

Indraprastha International School

Session 2021-22

# COMPUTER SCIENCE FILE

SUBJECT CODE-083

## HOTEL RESERVATION SYSTEM

*HOTEL PICALLY*



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# INTRODUCTION

## WELCOME TO HOTEL PICALLY

Python-MySQL connectivity forms the basis of this project. It involves the usage and implementation of function definition, the concept of local and global scope, modules, and the very basic ideology required for Python programming.

- Import statements imports the already existing modules from python library to main program
- While loop runs till the <condition> is true while For loop runs for a certain specified number of times.
- Defined functions run when called from the `__main__`.

To connect python and MySQL, install “pip” from the command prompt.

```
~$ curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left   Speed
100 1764k  100 1764k    0     0  2432k      0 --:--:-- --:--:-- --:--:-- 2444k
~$ python3 get-pip.py
Collecting pip
  Downloading pip-20.0.2-py2.py3-none-any.whl (1.4 MB)
    |#####| 1.4 MB 1.1 MB/s
Installing collected packages: pip
  WARNING: The scripts pip, pip3 and pip3.6 are installed in '/Library/Frameworks/Python.framework/Versions/3.6/bin' which is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed pip-20.0.2
~$
```

# ACKNOWLEDGEMENT

It is with pleasure that I acknowledge my sincere gratitude to our teacher, Ms. Guneet for her vital support, guidance and encouragement without which this project would not have come forth from my side.

She helped me in completing the project by giving ideas and made this project easy and accurate.

I thank my parents for their undivided support and for encouraging me to go my own way, without which I would have been unable to complete this project.

Lastly, I would like to thank my friends and classmates, who constantly gave me new and innovative ideas for this project and motivated me to complete this project.

# CERTIFICATE

This is to certify that *Anushka Srivastava* of class *XII-A2* of *Indraprastha International School, Dwarka* has done her project on Hotel Reservation System under my supervision.

She has taken interest and has shown at most sincerity in completion of this project.

I certify that this project is as per the guidelines issued by CBSE.

# HARDWARE REQUIREMENT

- ✓ Intel core i3/i5/i7 or any equivalent
- ✓ At least 256 MB RAM
- ✓ 2 MB free space on hard disk
- ✓ Monitor

# SOFTWARE REQUIREMENT

- ✓ MS Windows
- ✓ Python IDLE
- ✓ MySQL

# AIMS AND OBJECTIVES

A customer database is one of the most crucial aspects of a hotel when it comes to having effective marketing and maintaining a standard. The database is your new CURRENCY. Information, such as demographics, purchase behaviors, and buying preferences, can guide marketers to develop strategies that deliver higher conversions on their campaigns.

Most hotels utilize previous information about their customers to help better understand a customer at an individual level. Today in the world of online advertisement, the previous data can be fed to smart AI-based advertisement systems that use different demographics to target and filter interested and potential customers to be attracted to brand new offers.

This project helps to store customer check-in data into a database management system which takes input through an Integrated Development and Learning Environment. This data is used to maintain customer information, helps to calculate the total expenditure and keeps track of check-in and check-out timings and miscellaneous details. It also uses this information for the future purposes of attracting customers on the basis of their customized interests. This helps in increasing the revenue of hotels and at the same time, helps in easy management of the hotel, which is the basic aim and objective of this project.

# **HOTEL PICALLY CUSTOMER DATABASE**

- 1. Python Source Code**
- 2. Python Output**
- 3. SQL Output**



# PYTHON SOURCE CODE

```
import mysql.connector as ps

def insert_rec(mycon,cur):
    idd=int(input("Enter customer id: "))
    name=input("Name of the customer: ")
    mem=int(input("No. of family members: "))
    phone=int(input("Enter phone no.: "))
    check_in=input("Enter date of check-in (YYYY-MM-DD): ")
    room=int(input("Enter room no.: "))
    check_out=input("Enter date of check-out (YYYY-MM-DD): ")
    cur.execute("insert into hotel values({}, '{}', {}, '{}', {}, {}, {}, {}, {}, {}, {})".format(idd,name,mem,phone,check_in,room,check_out))
    mycon.commit()
    print()
    print("Invoice details:")
    print("-----")
    room_cost=int(input("Enter accomodation costs: "))
    b=int(input("Enter total breakfast bill: "))
    l=int(input("Enter total lunch bill: "))
    s=int(input("Enter total snacks bill: "))
    d=int(input("Enter total dinner bill: "))
    laun=int(input("Enter laundry bill: "))
    rs=int(input("Enter room services bill: "))
    add=int(input("Enter additional services bill: "))
    total=room_cost+b+l+s+d+laun+rs+add
    cur.execute("insert into invoice values({}, {}, {}, {}, {}, {}, {}, {}, {}, {}, {})".format(idd,room_cost,b,l,s,d,laun,rs,add,total))
    mycon.commit()
    print("Values inserted")

def show_all(mycon,cur):
    cur.execute("select * from hotel")
    data=cur.fetchall()
    print("Customer id","name","members","phone","check-in","room","check-out",sep="\t")
    for rec in data:
        for d in rec:
            print(d,end="\t")
        print()

def modify_rec(mycon,cur):
    r=int(input("Enter customer id: "))
    print()
    print("-----OPTIONS-----")
    print("1. Change registration name")
    print("2. Change number of family members")
    print("3. Change phone number")
    print("4. Change room number")
    print()
    ch="y"
    while ch=="y":
        opt=int(input("Enter choice: "))
        if opt==1:
            name_n=input("Enter new name: ")
            stl="update hotel set name='{}' where id={}".format(name_n,r)
            cur.execute(stl)
            mycon.commit()
        elif opt==2:
```

```

        no_n=input("Enter no of family members: ")
        st2="update hotel set members={} where id={}".format(no_n,r)
        cur.execute(st2)
        mycon.commit()
    elif opt==3:
        phone_n=input("Enter new phone number: ")
        st3="update hotel set phone='{}' where id={}".format(phone_n,r)
        cur.execute(st3)
        mycon.commit()
    elif opt==4:
        room_n=int(input("Enter new room no: "))
        st4="update hotel set room={} where id={}".format(room_n,r)
        cur.execute(st4)
        mycon.commit()
    else:
        print("Enter valid option: ")
        ch=input("More changes? (y/n): ")
print("Record updated")

def delete_rec(mycon,cur):
    r=int(input("Enter the customer id to be deleted: "))
    st="delete from hotel where id={}".format(r)
    st1="delete from invoice where id={}".format(r)
    cur.execute(st)
    cur.execute(st1)
    mycon.commit()
    print("Record deleted")

def show_one(mycon,cur):
    r=int(input("Enter customer id: "))
    st="select * from hotel where id={}".format(r)
    cur.execute(st)
    data=cur.fetchall()
    print("Customer id","name","members","phone","check-in","room","check-out",sep="\t")
    for rec in data:
        for d in rec:
            print(d,end="\t")
        print()
    print("-----INVOICE-----")
    st1="select * from invoice where id={}".format(r)
    cur.execute(st1)
    data=cur.fetchall()

l=["room_cost","breakfast","lunch","snacks","dinner","laundry","room_service","additional_service","total"]
i=0
while i<len(l):
    for rec in data:
        print(l[i],":",rec[i+1],sep="\t")
    i+=1

print("-----WELCOME TO HOTEL PICALLY-----")
print()
print()
print("THIS APPLICATION WILL HELP YOU TO PRODUCE CUSTOMER DETAILS AND THE INVOICE AT THE TIME OF CHECKOUT")
print()
mycon=ps.connect(host="localhost",user="root",passwd="jiljil")
cur=mycon.cursor()
cur.execute("create database Anushka")
print("Database created")

```

```
cur.execute("use Anushka")
cur.execute("create table hotel(id int primary key, name varchar(20),members int, phone
varchar(10) unique, checkin date, room int, checkout date)")
cur.execute("create table invoice(id int primary key, room_cost int, breakfast int,
lunch int, snacks int, dinner int, laundry int, room_service int, additional_services
int,total_cost int)")
print("Tables created")
print("Choose the desired option")
print()
print("1. Insert record")
print("2. Show all records")
print("3. Modify record")
print("4. Delete record")
print("5. Show specific record")
print()
ch="y"
while ch=="y":
    opt=int(input("Choose an option: "))
    print()
    if opt==1:
        insert_rec(mycon,cur)
    elif opt==2:
        show_all(mycon,cur)
    elif opt==3:
        modify_rec(mycon,cur)
    elif opt==4:
        delete_rec(mycon,cur)
    elif opt==5:
        show_one(mycon,cur)
    else:
        print("Enter valid option")
    ch=input("Choose again? (y/n)")
mycon.close()
print()
print("-----THANK YOU FOR VISITING-----")
print("-----HOPE TO SEE YOU NEXT TIME TOO!-----")
```

```

import mysql.connector as ps

def insert_rec(mycon,cur):
    idd=int(input("Enter customer id: "))
    name=input("Name of the customer: ")
    mem=int(input("No. of family members: "))
    phone=int(input("Enter phone no.: "))
    check_in=input("Enter date of check-in (YYYY-MM-DD): ")
    room=int(input("Enter room no.: "))
    check_out=input("Enter date of check-out (YYYY-MM-DD): ")
    cur.execute("insert into hotel values({}, '{}', {}, '{}', {}, '{}')".format(idd, name, mem, phone, check_in, room, check_out))
    mycon.commit()
    print()
    print("Invoice details:")
    print("-----")
    room_cost=int(input("Enter accomodation costs: "))
    b=int(input("Enter total breakfast bill: "))
    l=int(input("Enter total lunch bill: "))
    s=int(input("Enter total snacks bill: "))
    d=int(input("Enter total dinner bill: "))
    laun=int(input("Enter laundry bill: "))
    rs=int(input("Enter room services bill: "))
    add=int(input("Enter additional services bill: "))
    total=room_cost+b+l+s+d+laun+rs+add
    cur.execute("insert into invoice values({}, {}, {}, {}, {}, {}, {}, {}, {}, {})".format(idd, room_cost, b, l, s, d, laun, rs, add, total))
    mycon.commit()
    print("Values inserted")

def show_all(mycon,cur):
    cur.execute("select * from hotel")
    data=cur.fetchall()
    print("Customer id", "name", "members", "phone", "check-in", "room", "check-out", sep="\t")
    for rec in data:
        for d in rec:
            print(d, end="\t")
        print()

def modify_rec(mycon,cur):
    r=int(input("Enter customer id: "))
    print()
    print("-----OPTIONS-----")
    print("1. Change registration name")
    print("2. Change number of family members")
    print("3. Change phone number")
    print("4. Change room number")
    print()
    ch="y"
    while ch=="y":
        opt=int(input("Enter choice: "))
        if opt==1:
            name_n=input("Enter new name: ")
            st1="update hotel set name='{}' where id={}".format(name_n, r)
            cur.execute(st1)
            mycon.commit()
        elif opt==2:
            no_n=input("Enter no of family members: ")
            st2="update hotel set members={} where id={}".format(no_n, r)
            cur.execute(st2)
            mycon.commit()
        elif opt==3:
            phone_n=input("Enter new phone number: ")
            st3="update hotel set phone='{}' where id={}".format(phone_n, r)
            cur.execute(st3)
            mycon.commit()
        elif opt==4:
            room_n=int(input("Enter new room no: "))
            st4="update hotel set room={} where id={}".format(room_n, r)
            cur.execute(st4)
            mycon.commit()
        else:
            print("Enter valid option: ")
            ch=input("More changes? (y/n): ")
    print("Record updated")

```

```

def delete_rec(mycon,cur):
    r=int(input("Enter the customer id to be deleted: "))
    st="delete from hotel where id={}".format(r)
    st1="delete from invoice where id={}".format(r)
    cur.execute(st)
    cur.execute(st1)
    mycon.commit()
    print("Record deleted")

def show_one(mycon,cur):
    r=int(input("Enter customer id: "))
    st="select * from hotel where id={}".format(r)
    cur.execute(st)
    data=cur.fetchall()
    print("Customer id", "name", "members", "phone", "check-in", "room", "check-out", sep="\t")
    for rec in data:
        for d in rec:
            print(d,end="\t")
        print()
    print("-----INVOICE-----")
    st1="select * from invoice where id={}".format(r)
    cur.execute(st1)
    data=cur.fetchall()
    l=["room_cost", "breakfast", "lunch", "snacks", "dinner", "laundry", "room_service", "additional_service", "total"]
    i=0
    while i<len(l):
        for rec in data:
            print(l[i],":",rec[i+1],sep="\t")
        i+=1

print("-----WELCOME TO HOTEL PICALLY-----")
print()
print()
print("THIS APPLICATION WILL HELP YOU TO PRODUCE CUSTOMER DETAILS AND THE INVOICE AT THE TIME OF CHECKOUT")
print()
mycon=ps.connect(host="localhost",user="root",passwd="jiljil")
cur=mycon.cursor()
cur.execute("create database Anushka")
print("Database created")
cur.execute("use Anushka")
cur.execute("create table hotel(id int primary key, name varchar(20),members int, phone varchar(10) unique, checkin date, room int, ch
cur.execute("create table invoice(id int primary key, room_cost int, breakfast int, lunch int, snacks int, dinner int, laundry int, ro
print("Tables created")
print("Choose the desired option")
print()
print("1. Insert record")
print("2. Show all records")
print("3. Modify record")
print("4. Delete record")
print("5. Show specific record")
print()
ch="y"
while ch=="y":
    opt=int(input("Choose an option: "))
    print()
    if opt==1:
        insert_rec(mycon,cur)
    elif opt==2:
        show_all(mycon,cur)
    elif opt==3:
        modify_rec(mycon,cur)
    elif opt==4:
        delete_rec(mycon,cur)
    elif opt==5:
        show_one(mycon,cur)
    else:
        print("Enter valid option")
    ch=input("Choose again? (y/n)")
mycon.close()
print()
print("-----THANK YOU FOR VISITING-----")
print("-----HOPE TO SEE YOU NEXT TIME TOO!-----")

```

# PYTHON OUTPUT

## *1. Inserting Record*

-----WELCOME TO HOTEL PICALLY-----

THIS APPLICATION WILL HELP YOU TO PRODUCE CUSTOMER DETAILS AND THE INVOICE AT THE TIME OF CHECKOUT

Database created  
Tables created  
Choose the desired option

1. Insert record
2. Show all records
3. Modify record
4. Delete record
5. Show specific record

Choose an option: 1

Enter customer id: 1001  
Name of the customer: Rakesh Sharma  
No. of family members: 2  
Enter phone no.: 9968440039  
Enter date of check-in (YYYY-MM-DD): 2022-01-01  
Enter room no.: 205  
Enter date of check-out (YYYY-MM-DD): 2022-01-03

Invoice details:

-----  
Enter accomodation costs: 9000  
Enter total breakfast bill: 200  
Enter total lunch bill: 100  
Enter total snacks bill: 0  
Enter total dinner bill: 1000  
Enter laundry bill: 250  
Enter room services bill: 500  
Enter additional services bill: 0  
Values inserted

Choose again? (y/n)y  
Choose an option: 1

Enter customer id: 1002  
Name of the customer: Meena Singh  
No. of family members: 4  
Enter phone no.: 9004493889  
Enter date of check-in (YYYY-MM-DD): 2021-12-25  
Enter room no.: 101  
Enter date of check-out (YYYY-MM-DD): 2022-01-01

Invoice details:

-----  
Enter accomodation costs: 24000  
Enter total breakfast bill: 4000  
Enter total lunch bill: 1250  
Enter total snacks bill: 1000  
Enter total dinner bill: 8000  
Enter laundry bill: 1500  
Enter room services bill: 2000  
Enter additional services bill: 500  
Values inserted



## 2. Displaying Records

Choose again? (y/n)y  
Choose an option: 2

Customer id	name	members	phone	check-in	room	check-out
1001	Rakesh Sharma	2	9968440039	2022-01-01	205	2022-01-03
1002	Meena Singh	4	9004493889	2021-12-25	101	2022-01-01

## 3. Modifying Records

-----WELCOME TO HOTEL PICALLY-----

THIS APPLICATION WILL HELP YOU TO PRODUCE CUSTOMER DETAILS AND THE INVOICE AT THE TIME OF CHECKOUT

Database created  
Tables created  
Choose the desired option

1. Insert record
2. Show all records
3. Modify record
4. Delete record
5. Show specific record

Choose an option: 3

Enter customer id: 1002

- OPTIONS-----
1. Change registration name
  2. Change number of family members
  3. Change phone number
  4. Change room number

Enter choice: 4  
Enter new room no: 201  
More changes? (y/n): y  
Enter choice: 1  
Enter new name: Suresh Singh  
More changes? (y/n): n  
Record updated  
Choose again? (y/n)y  
Choose an option: 2

Customer id	name	members	phone	check-in	room	check-out
1001	Rakesh Sharma	2	9968440039	2022-01-01	205	2022-01-03
1002	Suresh Singh	4	9004493889	2021-12-25	201	2022-01-01

## 4. Deleting Records

-----WELCOME TO HOTEL PICALLY-----

THIS APPLICATION WILL HELP YOU TO PRODUCE CUSTOMER DETAILS AND THE INVOICE AT THE TIME OF CHECKOUT

Database created  
Tables created  
Choose the desired option

1. Insert record
2. Show all records
3. Modify record
4. Delete record
5. Show specific record

Choose an option: 4

Enter the customer id to be deleted: 1001  
Record deleted  
Choose again? (y/n)y  
Choose an option: 2

Customer id	name	members	phone	check-in	room	check-out
1002	Suresh Singh	4	9004493889	2021-12-25	201	2022-01-01

## 5. Display Specific Record

-----WELCOME TO HOTEL PICALLY-----

THIS APPLICATION WILL HELP YOU TO PRODUCE CUSTOMER DETAILS AND THE INVOICE AT THE TIME OF CHECKOUT

Database created  
Tables created  
Choose the desired option

1. Insert record
2. Show all records
3. Modify record
4. Delete record
5. Show specific record

Choose an option: 5

Enter customer id: 1002

Customer id	name	members	phone	check-in	room	check-out
1002	Suresh Singh	4	9004493889	2021-12-25	201	2022-01-01

-----INVOICE-----  
room\_cost : 24000  
breakfast : 4000  
lunch : 1250  
snacks : 1000  
dinner : 8000  
laundry : 1500  
room\_service : 2000  
additional\_service : 500  
total : 42250  
Choose again? (y/n)n

-----THANK YOU FOR VISITING-----  
-----HOPE TO SEE YOU NEXT TIME TOO!-----



## SQL Output

## 1. Creation of Database and Tables

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| anushka |
| mysql |
| performance_schema |
| sakila |
| sys |
| world |
+-----+
7 rows in set (0.00 sec)

mysql> show tables;
+-----+
| Tables_in_anushka |
+-----+
| hotel |
| invoice |
+-----+
2 rows in set (0.00 sec)
```

## 2. Display the inserted records

```
mysql> select * from hotel;
```

id	name	members	phone	checkin	room	checkout
1001	Rakesh Sharma	2	9968440039	2022-01-01	205	2022-01-03
1002	Meena Singh	4	9004493889	2021-12-25	101	2022-01-01

```
2 rows in set (0.00 sec)
```

  

```
mysql> select * from invoice;
```

id	room_cost	breakfast	lunch	snacks	dinner	laundry	room_service	additional_services	total_cost
1001	9000	200	100	0	1000	250	500	0	11050
1002	24000	4000	1250	1000	8000	1500	2000	500	42250

```
2 rows in set (0.00 sec)
```

### 3. Modified Records

```
mysql> select * from hotel;
```

id	name	members	phone	checkin	room	checkout
1001	Rakesh Sharma	2	9968440039	2022-01-01	205	2022-01-03
1002	Suresh Singh	4	9004493889	2021-12-25	201	2022-01-01

2 rows in set (0.00 sec)

### 4. Deleted Records

```
mysql> select * from hotel;
```

id	name	members	phone	checkin	room	checkout
1002	Suresh Singh	4	9004493889	2021-12-25	201	2022-01-01

1 row in set (0.00 sec)

# CONCLUSION

A database structure is really important for storing customer data. The python program acts as the front-end and a user-friendly interface to insert, modify, delete and display customer data as records. On the other hand, the SQL database acts as the back-end which stores all the inputted information and also reflect all the changes done in the python interface.

This data is used to maintain customer information, helps to calculate the total expenditure and keeps track of check-in and check-out timings and miscellaneous details. It also uses this information for the future purposes of attracting customers on the basis of their customized interests. This helps in increasing the revenue of hotels and at the same time, helps in easy management of the hotel, which is the basic aim and objective of this project.