DataBase Project

Phase 1

ABS Hotel

Teamwork:

Afrah Alsaadi - 439008815

Badriah Alqarni – 439003912

Amaal Asaedi - 438007658

Salha Almasoudi - 439002977

Group work report

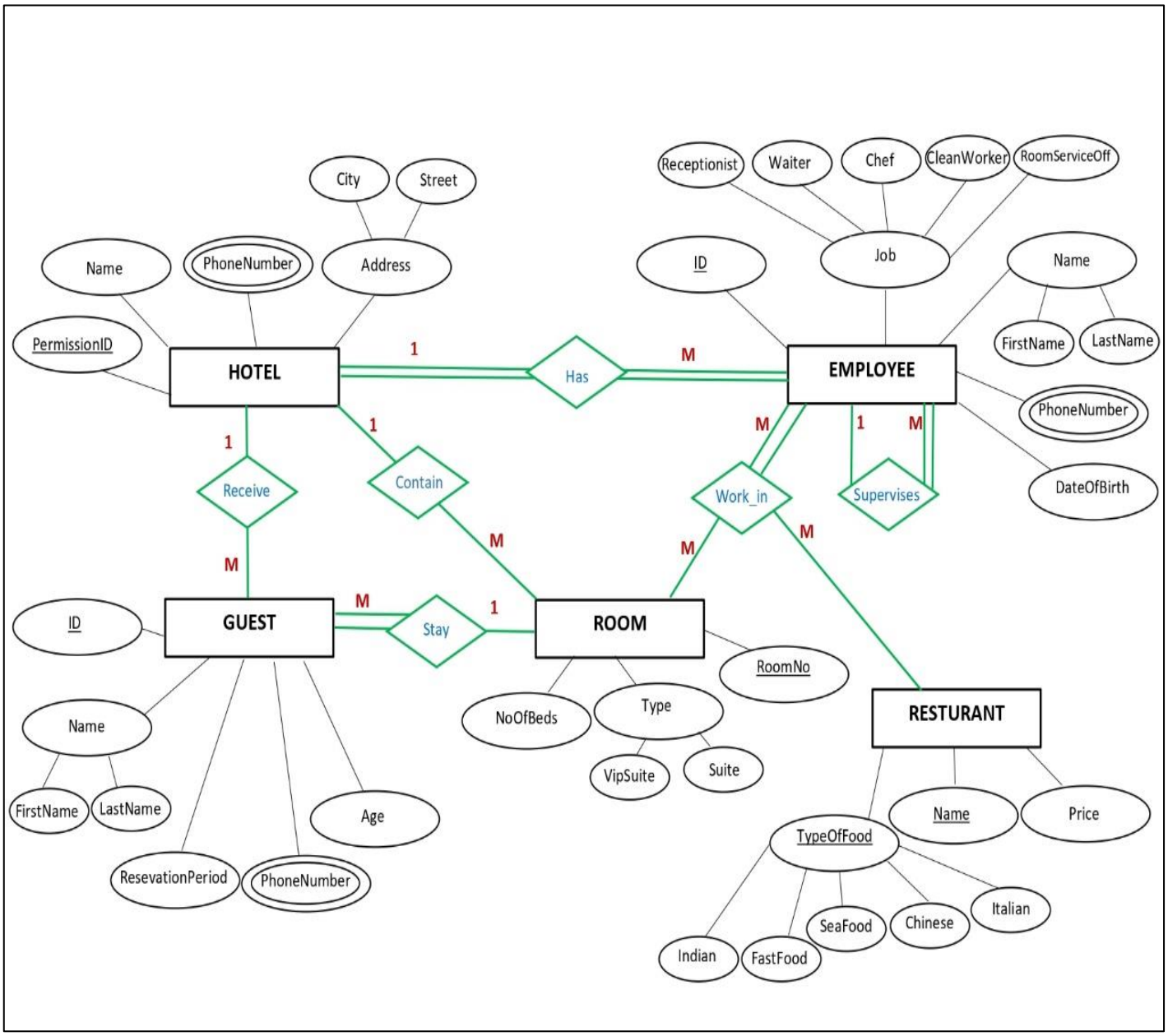
	Afrah *439008815*	Badriah *439003912*	Amaal *438007658*	Salha *439002977*
Description	•		•	
UML	○			•
Chen's	○	•		
Phase1 file	•			

- Done the task ○ Assisted on the task

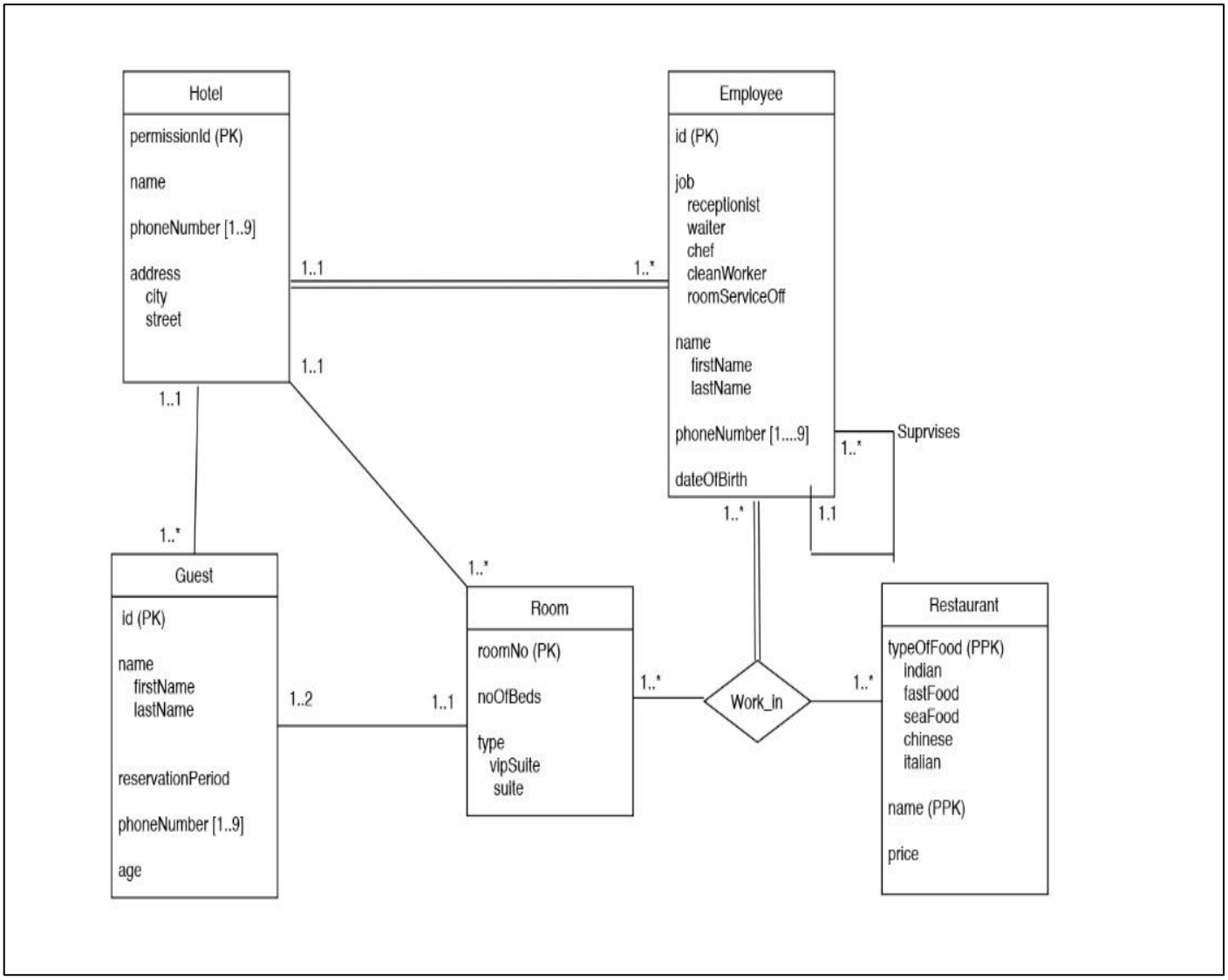
Description

- The ABS hotel receives many of guests, and it contains 100 rooms. Also, it has 70 employees working for it. The identifier for the hotel is Permission ID, and other attributes are name, city, state, and phoneNumber. The phoneNumber consists of nine digits.
- Each employee has an identifier ID, and other attributes firstName, lastName, job, dateOfBirth, and phoneNumber. The phoneNumber consists of nine digits. Each employee has exactly one job to do, and these jobs are like a chef, waiter, clean worker, receptionist, and room service officer. All employees have exactly one supervisor, and the supervisor may supervise more than one employee, but not all the employees are supervisors. All employees work in ABS hotel in different places. Some of them are working in the restaurant and the other working in rooms.
- At most, two guests can stay at one room, however that does not mean all hotel's rooms should be always full of guests . The identifier for the room is RoomNo, and the other attributes are numOfBeds, and Type. The hotel offers two types of rooms: suite, and VIP suite.
- The restaurant has two identifiers name and typeOfFood. The typesOfFood that the restaurant offers are Indian, Chinese, Italian, seaFood and fastFood. Also, the restaurant offers reasonable prices for its types of food.
- A guest has an identifier ID and other attributes. firstName, lastName, phoneNumber, reservation Period and age.

Chen's Notation



UML Notation



DataBase Project

Phase 2

ABS Hotel

Teamwork:

Afrah Alsaadi - 439008815

Badriah Alqarni – 439003912

Amaal Asaedi - 438007658

Salha Almasoudi - 439002977

Group work report

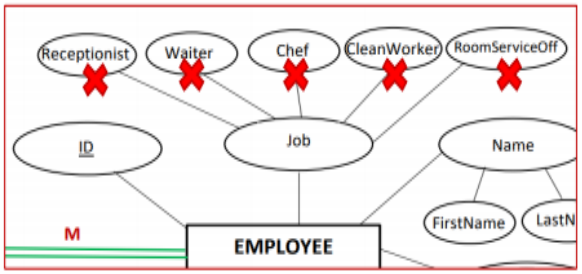
	Afrah *439008815*	Badriah *439003912*	Amaal *438007658*	Salha *439002977*
Modify Errors	●	●		
Relational Schema	●	●		
Normalization	●		●	●
Phase2 file		●		

- Done the task ○ Assisted on the task

Modify Errors in phase1

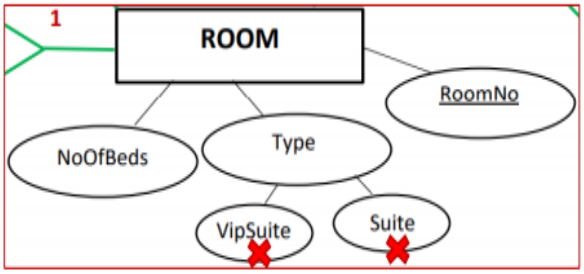
1-The values have been removed from the composite Attribute(**Job**) that belongs to the Entity(**EMPLOYEE**)

because the previously set values are values and the attribute has become simple Attribute and not composite Attribute.



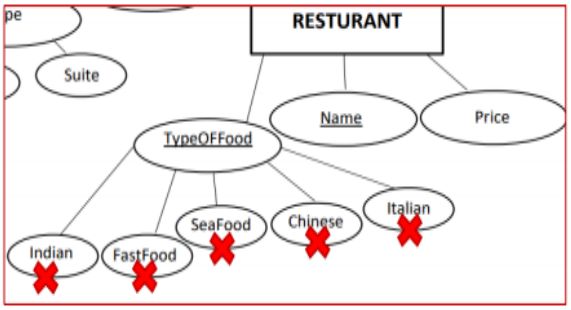
2-The values have been removed from the composite Attribute(**Type**) that belongs to the Entity(**ROOM**)

because the previously set values are values and the attribute has become simple Attribute and not composite Attribute.



3-The values have been removed from the composite Attribute(**TypeOFFood**) that belongs to the Entity(**RESTURANT**)

because the previously set values are values and the attribute has become simple Attribute and not composite Attribute.



Relational Schema

STEP 1: Mapping of Regular Entity Types :

EMPLOYEE

ID	job	firstName	lastName	dateOfBirth

HOTEL

permissionID	name	city	street

GUEST

ID	firstName	lastName	resevationPeriod	age

ROOM

roomNo	type	noOfBeds

RESTURANT

name	typeOfFood	price

STEP 2: Mapping of Weak Entity Types :

NONE

Step 3: Mapping of one to one relationship Types :

NONE

STEP 4: Mapping of One to Many Relationships Types :

EMPLOYEE

ID	job	firstName	lastName	dateOfBirth	IDSupervisor	permissionID

ROOM

roomNo	type	noOfBeds	permissionID

GUEST

ID	firstName	lastName	resevationPeriod	age	permissionID	roomNo

Step 5: Mapping of many to many relationship Types :

NONE

Step 6: Multivalued Attribute mapped into a relation:

HOTEL_Phone

permissionID	phoneNumber

GUEST_Phone

ID	phoneNumber

EMPLOYEE_Phone

ID	phoneNumber

Step 7: Mapping of N-ary relationship types :

Work_in

ID	roomNo	name	typeOfFood

Final Relational Schema

EMPLOYEE

ID	job	firstName	lastName	dateOfBirth	IDSupervisor	permissionID

HOTEL

permissionID	name	city	street

GUEST

ID	firstName	lastName	resevationPeriod	age	permissionID	roomNo

ROOM

roomNo	type	noOfBeds	permissionID

RESTURANT

name	typeOfFood	price

HOTEL_Phone

permissionID	phoneNumber

GUEST_Phone

ID	phoneNumber

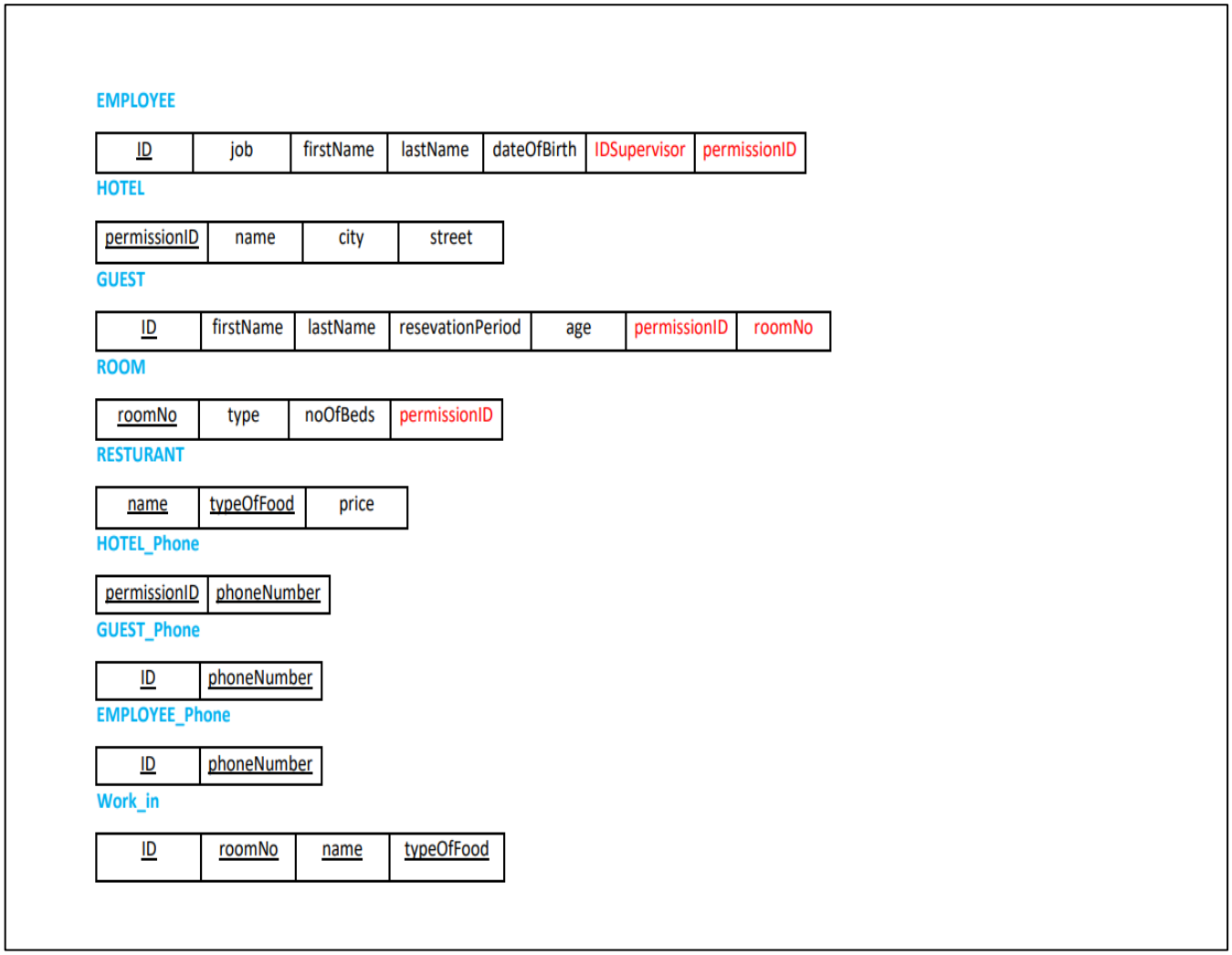
EMPLOYEE_Phone

ID	phoneNumber

Work_in

ID	roomNo	name	typeOfFood

Normalization



First Normal Form 1NF:

The Schema is already in 1NF

Second Normal Form 2NF:

EMPLOYEE

ID	job	firstName	lastName	dateOfBirth	IDSupervisor	permissionID

HOTEL

permissionID	name	city	street

GUEST

ID	firstName	lastName	resevationPeriod	age	permissionID	roomNo

ROOM

roomNo	type	noOfBeds	permissionID

RESTURANT

name	typeOfFood

FOOD_PRICE

name	price

HOTEL_Phone

permissionID	phoneNumber

GUEST_Phone

ID	phoneNumber

EMPLOYEE_Phone

ID	phoneNumber

Work_in

ID	roomNo	name	typeOfFood

Third Normal Form 3NF:

EMPLOYEE

ID	job	firstName	lastName	dateOfBirth	IDSupervisor	permissionID

HOTEL

permissionID	name

HOTEL_ADDRESS

name	city	street

GUEST

ID	firstName	lastName	resevationPeriod	age	permissionID	roomNo

ROOM

roomNo	type	noOfBeds	permissionID

RESTURANT

name	typeOfFood

FOOD_PRICE

name	price

HOTEL_Phone

permissionID	phoneNumber

GUEST_Phone

ID	phoneNumber

EMPLOYEE_Phone

ID	phoneNumber

Work_in

ID	roomNo	name	typeOfFood

Normalization:

All of the relations confirm to the third normalization form, because:

1. They confirm to the 1NF because:
    a. They have not multi-valued attributes
    b. Each attribute only holds a single-type value

2. They confirm to the 2NF because:
    a. They confirm to the 1NF
    b. There are no non-prime attribute dependencies on part of the primary key

3. They confirm to the 3NF because:
    a. They confirm to the 2NF
    b. There are not transitive dependencies on a super key

DataBase Project

Phase 3

ABS Hotel

Teamwork:

Afrah Alsaadi - 439008815

Badriah Alqarni – 439003912

Amaal Asaedi - 438007658

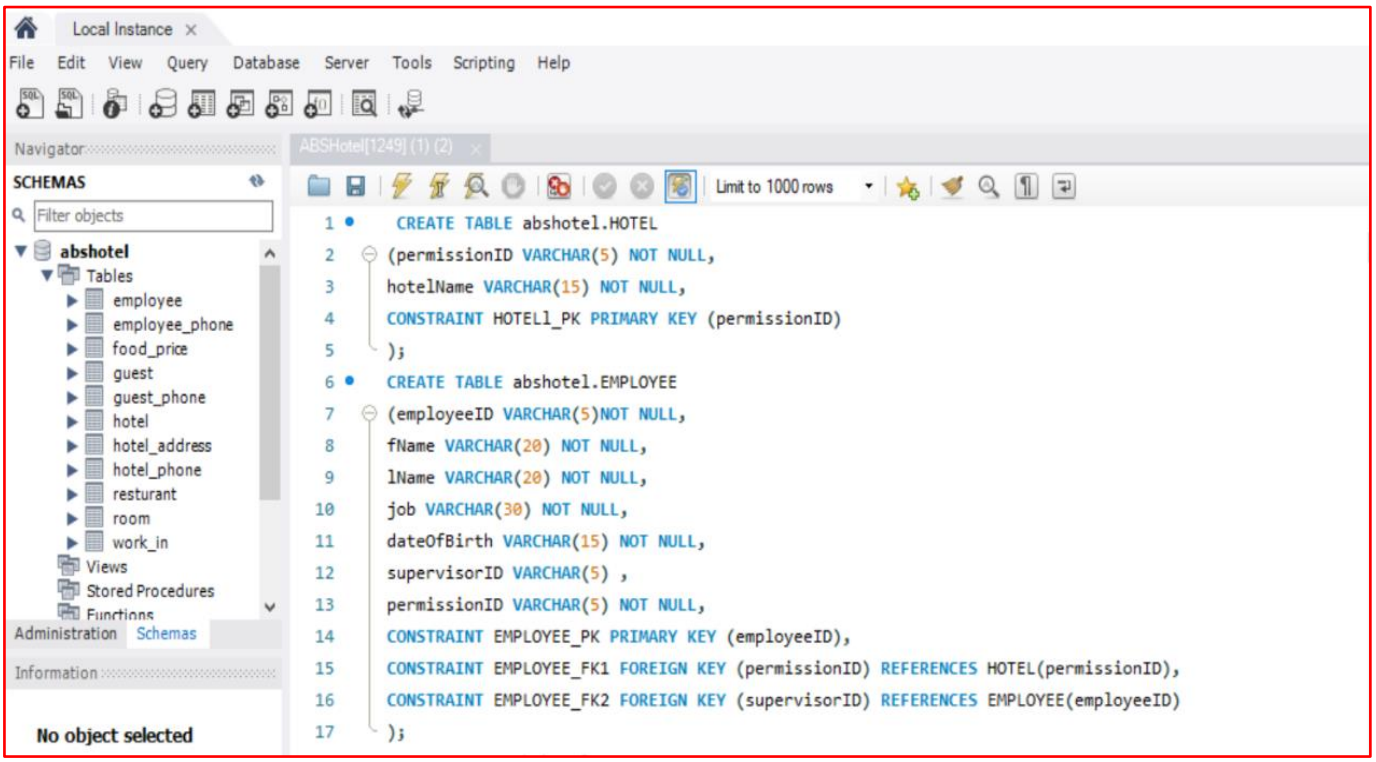
Salha Almasoudi - 439002977

Group work report

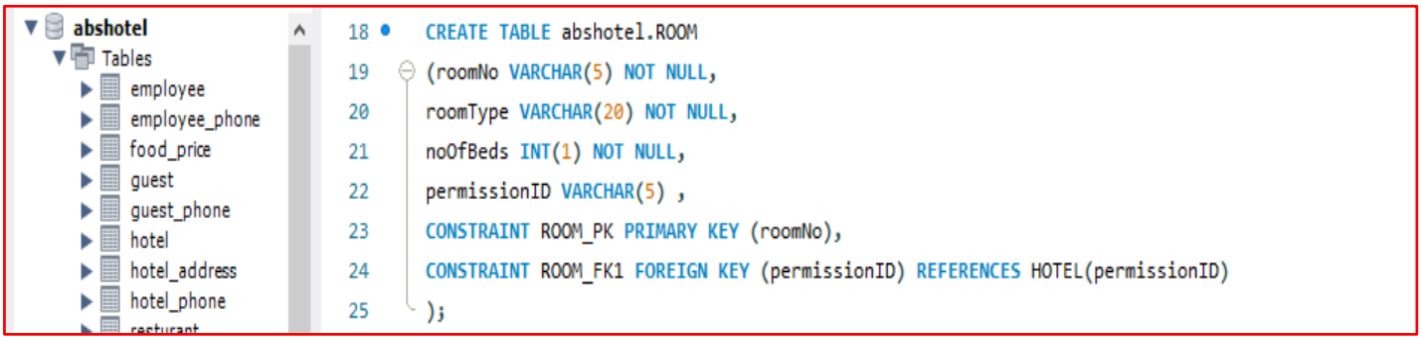
	Afrah *439008815*	Badriah *439003912*	Amaal *438007658*	Salha *439002977*
CREATE TABLE	●			
INSERT	●			
Update & Delete commands				●
Select commands		●		
Phase3 file		●		

- Done the task ○ Assisted on the task

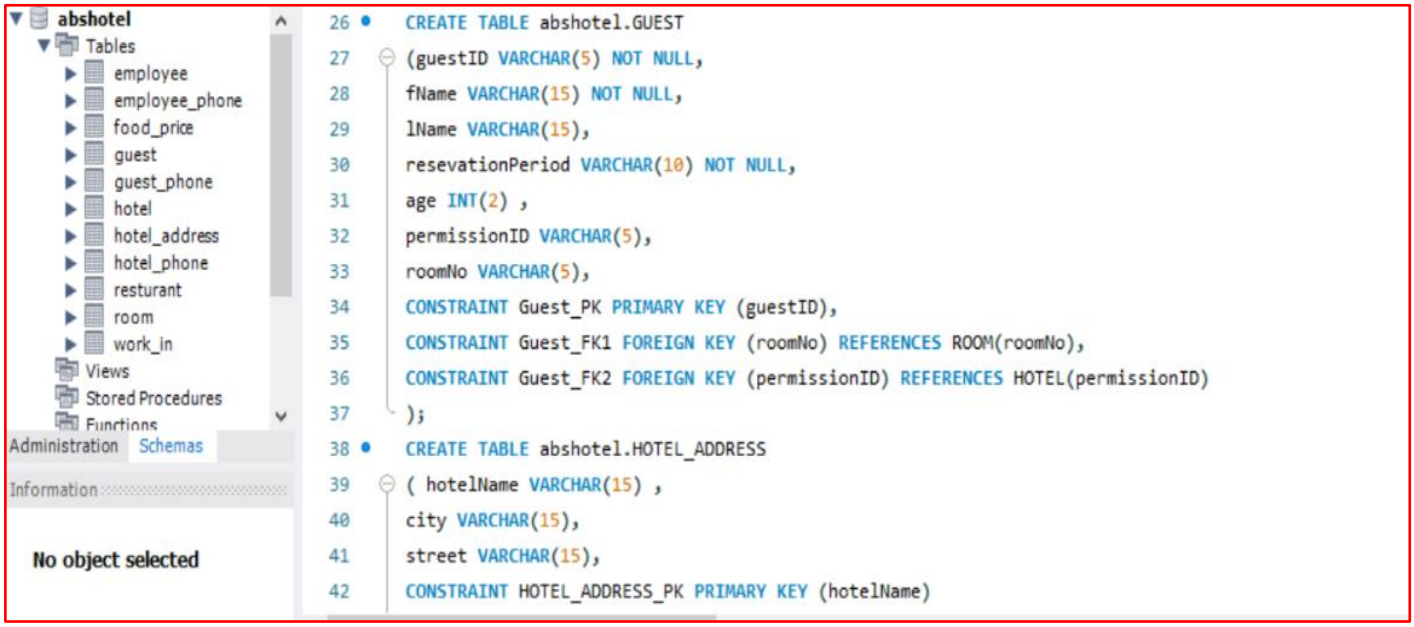
CREATE TABLE HOTEL & EMPLOYEE



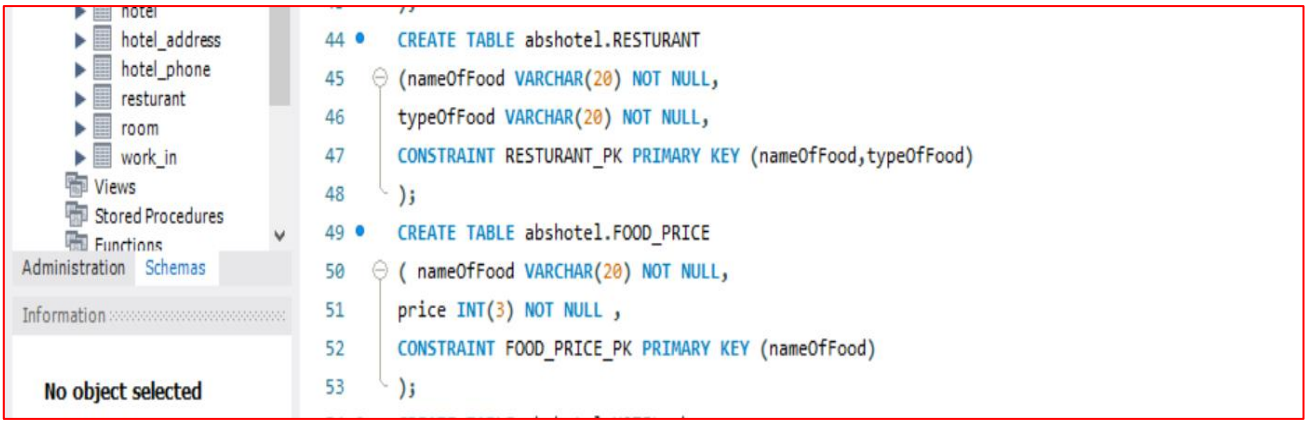
CREATE TABLE ROOM



CREATE TABLE GUEST & HOTEL_ADDRESS

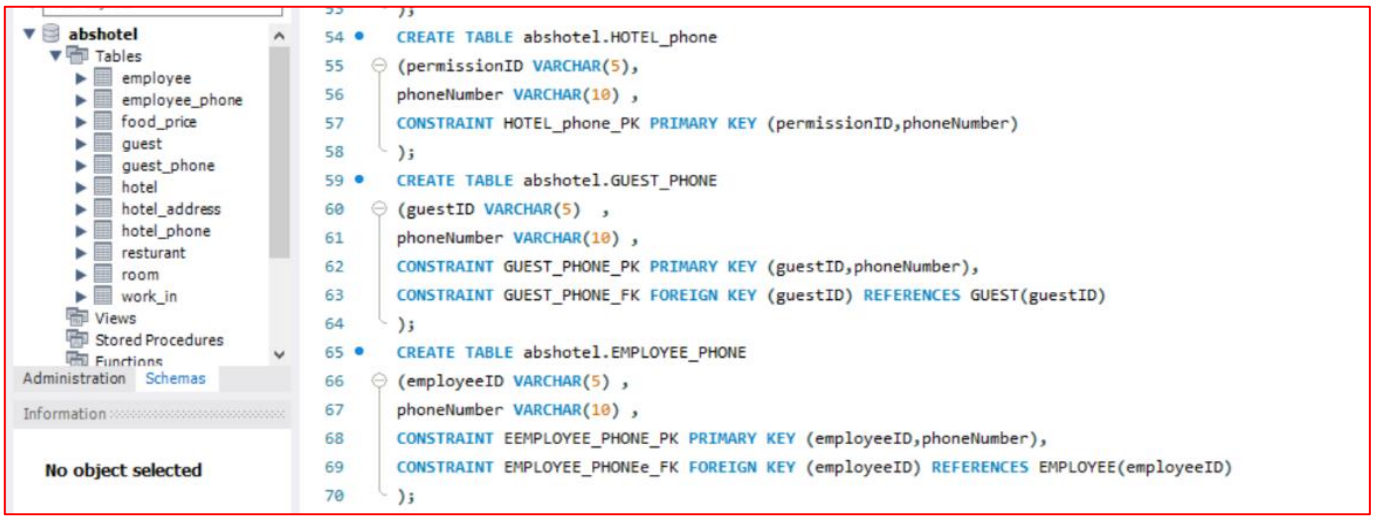


CREATE TABLE RESTURANT & FOOD_PRICE



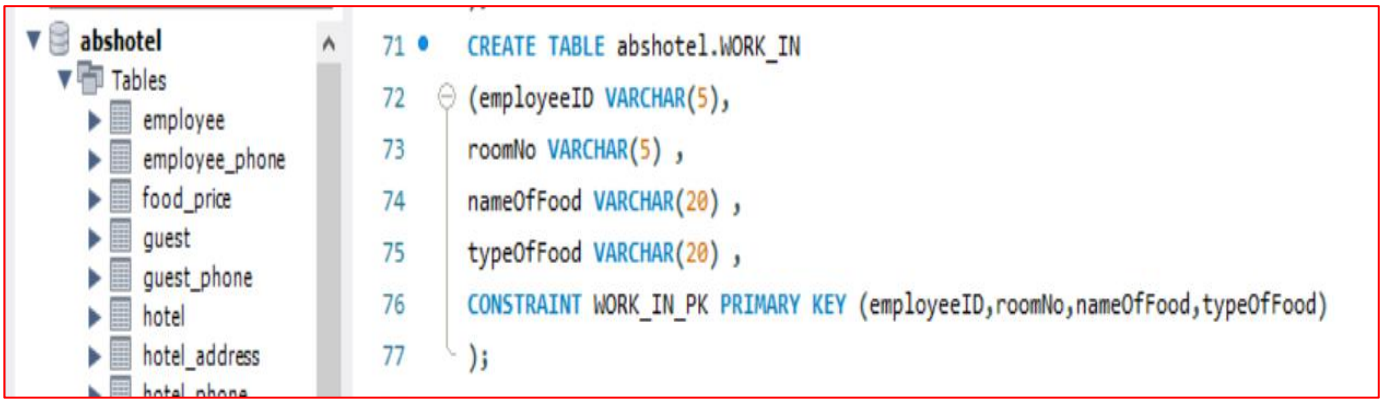

```
CREATE TABLE abshotel.RESTURANT
(nameOfFood VARCHAR(20) NOT NULL,
typeOfFood VARCHAR(20) NOT NULL,
CONSTRAINT RESTURANT_PK PRIMARY KEY (nameOfFood,typeOfFood)
);
CREATE TABLE abshotel.FOOD_PRICE
( nameOfFood VARCHAR(20) NOT NULL,
price INT(3) NOT NULL ,
CONSTRAINT FOOD_PRICE_PK PRIMARY KEY (nameOfFood)
);
```

CREATE TABLE HOTEL_phone & GUEST_PHONE & EMPLOYEE_PHONE




```
CREATE TABLE abshotel.HOTEL_phone
(permissionID VARCHAR(5),
phoneNumber VARCHAR(10) ,
CONSTRAINT HOTEL_phone_PK PRIMARY KEY (permissionID,phoneNumber)
);
CREATE TABLE abshotel.GUEST_PHONE
(guestID VARCHAR(5)  ,
phoneNumber VARCHAR(10) ,
CONSTRAINT GUEST_PHONE_PK PRIMARY KEY (guestID,phoneNumber),
CONSTRAINT GUEST_PHONE_FK FOREIGN KEY (guestID) REFERENCES GUEST(guestID)
);
CREATE TABLE abshotel.EMPLOYEE_PHONE
(employeeID VARCHAR(5) ,
phoneNumber VARCHAR(10) ,
CONSTRAINT EEMPLOYEE_PHONE_PK PRIMARY KEY (employeeID,phoneNumber),
CONSTRAINT EMPLOYEE_PHONEe_FK FOREIGN KEY (employeeID) REFERENCES EMPLOYEE(employeeID)
);
```

CREATE TABLE WORK_IN




```
CREATE TABLE abshotel.WORK_IN
(employeeID VARCHAR(5),
roomNo VARCHAR(5) ,
nameOfFood VARCHAR(20) ,
typeOfFood VARCHAR(20) ,
CONSTRAINT WORK_IN_PK PRIMARY KEY (employeeID,roomNo,nameOfFood,typeOfFood)
);
```

INSERT HOTEL

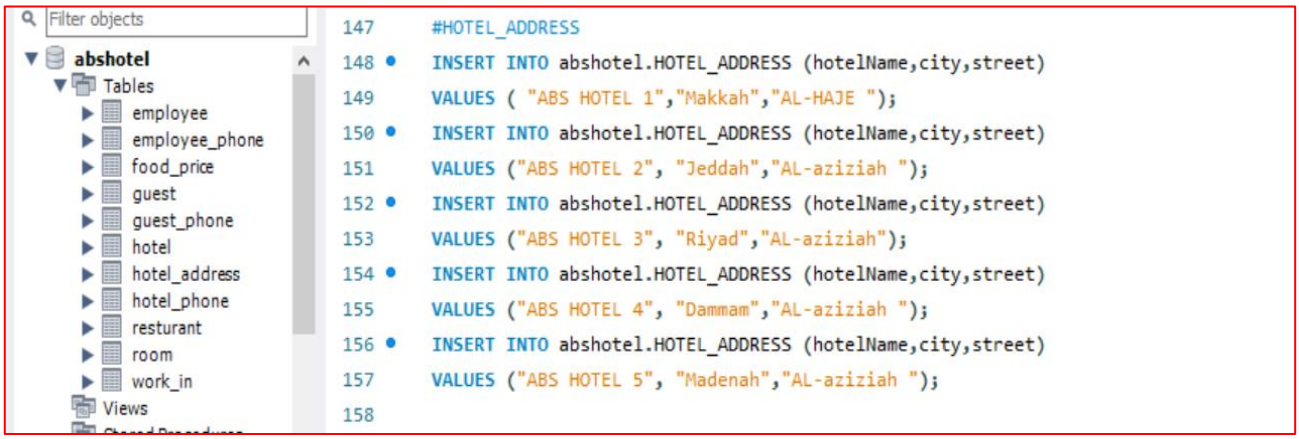
INSERT EMPLOYEE

INSERT ROOM

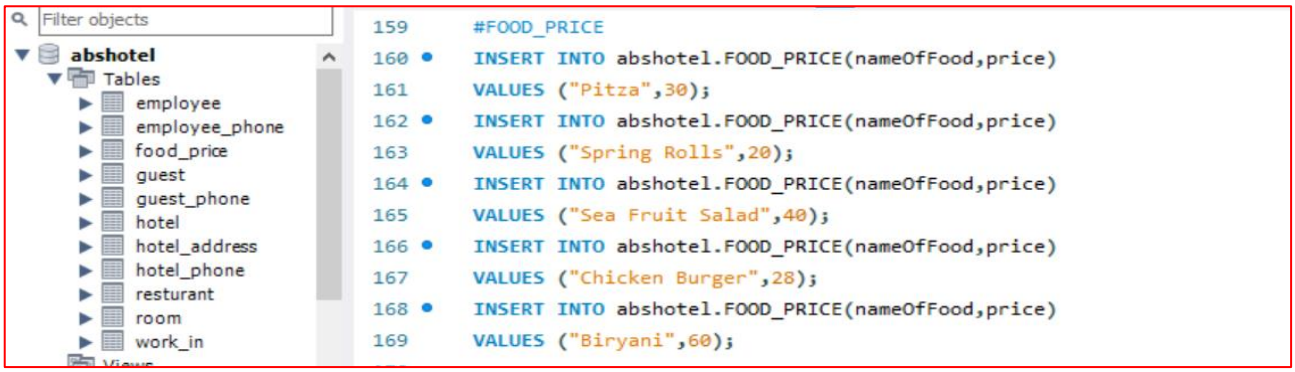
INSERT RESTURANT

INSERT GUEST

INSERT HOTEL_ADDRESS

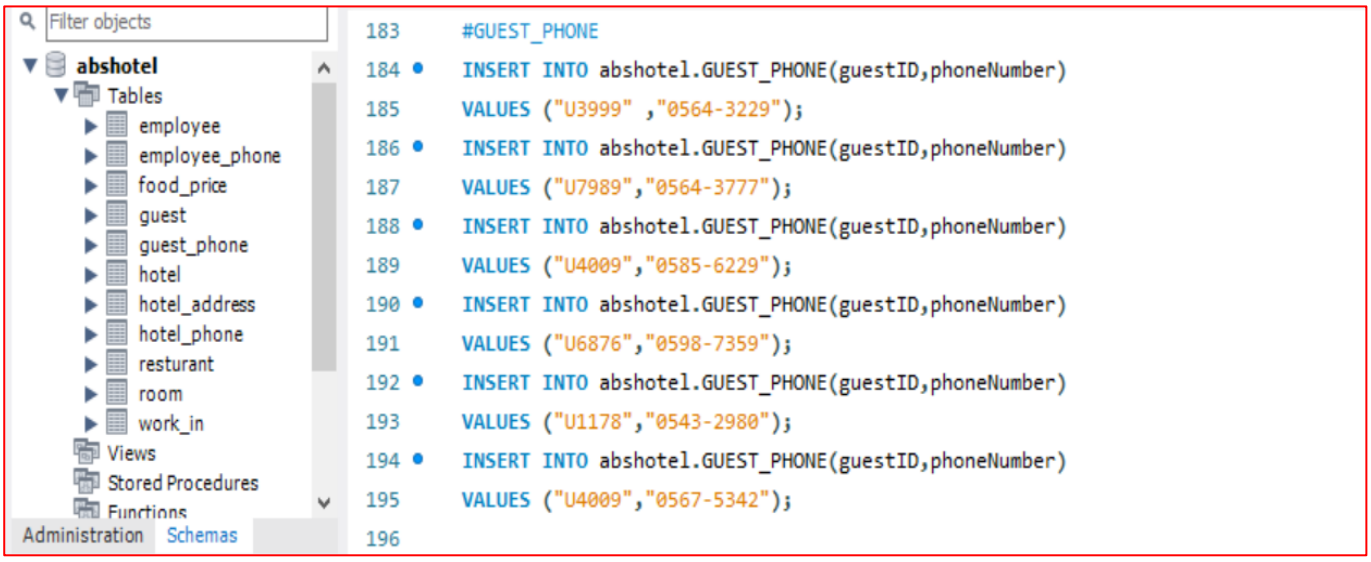


INSERT FOOD_PRICE

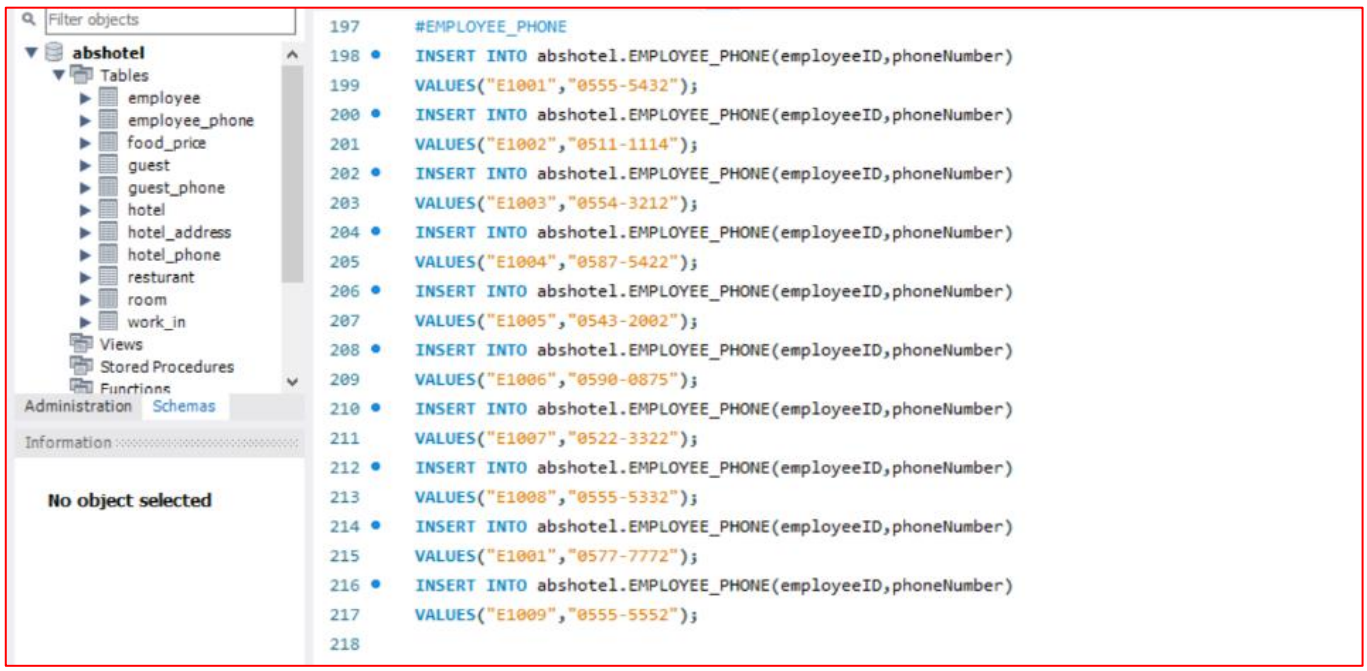


INSERT HOTEL_phone

INSERT GUEST_PHONE



INSERT EMPLOYEE_PHONE



INSERT WORK_IN

```
#WORK_IN
INSERT INTO abshotel.WORK_IN(employeeID,roomNo,nameOfFood,typeOfFood)
VALUES("E1001","F30","Pitza","Italian");
INSERT INTO abshotel.WORK_IN(employeeID,roomNo,nameOfFood,typeOfFood)
VALUES("E1002","F39","Spring Rolls", "Chinese");
INSERT INTO abshotel.WORK_IN(employeeID,roomNo,nameOfFood,typeOfFood)
VALUES("E1008","F37","Sea Fruit Salad", "Sea Food");
INSERT INTO abshotel.WORK_IN(employeeID,roomNo,nameOfFood,typeOfFood)
VALUES("E1009","F38","Chicken Burger", "Fast Food");
INSERT INTO abshotel.WORK_IN(employeeID,roomNo,nameOfFood,typeOfFood)
VALUES("E1006","F31","Biryani", "Indian");
```

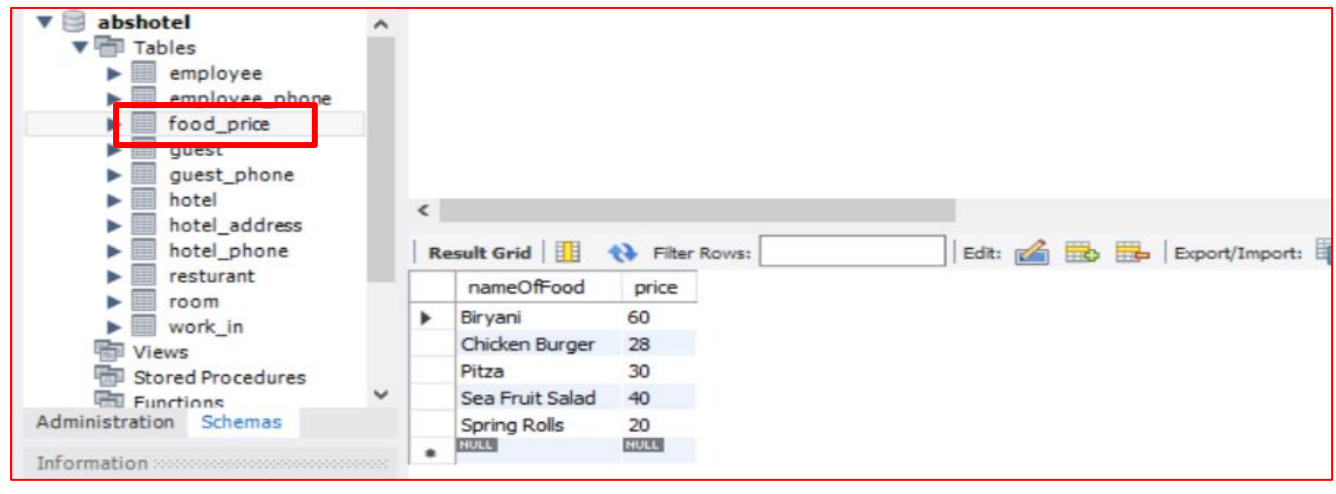
All Tables Are Before commands

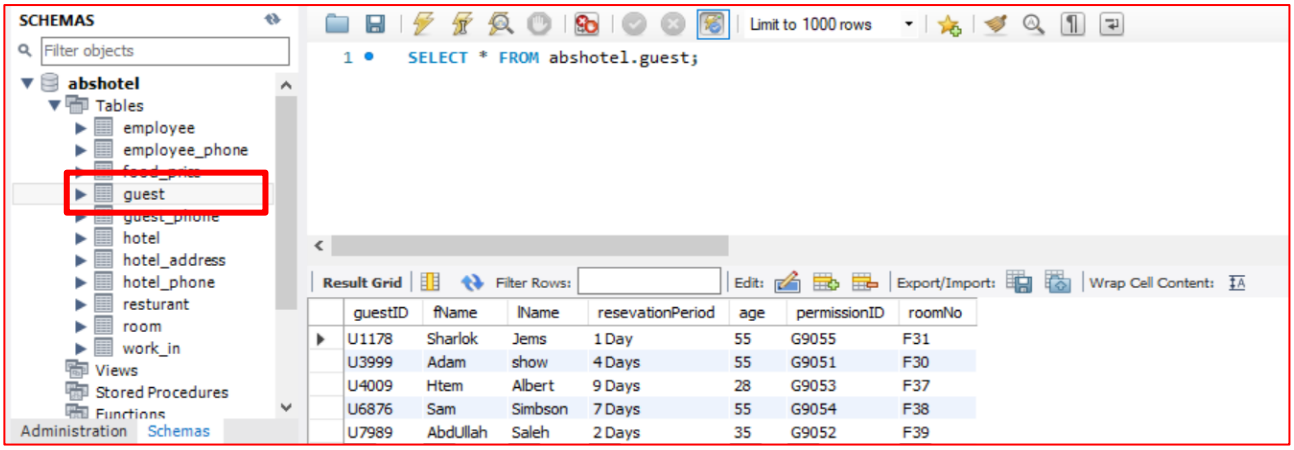
```
SELECT * FROM abshotel.employee;
```

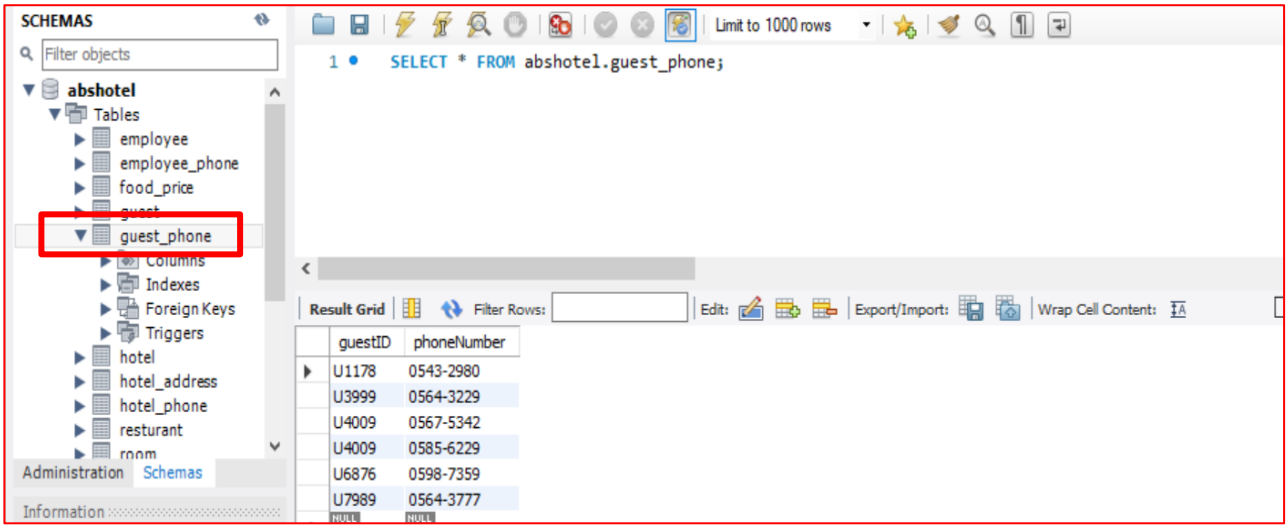
employeeID	fName	lName	job	dateOfBirth	supervisorID	permissionID
E1001	Noha	Saleh	Waiter	2-2-1990	NULL	G9051
E1002	Ahmad	Zain	Waiter	22-9-1988	E1001	G9051
E1003	Saleh	Waleed	Chef	21-11-1993	NULL	G9052
E1004	Bader	salem	Chef	1-12-1989	E1003	G9052
E1005	Joe	Maikel	CleanWorker	3-8-1986	E1006	G9054
E1006	Mathyo	Keven	CleanWorker	28-10-1998	NULL	G9054
E1007	Jamse	Joe	RoomServiceOfficer	30-11-1997	NULL	G9055
E1008	Malkom	Kareem	RoomServiceOfficer	2-1-1985	E1007	G9055
E1009	Majed	Khaled	Resceptionist	17-7-1996	NULL	G9053

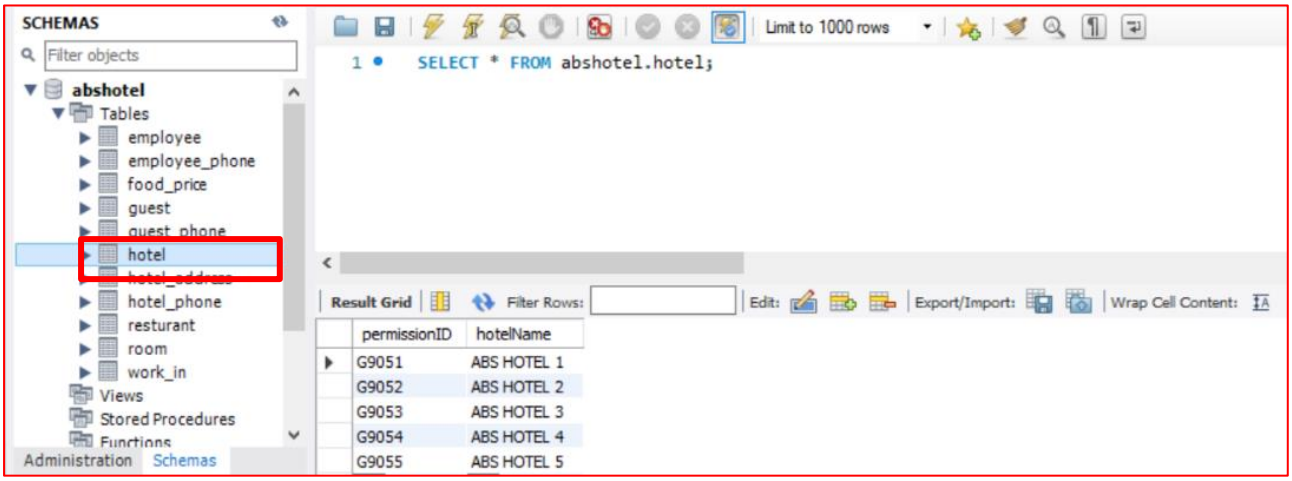
```
SELECT * FROM abshotel.employee_phone;
```

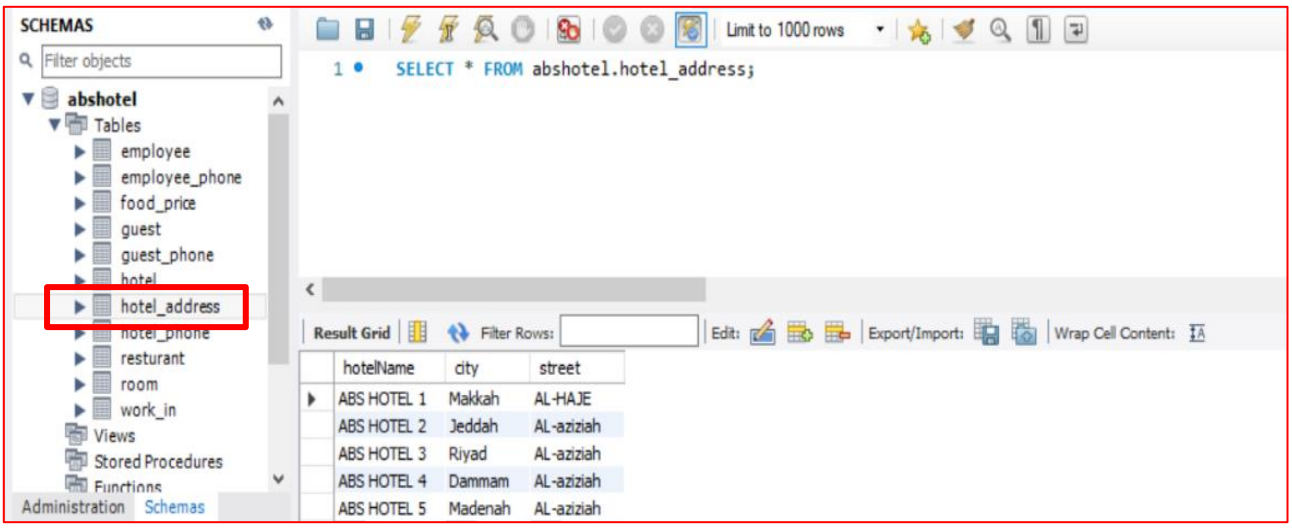
employeeID	phoneNumber
E1002	0511-1114
E1003	0554-3212
E1004	0587-5422
E1005	0543-2002
E1006	0590-0875
E1007	0522-3322
E1008	0555-5332
E1009	0555-5552




SCHEMAS
Filter objects
abshotel
Tables
employee
employee_phone
guest
hotel
hotel_address
hotel_phone
resturant
room
work_in
Views
Stored Procedures
Functions
Administration
Schemas
Limit to 1000 rows
1 • SELECT * FROM abshotel.guest;
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
guestID fName lName resevationPeriod age permissionID roomNo
U1178 Sharlok Jems 1 Day 55 G9055 F31
U3999 Adam show 4 Days 55 G9051 F30
U4009 Htem Albert 9 Days 28 G9053 F37
U6876 Sam Simbson 7 Days 55 G9054 F38
U7989 AbdUllah Saleh 2 Days 35 G9052 F39


SCHEMAS
Filter objects
abshotel
Tables
employee
employee_phone
food_price
guest
guest_phone
Columns
Indexes
Foreign Keys
Triggers
hotel
hotel_address
hotel_phone
resturant
Administration
Schemas
Information
Limit to 1000 rows
1 • SELECT * FROM abshotel.guest_phone;
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
guestID phoneNumber
U1178 0543-2980
U3999 0564-3229
U4009 0567-5342
U4009 0585-6229
U6876 0598-7359
U7989 0564-3777


SCHEMAS
Filter objects
abshotel
Tables
employee
employee_phone
food_price
guest
guest_phone
hotel
hotel_address
hotel_phone
resturant
room
work_in
Views
Stored Procedures
Functions
Administration
Schemas
Limit to 1000 rows
1 • SELECT * FROM abshotel.hotel;
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
permissionID hotelName
G9051 ABS HOTEL 1
G9052 ABS HOTEL 2
G9053 ABS HOTEL 3
G9054 ABS HOTEL 4
G9055 ABS HOTEL 5


SCHEMAS
Filter objects
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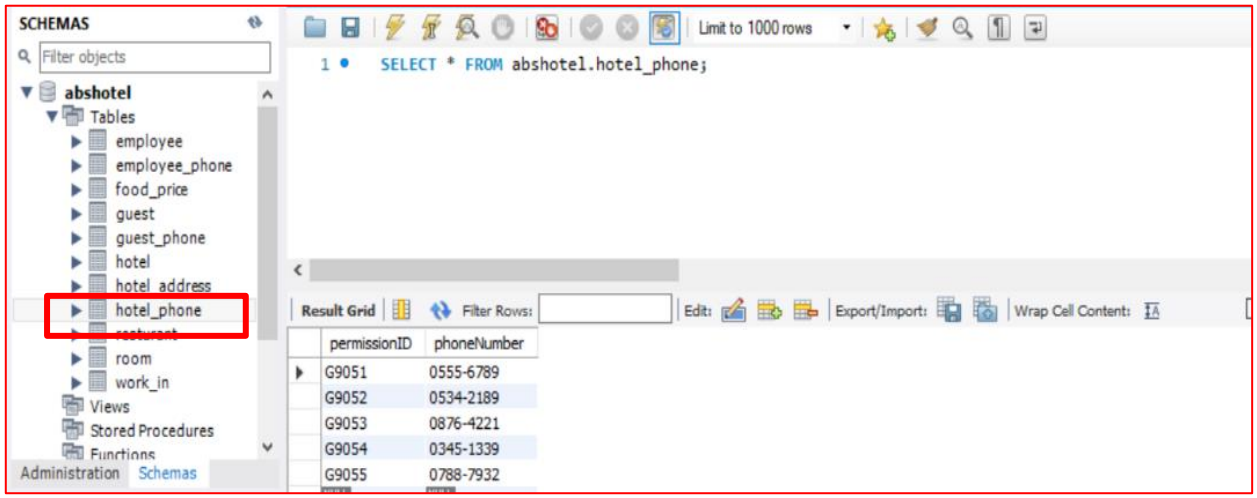
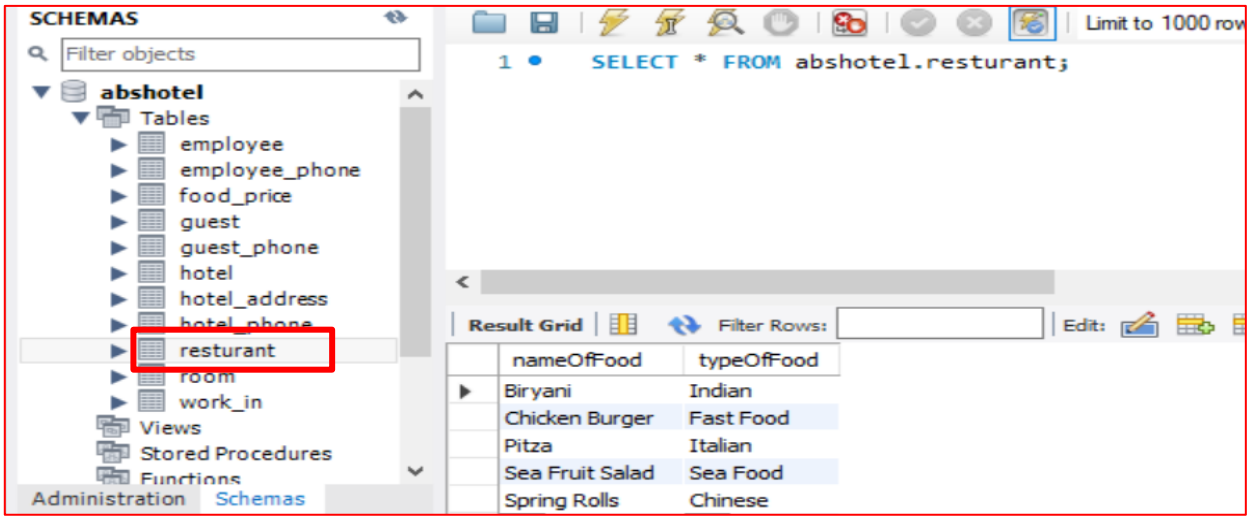
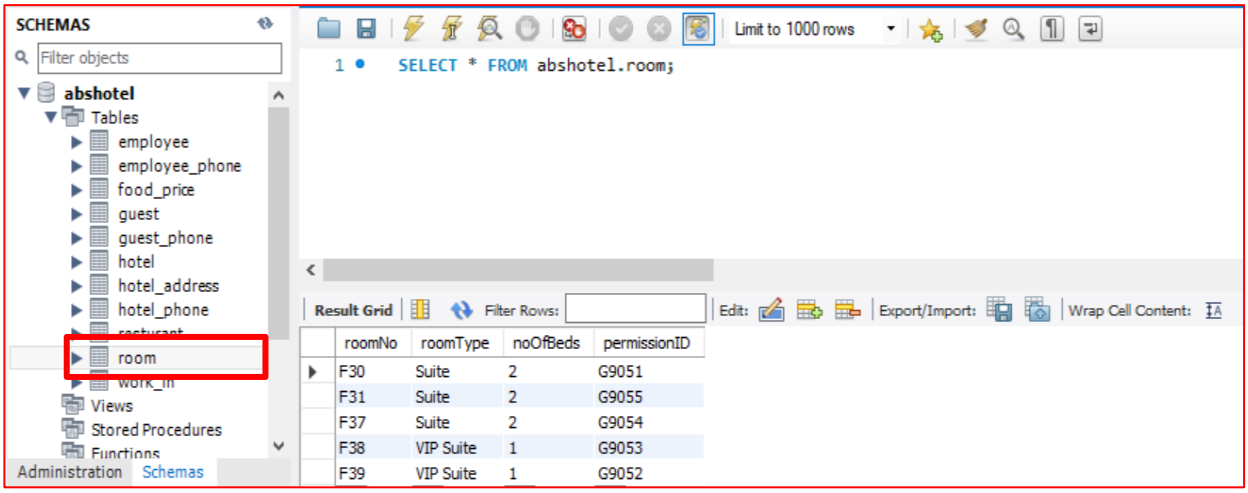
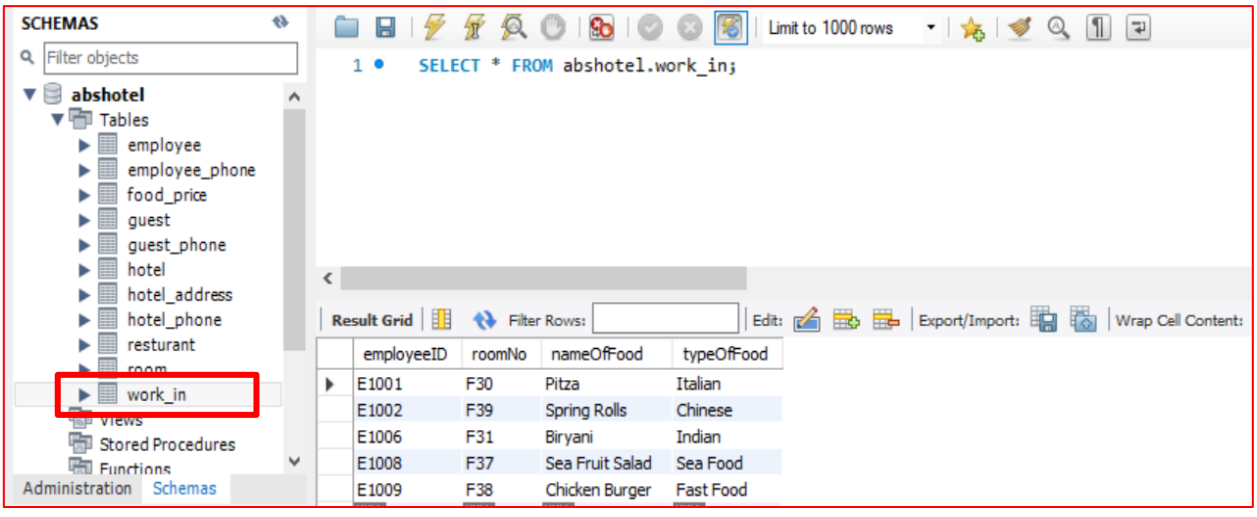
food_price
guest
guest_phone
hotel
hotel_address
hotel_phone
resturant
room
work_in
Views
Stored Procedures
Functions
Administration
Schemas
Limit to 1000 rows
1 • SELECT * FROM abshotel.hotel_address;
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
hotelName city street
ABS HOTEL 1 Makkah AL-HAJE
ABS HOTEL 2 Jeddah AL-aziziah
ABS HOTEL 3 Riyad AL-aziziah
ABS HOTEL 4 Dammam AL-aziziah
ABS HOTEL 5 Madenah AL-aziziah


SCHEMAS
Filter objects
abshotel
Tables
employee
employee_phone
food_price
guest
guest_phone
hotel
hotel_address
hotel_phone
room
work_in
Views
Stored Procedures
Functions
Administration
Schemas
Limit to 1000 rows
1 • SELECT * FROM abshotel.hotel_phone;
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
permissionID
phoneNumber
G9051
0555-6789
G9052
0534-2189
G9053
0876-4221
G9054
0345-1339
G9055
0788-7932


SCHEMAS
Filter objects
abshotel
Tables
employee
employee_phone
food_price
guest
guest_phone
hotel
hotel_address
hotel_phone
resturant
room
work_in
Views
Stored Procedures
Functions
Administration
Schemas
Limit to 1000 row
1 • SELECT * FROM abshotel.resturant;
Result Grid
Filter Rows:
Edit:
nameOfFood
typeOfFood
Biryani
Indian
Chicken Burger
Fast Food
Pitza
Italian
Sea Fruit Salad
Sea Food
Spring Rolls
Chinese


SCHEMAS
Filter objects
abshotel
Tables
employee
employee_phone
food_price
guest
guest_phone
hotel
hotel_address
hotel_phone
room
work_in
Views
Stored Procedures
Functions
Administration
Schemas
Limit to 1000 rows
1 • SELECT * FROM abshotel.room;
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
roomNo
roomType
noOfBeds
permissionID
F30
Suite
2
G9051
F31
Suite
2
G9055
F37
Suite
2
G9054
F38
VIP Suite
1
G9053
F39
VIP Suite
1
G9052


SCHEMAS
Filter objects
abshotel
Tables
employee
employee_phone
food_price
guest
guest_phone
hotel
hotel_address
hotel_phone
resturant
room
work_in
Views
Stored Procedures
Functions
Administration
Schemas
Limit to 1000 rows
1 • SELECT * FROM abshotel.work_in;
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
employeeID
roomNo
nameOfFood
typeOfFood
E1001
F30
Pitza
Italian
E1002
F39
Spring Rolls
Chinese
E1006
F31
Biryani
Indian
E1008
F37
Sea Fruit Salad
Sea Food
E1009
F38
Chicken Burger
Fast Food

Update & Delete commands

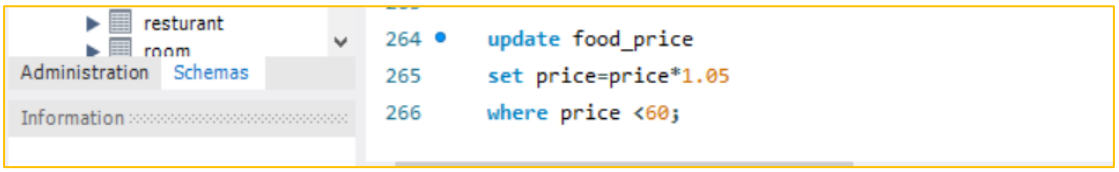
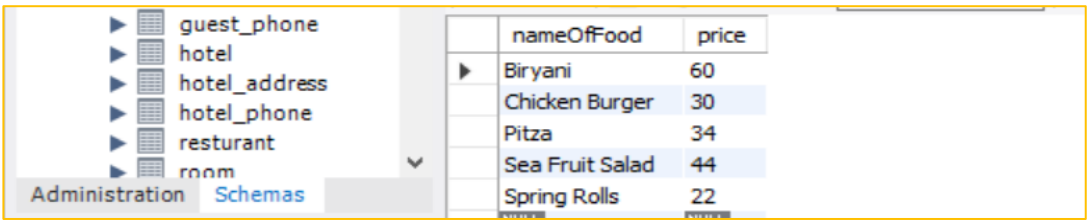


Table After command



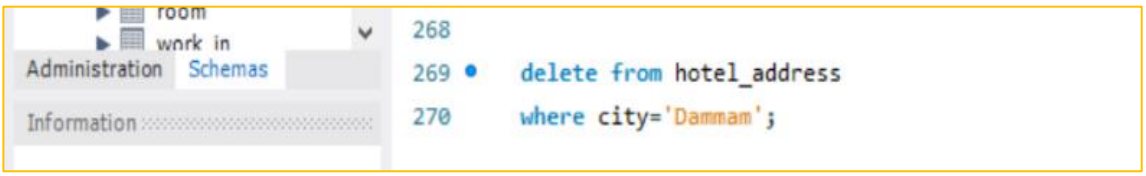
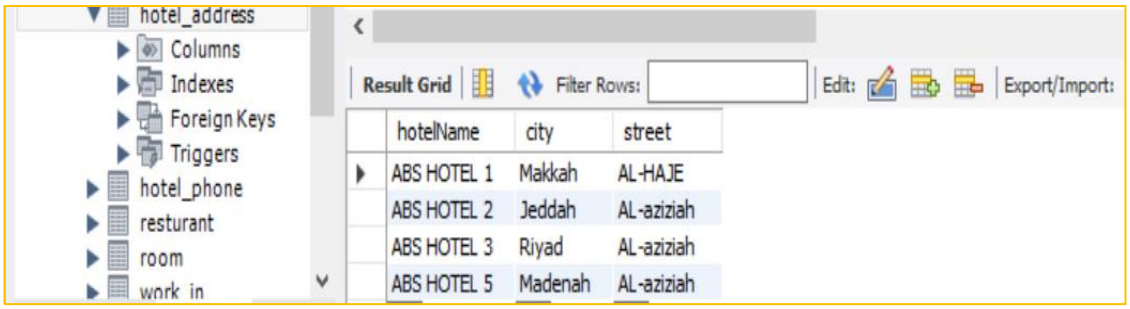


Table After command



All commands

```
271
272 •  select hotel.permissionID,hotelName,employeeID,fName,lName,job
273    from hotel,employee
274    where hotel.permissionID=employee.permissionID
275    order by hotel.permissionID desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

permissionID	hotelName	employeeID	fName	lName	job
G9055	ABS HOTEL 5	E1007	Jamse	Joe	RoomServiceOfficer
G9055	ABS HOTEL 5	E1008	Malkom	Kareem	RoomServiceOfficer
G9054	ABS HOTEL 4	E1005	Joe	Maikel	CleanWorker
G9054	ABS HOTEL 4	E1006	Mathyo	Keven	CleanWorker
G9053	ABS HOTEL 3	E1009	Majed	Khaled	Resceptionist
G9052	ABS HOTEL 2	E1003	Saleh	Waleed	Chef
G9052	ABS HOTEL 2	E1004	Bader	salem	Chef
G9051	ABS HOTEL 1	E1001	Noha	Saleh	Waiter
G9051	ABS HOTEL 1	E1002	Ahmad	Zain	Waiter

```
277 •  select guestID,fName,lName,age
278    from guest
279    where age<=(select avg(age) from guest);
280
281
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

guestID	fName	lName	age
U4009	Htem	Albert	28
U7989	AbdUllah	Saleh	35
NULL	NULL	NULL	NULL

```
272 •  select guestID,resevationPeriod
273    from guest
274    where resevationPeriod >=6;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

guestID	resevationPeriod
U4009	9 Days
U6876	7 Days

```
277 •  select roomNo,roomType,noOfBeds
278    from room
279    where roomType='Suite' AND noOfBeds=2 ;
```

Result Grid | Filter Rows: | Edit: | Export/Import:

roomNo	roomType	noOfBeds
F30	Suite	2
F31	Suite	2
F37	Suite	2

```
282 •  select phoneNumber,guestID
283    from guest_phone
284    order by  guestID desc;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell

phoneNumber	guestID
0564-3777	U7989
0598-7359	U6876
0585-6229	U4009
0567-5342	U4009
0564-3229	U3999
0543-2980	U1178

```
287 •  select  roomType,count(permissionID)as count
288    from room
289    group by roomType
290    having count(permissionID)>=1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

roomType	count
Suite	3
VIP Suite	2

```
301 •  select *
302    from room
303    where roomNo =(select roomNo
304                   from guest
305                   where resevationPeriod<=1
306                   and age>=55);
307
```

Result Grid | Filter Rows: | Edit: | Export/

roomNo	roomType	noOfBeds	permissionID
F31	Suite	2	G9055

```
308 •  select job,count(employeeID)as NumEmployees
309    from employee
310    group by job
311    order by employeeID asc;
312
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

job	NumEmployees
Waiter	2
Chef	2
CleanWorker	2
RoomServiceOfficer	2
Resceptionist	1

```
313 •  select nameOfFood,price
314    from food_price
315    where price between 22 And 40;
316
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

nameOfFood	price
Chicken Burger	30
Pitza	34
Spring Rolls	22
NULL	NULL

```
318 •  select typeOfFood
319    from resturant
320    where nameOfFood='Biryani' OR nameOfFood='Sea Fruit Salad';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

typeOfFood
Indian
Sea Food

DataBase Project

Phase 4

ABS Hotel

Teamwork:

Afrah Alsaadi - 439008815

Badriah Alqarni – 439003912

Salha Almasoudi - 439002977

Group work report

	Afrah *439008815*	Badriah *439003912*	Salha *439002977*
PowerPoint presentation	●		●
pdf file containing all the phases		●	

- Done the task ○ Assisted on the task