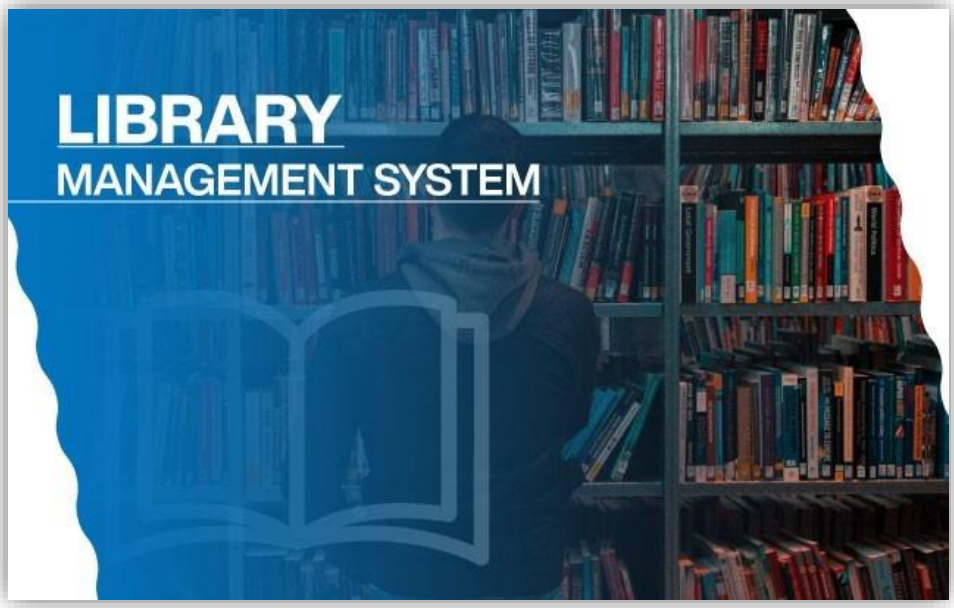
SARASWATI VIHAR SENIOR SECONDARY SCHOOL SAHARANPUR

COMPUTER SCIENCE PROJECT
SESSION- 2024-25

Topic- LIBRARY MANAGEMENT BY PYTHON



Submitted To:
Mr. Sandeep Singh Rana

Submitted By:
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CLASS - XII-A
ROLL NO.-

PYTHON

Table Of Contents

CERTIFICATE

This is to certify that **Aditya Kumar Sharma** of **XII-A** from **Saraswati Vihar Senior Secondary School Saharanpur** has successfully completed his Computer Science Project on the topic **Library Management**

By Python under the kind guidance of **Mr. Sandeep Singh Rana .**

Internal Teacher's Signature

External Teacher's Signature

ACKNOWLEDGEMENT

I would like to express my deepest gratitude to all those who have supported and guided me during the completion of my project titled **Library Management By Python.**

First and foremost, I would like to thank my dedicated and knowledgeable Computer Science teacher, Mr. Sandeep Singh Rana, for their unwavering support, invaluable guidance, and insightful suggestions. Their expertise played a pivotal role in shaping my research methodology and data analysis techniques.

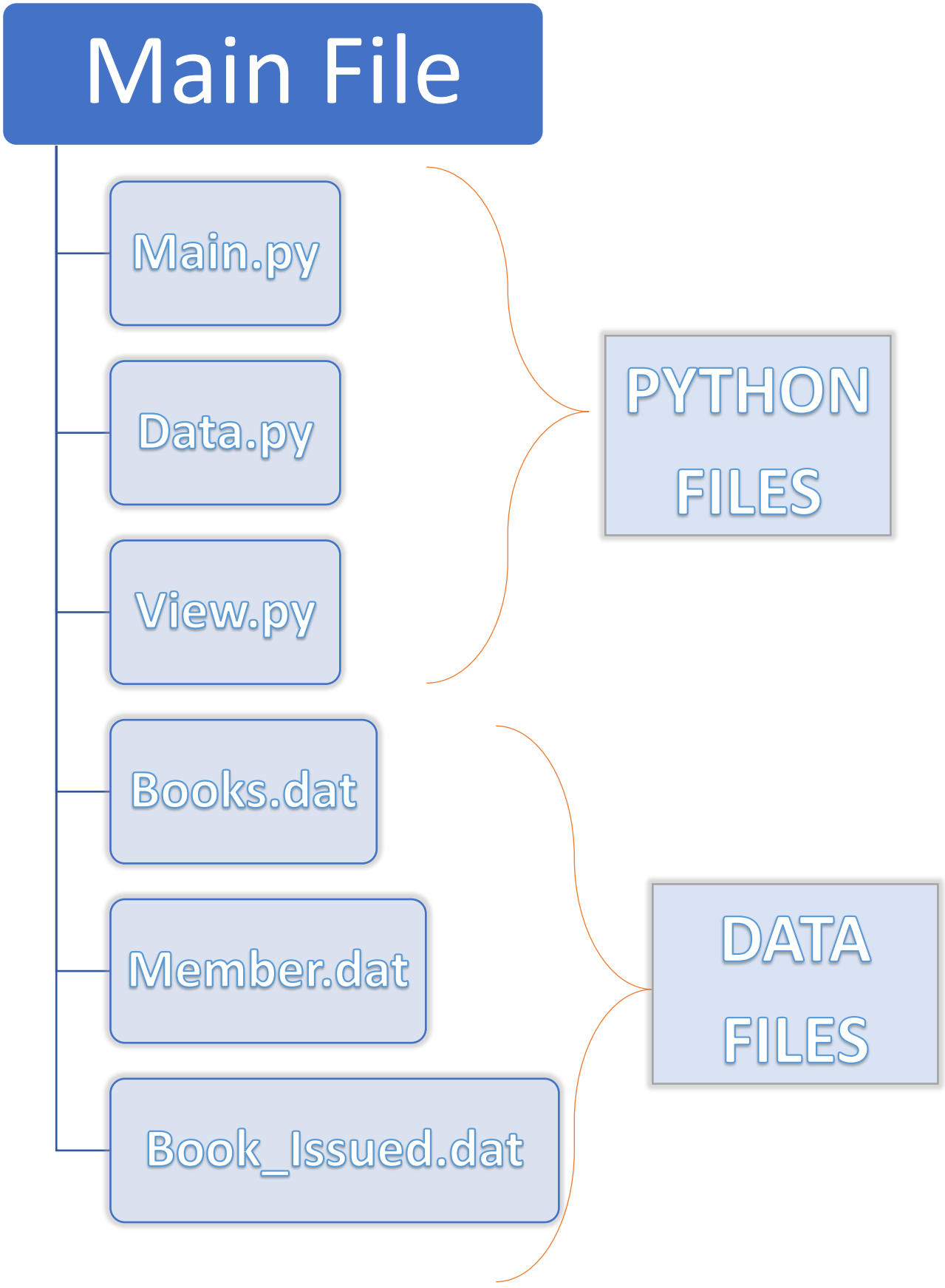
I would like to extend my appreciation to Mrs. Rashi Pundeer, the Principal of our school, for always encouraging and supporting me. Her dedication to providing a good education and creating a positive learning environment is truly inspiring.

I am also immensely grateful to my parents, whose constant encouragement and belief in my abilities Fuelled my motivation throughout this project. Their unwavering support and words of encouragement were instrumental in keeping me Focused and determined to achieve my goals.

Lastly, I would like to acknowledge Saraswati Vihar Senior Secondary School, Saharanpur for providing me with the necessary resources, laboratory facilities, and a conducive learning environment.

In conclusion, I am truly grateful to all those who have contributed to the successful completion of my project. Your guidance, support, and belief in my abilities have been instrumental in my academic journey, and I am deeply thankful for the opportunity to undertake this research in the field of Computer Science.

File Structure



Source Code

Main.py

```
import pickle
from data import *
from view import print_center
while True:
    print()
    print_center("================================")
    print_center("=====LIBRARYMANAGEMENT=======")
    print_center("================================")

    print("1. Issue/Return Register")
    print("2. Manage Books")
    print("3. Manage Members")
    print("4. Check Issued Book")
    print("0. Exit")

    print()
    choice = int(input("Enter your choice: "))
```

Source Code

Main.py

```
# Issue/Return Register
if choice == 1:
    sno, check = find_book()
    if check == False:
        continue
    else:
        while True:
            print_center("which function want to perform:")

            print("1. Issue It")
            print("2. Return It")
            print("0. Exit")

            print()
            ch = int(input("Enter Your Choice: "))
            # To Issue Book
            if ch == 1:
                print_center("========BookIssue========")
                c = issue_book_quant(sno)
```

Source Code

Main.py

```
if c == True:
        memb_id, c1 = find_memb()
        if c1 == True:
            book_issue(sno,memb_id)
            print_center("========DONE=======")
        else:
            return_book_quant(sno)

    # to return Book
    elif ch == 2:
        print_center("=======Book Return=======")
        return_book_quant(sno)
        memb_id, c1 = find_memb()
        if c1 == True:
            book_return(sno,memb_id)
            print_center("=========DONE========")
        else:
            issue_book_quant(sno)
    elif ch==0:
```

Source Code

Main.py

```
            break
        else:
            print("Invalid choice")

# Manage Books
elif choice == 2:
    while True:
        print_center("Operation to Perform on Book
                     Records")

        print("1. Show Books Details")
        print("2. Add New Books Records")
        print("3. Delete Book Records")
        print("4. Update Book Records")
        print("0. Exit")

        print()
        ch1 = int(input("Enter Your Choice:"))
```

Source Code

Main.py

```
# Show Book Details
if ch1==1:
    show_book_record()
# Add New Book Record
elif ch1==2:
    print_center("Add New Book Record")
    add_book_record()
# Delete Book Record
elif ch1==3:
    print_center("Delete Book Record")
    delete_book_record()
# update Book Record
elif ch1==4:
    print_center("Update Book Record")
    update_book_record()
elif ch1==0:
    break
else:
    print("Invalid choice")
```

Source Code

Main.py

```
# Manage Members
elif choice == 3:
    while True:
        print_center("Operation to Perform on Members
                      Records")

        print("1. Show Members Details")
        print("2. Add New Members Records")
        print("3. Delete Members Records")
        print("4. Update Members Records")
        print("0. Exit")

        print()
        ch2 = int(input("Enter Your Choice:"))
       #show Members detail
        if ch2 == 1:
            show_member_record()
```

Source Code

Main.py

```
# Add New member Record
elif ch2==2:
    print_center("Add New member Record")
    add_member_record()
# Delete member Record
elif ch2==3:
    print_center("Delete member Record")
    delete_member_record()
# update member Record
elif ch2==4:
    print_center("Update member Record")
    update_member_record()
elif ch2==0:
    break
else:
    print("Invalid choice")
```

Source Code

Main.py

```
    # Check Issued Books
    elif choice == 4:
        f = open("book_issued.dat", 'rb')
        print ("Book S.no.: Book Name : Memb Id : Memb
                Name : Mobile No.")
        d = pickle.load(f)
        for i in d:
            print(i[0],'\t  :',i[1],'    : ',i[2],'\t:  ',i[3],'  :',i[4])

    elif choice == 0:
        break
    else:
        print("Invalid choice (Press 0 to exit)")

print_center("GoodBye")
print_center("==============================")
```

Source Code

Data.py

```
from view import  *
import pickle

# To Issue Book

# # To Reduce Book Quant each time
def issue_book_quant(n):
    f = open("books.dat","rb")
    f.seek(0)
    d = pickle.load(f)
    c = False
    for i in d:
        if n==i[0]:
            if i[3]==0:
                print_center("Book Not Available")
                break
            else:
                i[3] -= 1
                c = True
```

Source Code

Data.py

```
            break
        else:
            continue
    f.close()
    f = open("books.dat","wb")
    pickle.dump(d,f)
    f.close()
    return c

# # To Take record of Issued Book
def book_issue(n,memb_id):
    f = open("books.dat", "rb")
    f.seek(0)
    d = pickle.load(f)
    l1=[]
    for i in d:
        if n == i[0]:
            l1 = [i[0],i[1]]
            break
```

Source Code

Data.py

```
f.close()
f = open("member.dat", "rb")
f.seek(0)
d = pickle.load(f)
l2 = []
for i in d :
    if i[0]== memb_id:
        l2=[i[0],i[1],i[2]]
        break
f.close()
l1.extend(l2)
f = open("book_issued.dat", "rb")
d = pickle.load(f)
f.close()
d.append(l1)
f = open("book_issued.dat", "wb")
pickle.dump(d,f)
f.close()
print_center("==============================")
```

Source Code

Data.py

```
    print_center("==========ABC LIBRARY==========")

     print("S. No.\t  :" , l1[0])
     print("Book-Name :" , l1[1])
     print("Memb. Id  :",l1[2] )
     print("Name\t  :" ,l1[3])
     print("Mobile No.:",l1[4])

     print_center("Book Issued")
     print_center("================================")

# To return book

# # To Increase Book Quant Each time
def return_book_quant(n):
    f = open("books.dat","rb")
    f.seek(0)
    d = pickle.load(f)
    f.close()
```

Source Code

Data.py

```
 for i in d:
        if n==i[0]:
                i[3] += 1
                break
        else:
            continue
    f = open("books.dat",'wb')
    pickle.dump(d,f)
    f.close()

# # To take record of return book
def book_return(n,memb_id):
    f = open("book_issued.dat", "rb")
    d = pickle.load(f)
    for i in d :
        if i[0]==n and i[2]==memb_id:
            d.remove(i)
            l1=i
            break
```

Source Code

Data.py

```
    f.close()
    f = open("book_issued.dat", "wb")
    pickle.dump(d,f)
    f.close()
    print_center("==============================")
    print_center("==========ABC LIBRARY==========")

    print("S. No.\t  :" , l1[0])
    print("Book-Name :" , l1[1])
    print("Memb. Id  :",l1[2] )
    print("Name\t  :" ,l1[3])
    print("Mobile No.:",l1[4])

    print_center("Book Returned")
    print_center("==============================")


# To fetch Book Details
def find_book():
    f = open("books.dat", "rb")
```

Source Code

Data.py

```
f.seek(0)
d = pickle.load(f)
n = int(input_center("Enter Book serial Number: "))
c = False
for i in d:
    if n == i[0]:

        print("S. No.\t :" , i[0])
        print("Book-Name:" , i[1])
        print("Price\t :", i[2])
        print("Quantity :" , i[3])
        print("Publisher:", i[4])
        print("Writer\t :", i[5])

        c = True
f.close()
if c == False:
    print("NO RECORD FOUND")
return n, c
```

Source Code

Data.py

```
# To fetch Member Detail
def find_memb():
    f = open("member.dat", "rb")
    d = pickle.load(f)
    c = False
    memb_id = int(input_center("Enter Your Member Id:
                                                "))
    for i in d :
        if i[0]== memb_id:

            print("Memb. Id  :",i[0])
            print("Name\t  :",i[1] )
            print("Mobile No.:",i[2])
            print("Email-Id  :",i[3] )
            print("DOJ\t  :",i[4])

            c = True
            break
        else:
            continue
```

Source Code

Data.py

```
    if c == False:
        print_center("Member not Found")
    f.close()
    return memb_id,c


# To Show Book Record
def show_book_record():
    print_center("==============================")
    print("S. No. : Book-Name : Price : Quantity : Publisher
            \t  : Writer ")
    f = open("books.dat", "rb")
    d = pickle.load(f)
    for i in d:
        print(i[0],'   : ',i[1],'   : ',i[2],' : ',i[3],'      : ',i[4],' : ',i[5])
    f.close()
    print_center("==============================")
```

Source Code

Data.py

```
# To Add-Book Record
def add_book_record():
    f = open("books.dat","rb")
    l=pickle.load(f)
    f.close()
    while True:

        sno = int(input("Enter Serial No. :"))
        Bona = input("Enter Book Name  :")
        price = int(input("Enter Price\t :"))
        quant = int(input("Enter Quantity   :"))
        publ = input("Enter Publisher  :")
        wrna = input("Enter Writer Name:")

        l1 = [sno,Bona,price,quant,publ,wrna]
        l.append(l1)
        c= input("Want To add More Record?(Y/N)")
        if c in 'Yy':
            continue
```

Source Code

Data.py

```
    else:
            break
    f = open("books.dat","wb")
    pickle.dump(l,f)
    f.close()
    print("Record Added Succesfully")
    show_book_record()


# To Delete Book Record
def delete_book_record():
    bosn, ch = find_book()
    while True:
        if ch == False:
            break
        else:
            f = open("books.dat","rb")
            d = pickle.load(f)
            f.close()
```

Source Code

Data.py

```
            for i in d:
                if i[0]==bosn:
                    d.remove(i)
            f= open("books.dat","wb")
            pickle.dump(d,f)
            f.close()
            break


# To Update Book Record
def update_book_record():
    bosn, ch = find_book()
    while True:
        if ch ==False:
            break
        else:
            print_center("Current Record")
            print_center('**'*20)
            print_center("Write Update Record")
```

Source Code

Data.py

```
sno = int(input("Enter Serial No. :"))
Bona = input("Enter Book Name  :")
price = int(input("Enter Price\t :"))
quant = int(input("Enter Quantity   :"))
publ = input("Enter Publisher  :")
wrna = input("Enter Writer Name:")
l = [sno,Bona,price,quant,publ,wrna]
f = open("books.dat","rb")
d = pickle.load(f)
f.close()
for i in d:
    if i[0]==bosn:
        i=l
f = open("books.dat","wb")
pickle.dump(d,f)
f.close()
print("Record Updated Succesfully")
break
```

Source Code

Data.py

```
# To Show Member Detail
def show_member_record():
    print_center("================================")
    print("Memb.Id : Name    : Mobile No.   : Email-Id
            \t\t   :  DOJ")
    f = open("member.dat", 'rb')
    d = pickle.load(f)
    for i in d:
        print(i[0],'    : ',i[1],' : ',i[2],' : ',i[3],' : ',i[4])
    f.close()
    print_center("================================")


# To Add New Member record
def add_member_record():
    f= open("member.dat","rb")
    l=pickle.load(f)
    f.close()
```

Source Code

Data.py

```
while True:
    sno = int(input("Enter Memb. Id\t   :"))
    mena = input("Enter Member Name  :")
    mobno = int(input("Enter Mobile Number:"))
    email = input("Enter Email-Id\t   :")
    doj = input("Enter DOJ\t   :")
    l.append([sno,mena,mobno,email,doj])
    c= input("Want To add More Record?(Y/N)")
    if c in 'Yy':
        continue
    else:
        break
f = open("member.dat","wb")
pickle.dump(l,f)
f.close()
print("Record Added Succesfully")
show_member_record()
```

Source Code

Data.py

```
#To delete Member record
def delete_member_record():
    meid, ch = find_memb()
    while True:
        if ch == False:
            break
        else:
            f = open("member.dat","rb")
            d = pickle.load(f)
            f.close()
            for i in d:
                if i[0]==meid:
                    d.remove(i)
            f= open("member.dat","wb")
            pickle.dump(d,f)
            f.close()
            break
```

Source Code

Data.py

```
# To Update Member Record
def update_member_record():
    meid, ch = find_memb()
    while True:
        if ch == False:
            break
        else:
            print_center("Current Record")
            print_center('**'*20)
            print_center("Write Update Record")

            sno = int(input("Enter Memb. Id\t   :"))
            mena = input("Enter Member Name  :")
            mobno = int(input("Enter Mobile Number:"))
            email = input("Enter Email-Id\t   :")
            doj = input("Enter DOJ\t   :")

            l = [sno,mena,mobno,email,doj]
            f = open("member.dat","rb")
```

Source Code

Data.py

```
d = pickle.load(f)
f.close()
for i in d:
    if i[0]==meid:
        i=l
f = open("member.dat","wb")
pickle.dump(d,f)
f.close()
print("Record Updated Succesfully")
break
```

Source Code

View.py

```
def print_center(s):
    print(s.center(40))

def input_center(s):
    print_center(s)
    return input()
```

Output

==========

=====LIBRARY MANAGEMENT=======

==========

1. Issue/Return Register
2. Manage Books
3. Manage Members
4. Check Issued Book
0. Exit

Enter your choice:

 # If Choice Is 1(Issue/Return Register)

Enter your choice: **1**

Enter Book serial Number:

255

S. No. : 255

Book-Name: Godaan

Price : 300

Output

Quantity : 10

Publisher: Saraswati Press

Writer : Munsi Premchand

which function want to perform:

1. Issue It

2. Return It

0. Exit

Enter Your Choice:

 # # If choice is 1 (Issue It)

Enter Your Choice: **1**

==========Book Issue==========

Enter Your Member Id:

205

Memb. Id : 205

Name : Rohan

Mobile No.: 6823250658

Output

Email-Id : rohansharma236@gmail.com

DOJ : 24-04-2024

==========

==========ABC LIBRARY==========

S. No. : 255

Book-Name : Godaan

Memb. Id : 205

Name : Rohan

Mobile No.: 6823250658

Book Issued

==========

==========DONE==========

 # # If Choice is 2 (Return It)

Enter Your Choice: **2**

==========Book Return==========

Enter Your Member Id:

205

Output

Memb. Id : 205

Name   : Rohan

Mobile No.: 6823250658

Email-Id : rohansharma236@gmail.com

DOJ   : 24-04-2024

==========

==========ABC LIBRARY==========

S. No.   : 255

Book-Name : Gaban

Memb. Id : 205

Name   : Rohan

Mobile No.: 6823250658

Book Returned

==========

==========DONE==========

Output

 # If choice is 2 (Manage Books)

Enter your choice: **2**

Operation to Perform on Book Records

1. Show Books Details

2. Add New Books Records

3. Delete Book Records

4. Update Book Records

0. Exit

Enter Your Choice:

If choice is 1(Show Books Details)

Enter Your Choice:**1**

==========

S. No. : Book-Name : Price : Quantity : Publisher : Writer

256 : Gaban : 250 : 6 : Saraswati Press : Munsi Premchand

255 : Godaan : 300 : 10 : Saraswati Press : Munsi Premchand

203 : Sea Of Poppies : 450 : 8 : RJ Publishers : Amitav Ghosh

==========

Output

If choice is 2(Add New Books Records)

Enter Your Choice:**2**

Add New Book Record

Enter Serial No. :**208**

Enter Book Name :**Geetanjali**

Enter Price :**250**

Enter Quantity :**8**

Enter Publisher :**Bose Publication**

Enter Writer Name: **Rabindranath Tagore**

Want To add More Record?(Y/N)**n**

Record Added Successfully

==========

S. No. : Book-Name : Price : Quantity : Publisher : Writer

256 : Gaban : 250 : 6 : Saraswati Press : Munsi Premchand

255 : Godaan : 300 : 10 : Saraswati Press : Munsi Premchand

203 : Sea Of Poppies : 450 : 8 : RJ Publishers : Amitav Ghosh

208 : Geetanjali : 250 : 8 : Bose Publication : Rabindranath Tagore

==========

Output

 # # If choice is 3 (Delete Book Records)

Enter Your Choice:**3**

Delete Book Record

Enter Book serial Number:

203

S. No. : 203

Book-Name: Sea Of Poppies

Price : 450

Quantity : 8

Publisher: RJ Publishers

Writer : Amitav Ghosh

 # # If choice is 4(Update Book Records)

Enter Your Choice:**4**

Update Book Record

Enter Book serial Number:

208

Output

S. No. : 208

Book-Name: Geetanjali

Price : 250

Quantity : 8

Publisher: Bose Publication

Writer : Rabindranath Tagore

Current Record

****

Write Update Record

Enter Serial No. :**208**

Enter Book Name :**Geetanjali**

Enter Price :**300**

Enter Quantity :**10**

Enter Publisher :**Bose Publication**

Enter Writer Name:**Rabindranath tagore**

Record Updated Succesfully

Output

 # If choice is 3 (Manage Members)

Enter your choice: **3**

Operation to Perform on Members Records

1. Show Members Details

2. Add New Members Records

3. Delete Members Records

4. Update Members Records

0. Exit

Enter Your Choice:

 # # If choice is 1(Show Members Details)

Enter Your Choice:**1**

==========

Memb.Id : Name : Mobile No. : Email-Id : DOJ

204 : Rajat : 9458625826 : rajat.kumar@gmail.com : 14-12-2023

205 : Rohan : 6823250658 : rohansharma236@gmail.com : 24-04-2024

==========

Output

 # # If choice is 2(Add New Members Records)

Enter Your Choice:**2**

Add New member Record

Enter Memb. Id :**206**

Enter Member Name :**Shyam**

Enter Mobile Number:**9648762598**

Enter Email-Id :**kumarshyam635@gmail.com**

Enter DOJ :**20-11-2023**

Want To add More Record?(Y/N)**n**

Record Added Successfully

==========

Memb.Id : Name : Mobile No. : Email-Id : DOJ

204 : Rajat : 9458625826 : rajat.kumar@gmail.com : 14-12-2023

205 : Rohan : 6823250658 : rohansharma236@gmail.com : 24-04-2024

206 : Shyam : 9648762598 : kumarshyam635@gmail.com : 20-11-2023

==========

Output

 # # If Choice is 3(Delete Members Records)

Enter Your Choice:**3**

Delete member Record

Enter Your Member Id:

204

Memb. Id : 204

Name : Rajat

Mobile No.: 9458625826

Email-Id : rajat.kumar@gmail.com

DOJ : 14-12-2023

 # # If choice is 4(Update Members Records)

Enter Your Choice:**4**

Update member Record

Enter Your Member Id:

205

Output

Memb. Id : 205

Name : Rohan

Mobile No.: 6823250658

Email-Id : rohansharma236@gmail.com

DOJ : 24-04-2024

Current Record

****

Write Update Record

Enter Memb. Id :**205**

Enter Member Name :**Rohan**

Enter Mobile Number:**9684379582**

Enter Email-Id :**rohansharma236@gmail.com**

Enter DOJ :**24-04-2024**

Record Updated Succesfully

Output

 # If choice is 4 (Check Issued Book)

Enter your choice: 4

Book S.no.: Book Name : Memb Id : Memb Name : Mobile No.

255 : Godaan : 206 : Shyam : 9648762598

208 : Geetanjali : 206 : Shyam : 9648762598

If Choice is 0 (Exit)

Enter your choice: 0

GoodBye

==========

Bibliography

1. Computer Science Textbook

2. Github.com

3. Google.com