

**2020 -2021**

**PROJECT FILE**

**INFORMATICS PRACTICES**

**XII - C**

**Roll No :-**

**HOTEL RESERVATION**

**Submitted to: Submitted by:**

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**CERTIFICATE**

This is to certify that **Aganya Jeshtadi** of **class XII** has successfully completed a project **“Hotel Reservation System”** of the subject Informatics Practices in the academic year 2020-20.

**Project In charge Principal External Examiner**

**Mr. Ashirwad Mahalkari Mr. Siddharth Singh**

**ACKNOWLEDGEMENT**

A project is never a unilateral effort; there is always a team of other person who contributes in one or more ways. The credit for the successful completion of this project goes to a number of people without whose help I would not have been able to do justice to this project. Therefore I would like to take this opportunity to express my gratitude towards them.

I would like to express my indebtedness towards our Principal sir for his inspiring thought and explanation. Words are not enough to convey my special thanks to respected sir. It is indeed a great pride for me to acknowledge a deep gratitude for the valuable and magnanimous guidance and generous assistance extended to me by our teacher Ashirwad Sir whose vigilant supervision helped me to shape my work.

I am equally thankfully to my parents, all my friends and well-wishers who extended all possible support and help at different stages of this project and encouraged me throughout this project.

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***ABSTRACT***

We have created a hotel reservation system based on their requirements. In this system, we have offered a variety of features like providing various room types, creating a room along with their charges, displaying analytics and various other functions with our customized menus for accessing them as per client’s requirements.

In the following project, we have chosen PyCharm

as well as MySQL to execute our proposed design.

In backend we have written all the MySQL coding and in source code we have written all the Pycharm coding.

**WORKING**

**MAIN MENU**

1.**Show Room No and No Of Times It Is Booked Chart**

**2. Show Room No and Charges Chart**

**3. Show Room No and Amount Received Chart**

1.ENTER ROOM NO. FOR CHECKING OUT

2. ROOM DETAILS WILL BE SHOWN

3.CONFIRM CHECKING OUT

1.ENTER YOUR CHOICE

2.CHECK- IN DATE

3.CHECK-IN TIME

4. ENTER CUSTOMER NAME

5.ENTER CUSTOMER PHONE NO.

**SHOW ALL ROOMS**

**CHECK-OUT**

**CHECK-IN**

**CHECK-OUT DETAILS**

**DATA ANALYSIS**

**CHECK-IN DETAILS**

**CREATE NEW ROOM**

1.ENTER ROOM NO.

2.ENTER ROOM TYPE

3.ENTER ROOM CHARGES

**BACK END**

It is the database where the data is actually stored. Data is mainly stored in DBMS (MySQL).

**Database name: hotel**

This was created by using the following MySQL query –

**create database hotel;**

The database is selected / used by the following MySQL query–

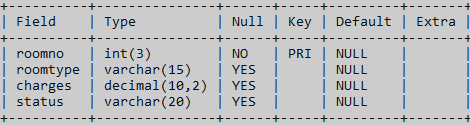
**use hotel;**

The database contains 3 tables which are as follows:

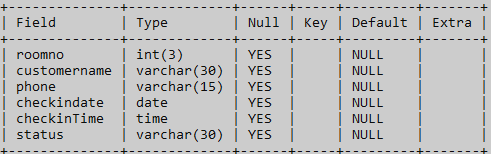
* roommaster
* checkin
* checkout

The Tables are as follows:

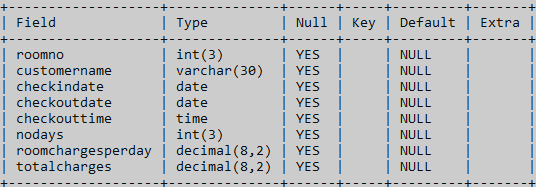
1. Roommaster Table:



2. Checkin Table:



3. Checkout Table:



**CREATE TABLE QUERIES:**

**Roommaster:**

create table roommaster

(

roomno int(3) primary key,

roomtype varchar(15),

charges decimal(10,2),

status varchar(20)

);

**Checkin:**

create table checkin

(

roomno int(3),

customername varchar(30),

phone varchar(15),

checkindate date,

checkinTime time,

status varchar(30)

);

**Checkout:**

create table checkout

(

roomno int(3),

customername varchar(30),

checkindate date,

checkoutdate date,

checkouttime time,

nodays int(3),

roomchargesperday decimal(8,2),

totalcharges decimal(8,2)

);

**SOURCE CODE**

**1.MainMenu:**



**Coding For MainMenu**

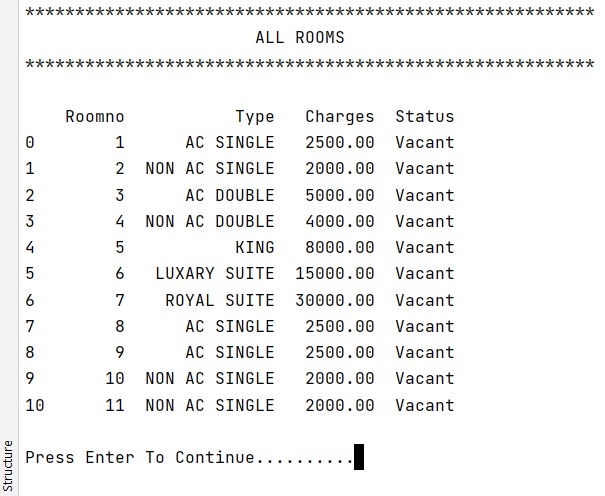
import os  
import RoomFunction  
import CheckInFunctions  
import CheckOutFunctions  
import DataAnalysis  
import CheckInDetails  
import CheckOutDetails  
while True:  
 os.system(**'cls'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print(**' HOTEL RESERVATION SYSTEM'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print()  
 print(**'1. Create New Room'**)  
 print(**'2. Show All Rooms'**)  
 print(**'3. Check-In'**)  
 print(**'4. Check-In Details'**)  
 print(**'5. Check-Out'**)  
 print(**'6. Check-Out Details'**)  
 print(**'7. Data Analysis'**)  
 print(**'0. Exit'**)  
 print()  
 choice = int(input(**'Enter your choice: '**))  
  
  
 if choice == 0:  
 break  
 elif choice == 1:  
 RoomFunction.createroom()  
 elif choice == 2:  
 RoomFunction.showallrooms()  
 elif choice == 3:  
 CheckInFunctions.checkin()  
 elif choice == 4:  
 CheckInDetails.checkindetails()  
 elif choice == 5:  
 CheckOutFunctions.checkout()  
 elif choice == 6:  
 CheckOutDetails.checkoutdetails()  
 elif choice == 7:  
 DataAnalysis.showchartmenu()

**2.RoomFunction**

**Create New Room**



**Show All Rooms**

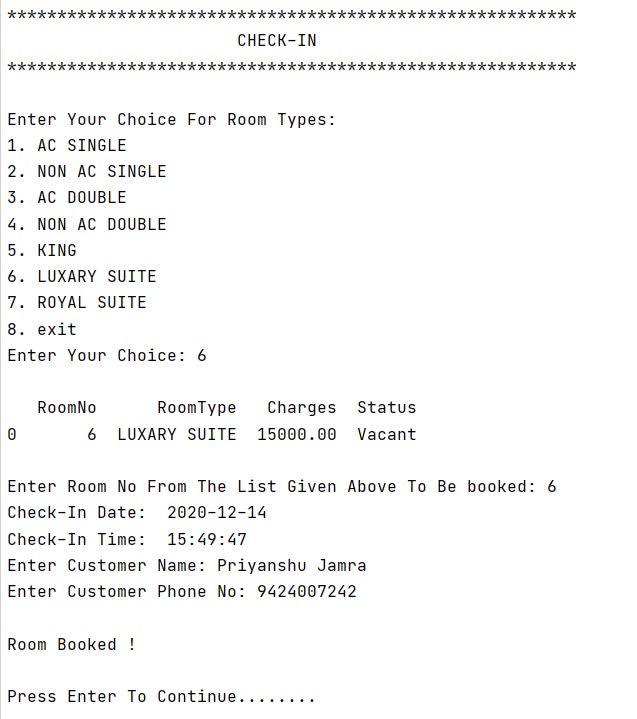


**CODING FOR RoomFunction:**

import os  
import mysql.connector as connector  
import pandas  
  
  
def createroom():  
 os.system(**'cls'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print(**' CREATE NEW ROOM'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print()  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
  
 roomno = input(**'Enter Room No: '**)  
 type = input(**'Enter Room Type: '**)  
 charges = input(**'Enter Room Charges: '**)  
 status = **'Vacant'** qry = **"insert into roommaster values({},'{}',{},'{}')"**.format(roomno, type, charges, status)  
 mycursor.execute(qry)  
 con.commit()  
 con.close()  
 print()  
 print(**'New Room Created Successfully !'**)  
 print()  
 input(**'Press Enter To Continue..........'**)  
  
def showallrooms():  
 os.system(**'cls'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print(**' ALL ROOMS'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print()  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 mycursor.execute(**'Select \* from roommaster'**)  
 result = mycursor.fetchall()  
 df = pandas.DataFrame(result, columns=[**'Roomno'**, **'Type'**, **'Charges'**, **'Status'**])  
 con.close()  
 print(df)  
 print()  
 input(**'Press Enter To Continue..........'**)

**3.CheckInFunctions**

**Check IN**

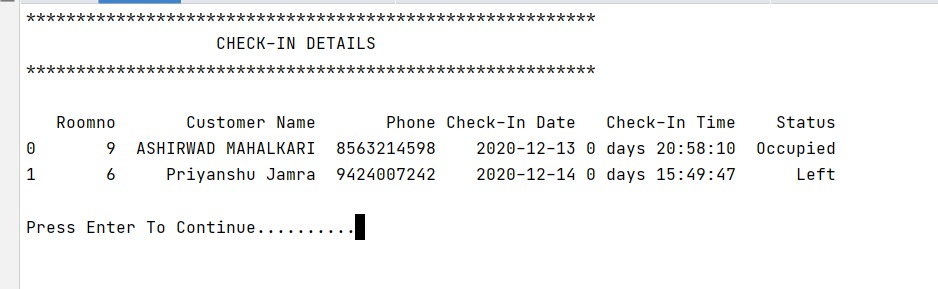


**CODING FOR CheckInFunctions:**

import os  
import mysql.connector as connector  
import pandas  
  
  
def printheading():  
 os.system(**'cls'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print(**' CHECK-IN'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print()  
  
  
def showavailablerooms(roomtype):  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 qry = **"select \* from roommaster where status = 'Vacant' and roomtype = '{}'"**.format(roomtype)  
 mycursor.execute(qry)  
 df = pandas.DataFrame(mycursor.fetchall(), columns=[**'RoomNo'**, **'RoomType'**, **'Charges'**, **'Status'**])  
 print()  
 print(df)  
 print()  
  
  
def checkin():  
 os.system(**'cls'**)  
 printheading()  
 print(**'Enter Your Choice For Room Types: '**)  
 print(**'1. AC SINGLE'**)  
 print(**'2. NON AC SINGLE'**)  
 print(**'3. AC DOUBLE'**)  
 print(**'4. NON AC DOUBLE'**)  
 print(**'5. KING '**)  
 print(**'6. LUXARY SUITE'**)  
 print(**'7. ROYAL SUITE'**)  
 print(**'8. exit'**)  
  
 roomchoice = int(input(**'Enter Your Choice: '**))  
 roomtype = **''** if roomchoice == 1:  
 roomtype = **'AC SINGLE'** elif roomchoice == 2:  
 roomtype = **'NON AC SINGLE'** elif roomchoice == 3:  
 roomtype = **'AC DOUBLE'** elif roomchoice == 4:  
 roomtype = **'NON AC DOUBLE'** elif roomchoice == 5:  
 roomtype = **'KING'** elif roomchoice == 6:  
 roomtype = **'LUXARY SUITE'** elif roomchoice == 7:  
 roomtype = **'ROYAL SUITE'** elif roomchoice == 8:  
 return  
  
  
 showavailablerooms(roomtype)  
  
 roomno = input(**'Enter Room No From The List Given Above To Be booked: '**)  
  
 con = connector.connect(host=**"localhost"**, user=**"root"**, passwd=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 qry = **'select curdate()'** mycursor.execute(qry)  
 currentdate = mycursor.fetchall()  
 checkindate = currentdate[0][0]  
  
 print(**'Check-In Date: '**, checkindate)  
  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 qry = **'select curtime()'** mycursor.execute(qry)  
 currentTime = mycursor.fetchall()  
 checkinTime = currentTime[0][0]  
  
 print(**'Check-In Time: '**, checkinTime)  
 custname = input(**'Enter Customer Name: '**)  
 phone = input(**'Enter Customer Phone No: '**)  
  
 q = **"insert into checkin values({},'{}','{}','{}','{}','Occupied')"**.format(roomno,  
 custname, phone, checkindate,checkinTime)  
 mycursor.execute(q)  
 q = **"update roommaster set status = 'Occupied' where roomno = {}"**.format(roomno)  
 mycursor.execute(q)  
 con.commit()  
 print()  
 print(**'Room Booked !'**)  
 print()

input(**'Press Enter To Continue........'**)

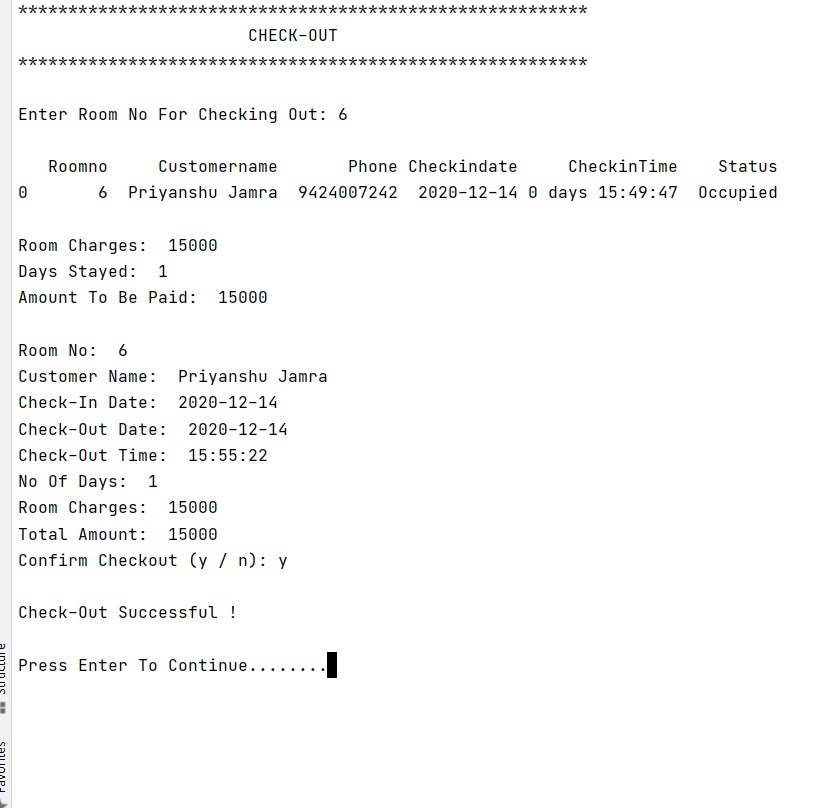
**4.CheckInDetails**



**CODING FOR CheckInDetails:**

import os  
import mysql.connector as connector  
import pandas  
  
def checkindetails():  
 os.system(**'cls'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print(**' CHECK-IN DETAILS'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print()  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 mycursor.execute(**'Select \* from checkin'**)  
 result = mycursor.fetchall()  
 df = pandas.DataFrame(result, columns=[**'Roomno'**, **'Customer Name'**, **'Phone'**, **'Check-In Date'**,**'Check-In Time'**,**'Status'**])  
 con.close()  
 print(df)  
 print()  
 input(**'Press Enter To Continue..........'**)

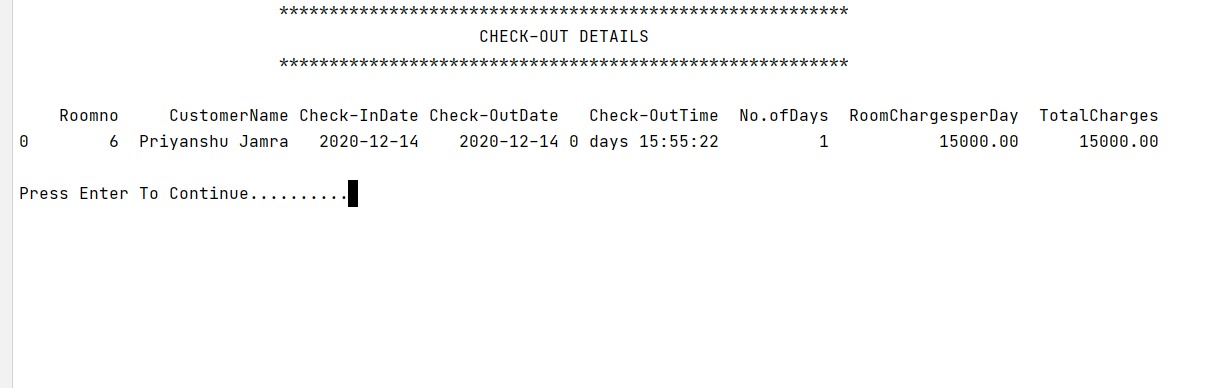
**5.CheckOutFunctions**



**CODING FOR CheckOutFunctions:**

import os  
import mysql.connector as connector  
import pandas  
  
def getroomcharges(roomno):  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 q = **"select charges from roommaster where roomno = {}"**.format(roomno)  
 mycursor.execute(q)  
 roomno = mycursor.fetchall()  
 return int(roomno[0][0])  
  
def getdays(roomno):  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 q = **"select curdate() - checkindate from checkin where roomno = {}"**.format(roomno)  
 mycursor.execute(q)  
 days = mycursor.fetchall()  
 return int(days[0][0])  
  
  
def checkout():  
 os.system(**'cls'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print(**' CHECK-OUT'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print()  
  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
  
 roomno = input(**'Enter Room No For Checking Out: '**)  
 q = **"select \* from checkin where roomno = {} and status = 'Occupied'"**.format(roomno)  
 charges = getroomcharges(roomno)  
 mycursor.execute(q)  
 roomdata = mycursor.fetchall()  
 if mycursor.rowcount > 0:  
 df = pandas.DataFrame(roomdata, columns=[**'Roomno'**, **'Customername'**, **'Phone'**, **'Checkindate'**,**'CheckinTime'**, **'Status'**])  
 print()  
 print(df)  
 print()  
 print(**'Room Charges: '**, charges)  
  
 days = getdays(roomno)  
 if days == 0:  
 days += 1  
  
 print(**'Days Stayed: '**, days)  
 amount = charges \* days  
 print(**'Amount To Be Paid: '**, amount)  
 print()  
  
 qry = **'select curdate()'** mycursor.execute(qry)  
 currentdate = mycursor.fetchall()  
 checkoutdate = currentdate[0][0]  
  
 qry = **'select curtime()'** mycursor.execute(qry)  
 currenttime = mycursor.fetchall()  
 checkouttime = currenttime[0][0]  
  
 custname = df.at[0, **'Customername'**]  
 checkindate = df.at[0, **'Checkindate'**]  
  
 print(**'Room No: '**, roomno)  
 print(**'Customer Name: '**, custname)  
 print(**'Check-In Date: '**, checkindate)  
 print(**'Check-Out Date: '**, checkoutdate)  
 print(**'Check-Out Time: '**, checkouttime)  
 print(**'No Of Days: '**, days)  
 print(**'Room Charges: '**, charges)  
 print(**'Total Amount: '**, amount)  
  
 confirm = input(**'Confirm Checkout (y / n): '**)  
 if confirm == **'y'**:  
 q = **"update checkin set status = 'Left' where roomno = {}"**.format(roomno)  
 mycursor.execute(q)  
 q = **"update roommaster set status = 'Vacant' where roomno = {}"**.format(roomno)  
 mycursor.execute(q)  
 q = **"insert into checkout values({},'{}','{}','{}', '{}', {}, {},{})"** q = q.format(roomno, custname, checkindate, checkoutdate,checkouttime, days, charges, amount)  
 mycursor.execute(q)  
 con.commit()  
 print()  
 print(**'Check-Out Successful !'**)  
 else:  
 print(**'No Booking For This RoomNo !'**)  
  
 print()  
 input(**'Press Enter To Continue........'**)

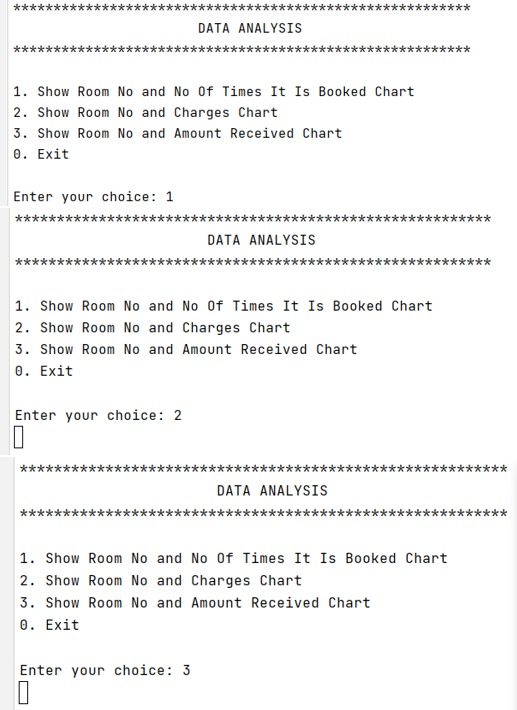
**6.CheckOutDetails**



**CODING FOR CheckOutDetails:**

import os  
import mysql.connector as connector  
import pandas  
  
def checkoutdetails():  
 os.system(**'cls'**)  
 print(**' \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print(**' CHECK-OUT DETAILS'**)  
 print(**' \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print()  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 mycursor.execute(**'Select \* from checkout'**)  
 result = mycursor.fetchall()  
 df = pandas.DataFrame(result, columns=[**' Roomno'**, **' CustomerName'**, **'Check-InDate'**, **'Check-OutDate'** ,**'Check-OutTime'**,**'No.ofDays'**,**' RoomChargesperDay'**,**' TotalCharges'**])  
 con.close()  
 print(df)  
 print()  
 input(**'Press Enter To Continue..........'**)

**7.DataAnalysis**



**CODING FOR DataAnalysis:**

import mysql.connector as connector  
import os  
import pandas  
import matplotlib.pyplot as plt  
  
  
def shownooftimesroombookedchart():  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 q = **"select roomno,count(\*) 'times' from checkin group by roomno"** mycursor.execute(q)  
 data = mycursor.fetchall()  
 df = pandas.DataFrame(data, columns=[**'roomno'**, **'times'**])  
 x = list(df[**'roomno'**])  
 y = list(df[**'times'**])  
 plt.bar(x,y)  
 plt.xticks(x)  
 plt.yticks(y)  
 plt.title(**'Room No and No Of Times It Is Booked'**)  
 plt.xlabel(**'ROOM NO'**)  
 plt.ylabel(**'BOOKED NO OF TIMES'**)  
 plt.show()  
  
def showroomnoandchargeschart():  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 q = **"select roomno,charges from roommaster"** mycursor.execute(q)  
 data = mycursor.fetchall()  
 df = pandas.DataFrame(data, columns=[**'roomno'**, **'charges'**])  
 x = list(df[**'roomno'**])  
 y = list(df[**'charges'**])  
 plt.plot(x,y)  
 plt.xticks(x)  
 plt.yticks(y)  
 plt.title(**'Room No and Charges'**)  
 plt.xlabel(**'ROOM NO'**)  
 plt.ylabel(**'CHARGES'**)  
 plt.show()  
  
def showroomwisetotalamountchart():  
 con = connector.connect(host=**"localhost"**, user=**"root"**, password=**"root"**, database=**"Hotel"**)  
 mycursor = con.cursor()  
 q = **"select roomno, sum(totalcharges) from checkout group by roomno"** mycursor.execute(q)  
 data = mycursor.fetchall()  
 df = pandas.DataFrame(data, columns=[**'roomno'**, **'amount'**])  
 x = list(df[**'roomno'**])  
 y = list(df[**'amount'**])  
 plt.pie(y,labels=x,shadow=True)  
 plt.title(**'ROOM NO AND AMOUNT RECEIVED CHART'**)  
 plt.show()  
  
def showchartmenu():  
 while True:  
 os.system(**'cls'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print(**' DATA ANALYSIS'**)  
 print(**'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'**)  
 print()  
 print(**'1. Show Room No and No Of Times It Is Booked Chart'**)  
 print(**'2. Show Room No and Charges Chart'**)  
 print(**'3. Show Room No and Amount Received Chart'**)  
 print(**'0. Exit'**)  
 print()  
 choice = int(input(**'Enter your choice: '**))  
  
 if choice == 0:  
 break  
 if choice == 1:  
 shownooftimesroombookedchart()  
 if choice == 2:  
 showroomnoandchargeschart()  
 if choice==3:  
 showroomwisetotalamountchart()

**CONCLUSION**

Our Software allows the Hotel to Create Room And select room type as per the choice of the client as well as Update them according to user’s wish. It also helps the Owner to analyze the Statistically Past Sales.

In addition to above mentioned features, It majorly helps the Hotel to shift to Computerized Reservation System replacing the Conventional System. The Software abides to fulfill all requirements of the Owner for making him experience a scintillating experience.