HOSTEL MANAGEMENT

PROJECT RECORD

2022-23

Roll No.: _____

Name: Fatima Rafiq Shaikh

Class: _12_ Sec: _G2_

Subject: _COMPUTER SCIENCE_

Certificate

Roll No. _____

This is to certify that
Miss/Master _____ of grade
_____ section _____ has carried out
project work in Assignment prescribed by the Central Board of
Secondary Education, New Delhi during the academic year 2022
- 2023.

Teacher-in-charge: Dr. Harini Priyadarshini

Date: _____

_____   _____
ExternalExaminer   Internal Examiner

Contents

- Acknowledgment

- Introduction

- Synopsis

- System Description

- Program Source Code

- Program Output

- Conclusion

- Bibliography

ACKNOWLEDGMENT

First and foremost, I am grateful to the Almighty God for establishing me to complete my project successfully.

I wish to express my deep and sincere gratitude to our Principal, Mr. K. George Mathew for providing me with all the necessary facilities required.

I take this opportunity to record my sincere thanks to all the faculty members for their constant supervision and encouragement.

I am extremely grateful and indebted to my Computer Science teacher, Dr. Harini Priyadarshini, for her sincere and valuable guidance and motivation extended to me throughout the project.

I am thankful to all those who spent their valuable time finding bugs and testing programs in every possible use case, and to my friends who took their time to clear my doubts.

I also place on my record, my sense of gratitude to one and all who, directly or indirectly, have lent their helping hands to this project.

Last but not the least, my parents are also an important inspiration for me. So, with due regard, I express my gratitude toward them.

INTRODUCTION

The hostel management system is designed
to manage all hostel activities like hostel
booking room information, room services,
hostel rules, records, payment and
generates bills for smooth transactions.
It saves time in carrying out the activities
 and automation of different processes brings
efficiency to the system.

SYNOPSIS

The program is used for a customer to be able to book a room according to their preference. The first menu allows them to book different rooms along with prices

mentioned. They get to choose an appropriate date for the stay

The second menu allows them to view information about different rooms

The third menu allows them to view services provided
The fourth menu introduces them to the hostel rules

to which they have to agree to proceed with the booking process

The fourth menu is the payment option which gives different mode of payment and then generates a bill

The fifth menu is hostel rules to which the customer has to agree in order to proceed with the booking

The sixth menu records the information and their preferences entered by them so far

SYSTEM DESCRIPTION

Python

File Name: hostel management.py

Statements:

```
import sys
import os
import random
import datetime
import mysql connector
from tabulate import table
```

Built-in Functions:

```
exit()

append()

os.system()

connect()

random()

execute()

commit()

cursor()

fetchall()
```

User-Defined Functions:

```
def booking()

def Room_services()
```

```python
def Record()
def main()
def Rooms_Info()
def payment()
def hostel_rules()
```

Variables:

ch

choice

data

name

bid

x

phone

day

mode

rs

amount

exists

phno

ph

addr

chk_in

room

rn

chk_out

price

in_date

cid

status

out_date

rss

MySQL

Database: hostel

Table 1: booking `mysql> desc`

`booking;`

```
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| custid    | bigint(20)  | NO   |     | NULL    |       |
| bookid    | bigint(20)  | NO   |     | NULL    |       |
| checkin   | date        | NO   |     | NULL    |       |
| checkout  | date        | NO   |     | NULL    |       |
| room_type | varchar(35) | NO   |     | NULL    |       |
| price     | int(11)     | NO   |     | NULL    |       |
| phno      | bigint(20)  | NO   |     | NULL    |       |
| status    | varchar(35) | NO   |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)
```

Table 2: customer `mysql> desc customer;`

```
+-------+--------------+------+-----+---------+-------+
| Field | Type         | Null | Key | Default | Extra |
+-------+--------------+------+-----+---------+-------+
| id    | bigint(20)   | NO   | PRI | NULL    |       |
| name  | varchar(255) | NO   |     | NULL    |       |
| phno  | bigint(20)   | NO   |     | NULL    |       |
| addr  | varchar(255) | NO   |     | NULL    |       |
+-------+--------------+------+-----+----------+-------+
```

4 rows in set (0.00 sec)

Table 3: payment mysql> desc payment;

Field	Type	Null	Key	Default	Extra
bookid	bigint(20)	NO	PRI	NULL	
phno	bigint(20)	NO		NULL	
mode	varchar(255)	NO		NULL	
amnt	bigint(20)	NO		NULL	

4 rows in set (0.00 sec)

PROGRAM SOURCE CODE

```python
import os
import sys
os.system("cls")
print("""

  ___      _   _           ___              _   _   _      _   _
 / __| __ | | |_| | __ _ _ __   | _ \ __   __   __  | | | | __ | |_ __| |
 | |  _ / _ \| |/ _` |/ _ \ '_ \  | |_) / _ \/ __|/ _ \ | |_| |/ _ \| _/ _ \ |
 | |_| | (_) | | (_| |  _/ | | | | |  _ < (_) \__ \ _/ |  _  | (_) | ||  _/ |
  \___|\__/|_|\__,_|\__|_| |_| |_| \_\___/|__/\__| |_| |_|\__/ \_\__|_|
""")
try:
    print("Installing required modules...")
    os.system("pip3 install  -qqq --disable-pip-version-check --no-
cache-dir --no-color --no-warn-conflicts --user --no-python-
version-warning --no-input --no-warn-script-location mysql-
connector-python")
    os.system("pip3 install  -qqq --disable-pip-version-check --no-
cache-dir --no-color --no-warn-conflicts --user --no-python-
version-warning --no-input --no-warn-script-location datetime")
    os.system("pip3 install  -qqq --disable-pip-version-check --no-
cache-dir --no-color --no-warn-conflicts --user --no-python-
version-warning --no-input --no-warn-script-location tabulate")
except:
    sys.exit("Error installing modules")

try:
    print("Importing required modules...")
    import random
    import datetime
```

```python
    import mysql.connector as m
    from tabulate import tabulate
except:
    sys.exit("Error importing modules")

try:
    print("Connecting to database...")
    con = m.connect(host='localhost', user='root', password='root')
    if con.is_connected():
        print('Successfully connected')
except:
    sys.exit("Error connecting to database")

try:
    print("Creating database...")
    cursor = con.cursor()
    cursor.execute("CREATE DATABASE IF NOT EXISTS hostel")
    cursor.execute("USE hostel")
    cursor.execute("CREATE TABLE IF NOT EXISTS customer(id BIGINT
PRIMARY KEY NOT NULL, name VARCHAR(255) NOT NULL, phno BIGINT NOT
NULL, addr VARCHAR(255) NOT NULL)")
    cursor.execute("CREATE TABLE IF NOT EXISTS booking(custid
BIGINT NOT NULL, bookid BIGINT NOT NULL, checkin DATE NOT NULL,
checkout DATE NOT NULL, room_type VARCHAR(35) NOT NULL, price INT
NOT NULL, phno BIGINT NOT NULL, status VARCHAR(35) NOT NULL)")
    cursor.execute("CREATE TABLE IF NOT EXISTS payment(bookid
BIGINT PRIMARY KEY NOT NULL, phno BIGINT NOT NULL, mode
VARCHAR(255) NOT NULL, amnt BIGINT NOT NULL)")
except:
    sys.exit("Error creating database")
```

```python
roomno = []


def booking():
    print("BOOKING ROOMS")
    while True:
        name = input("Name: ")
        phno = int(input("Phone No: "))
        addr = input("Address: ")
        chk_in = input("Check-in date (dd/mm/yyyy): ").split('/')
        chk_out = input("Check-out date (dd/mm/yyyy): ").split('/')
        if datetime.datetime(int(chk_out[2]), int(chk_out[1]),
int(chk_out[0])) < datetime.datetime(int(chk_in[2]),
int(chk_in[1]), int(chk_in[0])):
            print("Check-out date must be greater than Check-in
date")
            break

        print("\n----*SELECT ROOM TYPE*----")
        print("1. Standard Non-AC - Rs. 3500")
        print("2. Standard AC - Rs. 4000")
        print("3. 3-Bed Non-AC - Rs. 4500")
        print("4. 3-Bed AC - Rs. 5000")

        ch = int(input("> "))

        if ch==1:
            print("Room Type - Standard Non-AC")
            print("Price - 3500")
            room = "Standard Non-AC"
            price = 3500
```

```python
        elif ch==2:
            print("Room Type - Standard AC")
            print("Price - 4000")
            room = "Standard AC"
            price = 4000

        elif ch==3:
            print("Room Type - 3-Bed Non-AC")
            print("Price - 4500")
            room = "3-Bed Non-AC"
            price = 4500

        elif ch==4:
            print("Room Type - 3-Bed AC")
            print("Price - 5000")
            room = "3-Bed AC"
            price = 5000

        #generating random room numbers and customer id
        rn = random.randint(1, 50) + 300
        roomno.append(rn)
        cursor.execute("SELECT id FROM customer WHERE phno = %s",
(phno,))
        data = cursor.fetchall()
        if data:
            cid = data[0][0]
            exists = True
        else:
            cid = random.randint(1, 9999999999)
            exists = False
```

```python
        bid = random.randint(1, 9999999999)

        #checking if room numbers are customer ids are not already
alloted
        if rn in roomno:
            rn = random.randint(1, 50) + 400

        in_date = '-'.join(str(i) for i in chk_in[::-1])
        out_date = '-'.join(str(i) for i in chk_out[::-1])
        status = "Unpaid"
        print("Room number:", rn)
        print("Customer ID:", cid)
        print("Booking ID:", bid)
        if exists == False:
            cursor.execute("INSERT INTO customer VALUES(%s, %s, %s,
%s)", (cid, name, phno, addr))
            con.commit()
        cursor.execute("INSERT INTO booking VALUES(%s, %s, %s, %s,
%s, %s, %s, %s)", (cid, bid, in_date, out_date, room, price, phno,
status))
        con.commit()
        print("Room Booked Successfully!!")
        break


#ROOMS INFO
def Rooms_Info():
    print("""
-------------------- HOTEL ROOMS INFO ---------------------


STANDARD NON-AC
-------------------------------------------------------------
```

```
Room amenities include: 1 Double Bed, Television, Telephone,
Double-Door Cupboard, 1 Coffee table with 2 sofa, Balcony and
an attached washroom with hot/cold water.\n
STANDARD NON-AC
--------------------------------------------------------------
Room amenities include: 1 Double Bed, Television, Telephone,
Double-Door Cupboard, 1 Coffee table with 2 sofa, Balcony and
an attached washroom with hot/cold water + Window/Split AC.\n
3-Bed NON-AC
--------------------------------------------------------------
Room amenities include: 1 Double Bed + 1 Single Bed, Television,
Telephone, a Triple-Door Cupboard, 1 Coffee table with 2 sofa, 1
Side table, Balcony with an Accent table with 2 Chair and an
attached washroom with hot/cold water.\n
3-Bed AC
--------------------------------------------------------------
Room amenities include: 1 Double Bed + 1 Single Bed, Television,
Telephone, a Triple-Door Cupboard, 1 Coffee table with 2 sofa,
1 Side table, Balcony with an Accent table with 2 Chair and an
attached washroom with hot/cold water + Window/Split AC.\n\n
""")

#ROOM SERVICES
def Room_Services():
    print("         ------ ROOM SERVICES ------")
    print("1. Swimming Pool\n2. Airport Shuttle\n3. Fitness
Centre\n4. Spa and Wellness Centre\n5. Non-Smoking Rooms")


# PAYMENT FUNCTION
def payment():
```

```python
    ph = int(input("Phone Number: "))
    cursor.execute("SELECT * from booking WHERE phno = %s AND
status = 'Unpaid'", (ph,))
    rs = cursor.fetchall()

    if rs == []:
        print("Unpaid bookings not found")

    else:
        cursor.execute("SELECT * FROM customer WHERE id = %s",
(rs[0][0],))
        rss = cursor.fetchall()
        name = rss[0][1]
        phone = rss[0][2]
        address = rss[0][3]

        print("Payment")
        print("-------------------------------")
        print("MODE OF PAYMENT")

        print("1. Credit / Debit Card")
        print("2. Paytm / PhonePe")
        print("3. UPI")
        x = int(input("> "))

        day = (rs[-1][3] - rs[-1][2]).days
        amount = rs[-1][5] * day
        print("Amount to be paid: ", amount)

        if x == 1:
            mode = "Credit / Debit Card"
```

```python
        print("Enter Card Details")
        input("Card Number: ")
        input("CVV: ")
        input("Expiry Date: ")
        input("Name on Card: ")

    elif x == 2:
        mode = "Paytm / PhonePe"
        print("Enter Paytm / PhonePe Details")
        input("Phone Number: ")
        input("UPI ID: ")

    elif x == 3:
        mode = "UPI"
        print("Enter UPI Details")
        input("UPI ID: ")
        input("Phone Number: ")

    print("\n\n --------------------------------")
    print("            Hotel GOLDEN ROSE")
    print(" --------------------------------")
    print("               Bill")
    print(" --------------------------------")
    print(" Name: ", name,"\t\n Phone No.: ", phone,"\t\n
Address: ",address,"\t")
    print("\n Check-In: ", rs[-1][2],"\t\n Check-Out: ", rs[-
1][3],"\t")
    print("\n Room Type: ", rs[-1][4],"\t\n Room Charges: ",
amount,"\t")
    print(" --------------------------------")
    print("\n Total Amount: ", amount,"\t")
```

```python
        cursor.execute("INSERT INTO payment VALUES(%s, %s, %s,
%s)", (rs[0][1], phone, mode, amount))
        con.commit()
cursor.execute("UPDATE booking SET status = 'Paid' WHERE phno =
%s and bookid = %s", (phone, rs[0][1]))
        con.commit()
        print(" -------------------------------")
        print("            Thank You")
        print("            Visit Again :)")
        print(" ------------------------------\n")



def Record():# checks if any record exists or not
    cursor.execute("SELECT name, customer.phno, addr, checkin,
checkout, room_type, price FROM customer, booking WHERE customer.id
= booking.custid")
    data = cursor.fetchall()
    if data:
        data.insert(0, ["Name", "Phone No.", "Address", "Check-In",
"Check-Out", "Room Type", "Price"])
        print("        *** HOTEL RECORD ***\n")
        print(tabulate(data, tablefmt="grid",
disable_numparse=True, colalign='center'))
        print()
    else:
        print("No Records Found")


def hostel_rules():
    print("          ------ RULES TO BE FOLLOWED ------")
    print("1.Cancellation and prepayment policies vary according
```
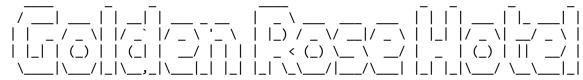
```python
to accommodation type")
    print("2.Refundable damage deposit:A damage deposit of AED 100
is required on arrival. This will be collected as a cash payment.
You should be reimbursed on check-out. Your deposit will be
refunded in full in cash, subject to an inspection of the
property.")
    print("3.Children are not allowed\nExtra bed policies:\nThere
 is no capacity for extra beds at this property")
    print("4.Age restriction:\nThe minimum age for check-in is 18")
    print("5.Pets:\nPets are not allowed.")
    choice=input("do u accept all the rules?yes or no:")
    if choice=='yes':
        pass
    else:
        exit


def main():
    while True:
        print("\t\t\t\t\t\t WELCOME TO GOLDEN ROSE HOSTEL \n")
        print("1 Booking")
        print("2 Rooms Info")
        print("3 Room Service")
        print("4 Payment")
        print("5 Hostel rules")
        print("6 Record")
        print("0 Exit")

        ch=int(input("> "))

        if ch==1:
```

```python
            print(" ")
            booking()

        elif ch==2:
            print(" ")
            Rooms_Info()

        elif ch==3:
            print(" ")
            Room_Services()

        elif ch==4:
            print(" ")
            payment()

        elif ch==5:
            print(" ")
            hostel_rules()

        elif ch==6:
            print(" ")
            Record()

        else:
            print("Exiting...")
            exit()


main()
```

OUTPUT

```
>>> %Run try3.py
  ___       _     _              ___                  _  _       _          _
 / __|  ___| | __| | ___ _ __   | _ \ ___  ___ ___  | || | ___ | |_  ___ | |
| (_ |/ _ \ |/ _` |/ -_) '_ \  |   // _ \(_-</ -_) | __ |/ _ \|  _|/ -_)| |
 \___|\___/_|\__,_|\___|_||_|  |_|_\\___//__/\___| |_||_|\___/ \__|\___||_|
Installing required modules...
Importing required modules...
Connecting to database...
Successfully connected Creating
database...
                    WELCOME TO GOLDEN ROSE HOSTEL


1 Booking
2 Rooms Info
3 Room Service 4 Payment
5 Hostel rules
6 Record
0 Exit
> 1

BOOKING ROOMS
Name: fatima
Phone No: 123456
Address: mbz,z7
Check-in date (dd/mm/yyyy): 04/12/2022
Check-out date (dd/mm/yyyy): 08/12/2022

----*SELECT ROOM TYPE*---- 1.
Standard Non-AC - Rs. 3500
2. Standard AC - Rs. 4000
3. 3-Bed Non-AC - Rs. 4500
4. 3-Bed AC - Rs. 5000  > 2
Room Type - Standard AC
Price - 4000
Room number: 449
Customer ID: 1874879019
Booking ID: 5158262610 Room
Booked Successfully!!
                    WELCOME TO GOLDEN ROSE HOSTEL
```

```
1 Booking
2 Rooms Info
3 Room Service
4 Payment
5 Hostel rules
6 Record
0 Exit
> 2




-------------------- HOTEL ROOMS INFO ----------------------

STANDARD NON-AC
------------------------------------------------------------- Room
amenities include: 1 Double Bed, Television, Telephone, Double-Door
Cupboard, 1 Coffee table with 2 sofa, Balcony and an attached
washroom with hot/cold water.

STANDARD NON-AC
------------------------------------------------------------- Room
amenities include: 1 Double Bed, Television, Telephone, Double-Door
Cupboard, 1 Coffee table with 2 sofa, Balcony and an attached
washroom with hot/cold water + Window/Split AC.

3-Bed NON-AC
------------------------------------------------------------- Room
amenities include: 1 Double Bed + 1 Single Bed, Television,
Telephone, a Triple-Door Cupboard, 1 Coffee table with 2 sofa, 1 Side
table, Balcony with an Accent table with 2 Chair and an attached
washroom with hot/cold water.

3-Bed AC
-------------------------------------------------------------
Room amenities include: 1 Double Bed + 1 Single Bed, Television,
Telephone, a Triple-Door Cupboard, 1 Coffee table with 2 sofa,  1
Side table, Balcony with an Accent table with 2 Chair and an
attached washroom with hot/cold water + Window/Split AC.




                    WELCOME TO GOLDEN ROSE HOSTEL
 1 Booking
2 Rooms Info
3 Room Service 4 Payment
5 Hostel rules
6 Record
0 Exit
>
3
```

```
         ------ ROOM SERVICES ------ 1. Swimming
Pool
2. Airport Shuttle
3. Fitness Centre
4. Spa and Wellness Centre
5. Non-Smoking Rooms
                    WELCOME TO GOLDEN ROSE HOSTEL


1 Booking
2 Rooms Info
3 Room Service 4 Payment
5 Hostel rules
6 Record
0 Exit
> 4


Phone Number: 123456
Payment
-------------------------------
MODE OF PAYMENT
1. Credit / Debit Card
2. Paytm / PhonePe
3. UPI
> 2
Amount to be paid:  16000
Enter Paytm / PhonePe Details
Phone Number: 123456
UPI ID: 890234
```

    Hotel GOLDEN ROSE

     Bill

Name: fatima
Phone No.: 123456
Address: mbz,z7

Check-In: 2022-12-04
Check-Out: 2022-12-08

Room Type: Standard AC
Room Charges: 16000

Total Amount: 16000

```
  ----------------------------
     Thank You
          Visit Again :)
  -------------------------------
```

```
                    WELCOME TO GOLDEN ROSE HOSTEL


1 Booking
2 Rooms Info
3 Room Service
4 Payment
5 Hostel rules
6 Record
0 Exit
> 5



        ------ RULES TO BE FOLLOWED ------
1.Cancellation and prepayment policies vary according to accommodation type
2.Refundable damage deposit:A damage deposit of AED 100 is required on arrival. This will be
collected as a cash payment. You should be reimbursed on check-out. Your deposit will be
refunded in full in cash, subject to an inspection of the property.
3.Children are not allowed  Extra bed policies:
There is no capacity for extra beds at this property
4.Age restriction:  The minimum age for check-in is 18
5.Pets:
Pets are not allowed.
do u accept all the rules?yes or no:yes
                    WELCOME TO GOLDEN ROSE HOSTEL


1 Booking
2 Rooms Info
3 Room Service 4 Payment
5 Hostel rules
6 Record
0 Exit
>
6
        *** HOTEL RECORD ***
```

```
+--------+-----------+---------+------------+------------+----------------+------+
| Name   | Phone No. | Address | Check-In   | Check-Out  | Room Type      | Price|
+--------+-----------+---------+------------+------------+----------------+------+
| aasiya | 928356    | mazayad | 2022-12-03 | 2022-12-09 | Standard Non-AC| 3500 |
+--------+-----------+---------+------------+------------+----------------+------+
| abdu   | 3092189   | mbz     | 2022-12-04 | 2022-12-10 | Standard AC    | 4000 |
+--------+-----------+---------+------------+------------+----------------+------+
| somu   | 123456    | auh,z8  | 2022-12-04 | 2022-12-09 | Standard AC    | 4000 |
```

```
+--------+-----------+---------+------------+------------+-----------------+------+
| fatima | 123456    | mbz,z7  | 2022-12-04 | 2022-12-08 | Standard AC     | 4000 |
+--------+-----------+---------+------------+------------+-----------------+------+
                                WELCOME TO GOLDEN ROSE HOSTEL

1 Booking
2 Rooms Info
3 Room Service 4 Payment
5 Hostel rules
6 Record
0 Exit
> 0
Exiting...
```

WELCOME TO GOLDEN ROSE HOSTEL

CONCLUSION

This program has successfully demonstrated a program that uses Python and MySQL connectivity can be used to develop a full-fledged application. It provides for a structured and organised method for maintaining data and information. It makes the finest use of the opensource Python programming software and the MySQL database for running the application.

The project helps admin to easily access the records of customers. And the customers are given access to book their rooms according to their preference

BIBLIOGRAPHY

Books Used

- Computer Science with Python Class XII by Preeti Arora
- Computer Science with Python class XI by Preeti Arora

Sites Referred

- https://dev.mysql.com/doc/refman/8.0/en/
  (MySQL Documentation)

- https://github.com
  (Various repositories accessed)

- https://stackoverflow.com
  (Various questions referred)

(i)

(ii)

(iii)

(iv)

(v)

(vi)

(vii)

(viii)

(ix)

(x)

(xi)

(xii)

(xiii)

(xiv)

(xv)

(xvi)

(xvii)

(xviii)

(xix)

(xx)

(xxi)

(xxii)

(xxiii)

(xxiv)

(xxv)

(xxvi)