Python mini project :

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Hotel Management System

Problem Statement:

The hotel management requires a computer software package to meditate the automation of many manual tasks will be perform by the system

The hotel contains a number no. of hotel room available for hire for guests. The information relevant to each room is Room number, Room type (according to this base cost will be set)

The price of room reception the guests requests also affect the price.

Type of room (Deluxe, Presidential) the basic room price with added Potential guests will account in the final billing. These reservations are handled by the type of the room, check in date, duration and checkout will be decided according to the current system date.

This project will also generate a total database of the customers the hotel had in past to be reserved for the finances

Need:

As we all know that now a day's digital platform is trending all over the globe, so everyone has to develop their own digital solution for business. The traditional file system has to be eradicated because of problems like redundancy and data loss. So, we made this solution for Hotels which are upcoming in this digital stream. When we were building this project, we kept in mind that it has to run on the lowest end computer even a raspberry pi which has python installed in it.

Modules:

There are various modules imported which have their own useful function:

- **Tkinter**: to enable GUI application of the program.

- **Sqllite3**: to handle database in which the current guest and total customer list will be stored.
- **Datetime**: to provide a genuine check out date to remove fraud.
- **OS:** to check whether there are any rooms available or not.
- **File Handling:** a room.txt file will save the available rooms, when there is a check in the top most room is allotted to the customer and that room is deleted from the file, when the check out happens the same room no. is appended back to the file .

CODE:

Imported modules:

```
from tkinter import *
import sqlite3
from tkinter import messagebox
import os
global room
from datetime import date
```

Main window Function:

```
def main_screen():
    global window
    window=Tk()
    window.geometry("1500x850")
    window.title("SHIKARA HOTEL")

    global name,phone,address,no_guest,room_type,date0,month,year
    name=StringVar()
    phone=StringVar()
    address=StringVar()
    no_guest=IntVar()
    room_type=IntVar()
    date0=IntVar()
    month=IntVar()
    year=IntVar()

    Label(text="Welcome to SHIKARA",bg = "grey",width="1000",height="2",font=("Calibiri",15)).pack()
    Label(text='').pack()
    icon=PhotoImage(file = "C:\\Users\\user\\AppData\\Local\\Programs\\Python\\Python38\\learn tkinter\\hotel proj\\xxl.png")
    labell=Label(window, image=icon)
    labell.pack()
    Label(text='').pack()
    Button(text="CHECK IN",height="2",width="100",command=check_in).pack()
    Label(text='').pack()
    Button(text="CHECK OUT",height="2",width="100",command=check_out).pack()
    Label(text='').pack()
    Button(text="SHOW GUEST LIST",height="2",width="100",command=show_guest_list).pack()
    Label(text='').pack()
    Button(text="SHOW TOTAL CUSTOMER LIST",height="2",width="100",command=total_customers).pack()
    Label(text='').pack()
    Button(text="EXIT",height="2",width="100",command=exit_shikara).pack()
    window.mainloop()
main_screen()
```

Check in Function and room allotment:

```
def submit_checkin():

    if os.stat("rooms.txt").st_size!=0:
        global no_guest_info
        name_info=name.get()
        phone_info=phone.get()
        address_info=address.get()
        no_guest_info=no_guest.get()
        room_type_info=room_type.get()
        date_info=date0.get()
        month_info=month.get()
        year_info=year.get()
        room=open("rooms.txt", "r")
        linel = room.readline()
        output = []
        for line in room:
            if not line.startswith(linel):
                output.append(line)
        room.close()
        room = open("rooms.txt", 'w')
        room.writelines(output)
        room.close()
        conn= sqlite3.connect('guest.db')
        with conn:
            cursor=conn.cursor()
        cursor.execute('CREATE TABLE IF NOT EXISTS guest (name_info TEXT,phone_info TEXT,date_info TEXT,month_info TEXT,year_info TEXT,address_info TEXT,no_guest_info TEXT,ro
        cursor.execute('INSERT INTO guest (name_info,phone_info,date_info,month_info,year_info,address_info,no_guest_info,room,room_type_info) VALUES(?,?,?,?,?,?,?,?,?)',(nam
        conn.commit()
        c="YOU HAVE BEEN ALLOTED ROOM NO. "+ linel
        messagebox.showinfo("SHIKARA HOTEL",c)
    else:
        messagebox.showinfo("SHIKARA HOTEL","SORRY! NO  VACANCY")
    window1.destroy()



def check_in():
    global window1
    window1=Toplevel(window)
    window1.title("CHECK IN INTO SHIKARA HOTEL")
    window1.geometry("500x550")

    Label(window1,text="NAME :",font=("Calibiri",10)).pack()
    Entry(window1,textvariable = name).pack()
    Label(window1,text='').pack()
    Label(window1,text='').pack()
    Label(window1,text="PHONE NUMBER : ",font=("Calibiri",10)).pack()
    Entry(window1,textvariable = phone).pack()
    Label(window1,text='').pack()
    Label(window1,text='').pack()
    Label(window1,text='').pack()
    Label(window1,text="DATE: ",font=("Calibiri",10)).place(x=75,y=150)
    Entry(window1,textvariable = date0).place(x=120,y=150)
    Label(window1,text="MONTH: ",font=("Calibiri",10)).place(x=200,y=150)
    Entry(window1,textvariable = month).place(x=250,y=150)
    Label(window1,text="YEAR: ",font=("Calibiri",10)).place(x=300,y=150)
    Entry(window1,textvariable = year).place(x=350,y=150)
    Label(window1,text='').pack()
    Label(window1,text="ADDRESS : ",font=("Calibiri",10)).pack()
    Entry(window1,textvariable =address ).pack()
    Label(window1,text='').pack()
    Label(window1,text='').pack()
    Label(window1,text="NO. OF GUEST : ",font=("Calibiri",10)).pack()
    Entry(window1,textvariable = no_guest).pack()
    Label(window1,text='').pack()
    Label(window1,text='').pack()
    Label(window1,text="ROOM TYPE : ",font=("Calibiri",10)).pack()
    Radiobutton(window1,text="Deluxe",padx = 5, variable=room_type,value=1).pack()
    Radiobutton(window1,text="Presidential",padx = 5, variable=room_type,value=2).pack()
    Label(window1,text='').pack()
    Label(window1,text='').pack()
    Button(window1,text = "SUBMIT",width = 10,height=1,command=submit_checkin).pack()
```

Check out function And Payment generator:

```
def check_out():
    global window2
    window2=Toplevel(window)
    window2.title("CHECK OUT FROM SHIKARA HOTEL")
    window2.geometry("500x550")

    global name1,phone1,date1,month1,year1,payment_mode
    name1=StringVar()
    phone1=StringVar()
    date1=IntVar()
    month1=IntVar()
    year1=IntVar()
    payment_mode=IntVar()

    Label(window2,text="NAME :",font=("Calibiri",10)).pack()
    Entry(window2,textvariable = name1).pack()
    Label(window2,text='').pack()
    Label(window2,text='').pack()
    Label(window2,text="PHONE NUMBER : ",font=("Calibiri",10)).pack()
    Entry(window2,textvariable = phone1).pack()
    Label(window2,text='').pack()
    Label(window2,text='').pack()
    Label(window2,text="PAYMENT MODE : ",font=("Calibiri",10)).pack()
    Radiobutton(window2,text="CASH",padx = 5, variable= payment_mode,value=1).pack()
    Radiobutton(window2,text="CARD",padx = 5, variable=payment_mode,value=2).pack()
    Label(window2,text='').pack()
    Button(window2,text = "MAKE PAYMENT" ,width = 15,height=1,command=payment).pack()

def payment():
    global payment_mode_set
    payment_mode_set=""
    name1_info=name1.get()
    phone1_info=phone1.get()
    payment_mode_info=payment_mode.get()
    conn= sqlite3.connect('guest.db')
    with conn:
            cursor=conn.cursor()
    cursor.execute("select * from guest")
    conn.commit()
    var=cursor.fetchall()
    l1=[]
    for row in var :
        l1.append(row)
    if payment_mode_info==1:
        payment_mode_set="CASH"
    elif payment_mode_info==2:
        payment_mode_set="CARD"
    for i in range(len(l1)):
        if l1[i][0]==name1_info and l1[i][1]==phone1_info:
            if l1[i][8]=='2':
                d1 = date.today()
                d0 = date(int(l1[i][4]),int(l1[i][3]),int(l1[i][2]))
                delta = d1 - d0
                bill1 = delta.days*1500
                bill2 = delta.days*(int(l1[i][6])*100)
                final_bill=bill1+bill2
                c="YOUR STAY WAS FOR : "+ str(delta.days) + " DAYS AND " +"YOUR FINAL BILL IS : "+ str(final_bill)
                messagebox.showinfo("THANKS FOR YOUR STARY IS SHIKRA",c)
                conn= sqlite3.connect('guest.db')
                with conn:
                    cursor=conn.cursor()
                cursor.execute("DELETE FROM guest WHERE name_info = ? and phone_info= ?;",(name1_info,phone1_info,))
                conn.commit()
                room1=open("rooms.txt", "a")
                room1.write(l1[i][7])
                room1.close()
                conn= sqlite3.connect('totalCUSTOMERS.db')
                with conn:
                    cursor=conn.cursor()
                cursor.execute('CREATE TABLE IF NOT EXISTS guest (name TEXT,phone TEXT,check_in DATE,check_out DATE,room_type TEXT,room_alloted TEXT,payment TEXT,payment_mode
                cursor.execute('INSERT INTO guest (name,phone,check_in,check_out,room_type,room_alloted,payment,payment_mode) VALUES(?,?,?,?,?,?,?,?)',(name1_info,phone1_info,
                conn.commit()
                window2.destroy()
            elif l1[i][8]=='1':
                d1 = date.today()
                d0 = date(int(l1[i][4]),int(l1[i][3]),int(l1[i][2]))
                delta = d1 - d0
                bill1 = delta.days*1100
                bill2 = delta.days*(int(l1[i][6])*80)
                final_bill=bill1+bill2
                c="YOUR STAY WAS FOR : "+ str(delta.days) + " DAYS AND " +"YOUR FINAL BILL IS : "+ str(final_bill)
                messagebox.showinfo("THANKS FOR YOUR STARY IS SHIKRA",c)
                conn= sqlite3.connect('guest.db')
                with conn:
                    cursor=conn.cursor()
                cursor.execute("DELETE FROM guest WHERE name_info = ? and phone_info= ?;",(name1_info,phone1_info,))
                conn.commit()
                room1=open("rooms.txt", "a")
                room1.write(l1[i][7])
                room1.close()
                conn= sqlite3.connect('totalCUSTOMERS.db')
                with conn:
                    cursor=conn.cursor()
                cursor.execute('CREATE TABLE IF NOT EXISTS guest (name TEXT,phone TEXT,check_in DATE,check_out DATE,room_type TEXT,room_alloted TEXT,payment TEXT,payment_mode
                cursor.execute('INSERT INTO guest (name,phone,check_in,check_out,room_type,room_alloted,payment,payment_mode) VALUES(?,?,?,?,?,?,?,?)',(name1_info,phone1_info,
                conn.commit()
                window2.destroy()
```

Show Guest List function:

```
def show_guest_list():
    global window3
    window3=Toplevel(window)
    window3.title("SHIKARA HOTEL GUEST LIST")
    window3.geometry("600x600")
    g=""
    h=""
    conn= sqlite3.connect('guest.db')
    with conn:
            cursor=conn.cursor()
    cursor.execute("select * from guest")
    conn.commit()
    var=cursor.fetchall()
    l2=[]
    for row in var :
        l2.append(row)
    for i in range(len(l2)):
        g = " Name: "+ l2[i][0]+" Phone: "+ l2[i][1]+" Check in: "+ str(l2[i][2])+"/"+str(l2[i][3])+"/"+str(l2[i][4])+" Room No.: "+str(l2[i][7])+"\n"
        h=h+g
    guests = StringVar()
    guests.set(h)
    Label(window3,text='').pack()
    Label(window3,text='').pack()
    l1 = Label(window3, textvariable=guests,font=("Calibiri",10)).pack()
```

Total Customer List function:

```
def total_customers():
    global window4
    window4=Toplevel(window)
    window4.title("SHIKARA HOTEL CUSTOMERS LIST")
    window4.geometry("800x700")
    g=""
    h=""
    conn= sqlite3.connect('totalCUSTOMERS.db')
    with conn:
            cursor=conn.cursor()
    cursor.execute("select * from guest")
    conn.commit()
    var=cursor.fetchall()
    l2=[]
    for row in var :
        l2.append(row)
    for i in range(len(l2)):
        g = " Name: "+ l2[i][0]+" Phone: "+ l2[i][1]+" Check in: "+ str(l2[i][2])+" Check out: "+ str(l2[i][3]) + " Alloted Room No.: "+str(l2[i][5])+ " Payment: "+str(l2[i][6
        h=h+g
    guests = StringVar()
    guests.set(h)
    Label(window4,text='').pack()
    Label(window4,text='').pack()
    l1 = Label(window4, textvariable=guests,font=("Calibiri",10)).pack()
```

Exit function:

```
def exit_shikara():

    window.destroy()
```

Guest list database:

DB Browser for SQLite - C:\Users\user\AppData\Local\Programs\Python\Python38\learn tkinter\hotel proj\guest.db

File Edit View Tools Help

New Database | Open Database | Write Changes | Revert Changes | Open Project | Save Project | Attach Database | Close Database

Database Structure | Browse Data | Edit Pragmas | Execute SQL

Table: guest

	name_info	phone_info	date_info	month_info	year_info	address_info	no_guest_info	room	room_type_info
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	Ran	741963852	30	1	2020	dfg	3	2	2
2	Laxman	852741963	23	3	2020	bhg	3	4	2

Total Customer database:

DB Browser for SQLite - C:\Users\user\AppData\Local\Programs\Python\Python38\learn tkinter\hotel proj\totalCUSTOMERS.db

File Edit View Tools Help

New Database | Open Database | Write Changes | Revert Changes | Open Project | Save Project | Attach Database | Close Database

Database Structure | Browse Data | Edit Pragmas | Execute SQL

Table: guest

	name	phone	check_in	check_out	room_type	room_alloted	payment	payment_mode
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	Shiva	8527049688	2020-03-22	2020-04-06	2	11	25500	CASH
2	Kanav	963852741	2020-03-22	2020-04-06	2	12	30000	CARD
3	Singhania	741852963	2020-02-25	2020-04-06	2	1	73800	CASH
4	aaryan	456789123	2001-01-21	2020-04-06	1	3	8838900	CASH
5	kaushal	123789456	2015-06-23	2020-04-06	1	6	2343660	CARD
6	raina	741852963	2020-01-30	2020-04-06	1	1	111220	CASH

Text File Containing Rooms :

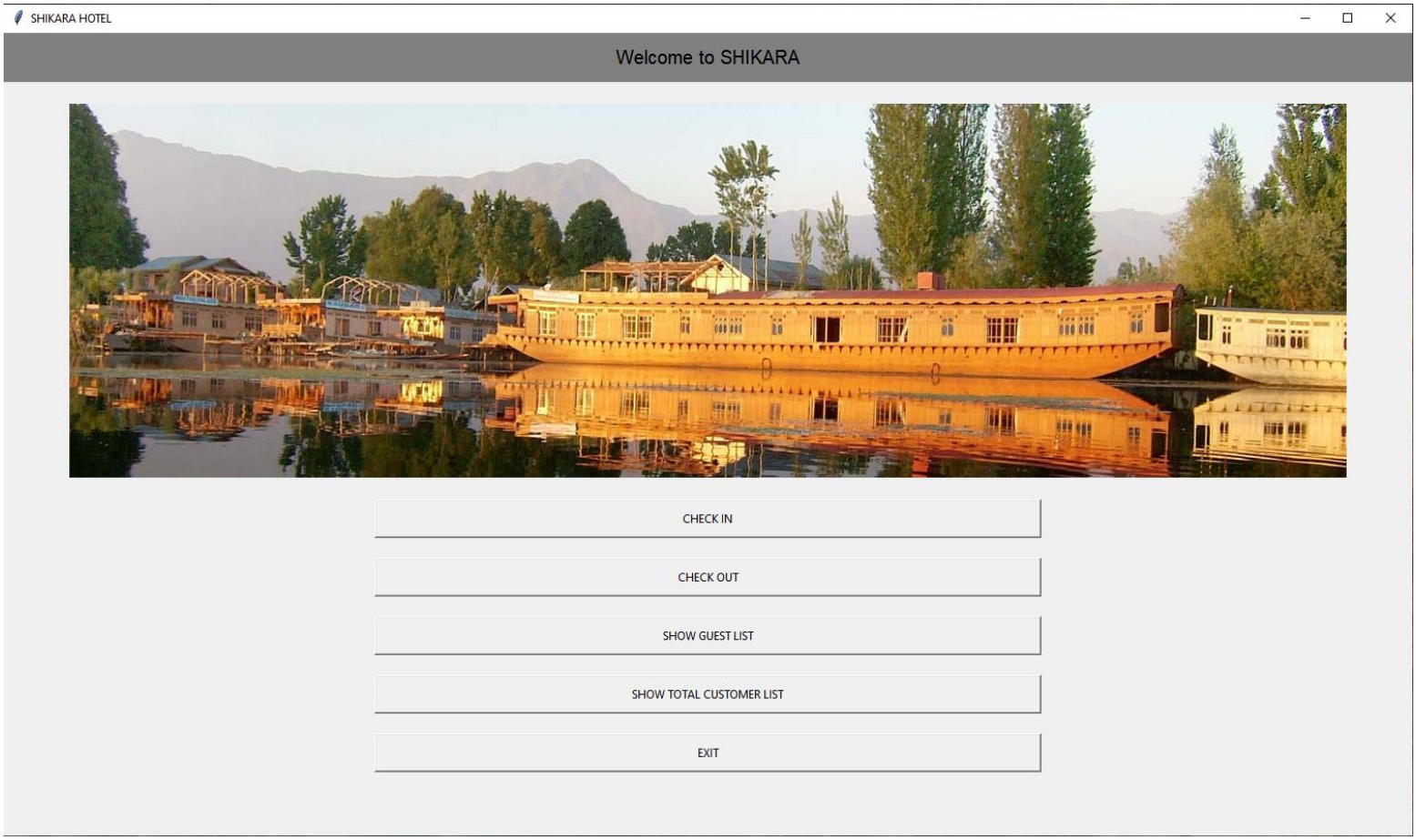
rooms.txt - Notepad

File Edit Format View Help

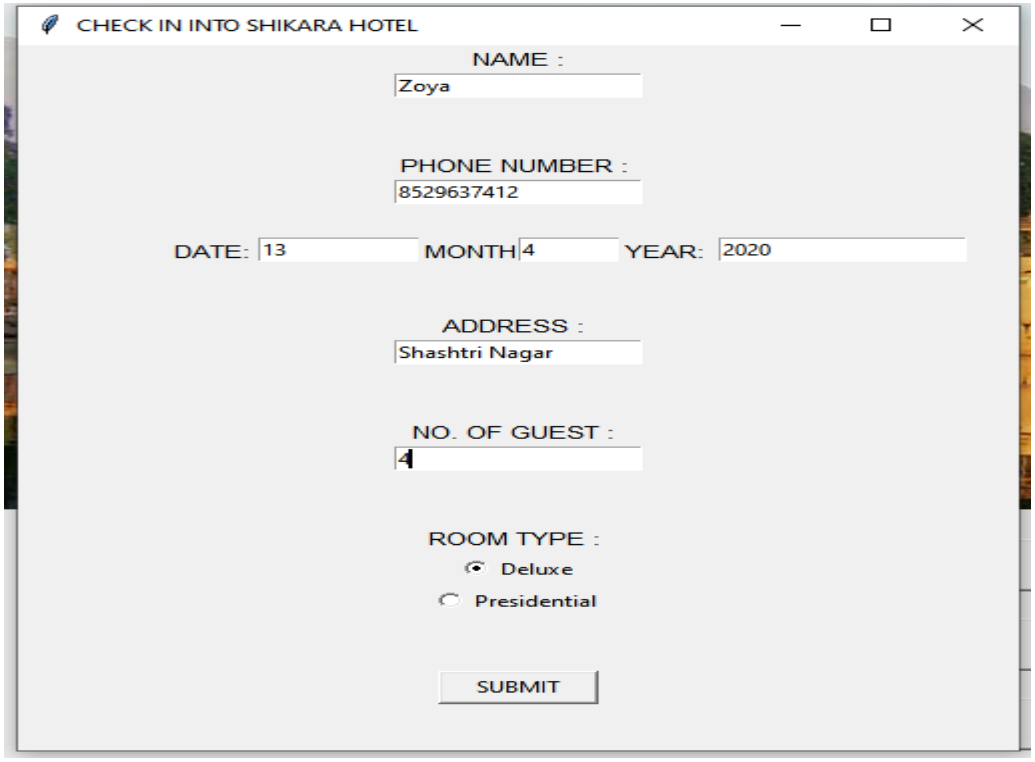
```
5
7
8
9
10
11
12
13
14
15
16
17
18
19
20
3
6
1
```

OUTPUTS:

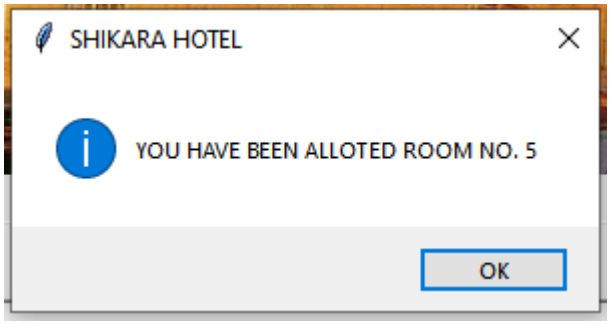
HOME MENU:



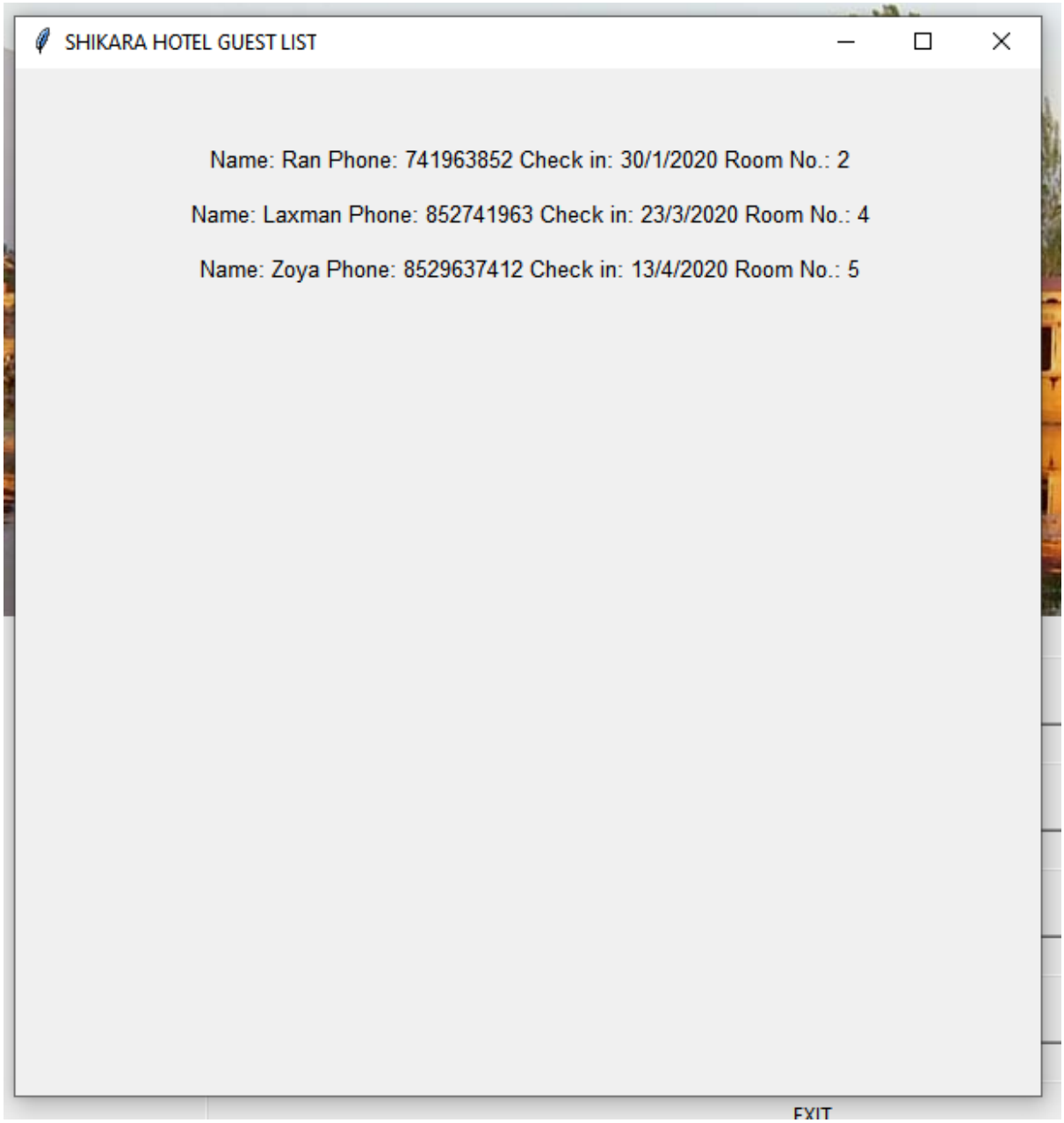
CHECK IN PAGE:



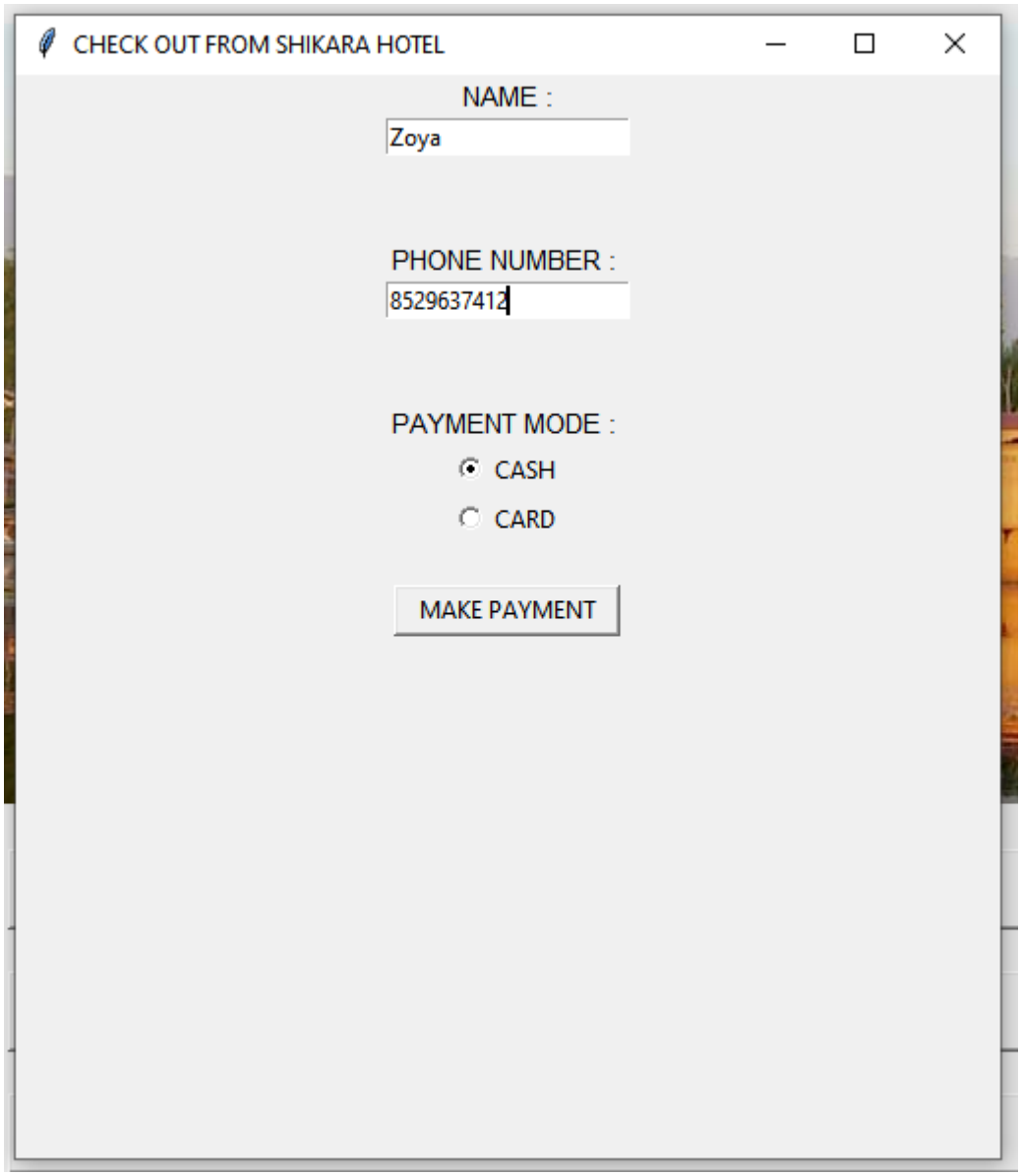
ROOM ALLOTMENT MESSAGE:



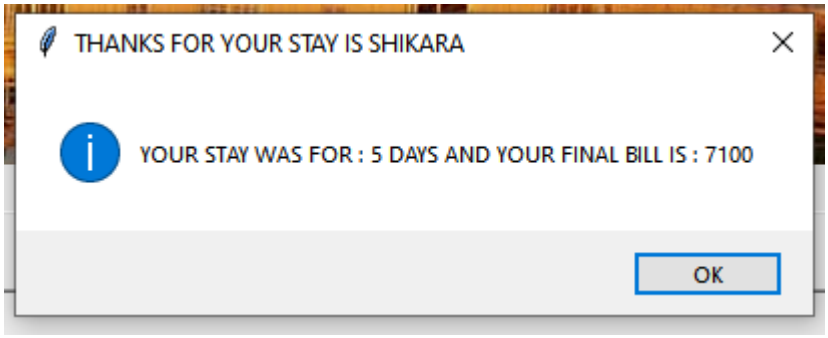
CHECKED IN GUEST LIST(fetched from guest database):



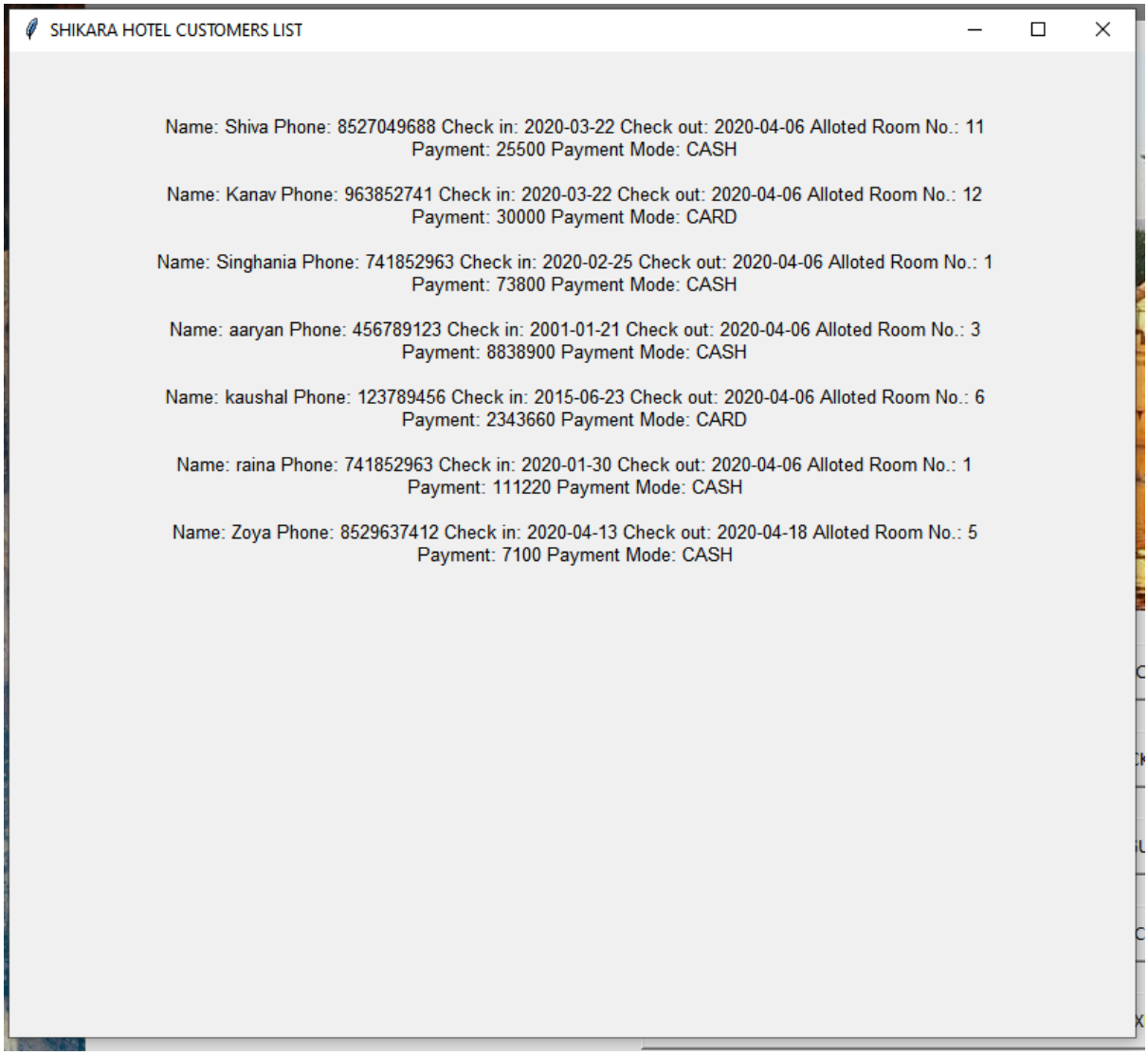
CHECK OUT PAGE:



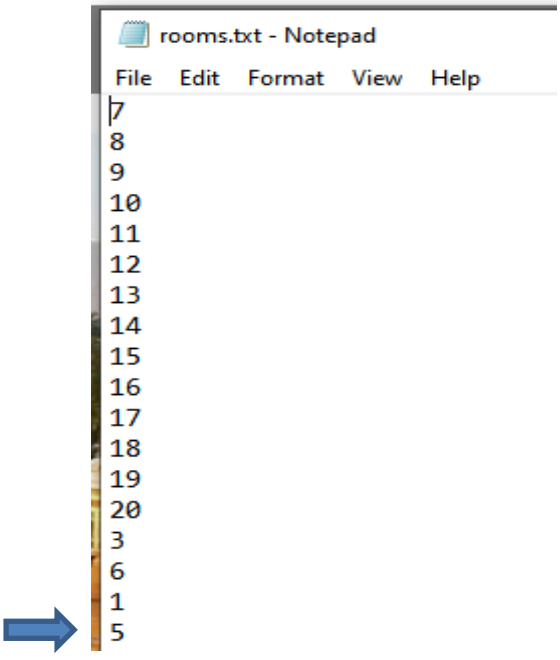
PAYMENT DIALOGUE BOX:



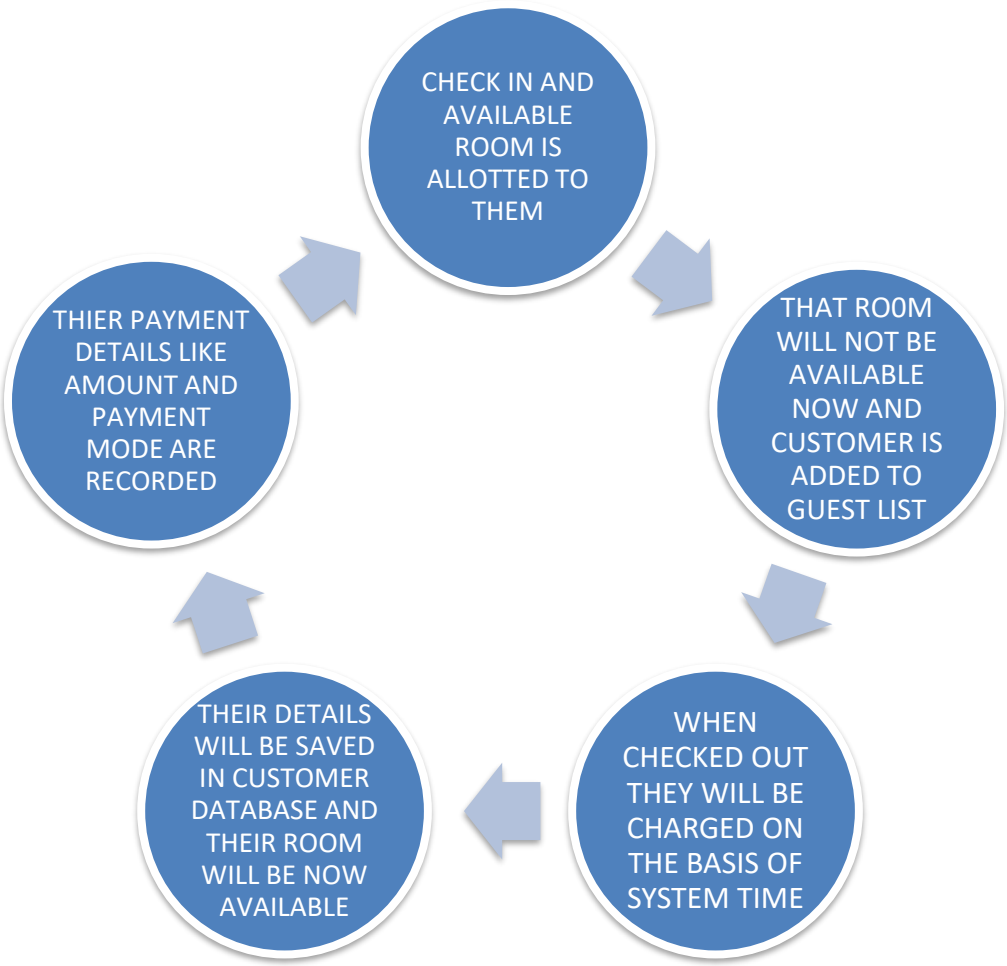
TOTAL CUSTOMER LIST(fetched from customer database):



The room zoya was allotted will now be available in the text file



The whole process from check in to check out:



This process will repeat itself when another customer will arrive.

THANK YOU