**NILGIRI HILLS PUBLIC SCHOOL**

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**SESSION: 2020-21**

**Computer Science**

**Project On Library Management**

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**Class - 12th**

**Roll no - \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**ACKNOWLEDGEMENT**

Apart from the efforts of me, the success of any project depends largely on the encouragement and guidelines of many others. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this project.

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About Python

**Introduction**

It is widely used general-purpose, high level programming language .Developed by Guido van Rossum in 1991.

**It is used for:**

Software Development, Web Development (server-side), System scripting, Mathematics.

**Features of Python**

1. **Easy to use** : Due to simple syntax rule

2. **Interpreted language** : Code execution & interpretation line by line.

3**. Cross-platform language** : It can run on windows, linux , Mac equally .

4. **Expressive language** : Less code to be written as it itself express the purpose of the code.

5. **Completeness** : Support wide range of library.

6. **Free & Open Source** : Can be downloaded freely and source code can be modify for improvement.

**Shortcomings of Python**

1. **Lesser libraries** : as compared to other programming languages like c++ , java,.net.
2. **Slow language** : as it is interpreted languages,it executes the program slowly.
3. **Weak on Type-binding** : It not pin point on use of a single variable for different data type.

ABOUT MYSQL

**Introduction**

MySQL is currently the most popular open source database software. It is a multi-user, multithreaded database management system. MySQL is especially popular on the web. It is one of the parts of the very popular LAMP platform. Linux, Apache, MySQL and PHP or WIMP platform Windows,Apache,MySQL and PHP. MySQL AB was founded by Michael Widenius (Monty), David Axmark and Allan Larsson in Sweden in year 1995.

**Features of mysql:**

**Open Source & Free of Cost**:

It is Open Source and available at free of cost.

* **Portability:** Small enough in size to instal and run it on any types of Hardware and OS like Linux,MS Windows or Mac etc.
* **Security :** Its Databases are secured & protected with password.
* **Connectivity :** Various APIs are developed to connect it with many programming languages.
* **Query Language :** It supports SQL (Structured Query Language) for handling database.

Requirements

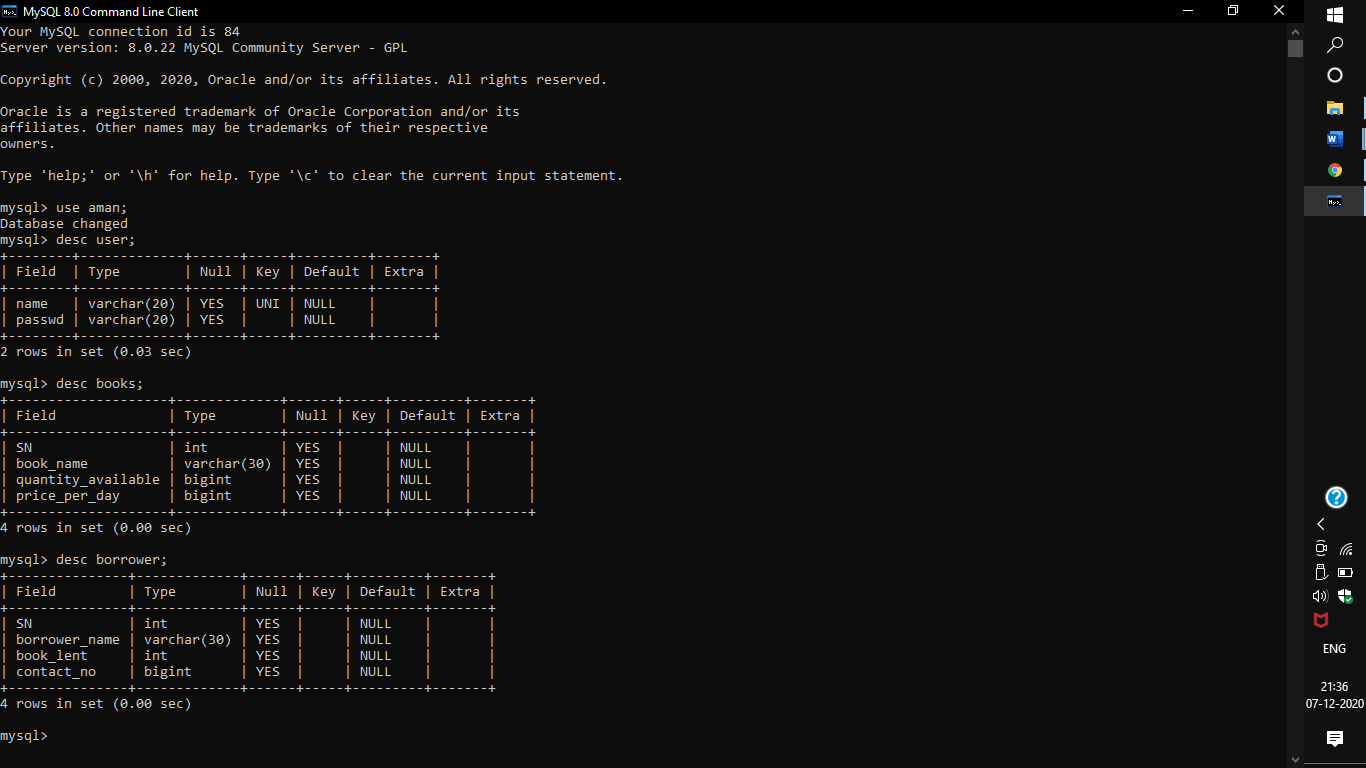
**Hardware requirements**

* Computer,for coding and typing the required documents of the project.
* printer, to print the required documents of the project.
* Compact drive.
* Processor : Pentium quad core
* Ram : 64 mb
* Hard disk : 20 gb

**Software requirements**

* Operating system : windows 10
* Python 3 : for execution of program
* Mysql : for storing data in the database
* Python – mysql connector : for database connectivity and
* Microsoft word, for presentation of output.

**Database and Table used**



**Coding**

import mysql.connector as sqlctr

from datetime import datetime

import time

mycon = sqlctr.connect(host='localhost', user='root', password='yoyo',database='aman')

if mycon.is\_connected():

print('\n')

print('Successfully connected to localhost')

else:

print('Error while connecting to localhost')

cursor = mycon.cursor(buffered=True)

def command(st):

cursor.execute(st)

def fetch():

data = cursor.fetchall()

for i in data:

print(i)

def all\_data(tname):

li = []

st = 'desc '+tname

command(st)

data = cursor.fetchall()

for i in data:

li.append(i[0])

st = 'select \* from '+tname

command(st)

print('\n')

print('-------ALL\_DATA\_FROM\_TABLE\_'+tname+'\_ARE-------\n')

print(tuple(li))

fetch()

def detail\_burrower(name,contact):

tup=('SN','borrowers\_name','book\_lent','date','contact\_no')

print('\n---Details for borrower '+name+'---\n')

print(tup)

st='select \* from borrower where borrowers\_name like "{}" and contact\_no={}'.format(name,contact)

command(st)

fetch()

def days\_between(d1, d2):

d1 = datetime.strptime(d1, "%Y-%m-%d")

d2 = datetime.strptime(d2, "%Y-%m-%d")

global days

days=abs((d2 - d1).days)

def price\_book(days,book\_name):

st1 = 'select Price\_Per\_Day from books where Book\_Name="{}"'.format(book\_name)

command(st1)

data = cursor.fetchall()

for i in data:

global t\_price

t\_price=int(i[0])\*days

print('No. of days {} book is kept : {}'.format(book\_name,days))

print('Price per day for book {} is Rs.{}'.format(book\_name,i[0]))

print('Total fare for book '+book\_name +'-',t\_price)

def lend():

flag='True'

while flag=='True':

print('\n\_\_\_AVAILABLE BOOKS\_\_\_\n')

st0 = 'select Book\_Name from books where Quantity\_Available>=1'

command(st0)

fetch()

st1='select max(SN) from borrower'

command(st1)

data\_sn=cursor.fetchall()

for i in data\_sn:

SN=i[0]+1

book\_selected=str(input('Enter name of book from above list : '))

borrowers\_name=str(input('Enter Borrower Name : '))

date=str(input('Enter date (YYYY-MM-DD) : '))

contact=int(input('Enter contact no. : '))

st\_insert='insert into borrower values({},"{}","{}","{}",{})'.format(SN,borrowers\_name,book\_selected,date,contact)

command(st\_insert)

st\_quantity='select quantity\_available from books where book\_name="{}"'.format(book\_selected)

command(st\_quantity)

data\_quantity=cursor.fetchall()

for quantity in data\_quantity:

qty=quantity[0]-1

st\_dec='update books set quantity\_available={} where book\_name="{}"'.format(qty,book\_selected)

command(st\_dec)

dec=str(input('Do you want to add more records (Y/N) : '))

if dec.upper=="Y":

flag= 'True'

else:

flag='False'

def borrowers():

print('\n\n\_\_\_OPTIONS AVAILABLE\_\_\_\n\nEnter 1 : To Show detail of all borrowers \nEnter 2 : To check detail of a particular borrower \nEnter 3 : To calculate total fine of a borrower')

dec = input('enter your choice-')

if dec=='1':

all\_data('borrower')

elif dec=='2':

name = str(input('\nenter borrower name-'))

contact = str(input('enter borrower contact no.-'))

detail\_burrower(name,contact)

elif dec=='3':

tfine()

else:

print("Wrong choice")

def tfine():

name=str(input('\nEnter borrower name : '))

contact=input('Enter borrower contact\_no : ')

detail\_burrower(name, contact)

st1 = 'select book\_lent from borrower where borrowers\_name ="{}" and contact\_no={}'.format(name,contact)

command(st1)

data=cursor.fetchall()

for i in data:

book\_name=i[0]

st2 = 'select date from borrower where borrowers\_name="{}" and book\_lent="{}"'.format(name,book\_name)

command(st2)

data1=cursor.fetchall()

for date in data1:

date\_taken=date[0]

date\_return = str(input('\nEnter returning date for book "{}" (YYYY-MM-DD) , Press ENTER to skip-'.format(book\_name)))

while date\_return!='':

days\_between(str(date\_return),str(date\_taken))

price\_book(days,i[0])

print('\nEnter Y : If Rs.{} is paid and book is returned.\nEnter N : If fare is not paid and book is not returned.'.format(t\_price))

dec=str(input('Enter (Y?N) : '))

if dec.upper()=="Y":

st= 'select SN , Quantity\_Available from books where Book\_Name ="{}"'.format(i[0])

command(st)

data2=cursor.fetchall()

for price in data2:

update('books', 'Quantity\_Available',price[1]+1,price[0])

st\_del = 'delete from borrower where borrowers\_name="{}" and book\_lent="{}"'.format(name,book\_name)

command(st\_del)

break

else:

print("\n\nPLEASE PAY THE FARE AND RETURN BOOK AFTER READING.\n\n")

break

def insert():

flag = 'true'

while flag=='true':

licol=[]

li1=[]

li\_val=[]

command('desc books')

data=cursor.fetchall()

for i in data:

licol.append(i[0])

command('select max(SN) from books')

dta=cursor.fetchall()

for j in dta:

li\_val.append(j[0]+1)

for k in range(1,4):

val = str(input('Enter '+licol[k]+'-'))

li\_val.append(val)

li1.append(tuple(li\_val))

values = ', '.join(map(str, li1))

st1 = "INSERT INTO books VALUES {}".format(values)

command(st1)

all\_data('books')

print('\n')

print("\nDATA INSERTED SUCCESSFULLY\n")

dec = str(input('Do u want to insert more data?(Y/N)-'))

if dec.upper() == "Y":

flag='true'

else:

flag='false'

def update(tname,col1,post\_value,pre\_value):

st = str('update %s set %s=%s where SN=%s') % (tname, col1, "'%s'", "'%s'") % (post\_value, pre\_value)

command(st)

all\_data(tname)

print('\nVALUE UPDATED SUCCESSFULLY')

def Text\_File():

cursor.execute("select \* from books")

row = cursor.fetchall()

a = open("Books.txt","w")

a.write(str(row))

print("File created Succesfully")

a.close()

def Books\_file():

cursor.execute("select \* from borrower")

row = cursor.fetchall()

a = open("Books.txt","w")

a.write(str(row))

print("File created succesfully")

a.close()

# Main program

print("\n1. Log in \n2. Sign up")

a = int(input("\nEnter your choice: "))

if a == 1:

user\_name = input("\nEnter your username: ")

passwd = input("\nEnter your password: ")

row = cursor.execute("select passwd from user where name =' " +user\_name+" ' ")

if row == str(passwd):

print("Invalid Credentials")

else:

print("Logging in...")

while True:

print('\n')

print('==============================================================================================')

print(" WELCOME TO LIBRARY MANAGEMENT ")

print('==============================================================================================')

print("\nEnter 1 : To View details of all available Books\nEnter 2 : To check detail of a particular book\nEnter 3 : To lend a book \nEnter 4 : To add new books in list \nEnter 5 : To update data \nEnter 6 : To view details of borrowers \nEnter 7 : To make a file of Books,\nEnter 8 : To make a file of Borrowers,\nEnter 9 : Log out")

dec = input("Enter your choice: ")

if dec == '1':

all\_data('books')

elif dec=='2':

tup=('SN','Book\_Name','Quantity\_Available','Price\_Per\_Day')

tup1 = ('SN', 'borrowers\_name', 'book\_lent', 'contact\_no')

in1=str(input('enter first name , last name or middle name of a book-'))

print('\n\_\_\_ALL DATA OF BOOKS HAVING "{}" IN THEIR NAME FROM BOTH TABLE\_\_\_\_'.format(in1))

st =str('select \* from books where book\_name like "{}"'.format('%'+in1+'%'))

st1=str('select \* from borrower where book\_lent like "{}"'.format('%'+in1+'%'))

print('\n\_\_DATA FROM TABLE BOOKS\_\_\n')

command(st)

print(tup)

fetch()

print('\n\_\_DATA FROM TABLE BORROWER\_\_\n')

command(st1)

print(tup1)

fetch()

print()

elif dec == '3':

lend()

elif dec=='4':

insert()

elif dec=='5':

flag='true'

while flag=='true':

tname = 'books'

li = []

st1 = 'desc '+tname

command(st1)

data = cursor.fetchall()

for i in data:

li.append(i[0])

all\_data(tname)

print('\n columns in table '+tname+' are')

print(li)

col1 = str(input('enter column name for modification from above list-'))

lipo = ['SN']

lipo.append(col1)

print(tuple(lipo))

st0 = 'select SN , %s from books' % (col1)

command(st0)

fetch()

pre\_value = str(input('enter corresponding SN for the data to be changed-'))

post\_value = str(input('enter new value for column %s having SN %s-' % (col1, pre\_value)))

update(tname, col1, post\_value, pre\_value)

dec = str(input('Do you want to change more data?(Y/N)-'))

if dec == 'y' or dec == 'Y':

flag='true'

else:

flag='false'

elif dec=='6':

borrowers()

elif dec=='7':

Text\_File()

elif dec == "8":

Books\_file()

elif dec == "9":

print("logging out....")

time.sleep(3)

print("You have been logged out")

print("Thank you , Have a nice day")

break

else:

print("Wrong Choice")

elif a == 2:

user\_name = input("\nEnter your username: ")

cursor.execute("select name from user where name ='"+user\_name+"'")

row = cursor.fetchall()

if row is not None:

passwd = input("\nEntre your password: ")

cpasswd = input("\nEnter password again: ")

if passwd == cpasswd:

cursor.execute("insert into user values('"+user\_name+"','"+passwd+"')")

mycon.commit()

print("\nSign up sucessfully ")

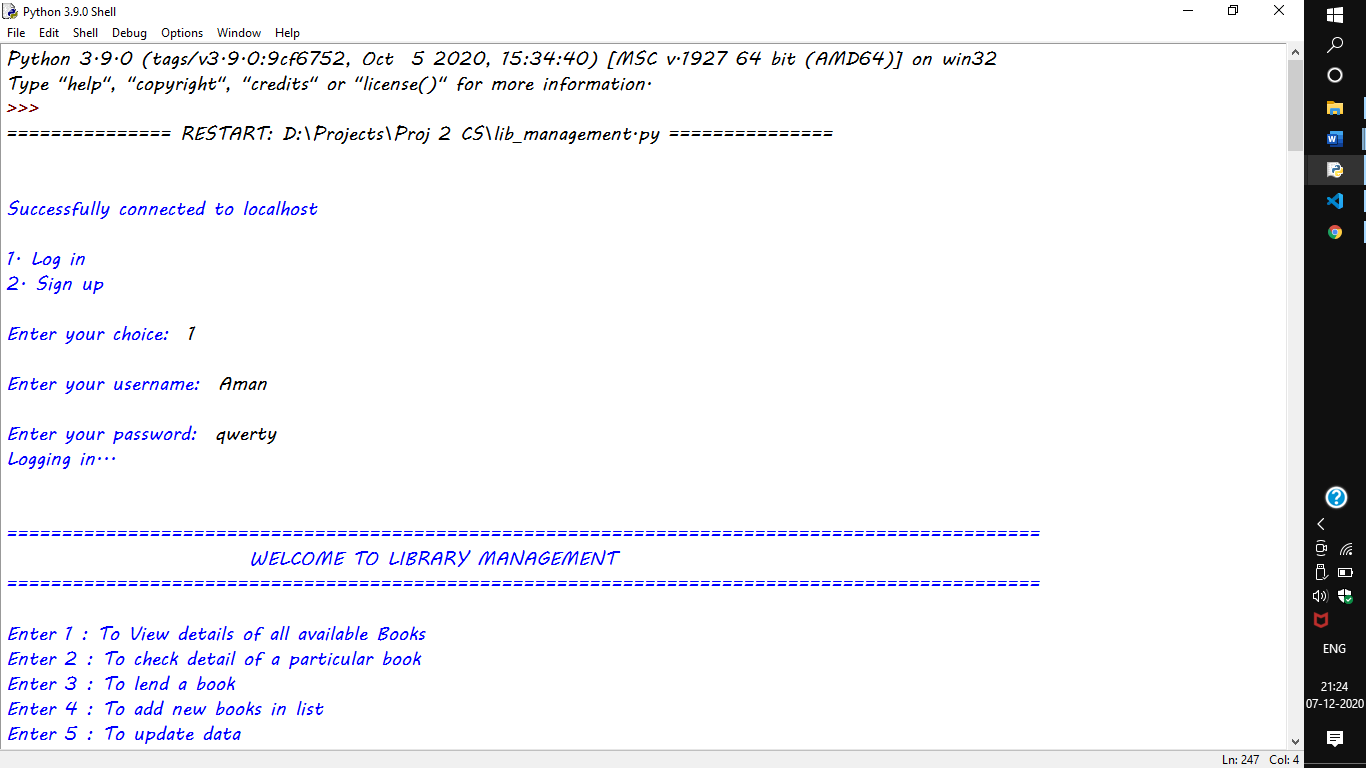
else:

print("Please enter correct password")

else:

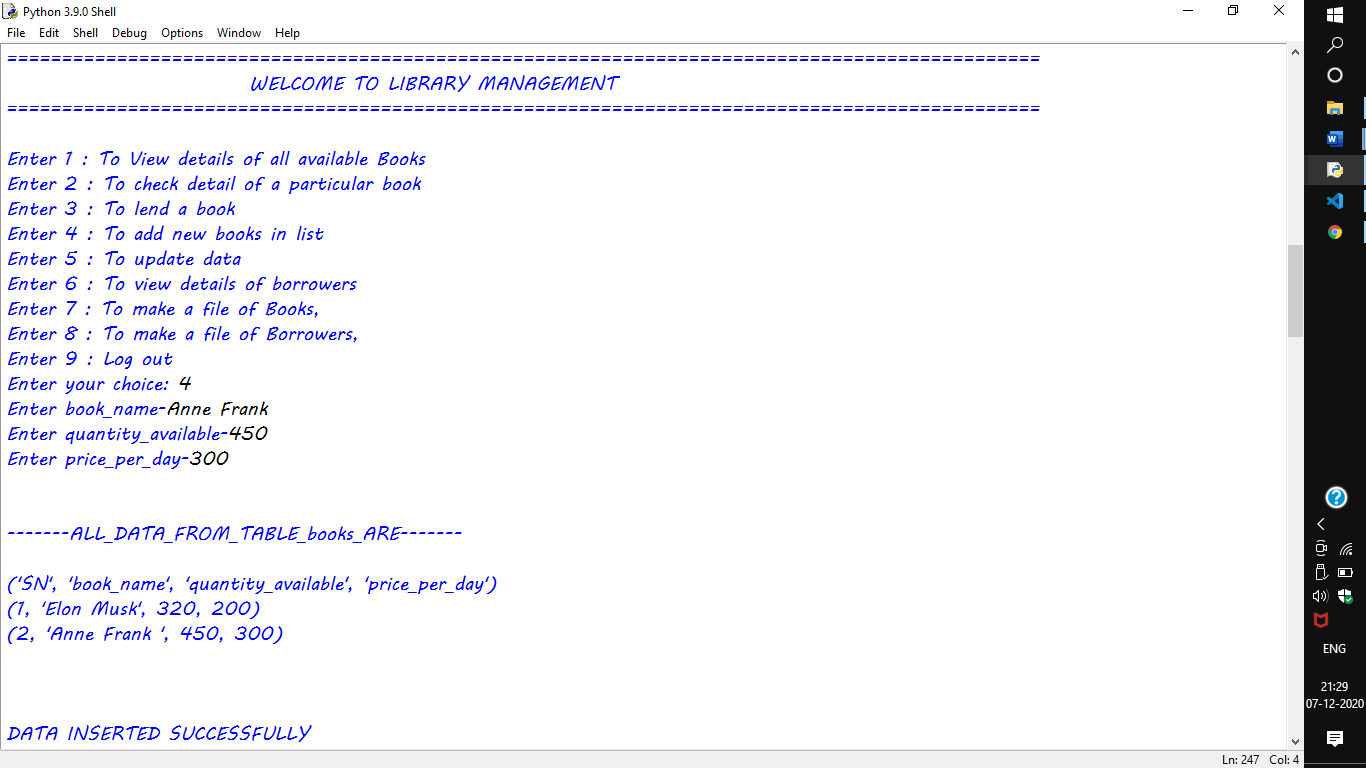
print("not valid")

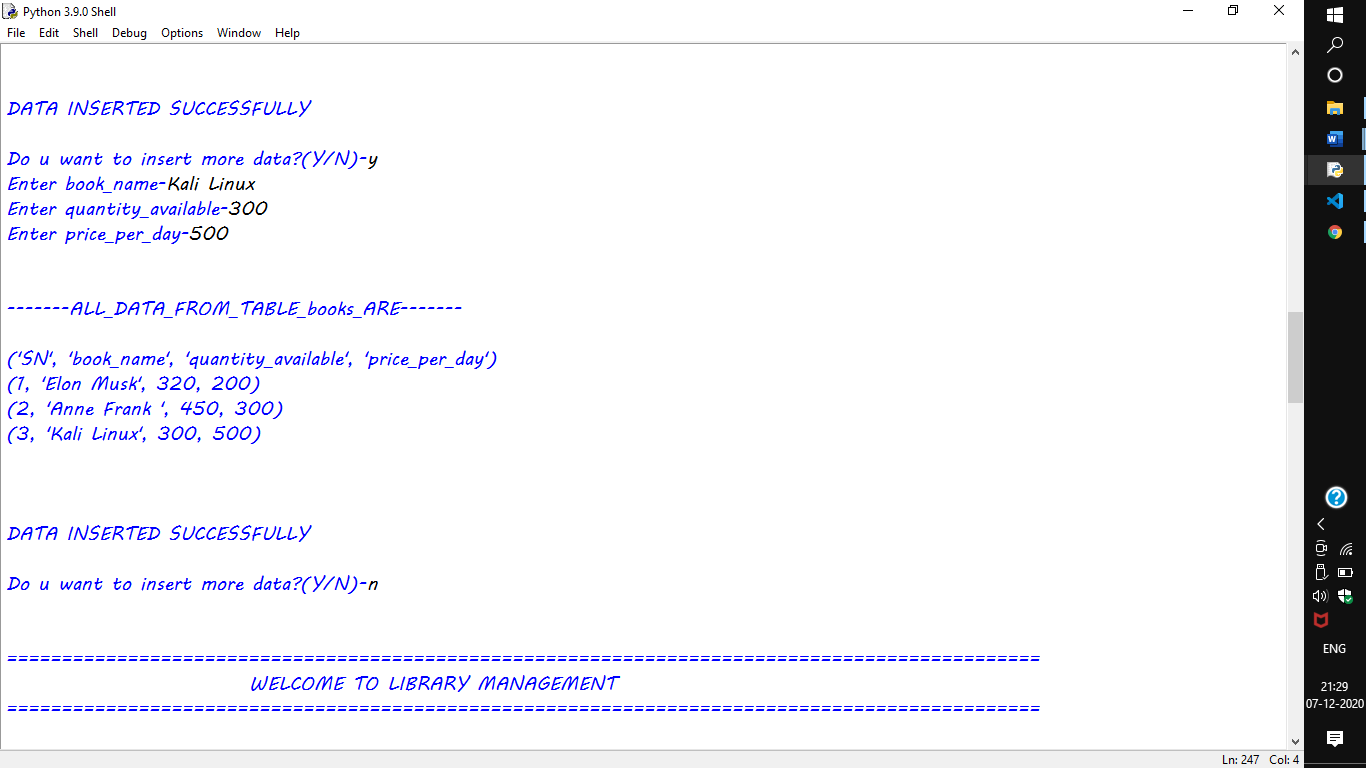
**OUTPUT**







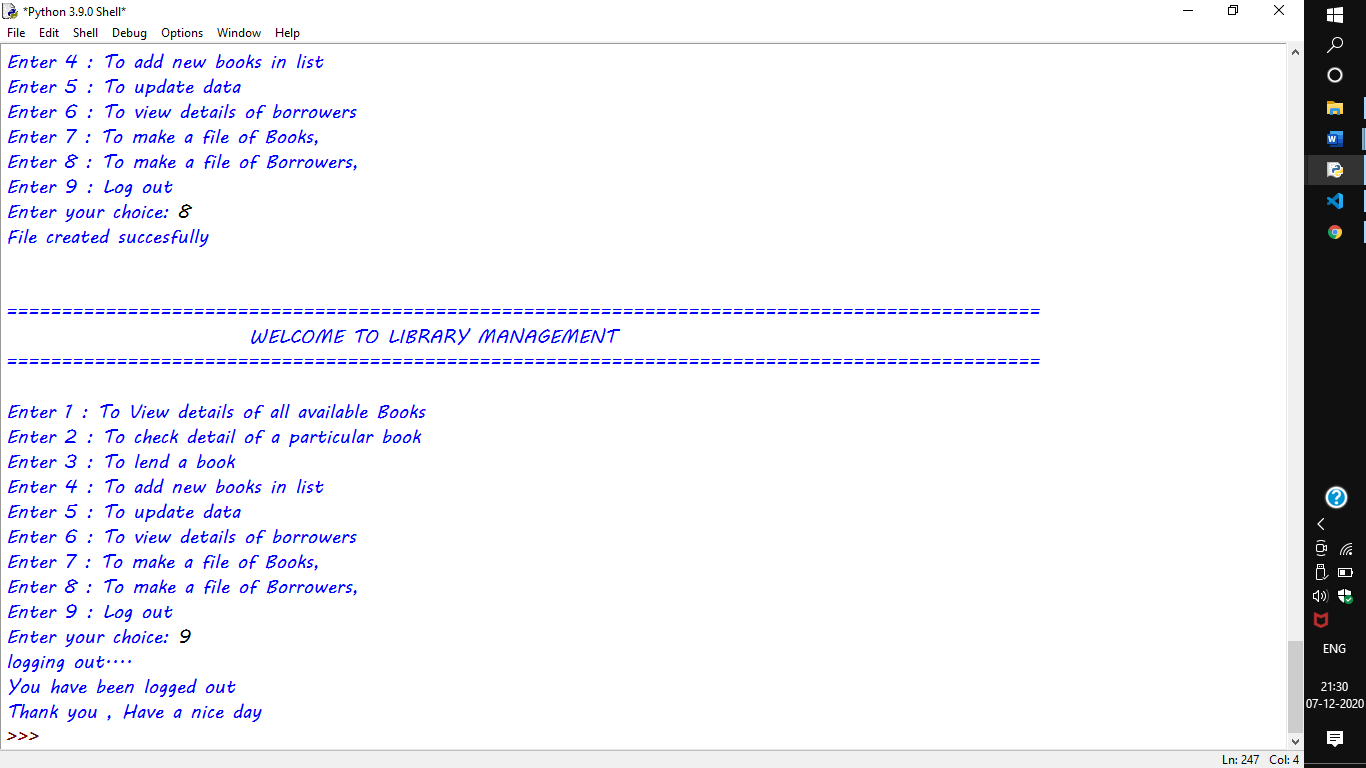












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