Kongu Engineering College
Perundurai

Mini Project
On

Library Management

Submitted by

Arul Prasath V

(18CSR015)

Course Code and Name: 18ITT41 – Python Programming and Frameworks

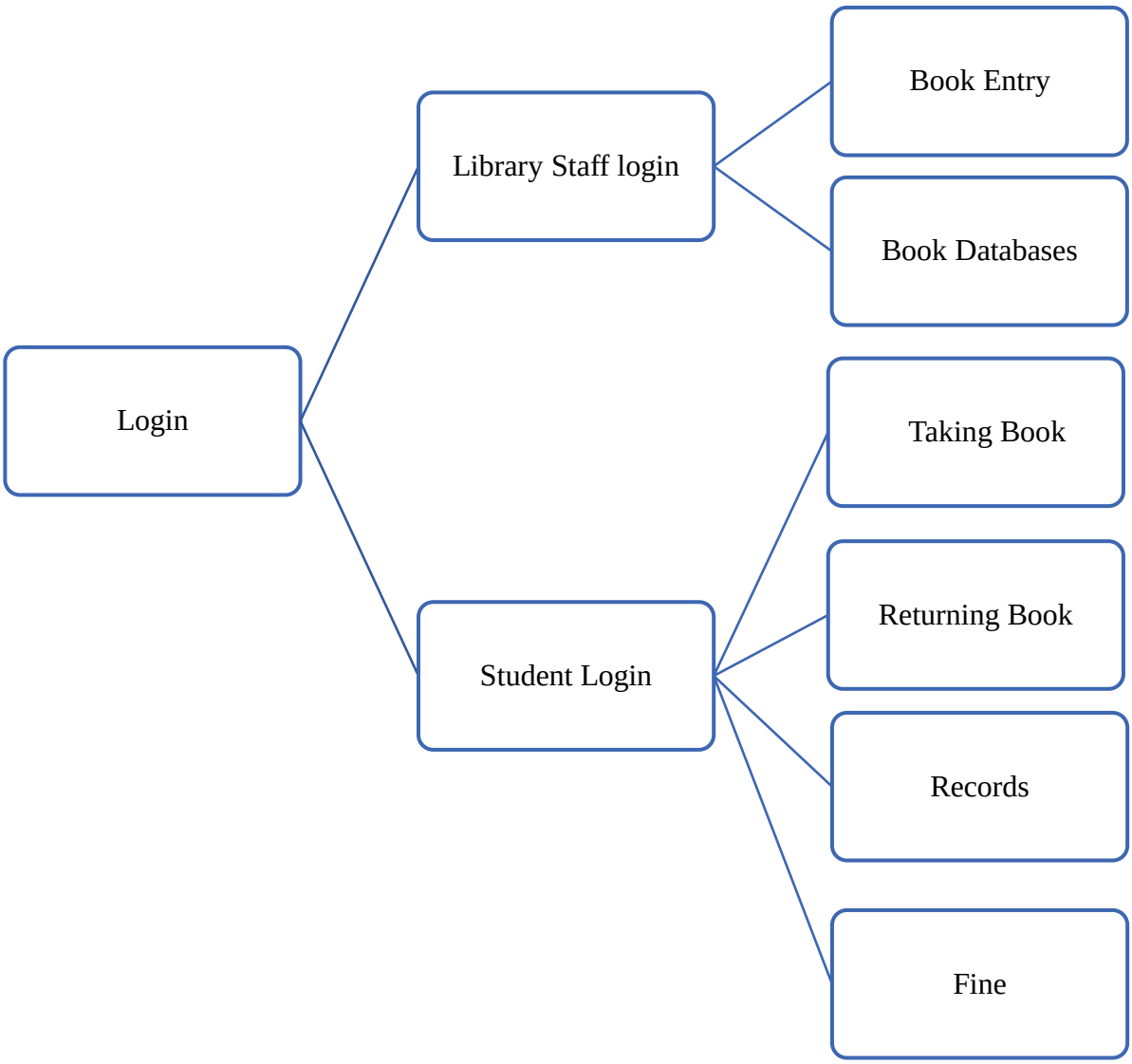
Faculty: Tamil Selvi K

TABLE OF CONTENTS

ABSTRACT

In Library, Library Management system is very usefull for the storing the details of book taking and returning of a student. In this Management system there is two portal, one for the library staff and another one for the student, Students first register their credentials in student registration and then they can login there. Library staff should entry the book available in the library and their count. Student can login with their credentials and they can see four options taking a book, returning a book, records of the student, and fine amount. If student take a book from the library they should enter the book name and the taking date and In book returning option they should enter the returning book name and date, if the student returned the book with in 10 of taking there is no fine for the book, otherwise they will be charged for Rs.1 for every day. In the records option book taken and returned details are available and last in fine option the student can see the fine amount. If the fine exceeds Rs.100 the student account is temporary blocked for 1 month, In that period the student cannot take any book from the library. After only paying the complete fine amount, they can take book the library.

FLOW DIAGRAM


Login
Library Staff login
Book Entry
Book Databases
Student Login
Taking Book
Returning Book
Records
Fine

CODE

Modules

loginpage :

```
import getpass
sd={}
def stafflogin():
    while(True):
        u=input("StaffID : ")
        p = getpass.getpass(prompt='Password : ')
        if u=='admin' and p=='1':
            print("\n**********WELCOME ADMIN**********"
                break
        else:
            print("\n\n**Enter the valid StaffID and password**")


 def studentlogin():
    while(True):
        u=input("StudentID : ")
        p = getpass.getpass(prompt='Password : ')
        if u in sd:
            print("\n**********LOGIN SUCCESSFULLY**********")
                break
        else:
            print("\n\n**Enter the valid StudentID and password**")
 def register():
    sid=input("Enter the Student ID : ")
    passw=input("Enter the password : ")
    sd[sid]=passw
```

fakebook:

```
class Fakebook(Exception):
    def __str__(self):
        return "\n\nYou did't take this Book So you can't return this book!\n"
```

nobookexp:

```
class nobookException(Exception):
    def __str__(self):
        return "\n\nSORRY! BOOK IS NOT AVAIABLE IN THIS LIBRARY\n"
```

Main Program:

```
import fakebook as fake
import nobookexp as nobook
import loginpage as l
rdate=0
t=0
t1=1
take={}
dreturn=[]
dtake=[]
BD={}
fine=0
rs=0
amt=0
class bookentry:
    b={}
    book=0
    count=0
    type=""
    def __init__(self,num):
        self.num=num
        for i in range(self.num):
            self.book=input("Enter the book "+str(i+1)+" Name : ")
            self.count=int(input("Enter the count of the book "+self.book+ " :"))
            self.b[self.book]=self.count
```

```
    def display(self):
        print("\n\n*****BOOKS ENTERED*****\n\n")
        for key in self.b:
            print("{:<10s}{:>15s}".format(key,str(self.b[key])))
        return self.b
class Book_Take:
    BD=0
    Btake=0
    def __init__ (self,BD,Btake):
            self.BD=BD
            self.Btake=Btake

    def display(self):
        print("-"*30)
        print("BOOK_NAME" +' '*12+"COUNT")
        print("-"*30)
        for key in self.BD:
                print("{:<10s}{:>15s}".format(key,str(self.BD[key])))
    def Reduce(self):
            try:
                date=int(input("\n BOOK taking DATE : \n"))
                for key in self.BD:
                    if(key==self.Btake) and BD[self.Btake]!=0:
                        self.BD[self.Btake] = self.BD.get(self.Btake, 0) -1
                        print("\n BOOK TAKEN : "+key)
                        take[key]=date
                        dtake.append(key)
                        print(take)
                    else
                        raise nobook.nobookException
        except(nobook.nobookException):
            a=nobook.nobookException()
            print(a)
            return self.BD
```

```
class Book_Return:
    flag=0
    BD=0
    Breturn=0
    def __init__(self,BD,Breturn):
            self.BD=BD
            self.Breturn=Breturn
    def Inc(self):
                try:
                    if self.Breturn in dtake:
                    rdate=int(input("\n BOOK RETURNING DATE : \n"))
                    self.fine=(rdate-take[self.Breturn])
                    t1=1
                    while(t1!=0):
                       if(self.fine<10):
                            for key in self.BD:
                               if(key==self.Breturn):
                                  self.BD[self.Breturn] = self.BD.get(self.Breturn, 0) +1
                                  print("\n"+key   +" BOOK RETURNED !")
                                  dreturn.append(key)
                                  if key in take:
                                     del take[key]
                                  #del take[self.Breturn]
                                  t1=0
                                  break
                else:
                            amt=0
                            amt=amt+1
                            #rdate=int(input("\n BOOK RETURNING DATE : \n"))
                            self.fine=(rdate-take[self.Breturn])-10
                            print("\n you need to pay  RS : "+str(self.fine))
                            dreturn.append(self.Breturn)
                            if self.Breturn in take:
                                    del take[self.Breturn]
                            break
```

```
                    else:
                        raise fake.Fakebook

            except(fake.Fakebook):
                a=fake.Fakebook()
                print(a)
class History:
def __init__(self,ct,cr):
        self.ct=ct;
        self.cr=cr
    def display(self):
        print("NUMER OF BOOKS TAKEN  = \n"+str(self.ct))
        for i in dtake:
            print("\n"+i)
        print("NUMER OF BOOKS RETURN = "+str(self.cr-amt)+"\n")
        for i in dreturn:
            print("\n"+i)
class Manage(Book_Take,Book_Return,History):
    Btake=0
    Breturn=0
    ch=0
    ctake=0
    creturn=0
    fine=0
    def __init__(self,BD):
            self.BD=BD
    def Library(self):
        a="-"*80
        b=" "*25
        while(True):
            print(a)
            print(b+"LIBRARY SYSTEM")
            print(a)
            print(b+"1.TAKE A NEW BOOK")
            print(b+"2.RETURN A TAKEN BOOK")
            print(b+"3.LIBRARY RECORDS")
```

```
            print(b+"4.FINE")
            print(b+"5.LOGOUT\n\n")
            self.ch=int(input("Enter your choice"))
            if(self.ch==1):
                Book_Take.display(self)
                self.Btake=input("Enter the book to Take : ")
                Book_Take.__init__(self,BD,self.Btake)
                reduceBD=Book_Take.Reduce(self)
                self.ctake=self.ctake+1
             if(self.ch==2):
               self.Breturn=input("Enter the book to Return : ")
               Book_Return.__init__(self,BD,self.Breturn)
               IncBD=Book_Return.Inc(self)
               self.creturn=self.creturn+1
               #print(IncBD)
            if(self.ch==3):
               History.__init__(self,self.ctake,self.creturn)
               History.display(self)
            if(self.ch==4):
               print("FINE AMOUNT IS RS: "+str(self.fine))
             if(self.ch==5):
               print("Thank You Visit again ! ")
               break
while(t!=1):
        print("*"*80)
        print('\n')
        b=" "*25
        print(b+"WELCOME TO OUR LIBRARY  ! \n\n")
        print("*"*80)
        print("\nLOGIN AS : \n")
        print("\n1.STAFF\n2.STUDENT\n3.Student registration\n4.EXIT")
        c=int(input("\nEnter your choice : "))

        while(True):
                    if( c==1):
                       l.stafflogin()
```

```
    a="-"*80
    b=" "*25
    print(a)
    print(b+"LIBRARY DATA ENTRY")
    print(a)
    n=int(input("Enter the no of book in the library"))
    be=bookentry(n)
    BD=be.display()
    break
if(c==2):
    l.studentlogin()
    M=Manage(BD)
    M.Library()
    break

 if(c==3):
    l.register()
    break
 if(c==4):

    print("\nLOGOUT\n")
    t=1
    break
    exit()
```

OUTPUT

```
********************************************************************************

                          WELCOME TO OUR LIBRARY  !

********************************************************************************

LOGIN AS :


1.STAFF
2.STUDENT
3.Student registration
4.EXIT

Enter your choice : 1
StaffID : admin
Password : ·····

************WELCOME ADMIN************
--------------------------------------------------------------------------------
                          LIBRARY DATA ENTRY
--------------------------------------------------------------------------------
Enter the no of book in the library4
Enter the book 1 Name : Python
Enter the count of the book Python :43
Enter the book 2 Name : OS
Enter the count of the book OS :24
Enter the book 3 Name : DAA
Enter the count of the book DAA :123
Enter the book 4 Name : Java
Enter the count of the book Java :76


*****BOOKS ENTERED*****


Python                  43
OS                      24
DAA                    123
Java                    76
********************************************************************************

                          WELCOME TO OUR LIBRARY  !

********************************************************************************

LOGIN AS :


1.STAFF
2.STUDENT
```

```
3.Student registration
4.EXIT

Enter your choice : 3
Enter the Student ID : 10
Enter the password : a
********************************************************************************


                          WELCOME TO OUR LIBRARY  !


********************************************************************************

LOGIN AS :


1.STAFF
2.STUDENT
3.Student registration
4.EXIT

Enter your choice : 2
StudentID : 10
Password : ·····

************LOGIN SUCCESSFULLY************
--------------------------------------------------------------------------------
                          LIBRARY SYSTEM
--------------------------------------------------------------------------------
                          1.TAKE A NEW BOOK
                          2.RETURN A TAKEN BOOK
                          3.LIBRARY RECORDS
                          4.FINE
                          5.LOGOUT


Enter your choice1
------------------------------
BOOK_NAME            COUNT
------------------------------
Python                43
OS                    24
DAA                  123
Java                  76
Enter the book to Take : OS

 BOOK taking DATE :
10

 BOOK TAKEN : OS
{'OS': 10}
--------------------------------------------------------------------------------
                         LIBRARY SYSTEM
--------------------------------------------------------------------------------
                          1.TAKE A NEW BOOK
                          2.RETURN A TAKEN BOOK
                          3.LIBRARY RECORDS
                          4.FINE
```

```
                          5.LOGOUT


Enter your choice2
Enter the book to Return : OS

 BOOK RETURNING DATE :
15

OS BOOK RETURNED !
--------------------------------------------------------------------------------
                          LIBRARY SYSTEM
--------------------------------------------------------------------------------
                          1.TAKE A NEW BOOK
                          2.RETURN A TAKEN BOOK
                          3.LIBRARY RECORDS
                          4.FINE
                          5.LOGOUT


Enter your choice3
NUMER OF BOOKS TAKEN  =
1

OS
NUMER OF BOOKS RETURN = 1


OS
--------------------------------------------------------------------------------
                          LIBRARY SYSTEM
--------------------------------------------------------------------------------
                          1.TAKE A NEW BOOK
                          2.RETURN A TAKEN BOOK
                          3.LIBRARY RECORDS
                          4.FINE
                          5.LOGOUT


Enter your choice4
FINE AMOUNT IS RS: 5
--------------------------------------------------------------------------------
                          LIBRARY SYSTEM
--------------------------------------------------------------------------------
                          1.TAKE A NEW BOOK
                          2.RETURN A TAKEN BOOK
                          3.LIBRARY RECORDS
                          4.FINE
                          5.LOGOUT


Enter your choice5
Thank You Visit again !
********************************************************************************


                          WELCOME TO OUR LIBRARY  !
```

```
**********************************************************************************

LOGIN AS :


1.STAFF
2.STUDENT
3.Student registration
4.EXIT

Enter your choice : 4

LOGOUT
```