# Data structure and Algorithm

# Hotel management

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CODE OF THE PROJECT
#**************HOTEL MANAGEMENT SYSTEM *************************
#******************* *CROWN PLAZA ***************************
import mysql.connector
# GLOBAL VARIABLES DECLARATION
myConnnection =""
cursor=""
userName=""
password =""
roomrent =0
restaurentbill=0
gamingbill=0
fashionbill=0
totalAmount=0
cid=""
#MODULE TO CHECK MYSQL CONNECTIVITY
def MYSQLconnectionCheck ():
    global myConnection
    global userName
    global password
    userName = input("\n ENTER MYSQL SERVER'S USERNAME : ")
    password = input("\n ENTER MYSQL SERVER'S PASSWORD : ")

myConnection=mysql.connector.connect(host="localhost",user=userName,passw
d=password ,
    auth_plugin='mysql_native_password' )
    if myConnection:
     print("\n CONGRATULATIONS ! YOUR MYSQL CONNECTION HAS BEEN
ESTABLISHED !")
     cursor=myConnection.cursor()
     cursor.execute("CREATE DATABASE IF NOT EXISTS HMS")
     cursor.execute("COMMIT")
     cursor.close()
     return myConnection
    else:
     print("\nERROR ESTABLISHING MYSQL CONNECTION CHECK USERNAME AND
PASSWORD !")

#MODULE TO ESTABLISHED MYSQL CONNECTION
def MYSQLconnection ():
    global userName
    global password
    global myConnection
    global cid

myConnection=mysql.connector.connect(host="localhost",user=userName,passw
d=password ,
    database="HMS" , auth_plugin='mysql_native_password' )
    if myConnection:
     return myConnection
    else:
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        print("\nERROR ESTABLISHING MYSQL CONNECTION !")
        myConnection.close()
def userEntry():
    global cid
    if myConnection:
        cursor=myConnection.cursor()
        createTable ="""CREATE TABLE IF NOT EXISTS C_DETAILS(CID
VARCHAR(20),C_NAME
        VARCHAR(30),C_ADDRESS VARCHAR(30),C_AGE VARCHAR(30),
        C_COUNTRY VARCHAR(30) ,P_NO VARCHAR(30),C_EMAIL VARCHAR(30))"""
        cursor.execute(createTable)
        cid = input("Enter Customer Identification Number : ")
        name = input("Enter Customer Name : ")
        address = input("Enter Customer Address : ")
        age= input("Enter Customer Age : ")
        nationality = input("Enter Customer Country : ")
        phoneno= input("Enter Customer Contact Number : ")
        email = input("Enter Customer Email : ")
        sql = "INSERT INTO C_Details VALUES(%s,%s,%s,%s,%s,%s,%s)"
        values= (cid,name,address,age,nationality,phoneno,email)
        cursor.execute(sql,values)
        cursor.execute("COMMIT")
        print("\nNew Customer Entered In The System Successfully !")
        cursor.close()
    else:
        print("\nERROR ESTABLISHING MYSQL CONNECTION !")
def bookingRecord():
    global cid
    customer=searchCustomer()
    if customer:
        if myConnection:
            cursor=myConnection.cursor()
            createTable ="""CREATE TABLE IF NOT EXISTS BOOKING_RECORD(CID
VARCHAR(20),CHECK_IN
            DATE ,CHECK_OUT DATE)"""
            cursor.execute(createTable)
            checkin=input("\n Enter Customer CheckIN Date [ YYYY-MM-DD ]
: ")
            checkout=input("\n Enter Customer CheckOUT Date [ YYYY-MM-DD
] : ")
            sql= "INSERT INTO BOOKING_RECORD VALUES(%s,%s,%s)"
            values= (cid,checkin,checkout)
            cursor.execute(sql,values)
            cursor.execute("COMMIT")
            print("\nCHECK-IN AND CHECK-OUT ENTRY MADED SUCCESSFULLY !")
            cursor.close()
        else:
            print("\nERROR ESTABLISHING MYSQL CONNECTION !")

def roomRent():
    global cid
    customer=searchCustomer()
    if customer:
     global roomrent
     if myConnection:
      cursor=myConnection.cursor()
      createTable ="""CREATE TABLE IF NOT EXISTS ROOM_RENT(CID
VARCHAR(20),ROOM_CHOICE
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        INT,NO_OF_DAYS INT,ROOMNO INT ,ROOMRENT INT)"""
        cursor.execute(createTable)
        print ("\n ##### We have The Following Rooms For You #####")
        print (" 1. Ultra Royal ----> 10000 Rs.")
        print (" 2. Royal ----> 5000 Rs. ")
        print (" 3. Elite ----> 3500 Rs. ")
        print (" 4. Budget ----> 2500 USD ")
        roomchoice =int(input("Enter Your Option : "))
        roomno=int(input("Enter Customer Room No : "))
        noofdays=int(input("Enter No. Of Days : "))
        if roomchoice==1:
         roomrent = noofdays * 10000
         print("\nUltra Royal Room Rent : ",roomrent)
        elif roomchoice==2:
         roomrent = noofdays * 5000
         print("\nRoyal Room Rent : ",roomrent)
        elif roomchoice==3:
         roomrent = noofdays * 3500
         print("\nElite Royal Room Rent : ",roomrent)
        elif roomchoice==4:
         roomrent = noofdays * 2500
         print("\nBudget Room Rent : ",roomrent)
        else:
         print("Sorry ,May Be You Are Giving Me Wrong Input, Please Try
Again !!! ")
         return
        sql= "INSERT INTO ROOM_RENT VALUES(%s,%s,%s,%s,%s)"
        values= (cid,roomchoice,noofdays,roomno,roomrent,)
        cursor.execute(sql,values)
        cursor.execute("COMMIT")
        print("Thank You , Your Room Has Been Booked For : ",noofdays ,
"Days" )
        print("Your Total Room Rent is : Rs. ",roomrent)
        cursor.close()
    else:
     print("\nERROR ESTABLISHING MYSQL CONNECTION !")
def Restaurent():
    global cid
    customer=searchCustomer()
    if customer:
     global restaurentbill
     if myConnection:
        cursor=myConnection.cursor()
        createTable ="""CREATE TABLE IF NOT EXISTS RESTAURENT(CID
VARCHAR(20),CUISINE
        VARCHAR(30),QUANTITY VARCHAR(30),BILL VARCHAR(30))
        """
        cursor.execute(createTable)
        print("1. Vegetarian Combo -----> 300 Rs.")
        print("2. Non-Vegetarian Combo -----> 500 Rs.")
        print("3. Vegetarian & Non-Vegetarian Combo -----> 750 Rs.")
        choice_dish = int(input("Enter Your Cusine : "))
        quantity=int(input("Enter Quantity : "))
        if choice_dish==1:
         print("\nSO YOU HAVE ORDER: Vegetarian Combo ")
         restaurentbill = quantity * 300
        elif choice_dish==2:
         print("\nSO YOU HAVE ORDER: Non-Vegetarian Combo ")
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        restaurentbill = quantity * 500
       elif choice_dish==3:
        print("\nSO YOU HAVE ORDER: Vegetarian & Non-Vegetarian Combo
")
        restaurentbill= quantity * 750
       else:
        print("Sorry ,May Be You Are Giving Me Wrong Input, Please Try
Again !!! ")
        return
       sql= "INSERT INTO RESTAURENT VALUES(%s,%s,%s,%s)"
       values= (cid,choice_dish,quantity,restaurentbill)
       cursor.execute(sql,values)
       cursor.execute("COMMIT")
       print("Your Total Bill Amount Is : Rs. ",restaurentbill)
       print("\n\n**** WE HOPE YOU WILL ENJOY YOUR MEAL ***\n\n" )
       cursor.close()
    else:
       print("\nERROR ESTABLISHING MYSQL CONNECTION !")
def Gaming():
    global cid
    customer=searchCustomer()
    if customer:
     global gamingbill
     if myConnection:
      cursor=myConnection.cursor()
      createTable ="""CREATE TABLE IF NOT EXISTS GAMING(CID
VARCHAR(20),GAMES
      VARCHAR(30),HOURS VARCHAR(30),GAMING_BILL VARCHAR(30))
      """
      cursor.execute(createTable)
      print("""
      1. Table Tennis -----> 150 Rs./HR
      2. Bowling -----> 100 Rs./HR
      3. Snooker -----> 250 Rs./HR
      4. VR World Gaming -----> 400 Rs./HR
      5. Video Games -----> 300 Rs./HR
      6. Swimming Pool Games -----> 350 Rs./HR
      7. Exit
      """)
      game=int(input("Enter What Game You Want To Play : "))
      hour=int(input("Enter No Of Hours You Want To Play : "))
      print("\n\n#############################################")
      if game==1:
       print("YOU HAVE SELECTED TO PLAY : Table Tennis")
       gamingbill = hour * 150
      elif game==2:
       print("YOU HAVE SELECTED TO PLAY : Bowling")
       gamingbill = hour * 100
      elif game==3:
       print("YOU HAVE SELECTED TO PLAY : Snooker")
       gamingbill = hour * 250
      elif game==4:
       print("YOU HAVE SELECTED TO PLAY : VR World Gaming")
       gamingbill = hour * 400
      elif game==5:
       print("YOU HAVE SELECTED TO PLAY : Video Games")
       gamingbill = hour * 300
      elif game ==6:
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        print("YOU HAVE SELECTED TO PLAY : Swimming Pool Games")
        gamingbill = hour * 350
       else:
        print("Sorry ,May Be You Are Giving Me Wrong Input, Please Try
Again !!! ")
        return
       sql= "INSERT INTO GAMING VALUES(%s,%s,%s,%s)"
       values= (cid,game,hour,gamingbill)
       cursor.execute(sql,values)
       cursor.execute("COMMIT")
       print("Your Total Gaming Bill Is : Rs. ",gamingbill)
       print("FOR : ",hour," HOURS","\n *** WE HOPE YOU WILL ENJOY YOUR
GAME ***")
       print("\n\n###########################################")
       cursor.close()
      else:
       print("ERROR ESTABLISHING MYSQL CONNECTION !")
def Fashion():
    global cid
    customer=searchCustomer()
    if customer:
     global fashionbill
     if myConnection:
      cursor=myConnection.cursor()
      createTable ="""CREATE TABLE IF NOT EXISTS FASHION(CID
VARCHAR(20),DRESS
      VARCHAR(30),AMOUNT VARCHAR(30),BILL VARCHAR(30))"""
      cursor.execute(createTable)
      print("""
      1. Shirts -----> 1500 Rs.
      2. T-Shirts -----> 300 Rs.
      3. Pants -----> 2000 Rs.
      4. Jeans -----> 4000 Rs.
      5. Tassel top -----> 500 Rs.
      6. Gown -----> 3000 Rs.
      7. Western dress -----> 3000 Rs.
      8. Skirts -----> 400 Rs.
      9. Trousers -----> 200 Rs.
      10. InnerWear -----> 30 Rs.
      """)
      dress=int(input("Enter the your Choice wear: "))
      quantity=int(input("How many you want to buy: "))
      if dress==1:
       print("\nShirts")
       fashionbill = quantity * 1500
      elif dress==2:
       print("\nT-Shirts")
       fashionbill = quantity * 300
      elif dress==3:
       print("\nPants")
       fashionbill = quantity * 2000
      elif dress==4:
       print("\nJeans")
       fashionbill = quantity * 4000
      elif dress==5:
       print("\nTassel top")
       fashionbill = quantity * 500
      elif dress==6:
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    print("\nGown")
    fashionbill = quantity * 3000
   elif dress==7:
    print("\nWestern dress")
    fashionbill = quantity * 3000
   elif dress==8:
    print("\nSkirts")

    fashionbill = quantity * 400
   elif dress==9:
    print("\nTrousers")
    fashionbill = quantity * 200
   elif dress==10:
    print("\nInnerWear")
    fashionbill = quantity * 30
   else:
    print("Sorry ,May Be You Are Giving Me Wrong Input, Please Try
Again !!! ")
    return
   sql= "INSERT INTO FASHION VALUES(%s,%s,%s,%s)"
   values= (cid,dress,quantity,fashionbill)
   cursor.execute(sql,values)
   cursor.execute("COMMIT")
   print("\n\n###############################################")
   print("\nYOU SELECT ITEM NO : ",dress,"\nYOUR QUANTITY IS :
",quantity," ITEMS","\nTHANKYOU FOR SHOPPING VISIT AGAIN!!!" )
   print("\nYour Total Bill Is : ",fashionbill)
   print("\n\n###############################################")
   cursor.close()
  else:
   print("\nERROR ESTABLISHING MYSQL CONNECTION !")
def totalAmount():
    global cid
    customer=searchCustomer()
    if customer:
     global grandTotal
     global roomrent
     global restaurentbill
     global fashionbill
     global gamingbill
     if myConnection:
      cursor=myConnection.cursor()
      createTable ="""CREATE TABLE IF NOT EXISTS TOTAL(CID
VARCHAR(20),C_NAME
      VARCHAR(30),ROOMRENT INT ,RESTAURENTBILL INT ,GAMINGBILL
INT,FASHIONBILL
      INT,TOTALAMOUNT INT)"""
      cursor.execute(createTable)
      sql= "INSERT INTO TOTAL VALUES(%s,%s,%s,%s,%s,%s,%s)"
      name = input("Enter Customer Name : ")
      grandTotal=roomrent + restaurentbill + fashionbill + gamingbill
      values= (cid,name,roomrent,restaurentbill ,
gamingbill,fashionbill,grandTotal)
      cursor.execute(sql,values)
      cursor.execute("COMMIT")
      cursor.close()
      print("\n **** CROWN PLAZA MIAMI **** CUSTOMER BIILING ****")
      print("\n CUSTOMER NAME : " ,name)
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        print("\nROOM RENT : Rs. ",roomrent)
        print("\nRESTAURENT BILL : Rs. ",restaurentbill)
        print("\nFASHION BILL : Rs. ",fashionbill)
        print("\nGAMING BILL : Rs. ",gamingbill)
        print("_____")
        print("\nTOTAL AMOUNT : Rs. ",grandTotal)
        cursor.close()
     else:
        print("\nERROR ESTABLISHING MYSQL CONNECTION !")
def searchOldBill():
    global cid
    customer=searchCustomer()
    if customer:
     if myConnection:
      cursor=myConnection.cursor()
      sql="SELECT * FROM TOTAL WHERE CID= %s"
      cursor.execute(sql,(cid,))
      data=cursor.fetchall()
      if data:
       print(data)
      else:
       print("Record Not Found Try Again !")
      cursor.close()
     else:
      print("\nSomthing Went Wrong ,Please Try Again !")

def searchCustomer():
     global cid
     if myConnection:
      cursor=myConnection.cursor()
      cid=input("ENTER CUSTOMER ID : ")
      sql="SELECT * FROM C_DETAILS WHERE CID= %s"
      cursor.execute(sql,(cid,))
      data=cursor.fetchall()
      if data:
       print(data)
       return True
      else:
       print("Record Not Found Try Again !")
       return False
      cursor.close()

     else:
      print("\nSomthing Went Wrong ,Please Try Again !")
myConnection = MYSQLconnectionCheck ()
if myConnection:
 MYSQLconnection ()
 while(True):
     print("""
     1--->Enter Customer Details
     2--->Booking Record
     3--->Calculate Room Rent
     4--->Calculate Restaurant Bill
     5--->Calculate Gaming Bill
     6--->Calculate Fashion store Bill
     7--->Display Customer Details
     8--->GENERATE TOTAL BILL AMOUNT
     9--->GENERATE OLD BILL
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        10--->EXIT """)
        choice = int(input("Enter Your Choice"))
        if choice ==1:
         userEntry()
        elif choice ==2:
         bookingRecord()
        elif choice ==3:
         roomRent()
        elif choice ==4:
         Restaurent()
        elif choice ==5:
         Gaming()
        elif choice ==6:
         Fashion()
        elif choice ==7:
         searchCustomer()
        elif choice ==8:
         totalAmount()
        elif choice ==9:
         searchOldBill()
        elif choice ==10:
         break
        else:
         print("Sorry ,May Be You Are Giving Me Wrong Input, Please Try
Again !!! ")
else:
 print("\nERROR ESTABLISHING MYSQL CONNECTION !")
# END OF PROJECT
```