

## HOTEL MANAGEMENT SYSTEM

### A Project Report Submitted

in Partial Fulfillment of the Requirements

**AISSCE - All India Senior School Certificate Examination**

**2019-2020: SCIENCE – XII A**

### In

**COMPUTER SCIENCE (083)**

By:

|  |  |  |
| --- | --- | --- |
| **1. SAHISTHA** | **– XII A** | **– ROLL NO: 20** |
| **2. PALLAVI** | **– XII A** | **– ROLL NO: 14** |
| **3. SABNAM** | **– XII A** | **– ROLL NO: 19** |

**KENDRIYA VIDYALAYA HOLTA CAMP PALAMPUR**

**JANUARY , 2020**

# UNDERTAKING

We declare that the work presented in this project titled “**HOTEL MANAGEMENT SYSTEM”,** submitted to **Sh. Sanjeev Sharma PGT-**

**Computer Science Kendriya Vidyalaya Holta Camp Palampu**r for the award of the **CBSE - AISSE class XII certificate**. We have not plagiarized or

submitted the same work for the award of any other examination. In case this undertaking is found incorrect, we accept that our Certificates may be unconditionally withdrawn.

January, 2020

Place : Kendriya Vidyalaya Palampur

|  |  |  |
| --- | --- | --- |
| **1. SAHISTHA** | **– XII A** | **– ROLL NO: 20** |
| **2. PALLAVI** | **– XII A** | **– ROLL NO: 14** |
| **3. SABNAM** | **– XII A** | **– ROLL NO: 19** |

# CERTIFICATE

### Certified that the work contained in the project titled

**“HOTEL MANAGEMENT SYSTEM**”, by:

### “**SAHISTHA , PALLAVI , SABNAM** ”, has been carried out under my supervision and that this work has not been submitted elsewhere for a AISSE certificate.

**Sanjeev Sharma**

PGT-Computer Science Kendriya Vidyalaya Palampur

**Acknowledgements**

We would like to thank **Sh. Lalit Kumar**, Principal **Kendriya Vidyalaya Palampur**.

We are deeply indebted to our mentor **Sh. Sanjeev Sharma.**

We further thank to all the staff members of Kendriya Vidyalaya Palampur. We owe our sincere gratitude towards Kendriya Vidyalaya Sangathan.

Our heartfelt thanks to CBSE.

We also express our deepest gratitude to our parents.

Finally, we would like to wind up by paying our heartfelt thanks to all our near and dear ones.

|  |  |  |
| --- | --- | --- |
| **1. SAHISTHA** | **– XII A** | **– ROLL NO: 20** |
| **2. PALLAVI** | **– XII A** | **– ROLL NO: 14** |
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**Introduction of the Project**

We the students of **CLASS XII A of KENDRIYA VIDYALAYA PALAMPUR HOLTA** have been assigned the work of **HOTEL MANAGEMENT SYSTEM.**

To perform this task the students were divided into the group of four students named as SAHISTHA , PALLAVI, SABNAM*.*

SAHISTHA , PALLAVI , SABNAM has been assigned the work of coding and programming SAHISTHA , PALLAVI have been assigned the work of analyzing the overall mistakes and have done the conclusion work.

**The project starts with –** Enter 1 - CUSTOMER DETAILS Enter 2 - BOOKING RECORD Enter 3 - ROOM RENT

Enter 4 - RESTAURENT BILL Enter 5 - GAMING BILL

Enter 6 - FASHION STORE BILL

Enter 7 - DISPLAY CUSTOMER DETAILS Enter 8 - TOTAL BILL

Enter 9 - OLD BILL

Enter 10- EXIT

We are so glad that this work have been assigned to us, yet we haven’t done this work before .**SH. SANJEEV SHARMA** our subject teacher have also helped us a lot to complete this project. We feel so blessed that we have learnt all this work with the help of our sir,we are also thankful to our respected principal **SH.LALIT KUMAR GUPTA** for providing us various facilities to complete this project.

As we are the students of **CLASS XII A** and we haven’t done this type of project before, we have performed all that which we have learnt from our **CBSE** PROGRAMMING .Hence, we know that this programming would be further done on a big platform. Since we have started this programming from *SEPTEMBER* month ,we believe that this programming would further help us a lot in our future .

We are also thankful to our groupmates for cooperating with each other while performing this task we have also polished the skills of group activity.

**PROCESS**

FIRSTLY, we have done the planning in a paper work regarding what have to do on the assigned project **HOTEL**

**MANAGEMENT SYSTEM.**

SECONDLY, we discussed our planning with our subject teacher and then he provided us the right path to perform the work.

NEXT, we started our project on foot paths of our subject teacher.

THEN, we started our coding, coding took around 2 and half months for completion.

NEXT, we analyzed the mistakes done and then we corrected them. THEN, we prepared the project format as shown above.

THANKS TO ALL OF WORTHY *TEACHERS* AND *PRINCIPAL* AND MY DEAR GROUP MATES

ALSO A GREAT THANKS TO **KENDRIYA VIDYALAYA SANGATHAN** FOR PROVIDING US THIS GOLDEN OPPORTUNITY

…………

**System Requirements of the Project**

**Recommended System Requirements**

Processors: Intel® Core™ i3 processor 4300M at 2.60 GHz. Disk space: 2 to 4 GB.

Operating systems: Windows® 10, MACOS, and UBUNTU. Python Versions: 3.X.X or Higher.

**Minimum System Requirements**

Processors: Intel Atom® processor or Intel® Core™ i3 processor. Disk space: 1 GB.

Operating systems: Windows 7 or later, MACOS, and UBUNTU. Python Versions: 2.7.X, 3.6.X.

**Prerequisites before installing MySQL Connector Python**

You need root or administrator privileges to perform the installation process.

Python must be installed on your machine.

Note: – MySQL Connector Python requires python to be in the system’s PATH. Installation fails if it doesn’t find Python.

On Windows, If Python doesn’t exist in the system’s PATH, please manually add the directory containing python.exe yourself.

**PYTHON CODING**

#\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*KENDRIYA VIDYALAYA PALAMPUR \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* #\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*HOTEL MANAGEMENT SYSTEM \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ################## CROWN PLAZA MIAMI #############################

#\*\*\*\*\*\*\*Designed and Maintained By :"

#\*\*\*\*\*\*\*SAHISTHA - CLASS XII A - ROLL NO - 8 [ 2019-2020 ]" #\*\*\*\*\*\*\*PALLAVI - CLASS XII A - ROLL NO - 7 [ 2019-2020 ]" #\*\*\*\*\*\*\*SABNAM - CLASS XII A - ROLL NO - 2 [ 2019-2020 ]"

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,passwd=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,passwd=password , database="HMS" , auth\_plugin='mysql\_native\_password' )

if myConnection:

return myConnection else:

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 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 ") 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:

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.

1. Western dress > 3000 Rs.
2. Skirts > 400 Rs.
3. Trousers > 200 Rs.
4. 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: 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","\nTHANK YOU 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)

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 !")

print("""

\*\*\*\*\*\*\*\*\*\*\*\*\*\*KENDRIYA VIDYALAYA PALAMPUR \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*HOTEL MANAGEMENT SYSTEM \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*CROWN PLAZA MIAMI \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* #\*\*\*\*\*\*\* Designed and Maintained By: \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* #\*\*\*\*\*\*\* SAHISTHA - CLASS XII A - ROLL NO - 20[ 2019-2020 ]\*\*\*\*

#\*\*\*\*\*\*\* PALLAVI - CLASS XII A - ROLL NO - 14 [ 2019-2020 ]\*\*\*\* #\*\*\*\*\*\*\* SABNAM - CLASS XII A - ROLL NO - 19 [ 2019-2020 ]\*\*\*\*

""")

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

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 !!! ")

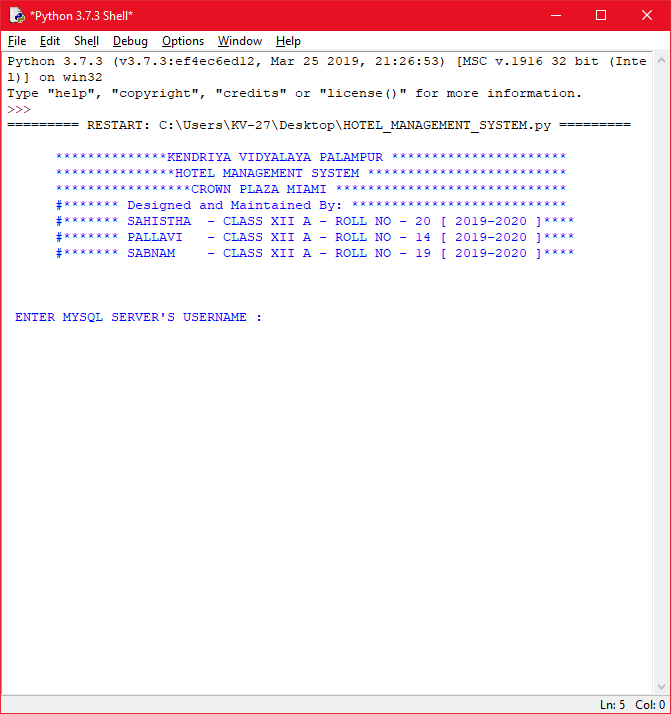
else:

print("\nERROR ESTABLISHING MYSQL CONNECTION !") # END OF PROJECT

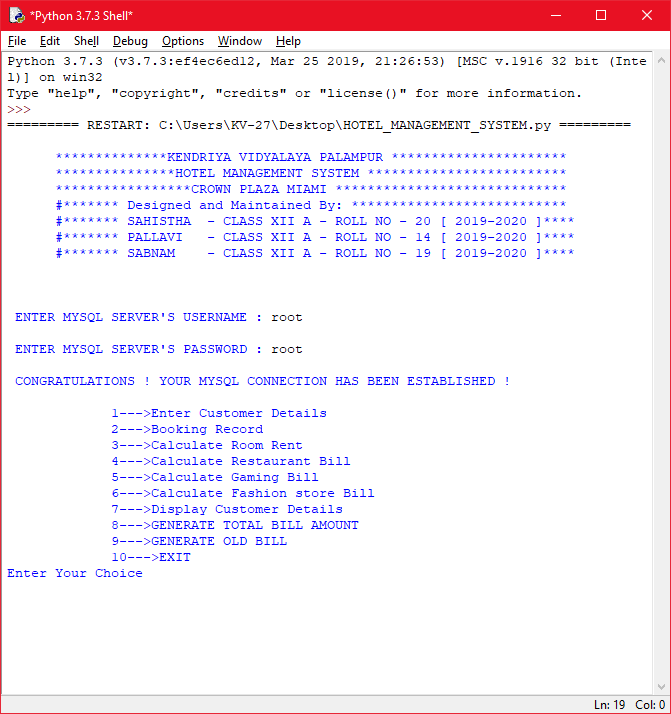
# Output of the Project

**Finally, we conclude our work and present the output of the Project.**

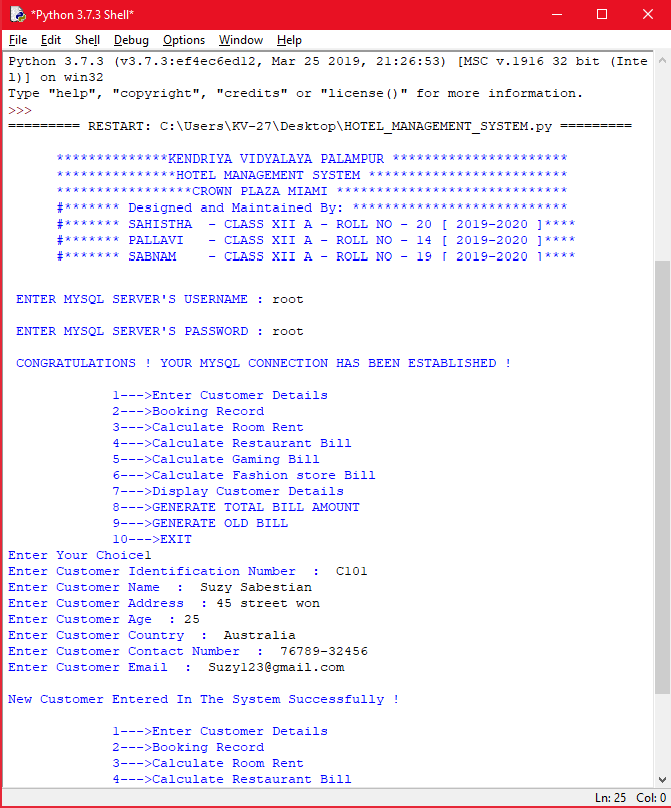
## MAIN SCREEN



**USER AUTHENTICATION**



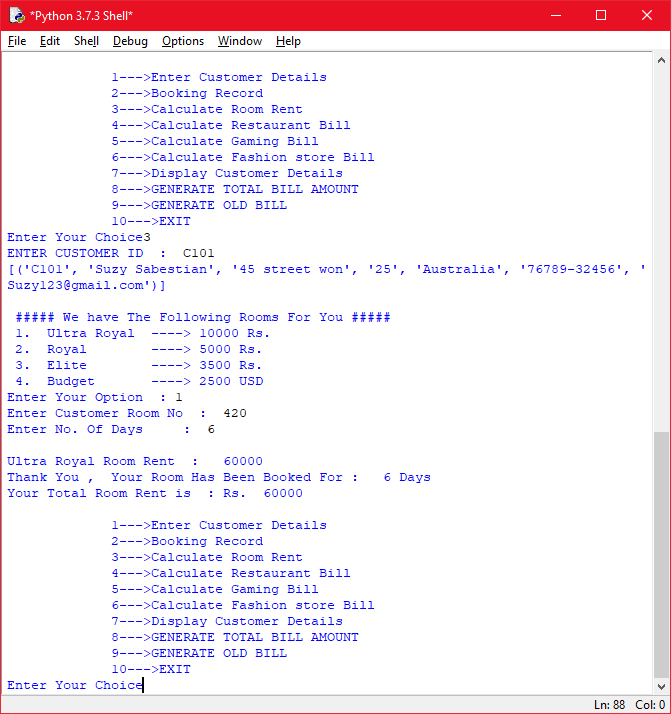
**CUSTOMER DETAILS**



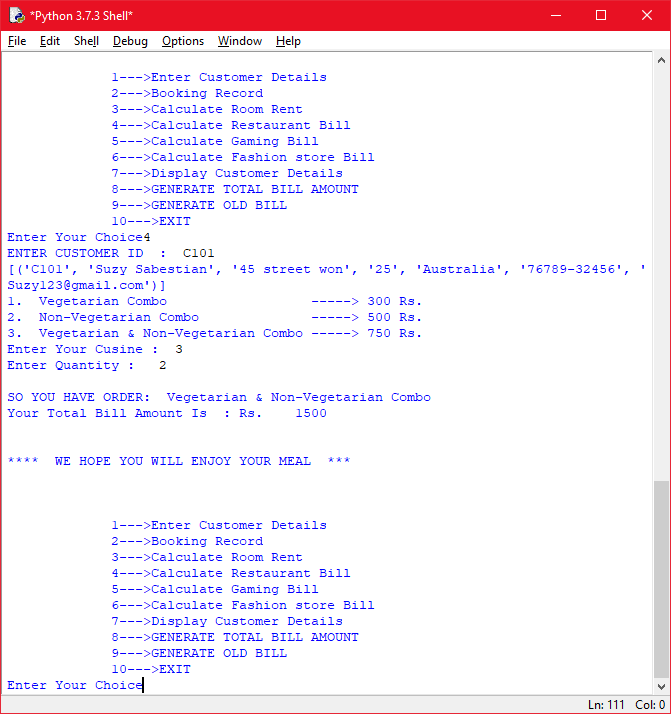
**CUSTOMER BOOKING RECORDS**



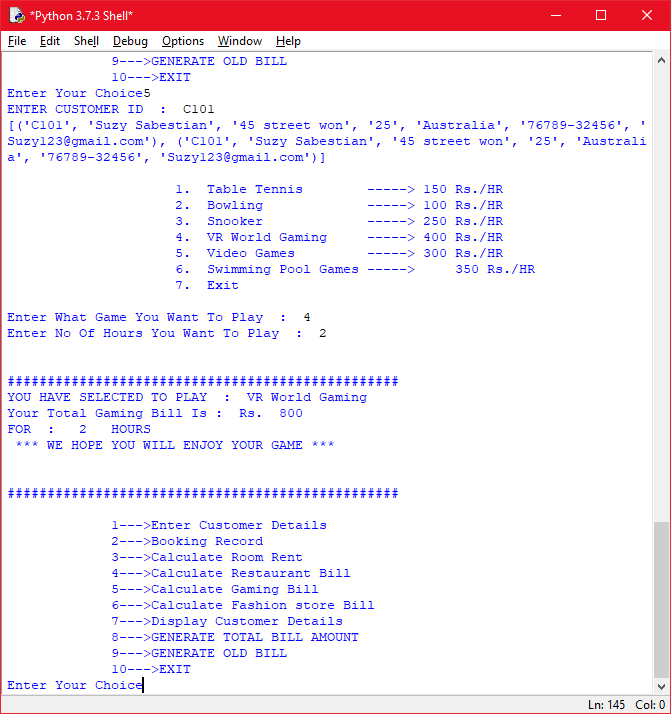
**ROOM RENT**



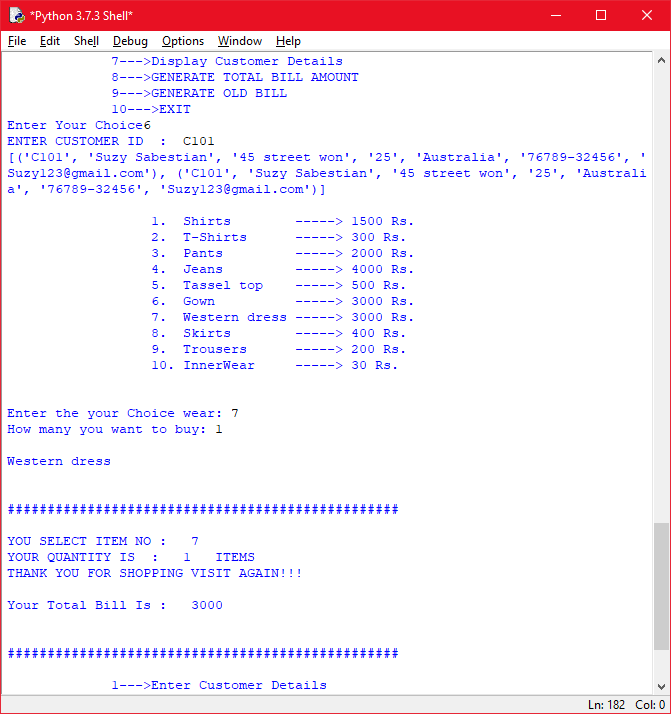
**RESTAURENT BILL**



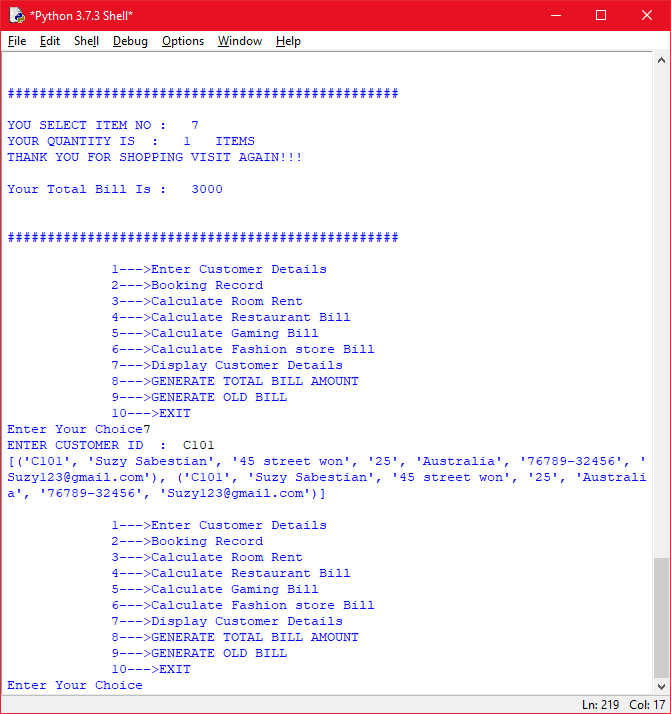
**GAMING BILL**



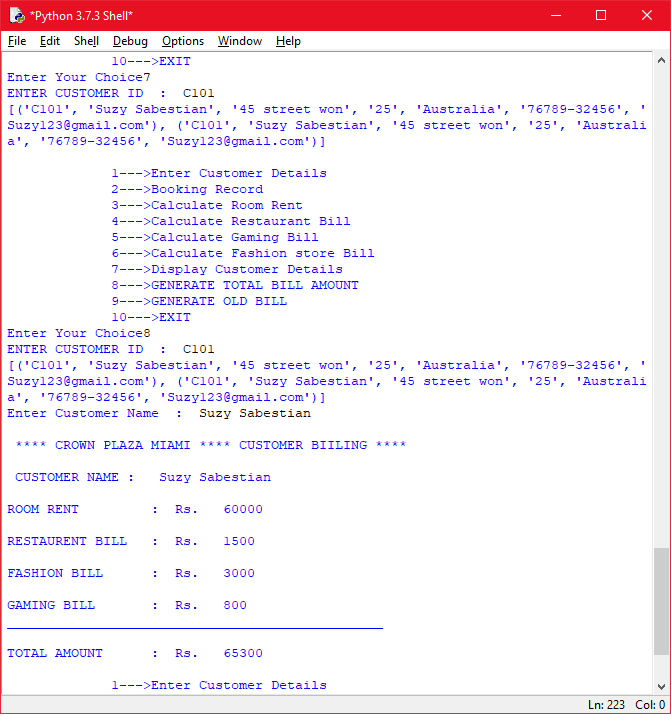
**FASHION STORE BILL**



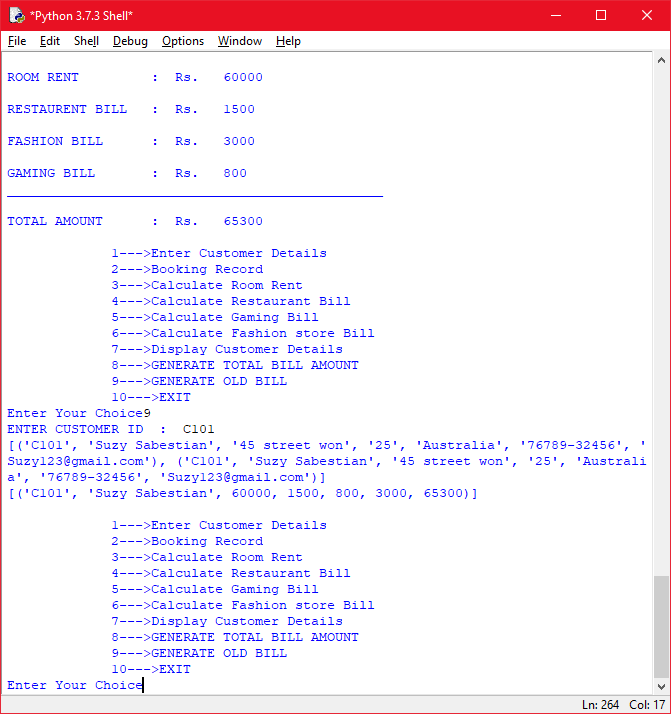
**DETAILS OF THE CUSTOMER**



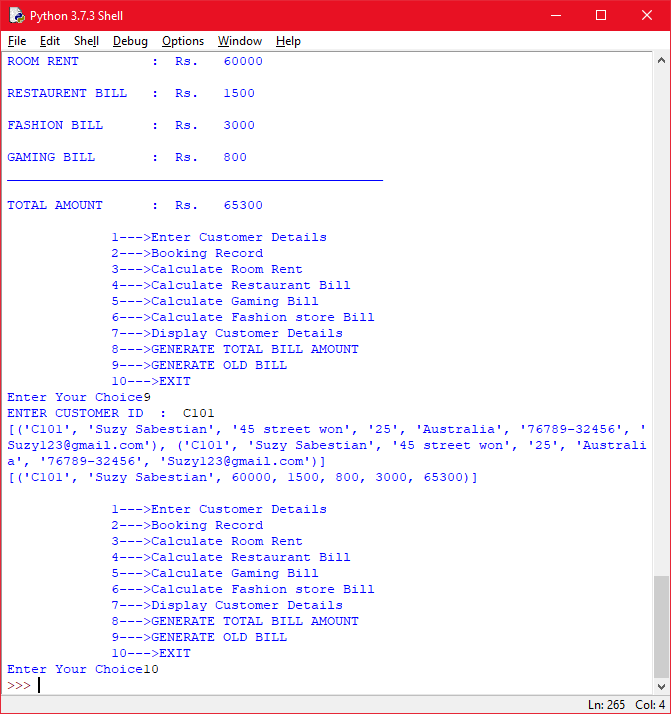
**TOTAL BILL**



**OLD BILL**

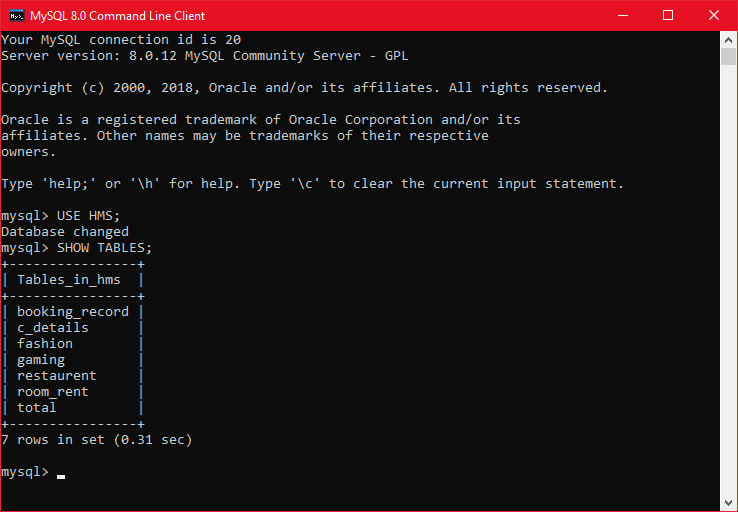


**EXIT**

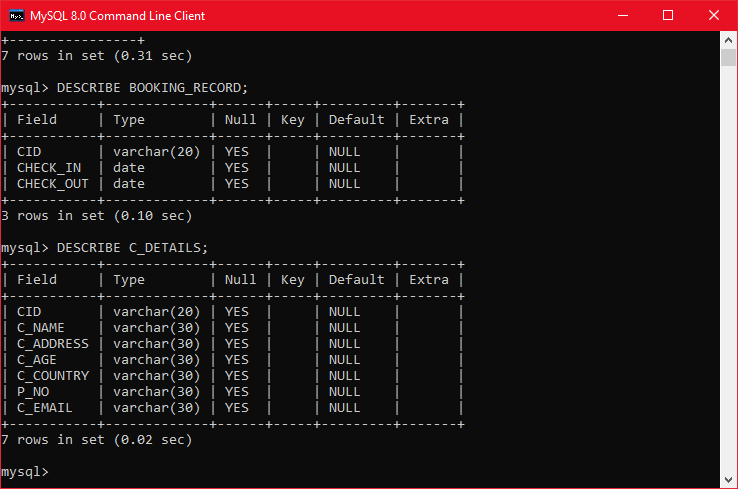


**MYSQL DATABASE AND TABLES USED IN THIS PROJECT**

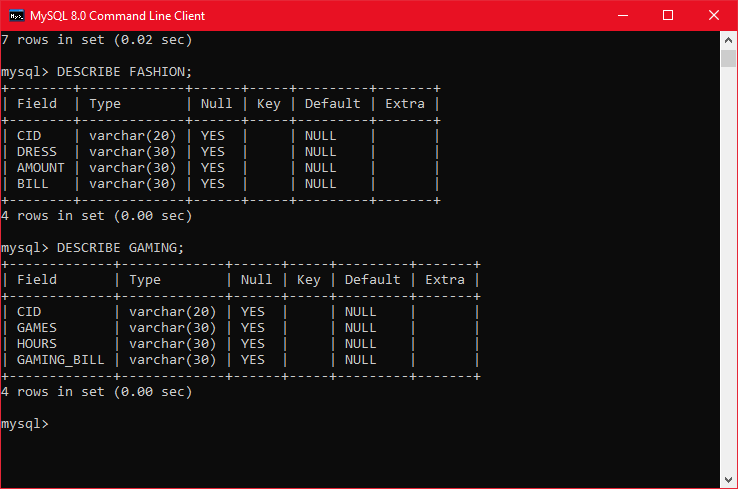
**DATABASE**



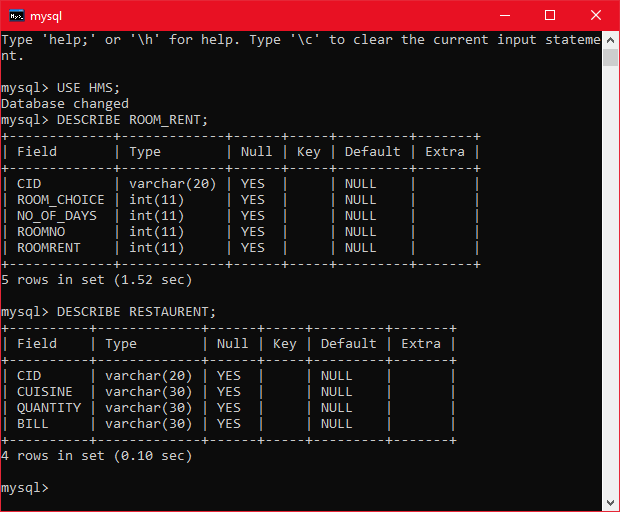
**TABLE STRUCTURE 1 AND 2**



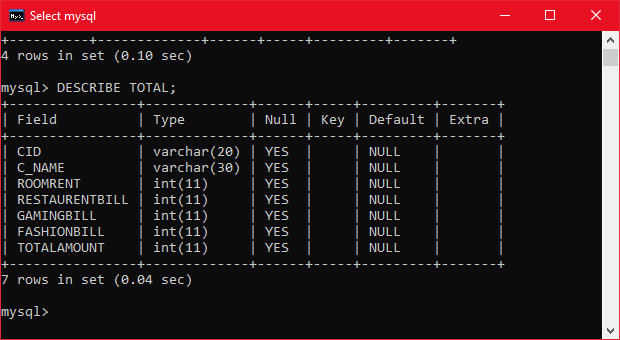
**TABLE STRUCTURE 3 AND 4**



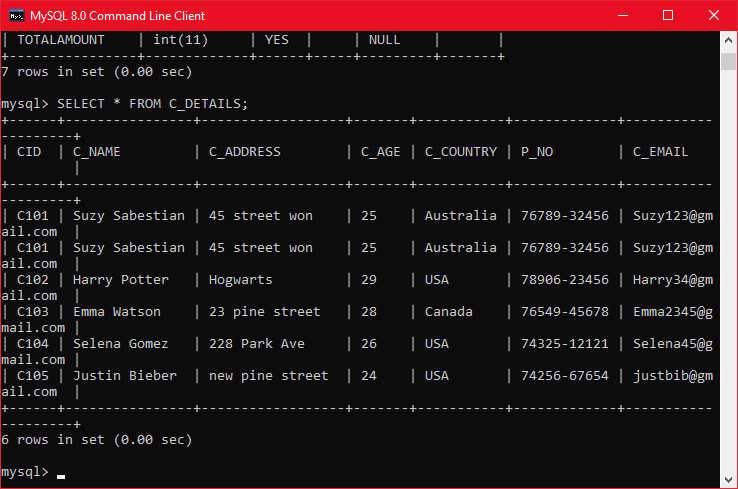
**TABLE STRUCTURE 5 AND 6**



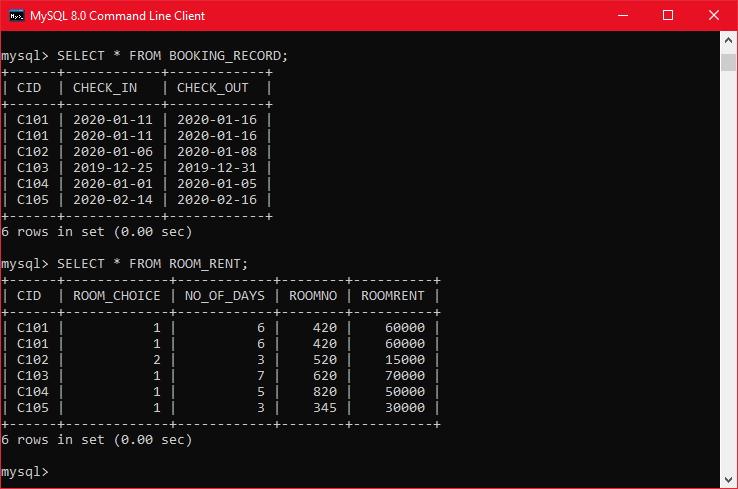
**TABLE STRUCTURE 7**



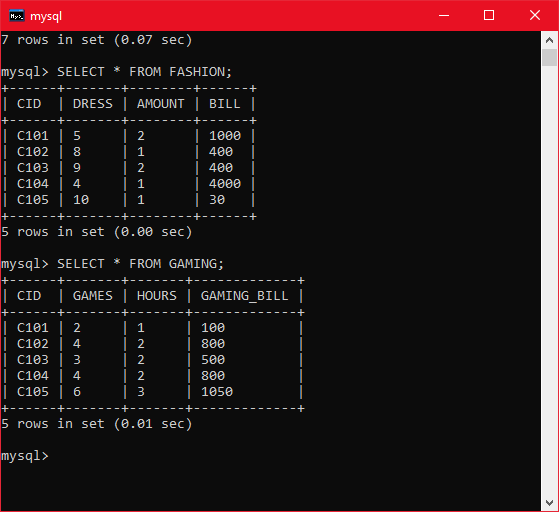
***BACKEND DATA GENERATED THROUGH SOFTWARE***



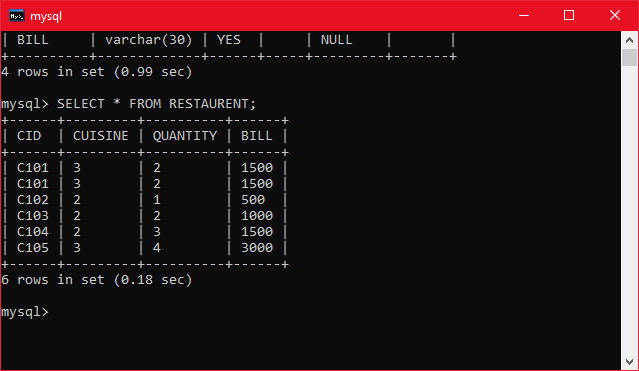
***BACKEND DATA GENERATED THROUGH SOFTWARE***



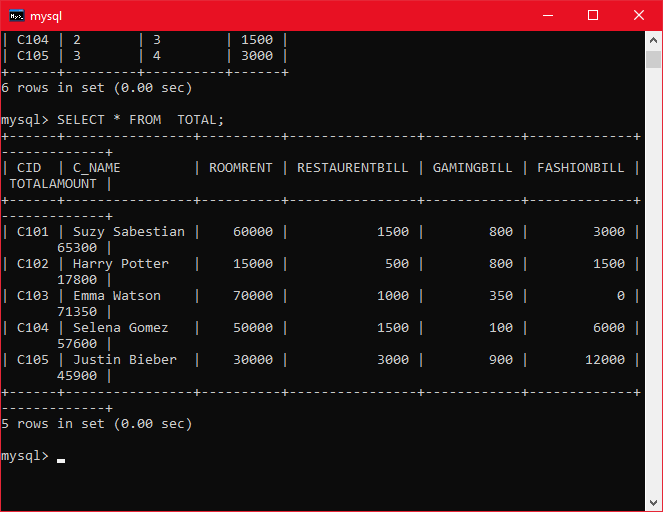
**BACKEND DATA GENERATED THROUGH SOFTWARE**



***BACKEND DATA GENERATED THROUGH SOFTWARE***



***BACKEND DATA GENERATED THROUGH SOFTWARE***



**References**

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4. PythonChallenge.com
5. Google’s Python Class
6. LearnPython.org
7. layak.in