bname, "has crossed the due date", duedate)
      print() print("To return the book today, kindly pay the fine of", fine, "rupees to the librarian. <math>\n")
      time.sleep(2)
      CUST_MENU()
def BORROW_BOOK():
  mobileno=input("Enter your mobileno :")
cursor2=mycon.cursor()
                                                   #Use from login info variable passwd
  q2="SELECT book borrowed FROM users WHERE mobile no ='{}'".format(mobileno,)
   cursor2.execute(q2)
  info=cursor2.fetchone()
  checkpt=info[0]
if checkpt!="None
     print' ("Kindly return the book you have already borrowed in order to borrow a new book. n") time.sleep(2)
     CUST MENU()
  b id=input("Enter the book id of the book you wish to borrow :") #Get it using a guery from user input
  cursor1=mycon.cursor()
q1="SELECT book_name_, availability FROM books WHERE book_id ='{}".format(b_id,)
  cursor1.execute(q1)
info=cursor1.fetchone()
  bname=info[0]
avail=info[1]
  if avail=="Available" or avail=="available":
     print("The book you have requested",bname, "is currently available.","Kindly collect your book from the librarian.")
     cursor3=mycon.cursor()
q3="UPDATE books SET availability = 'Unavailable' WHERE book_name ='{}'".format(bname,)
     cursor3.execute(q3)
mycon.commit()
q4="UPDATE users S
                        s SET book_borrowed = '{}' , due_date= DATE_ADD( CURDATE() , INTERVAL 7 DAY) WHERE Mobile_no= '{}' ".format(b_id,mobil
     cursor3.execute(q4)
     mycon.commit()
     print("Thank you for coming to NSSS Library. Have a great day ! \n")
     time.sleep(2)
     CUST_MENU()
```

```
elif avail=="Unavailable" or avail =="unavailable":
     print("Unfortunately the book ",bname,"which you have requested is unavailable currently.")
     ch=input("Would you like to find another book? (y/n)")
     SEARCH_BOOK()
elif ch=="n":
        print("Thank you for coming to NSSS Library. Have a great day ! \n")
        time.sleep(2)
       CUST MENU()
def LOGOUT():
  print("THANK YOU FOR VISITING!")
  sys.exit()
def ADMIN_MENU():
  print()"
print()"
print()
  print("PLEASE SELECT WHAT YOU WISH TO DO")
  print()
  a = int(input("Press 1 if you want to ADD a book, press 2 if you want to Remove a book and press 0 if you want to Exit the Library: "))
  if a == 1: #admins wants to add a book
     cursor5 = mycon.cursor()
     cursor5.execute("select Book_Id from books;")
     ids = cursor5.fetchall()
     def IDS():
        #writing new book_id
       r_alpha = alpha[random.randint(1,26)]
       r_no = random.randint(1,9999)
       dummy = str(r_alpha) + str(r_no) if dummy in ids:
          IDS()
          book_id = dummy
       book_name= input("Enter the name of the book: ")
       price= float(input("Enter the price of the book :
author= input("Enter the author of the book : ")
avail = "Available"
       cursor6 = mycon.cursor()
       cursor6.execute(query4,t)
       mycon.commit()
       print("BOOK HAS BEEN SUCCESSFULLY ADDED TO THE DATABASE!")
       print()
print("The Book ID is " , book_id )
       print()
print("YOU WILL BE TAKEN BACK TO THE MAIN MENU. \n")
       time.sleep(2)
        ADMIN_MENÚ()
     IDS()
  elif a ==2 : #admin wants to delete a book
  cursor8 = mycon.cursor()
     book_id = input("Enter the Book ID of the book which you want to remove : ")
     cursor8.execute("select Book Id from books")
     b_ids = cursor8.fetchall()
     t = (book_id,)
     if t not in b ids:
       print("Sorry! Book_Id does not exist! You will be taken back to the Menu! \n")
        time.sleep(2)
       ADMIN_MENU()
        q = "select * from books where Book_id = '%s'" % (book_id)
       cursor8.execute(q)
       data = cursor8.fetchall()
for i in data:
          print(i)
       rep = input("Are you sure you want to delete this record ? Press y/n ")
       if rep =="y":
          query = "delete from books where Book_Id = '%s'" %(book_id)
          cursor8.execute(query)
           mycon.commit()
           print("RECORD SUCCESSFULLY REMOVED!")
          print()
print("YOU WILL BE TAKEN BACK TO THE MAIN MENU.")
          time.sleep(2)
ADMIN_MENU()
```

```
elif rep =="n":
    print("You will be taken back to menu! \n")
              time.sleep(2)
             ADMIN_MENU()
   elif a == 0:
      LOGOUT()
def ADMIN_LR():
    r3 = int(input("Press '0' if you want to register as ADMIN and press '1' if you want to log-in : "))
   print()
   if r3==0:
       ADMIN REG()
   elif r3==\overline{1}:
      ADMIN_LOGIN()
def ADMIN_REG():
   print("LET US REGISTER YOUR ACCOUNT IN OUR DATABASE!")
   print()
   def ADMIN_ID_CHECK():
      ncursor = mycon.cursor()
query = "select Admin_Id from Admins;"
       ncursor.execute(query)
       id data = ncursor.fetchall()
      #writing new Admin_Id
      r_alpha = "A"
       r_no = random.randint(1,100)
       dummy = r_alpha + str(r_no)
if dummy in id_data:
          ADMIN_ID_CHECK()
          admin_id = dummy
       mo_no = input("Enter Your Mobile Number : ")
       print()
       Admin_name = input("Enter your Name : ")
       print()
       #INSERTING RECORD IN MYSQL
      cursor3 = mycon.cursor()
query = "insert into Admins (Admin_Id , Mobile_No , Admin_Name ) values(%s ,%s, %s)"
      t = (admin_id , mo_no , Admin_name)
cursor3.execute(query, t)
       mycon.commit()
       \dot{\text{print}(\text{"CONGRAGULATIONS! Your account has been successfully registered!")}}
       print()
       print("Your Admin ID is " , admin_id , "and your password is " , mo_no ) print()
print("Now you will be taken back to the LOGIN PAGE! Thank You! \n")
       print()
      time.sleep(2)
ADMIN_LOGIN()
   ADMIN_ID_CHECK()
def ADMIN_LOGIN():
   Admin_Id = input("Please Enter your Admin ID : ")
   passwd = input("Please Enter your Password : ")
   print()
   cursor4 = mycon.cursor()
   cursor4.execute("select Admin_Id , Mobile_No from Admins;")
data = cursor4.fetchall()
   t = (Admin_Id , passwd)
   if t in data:
         print("LOGIN SUCCESSFUL! \n")
         time.sleep(2)
ADMIN_MENU()
      print("LOGIN UNSUCCESSFUL! PLEASE TRY AGAIN! \n")
      time.sleep(2)
ADMIN_LOGIN()
```

```
def MAIN_LOGIN():
    print("HELLO THERE!! WELCOME TO NSSS LIBRARY!" , end = "\n")
    print()
    print("Enter '1' if you are a Customer and Enter '2' if you are an Admin" , end="\n")
    print()
    r1 = int(input("Enter '1' or '2' : "))
    print()
    if r1==1:
        CUST_LR()
    elif r1==2:
        ADMIN_LR()

MAIN_LOGIN()
```

OUTPUT

■ Main Login

```
HELLO THERE!! WELCOME TO NSSS LIBRARY!

Enter '1' if you are a Customer and Enter '2' if you are an Admin

Enter '1' or '2' :
```

TADMIN LR

```
HELLO THERE!! WELCOME TO NSSS LIBRARY!

Enter '1' if you are a Customer and Enter '2' if you are an Admin

Enter '1' or '2' : 2

Press '0' if you want to register as ADMIN and press '1' if you want to log-in :
```

□ ADMIN REGISTRATION

```
HELLO THERE!! WELCOME TO NSSS LIBRARY!

Enter '1' if you are a Customer and Enter '2' if you are an Admin

Enter '1' or '2' : 2

Press '0' if you want to register as ADMIN and press '1' if you want to log-in : 0

LET US REGISTER YOUR ACCOUNT IN OUR DATABASE!

Enter Your Mobile Number : 9846373849

Enter your Name : SAMPLE10

CONGRAGULATIONS! Your account has been successfully registered!

Your Admin ID is A14 and your password is 9846373849

Now you will be taken back to the LOGIN PAGE! Thank You!

Please Enter your Admin ID : A14

Please Enter your Password : 9846373849

LOGIN SUCCESSFUL!

WELCOME!

PLEASE SELECT WHAT YOU WISH TO DO

Press 1 if you want to ADD a book, press 2 if you want to Remove a book and press 0 if you want to Exit the Library :
```

	Admin_Id	Mobile_No	Admin_Name
•	A001	9874646323	SAMPLE1
	A002	9876765654	SAMPLE2
	A003	9383999293	SAMPLE3
	A004	8994093849	SAMPLE4
	A005	9488849304	SAMPLE5
	A14	9846373849	SAMPLE 10
	NULL	NULL	NULL

☐ ADMIN LOGIN

```
HELLO THERE!! WELCOME TO NSSS LIBRARY!

Enter '1' if you are a Customer and Enter '2' if you are an Admin

Enter '1' or '2' : 2

Press '0' if you want to register as ADMIN and press '1' if you want to log-in : 1

Please Enter your Admin ID : A14

Please Enter your Password : 9846373849

LOGIN SUCCESSFUL!

WELCOME!

PLEASE SELECT WHAT YOU WISH TO DO

Press 1 if you want to ADD a book, press 2 if you want to Remove a book and press 0 if you want to Exit the Library :
```

☐ ADDING BOOKS

```
HELLO THERE!! WELCOME TO NSSS LIBRARY!

Enter '1' if you are a Customer and Enter '2' if you are an Admin

Enter '1' or '2' : 2

Press '0' if you want to register as ADMIN and press '1' if you want to log-in : 1

Please Enter your Admin ID : A14

Please Enter your Password : 9846373849

LOGIN SUCCESSFUL!

WELCOME!

PLEASE SELECT WHAT YOU WISH TO DO

Press 1 if you want to ADD a book, press 2 if you want to Remove a book and press 0 if you want to Exit the Library : 1

Enter the name of the book : NCERT FHYSICS

Enter the price of the book : CBSE

BOOK HAS BEEN SUCCESSFULLY ADDED TO THE DATABASE!

The Book ID is D8678

YOU WILL BE TAKEN BACK TO THE MAIN MENU.

WELCOME!

PLEASE SELECT WHAT YOU WISH TO DO

Press 1 if you want to ADD a book, press 2 if you want to Remove a book and press 0 if you want to Exit the Library : 1
```

C0041	Cometh The Hour	80	Jeffrey Archer	Avaiable
C0042	The Prodigal Daughter	80	Jeffrey Archer	Available
C0043	The Da Vinci Code	100	Dan Brown	Available
C0044	Angels and Demons	100	Dan Brown	Available
C0045	Inferno	100	Dan Brown	Available
C0046	The Lost Symbol	100	Dan Brown	Available
C0047	Digital Fortress	100	Dan Brown	Avaialble
D8678	NCERT PHYSICS	50	CBSE	Available
NULL	NULL	NULL	NULL	NULL

DELETING BOOKS

```
HELLO THERE!! WELCOME TO NSSS LIBRARY!

Enter '1' if you are a Customer and Enter '2' if you are an Admin

Enter '1' or '2' : 2

Press '0' if you want to register as ADMIN and press '1' if you want to log-in : 1

Please Enter your Admin ID : A14

Please Enter your Password : 9846373849

LOGIN SUCCESSFUL!

WELCOME!

PLEASE SELECT WHAT YOU WISH TO DO

Press 1 if you want to ADD a book, press 2 if you want to Remove a book and press 0 if you want to Exit the Library : 2
Enter the Book ID of the book which you want to remove : D8678
('D8678', 'NCERT PHYSICS ', 50.0, 'CBSE', 'Available')

Are you sure you want to delete this record ? Press y/n y

RECORD SUCCESSFULLY REMOVED!

YOU WILL BE TAKEN BACK TO THE MAIN MENU.

WELCOME!

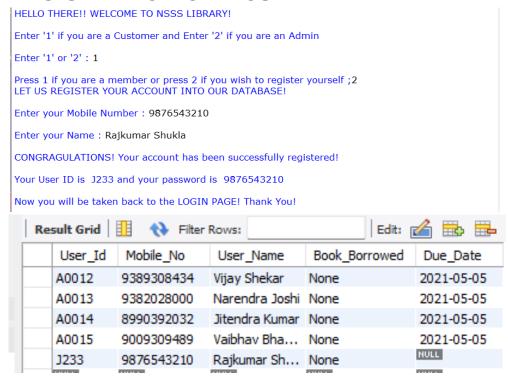
PLEASE SELECT WHAT YOU WISH TO DO

Press 1 if you want to ADD a book, press 2 if you want to Remove a book and press 0 if you want to Exit the Library : 0

THANK YOU FOR VISITING!
```

Book_Id	d Book_Name	Price	Author	Availability
C0026	Percy Jackson and the Lig	100	Rick Riordan	Available
C0027	Percy Jackson and the Se	100	Rick Riordan	Available
C0028	Percy Jackson and the Tit	100	Rick Riordan	Available
C0029	Percy Jackson and the Bat	100	Rick Riordan	Available
C0030	Percy Jackson and the Las	100	Rick Riordan	Available
C0031	The Adventurs of Sherlock	80	Arthur Conan Doyle	Avaialble
C0032	Dune	120	Frank Herbert	Available
C0033	Dune Messiah	100	Frank Herbert	Available
C0034	Children of Dune	100	Frank Herbert	Available
C0035	God Emperor of Dune	100	Frank Herbert	Available
C0036	Heretics of Dune	100	Frank Herbert	Available
C0037	Chapter House Dune	100	Frank Herbert	Available
C0038	Kane and Abel	70	Jeffrey Archer	Avaialble
C0039	Only Time Will Tell	100	Jeffrey Archer	Available
C0040	The Sins of the Father	100	Jeffrey Archer	Available
C0041	Cometh The Hour	80	Jeffrey Archer	Avaiable
C0042	The Prodigal Daughter	80	Jeffrey Archer	Available
C0043	The Da Vinci Code	100	Dan Brown	Available
C0044	Angels and Demons	100	Dan Brown	Available
C0045	Inferno	100	Dan Brown	Available
C0046	The Lost Symbol	100	Dan Brown	Available
C0047	Digital Fortress	100	Dan Brown	Avaialble
NULL	NULL	NULL	NULL	NULL

☐ REGISTRATION OF A USER



☐ UNSUCCESSFUL LOGIN

```
HELLO THERE!! WELCOME TO NSSS LIBRARY!

Enter '1' if you are a Customer and Enter '2' if you are an Admin

Enter '1' or '2' : 1

Press 1 if you are a member or press 2 if you wish to register yourself ;1

Please Enter your User ID : 12345

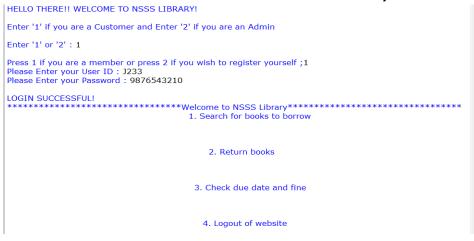
Please Enter your Password : 123

LOGIN UNSUCCESSFUL! PLEASE TRY AGAIN!

Please Enter your User ID :
```

☐ SEARCHING FOR BOOKS

(i) The user has not borrowed a book yet



```
Enter your choice :1

('A0001', 'Adventures of Tom Sawyer', 50.0)
('A0002', 'Agni Veena', 70.0)
('A0004', 'Ben Hur', 90.0)
('A0005', 'Baburnama', 50.0)
('A0006', 'Arthashastra', 40.0)
('A0007', 'Anand Math', 60.0)
('A0009', 'Time Machine', 80.0)
('A0010', 'A passage to India', 110.0)
('A0011', 'Far from the Madding Crowd', 100.0)
('A0012', 'The Merchant of Venice', 90.0)
('A0013', 'Antony and Cleopatra', 70.0)
('A0015', 'Utopia', 80.0)
('A0015', 'Crime and Punishment', 80.0)
('A0017', 'Chitra', 50.0)
('A0019', 'Divine Comedy', 80.0)
('A0021', 'Arms and the Man', 40.0)
('A0022', 'Around the World in Eighty Days', 60.0)

Do you want to borrow any of the above books ? Enter y/n n
```

```
Do you want to see some more books? (y/n)y

('A0023', 'Pride and Prejudice', 30.0)
('A0024', 'A Dangerous Place', 40.0)
('A0025', 'The Lady of the Last Minstrel', 50.0)
('A0026', 'Raghuvamsa', 30.0)
('A0028', 'Discovery of India', 50.0)
('A0029', 'My Experiments with Truth', 50.0)
('A0029', 'My Experiments with Truth', 50.0)
('B0001', 'The Wild Iris', 30.0)
('B0001', 'Farenheit 431', 50.0)
('B0002', 'The Paying Guests', 50.0)
('B0002', 'The Paying Guests', 50.0)
('B0004', 'Watership Down', 40.0)
('B0005', 'Lord of the Flies', 50.0)
('B0005', 'Lord of the Flies', 50.0)
('B0006', 'A Town Like Alice', 30.0)
('B0007', 'The Adventures of Huckleberry Finn', 60.0)
('B0009', 'The Adventures of Huckleberry Finn', 60.0)
('B0011', 'Frankenstein', 60.0)
('B0011', 'Frankenstein', 60.0)
('B0011', 'All the Light We Cannot See', 70.0)

Do you want to borrow any of the above books ? Enter y/n y

Enter your mobileno :9876543210
Enter the book id of the book you wish to borrow :B0005
The book you have requested Lord of the Flies is currently available. Kindly collect your book from the librarian
...
Thank you for coming to NSSS Library. Have a great day !
```

Re	sult Grid	Filter	Rows:	Edit: [<u> </u>
	User_Id	Mobile_No	User_Name	Book_Borrowed	Due_Date
	A0012	9389308434	Vijay Shekar	None	2021-05-05
	A0013	9382028000	Narendra Joshi	None	2021-05-05
	A0014	8990392032	Jitendra Kumar	None	2021-05-05
	A0015	9009309489	Vaibhav Bha	None	2021-05-05
	1233	9876543210	Rajkumar Sh	B0005	2022-03-13
	NULL	NULL	NULL	NULL	NULL



(ii) The user already has a book

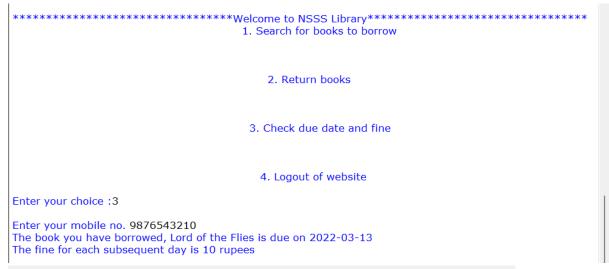
1. Search for books to borrow 2. Return books 3. Check due date and fine 4. Logout of website Enter your choice :1 ('A0001', 'Adventures of Tom Sawyer', 50.0) ('A0002', 'Agni Veena', 70.0) ('A0004', 'Ben Hur', 90.0) ('A0005', 'Baburnama', 50.0) ('A0006', 'Arthashastra', 40.0) ('A0000', 'Arthushidstid', 40.0') ('A0007', 'Anand Math', 60.0) ('A0008', 'The Vicar of Wakefield', 120.0) ('A0009', 'Time Machine', 80.0) ('A0010', 'A passage to India', 110.0) ('A0011', 'Far from the Madding Crowd', 100.0) ('A0012', 'The Merchant of Venice', 90.0) ('A0013', 'Antony and Cleopatra', 70.0) ('A0014', 'Geetanjali', 40.0) ('A0015', 'Utopia', 80.0) ('A0016', 'Crime and Punishment', 80.0) ('A0017', 'Chitra', 50.0) ('A0018', 'Bisarjan', 40.0) ('A0018', Bisarjan', 40.0') ('A0019', 'Divine Comedy', 80.0) ('A0021', 'Arms and the Man', 40.0) ('A0022', 'Around the World in Eighty Days', 60.0) Do you want to borrow any of the above books? Enter y/n y Enter your mobileno: 9833244223 Kindly return the book you have already borrowed in order to borrow a new book.

Ln: 90 Col: 19

	User_Id	Mobile_No	User_Name	Book_Borrowed	Due_Date
•	A0001	9833244223	Varun Kumar	A0003	2021-09-02
	A0002	9899928832	Saiyam Jain	A0020	2022-03-06
	A0003	9923899200	Bharat R	None	2022-03-06
	A0004	9930488554	Hari Krishnan	None	NULL
	A0005	9038573992	Aditya S	None	2021-05-01
	A0006	9284889390	Jamal K	None	2021-05-01
	40007	0204000002	Catal Balkal	Mana	2024 05 04

T CHECKING DUE DATE

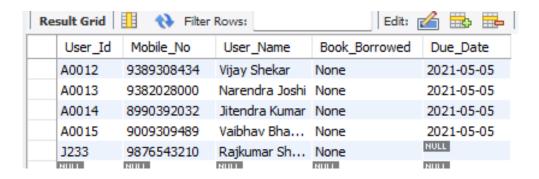
(i) The user has a book that is not due yet



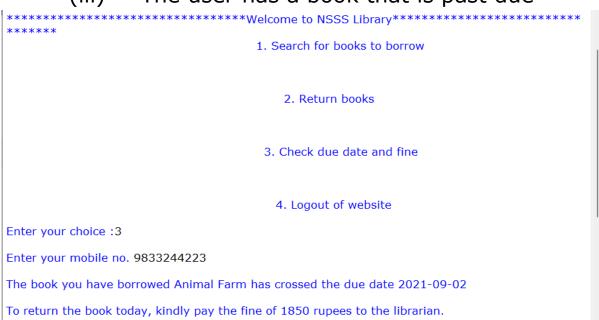


(ii) The user has not borrowed a book yet





(iii) The user has a book that is past due



	User_Id	Mobile_No	User_Name	Book_Borrowed	Due_Date
•	A0001	9833244223	Varun Kumar	A0003	2021-09-02
	A0002	9899928832	Saiyam Jain	A0020	2022-03-06
	A0003	9923899200	Bharat R	None	2022-03-06
	A0004	9930488554	Hari Krishnan	None	NULL
	A0005	9038573992	Aditya S	None	2021-05-01
	A0006	9284889390	Jamal K	None	2021-05-01
	40007	0204000002	C-t-I D-L-I	N1	2021 05 01

□ RETURNING A BOOK

(i) The due date has not passed

************Welcome to NSSS Library******

1. Search for books to borrow

2. Return books

3. Check due date and fine

4. Logout of website

Enter your choice:2

Enter your mobile no. 9876543210

The book you have borrowed Lord of the Flies is due on 2022-03-13

Do you wish to return the book today? (y/n)y

Thank you for coming to NSSS Library. Have a great day!

User_Id	Mobile_No	User_Name	Book_Borrowed	Due_Date
A0012	9389308434	Vijay Shekar	None	2021-05-05
A0013	9382028000	Narendra Joshi	None	2021-05-05
A0014	8990392032	Jitendra Kumar	None	2021-05-05
A0015	9009309489	Vaibhav Bha	None	2021-05-05
J233	9876543210	Rajkumar Sh	None	NULL
NULL	NULL	NULL	NULL	NULL

(ii) The due date has passed

1. Search for books to borrow

2. Return books

3. Check due date and fine

4. Logout of website

Enter your choice :2

Enter your mobile no. 9833244223

The book you have borrowed Animal Farm has crossed the due date 2021-09-02

To return the book today, kindly pay the fine of 1850 rupees to the librarian.

	User_Id	Mobile_No	User_Name	Book_Borrowed	Due_Date
•	A0001	9833244223	Varun Kumar	A0003	2021-09-02
	A0002	9899928832	Saiyam Jain	A0020	2022-03-06
	A0003	9923899200	Bharat R	None	2022-03-06
	A0004	9930488554	Hari Krishnan	None	NULL
	A0005	9038573992	Aditya S	None	2021-05-01
	A0006	9284889390	Jamal K	None	2021-05-01
	40007	0204000002	casal natural	Manage	2024 05 04

(iii) The user has not borrowed a book yet

***************Welcome to NSSS Library*************

- 1. Search for books to borrow
 - 2. Return books
- 3. Check due date and fine
 - 4. Logout of website

Enter your choice:2

Enter your mobile no. 9876543210

YOU HAVE NOT LENT ANY BOOK YET. You will be taken back to the menu. Thank You!

User_Id	Mobile_No	User_Name	Book_Borrowed	Due_Date
A0012	9389308434	Vijay Shekar	None	2021-05-05
A0013	9382028000	Narendra Joshi	None	2021-05-05
A0014	8990392032	Jitendra Kumar	None	2021-05-05
A0015	9009309489	Vaibhav Bha	None	2021-05-05
J233	9876543210	Rajkumar Sh	None	NULL
NULL	NULL	NULL	NULL	NULL

□ LOGOUT

- 2. Return books
- 3. Check due date and fine
 - 4. Logout of website

Enter your choice :4

THANK YOU FOR VISITING!

>>>

Ln: 147 Col: 4

BIBLIOGRAPHY

- nevonprojects.com
- □ muengineers.in
- ☐ geeksforgeeks.com
- python.org

