MINISTRY OF EDUCATION | وزارة التعليم
IMAM ABDULRAHMAN BIN | جامعة الإمام
FAISAL UNIVERSITY | عبدالرحمن بن فيصل
COLLEGE OF COMPUTER SCIENCE | كلية علوم الحاسب
& INFORMATION TECHNOLOGY | وتقنية المعلومات

جامعة الإمام عبدالرحمن بن فيصل
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

CIS 235 PROJECT MILESTONE (2): Mapped Tables Filled with data and SQL Query Statements

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Project Group Number (in Blackboard):

Section Number: Group (5)

Project Title: Paradise Hotel

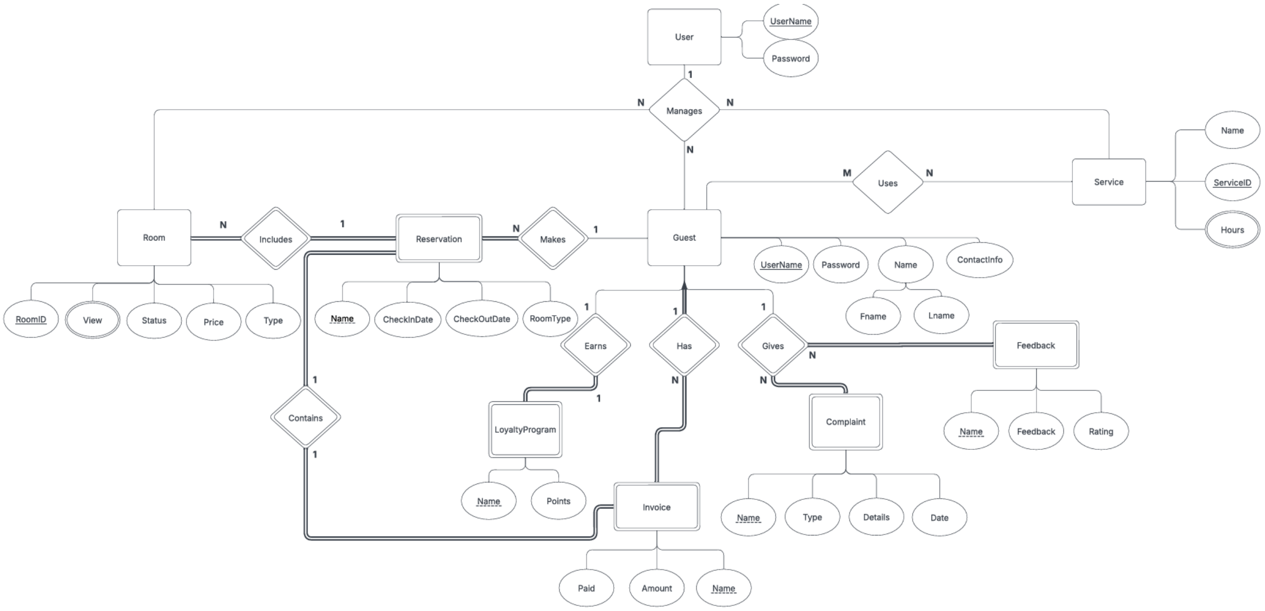
Leade r	**ID**	**Member Name**
	2240002568	Aisha mohammed Alhuzaym
•	2240001622	Raghad masoud Alqahtani
•	2240002062	Alya wail shehab
•	2240002209	Hawra emad Almahfouz
•	2240003036	Samar essa Alasmakh
•	2240004188	Batool Hassan Muhanna

Instructor Name: : Dr.Mona Alghamdi

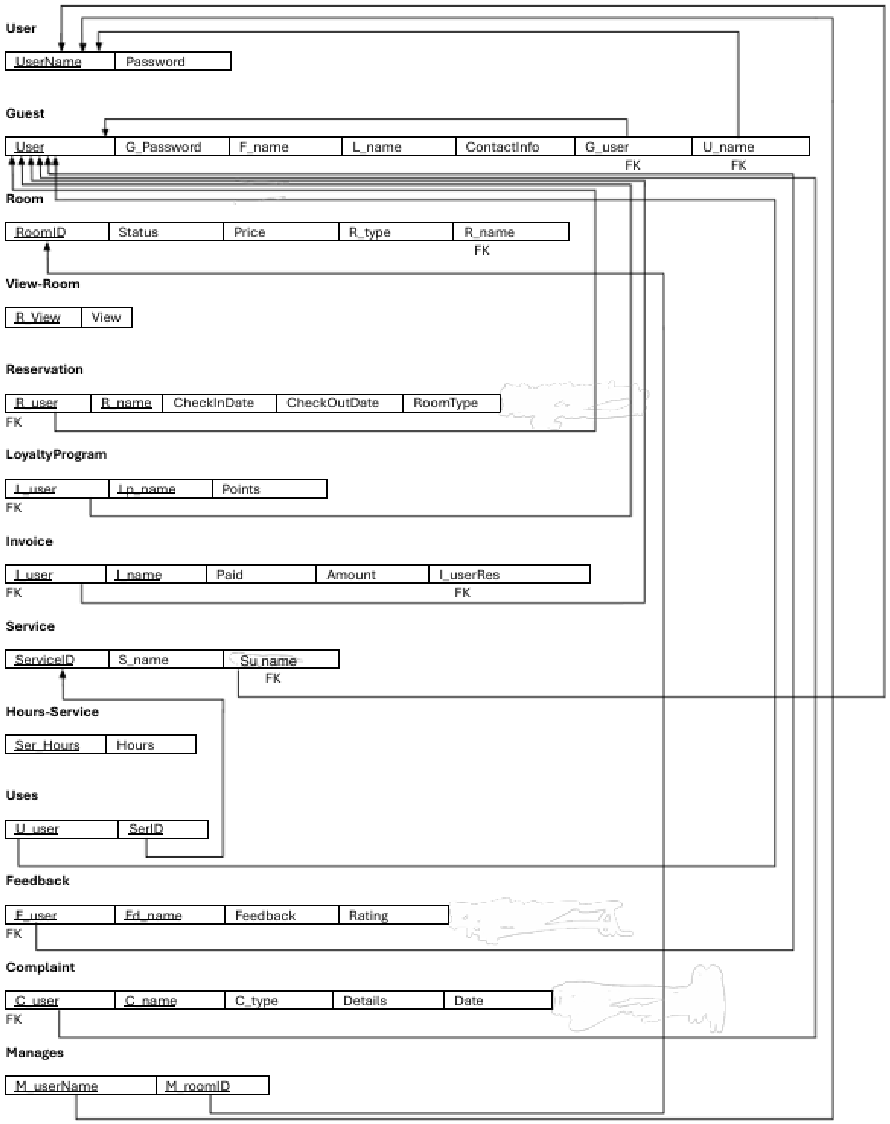
Date of Submission: 30 / 4 / 2025

Mapped Tables Filled with data (5 marks)

ER Diagram:



MAPPING of your ER diagram into Database Schema:



User

UserName	Password

Guest

User	G_Password	F_name	L_name	ContactInfo	G_user	U_name
					FK	FK

Room

RoomID	Status	Price	R_type	R_name
				FK

View-Room

R_View	View

Reservation

R_user	R_name	CheckInDate	CheckOutDate	RoomType
FK				

LoyaltyProgram

L_user	Lp_name	Points
FK		

Invoice

I_user	I_name	Paid	Amount	I_userRes
FK				FK

Service

ServiceID	S_name	Su name
		FK

Hours-Service

Ser_Hours	Hours

Uses

U_user	SerID

Feedback

F_user	Fd_name	Feedback	Rating
FK			

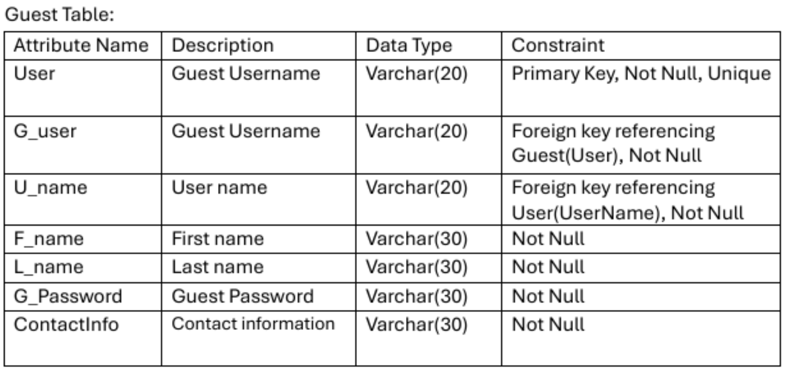
Complaint

C_user	C_name	C_type	Details	Date
FK				

Manages

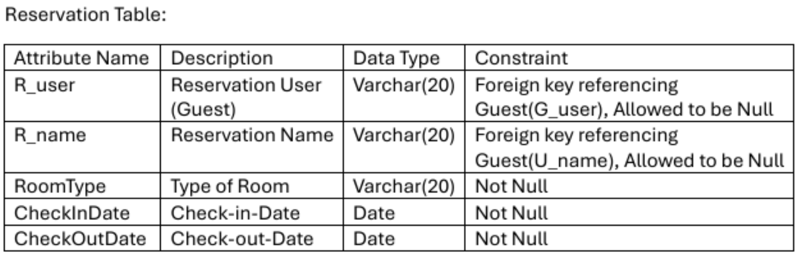
M_userName	M_roomID

Tables with full specification of data types for all fields, constraint and Keys :



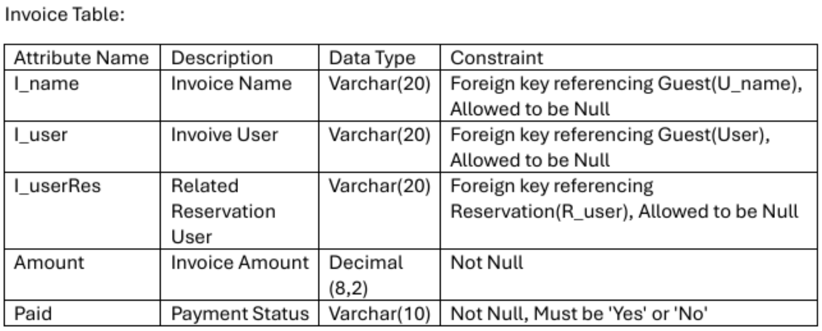
Guest Table:

Attribute Name	Description	Data Type	Constraint
User	Guest Username	Varchar(20)	Primary Key, Not Null, Unique
G_user	Guest Username	Varchar(20)	Foreign key referencing Guest(User), Not Null
U_name	User name	Varchar(20)	Foreign key referencing User(UserName), Not Null
F_name	First name	Varchar(30)	Not Null
L_name	Last name	Varchar(30)	Not Null
G_Password	Guest Password	Varchar(30)	Not Null
ContactInfo	Contact information	Varchar(30)	Not Null



Reservation Table:

Attribute Name	Description	Data Type	Constraint
R_user	Reservation User (Guest)	Varchar(20)	Foreign key referencing Guest(G_user), Allowed to be Null
R_name	Reservation Name	Varchar(20)	Foreign key referencing Guest(U_name), Allowed to be Null
RoomType	Type of Room	Varchar(20)	Not Null
CheckInDate	Check-in-Date	Date	Not Null
CheckOutDate	Check-out-Date	Date	Not Null



Invoice Table:

Attribute Name	Description	Data Type	Constraint
I_name	Invoice Name	Varchar(20)	Foreign key referencing Guest(U_name), Allowed to be Null
I_user	Invoive User	Varchar(20)	Foreign key referencing Guest(User), Allowed to be Null
I_userRes	Related Reservation User	Varchar(20)	Foreign key referencing Reservation(R_user), Allowed to be Null
Amount	Invoice Amount	Decimal (8,2)	Not Null
Paid	Payment Status	Varchar(10)	Not Null, Must be 'Yes' or 'No'

Room Table:

Attribute Name	Description	Data Type	Constraint
RoomID	Room Identifier	Varchar(20)	Primary Key, Not Null, Unique
R_name	Room Name	Varchar(20)	Foreign key referencing Guest(U_name), Allowed to be Null
R_type	Room Type	Varchar(20)	Not Null
Price	Room Price	Decimal (8,2)	Not Null
Status	Room Status	Varchar(20)	Not Null

Complaint Table:

Attribute Name	Description	Data Type	Constraint
C_name	Complaint Name	Varchar(20)	Foreign key referencing Guest(U_name), Not Null
C_user	Complaint User	Varchar(20)	Foreign key referencing Guest(G_user), Not Null
Date	Complaint Date	Date	Not Null
Details	Complaint Details	Text	Allowed to be Null
C_type	Complaint type	Varchar(30)	Not Null

Service Table:

Attribute Name	Description	Data Type	Constraint
ServiceID	Service Identifier	Varchar(20)	Primary Key, Not Null, Unique
S_name	Service Name	Varchar(30)	Not Null
Su_name	Service User Name (Guest)	Varchar(20)	Foreign key referencing Guest(G_name), Not Null

Feedback Table:

Attribute Name	Description	Data Type	Constraint
Fd_name	Feedback Name	Varchar(20)	Foreign key referencing Guest(U_name)), Not Null
F_user	Feedback User (Guest)	Varchar(20)	Foreign key referencing Guest(G_user), Not Null
Feedback	Feedback Text	Text	Allowed to be Null
Rating	Rating	Integer	Value must be between 1 and 5

LoyaltyProgram Table:

Attribute Name	Description	Data Type	Constraint
Lp_name	Loyalty Program Name	Varchar(20)	Foreign key referencing Guest(U_name)), Not Null
L_user	Loyalty Program User	Varchar(20)	Foreign key referencing Guest(G_user), Not Null
Points	Loyalty Points	Integer	Not Null, Default = 0

User Table:

Attribute Name	Description	Data Type	Constraint
UserName	UserName	Varchar(20)	Primary Key, Not Null, Unique
password	Password user	Varchar(30)	Not Null

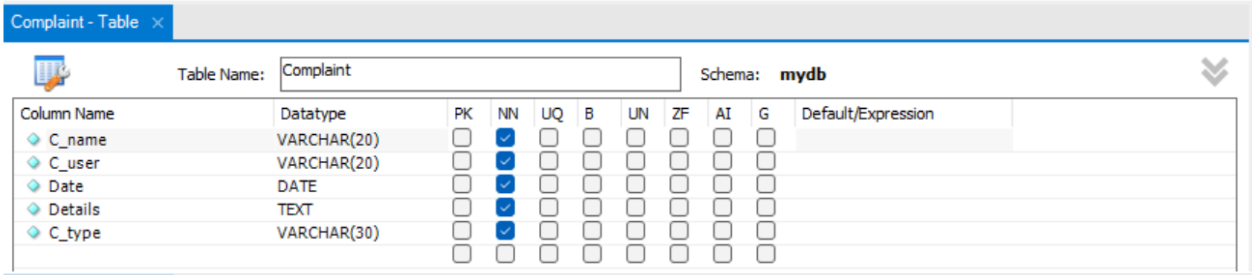


Table Name: Complaint Schema: **mydb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
C_name	VARCHAR(20)	□	☑	□	□	□	□	□	□	
C_user	VARCHAR(20)	□	☑	□	□	□	□	□	□	
Date	DATE	□	☑	□	□	□	□	□	□	
Details	TEXT	□	☑	□	□	□	□	□	□	
C_type	VARCHAR(30)	□	☑	□	□	□	□	□	□	
		□	□	□	□	□	□	□	□	

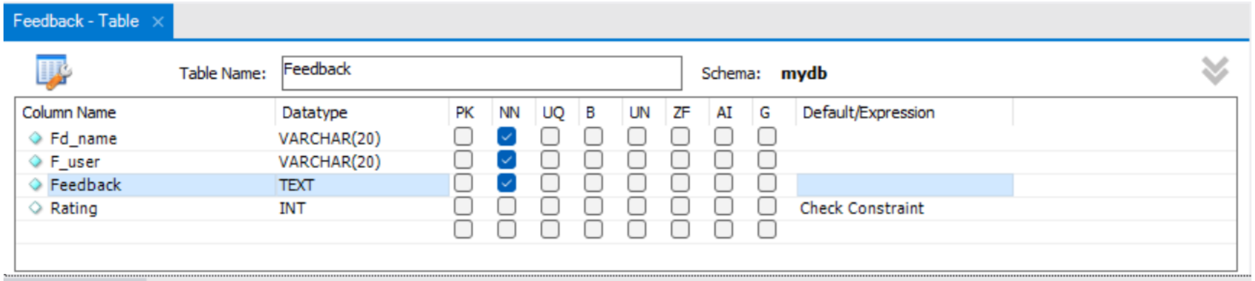


Table Name: Feedback Schema: **mydb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Fd_name	VARCHAR(20)	□	☑	□	□	□	□	□	□	
F_user	VARCHAR(20)	□	☑	□	□	□	□	□	□	
Feedback	TEXT	□	☑	□	□	□	□	□	□	
Rating	INT	□	□	□	□	□	□	□	□	Check Constraint
		□	□	□	□	□	□	□	□	

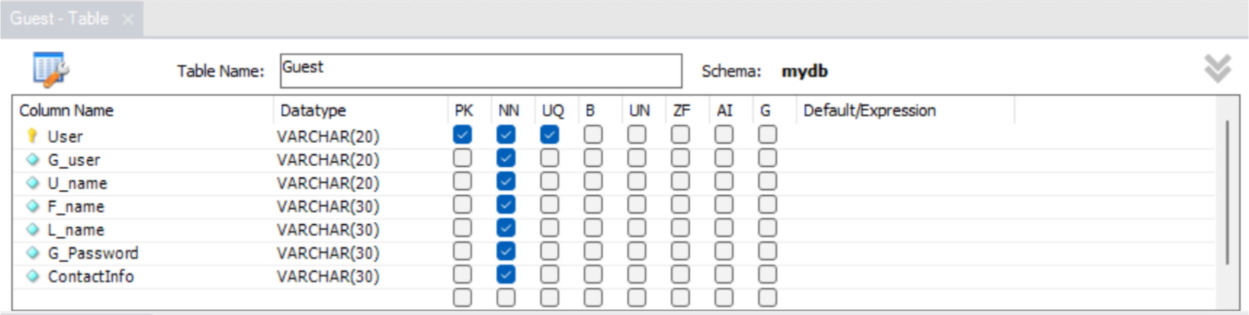


Table Name: Guest Schema: **mydb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
User	VARCHAR(20)	☑	☑	☑	□	□	□	□	□	
G_user	VARCHAR(20)	□	☑	□	□	□	□	□	□	
U_name	VARCHAR(20)	□	☑	□	□	□	□	□	□	
F_name	VARCHAR(30)	□	☑	□	□	□	□	□	□	
L_name	VARCHAR(30)	□	☑	□	□	□	□	□	□	
G_Password	VARCHAR(30)	□	☑	□	□	□	□	□	□	
ContactInfo	VARCHAR(30)	□	☑	□	□	□	□	□	□	
		□	□	□	□	□	□	□	□	

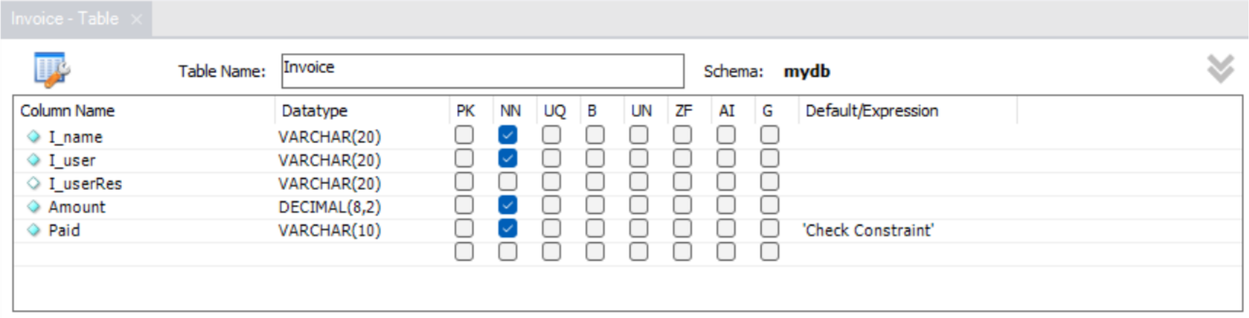


Table Name: Invoice Schema: **mydb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
I_name	VARCHAR(20)	□	☑	□	□	□	□	□	□	
I_user	VARCHAR(20)	□	☑	□	□	□	□	□	□	
I_userRes	VARCHAR(20)	□	□	□	□	□	□	□	□	
Amount	DECIMAL(8,2)	□	☑	□	□	□	□	□	□	
Paid	VARCHAR(10)	□	☑	□	□	□	□	□	□	'Check Constraint'
		□	□	□	□	□	□	□	□	

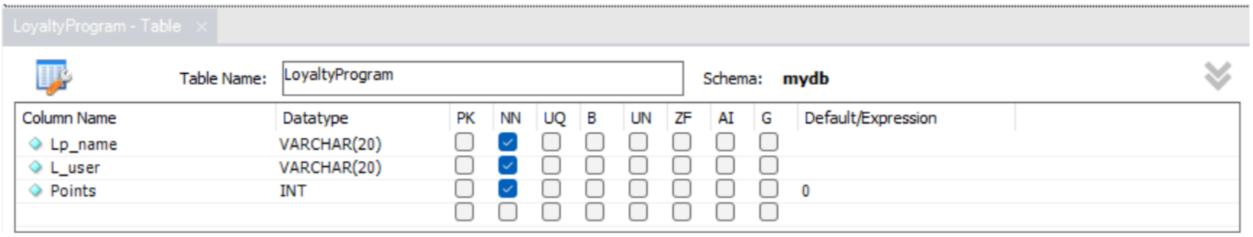


Table Name: LoyaltyProgram Schema: **mydb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Lp_name	VARCHAR(20)	□	☑	□	□	□	□	□	□	
L_user	VARCHAR(20)	□	☑	□	□	□	□	□	□	
Points	INT	□	☑	□	□	□	□	□	□	0
		□	□	□	□	□	□	□	□	

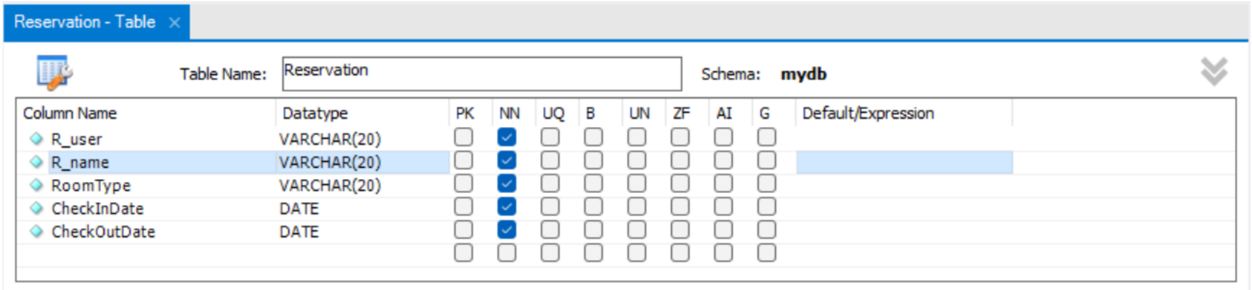


Table Name: Reservation Schema: **mydb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
R_user	VARCHAR(20)	□	☑	□	□	□	□	□	□	
R_name	VARCHAR(20)	□	☑	□	□	□	□	□	□	
RoomType	VARCHAR(20)	□	☑	□	□	□	□	□	□	
CheckInDate	DATE	□	☑	□	□	□	□	□	□	
CheckOutDate	DATE	□	☑	□	□	□	□	□	□	
		□	□	□	□	□	□	□	□	

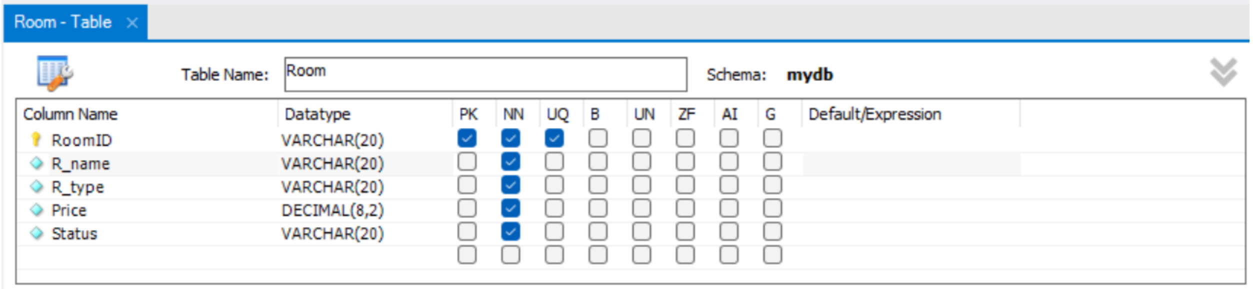


Table Name: Room Schema: **mydb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
RoomID	VARCHAR(20)	☑	☑	☑	□	□	□	□	□	
R_name	VARCHAR(20)	□	☑	□	□	□	□	□	□	
R_type	VARCHAR(20)	□	☑	□	□	□	□	□	□	
Price	DECIMAL(8,2)	□	☑	□	□	□	□	□	□	
Status	VARCHAR(20)	□	☑	□	□	□	□	□	□	
		□	□	□	□	□	□	□	□	

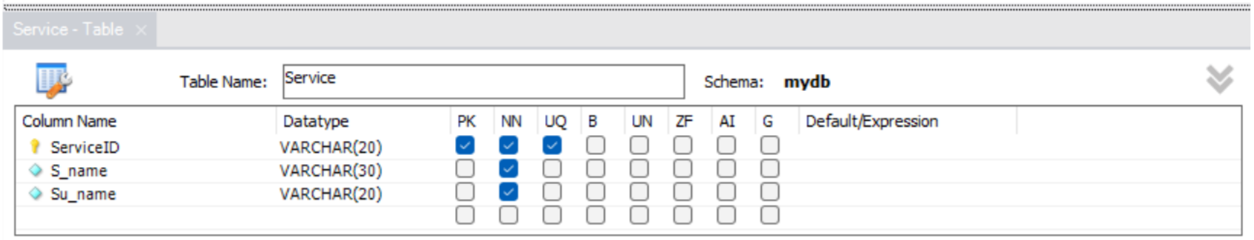


Table Name: Service Schema: **mydb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
ServiceID	VARCHAR(20)	☑	☑	☑	□	□	□	□	□	
S_name	VARCHAR(30)	□	☑	□	□	□	□	□	□	
Su_name	VARCHAR(20)	□	☑	□	□	□	□	□	□	
		□	□	□	□	□	□	□	□	

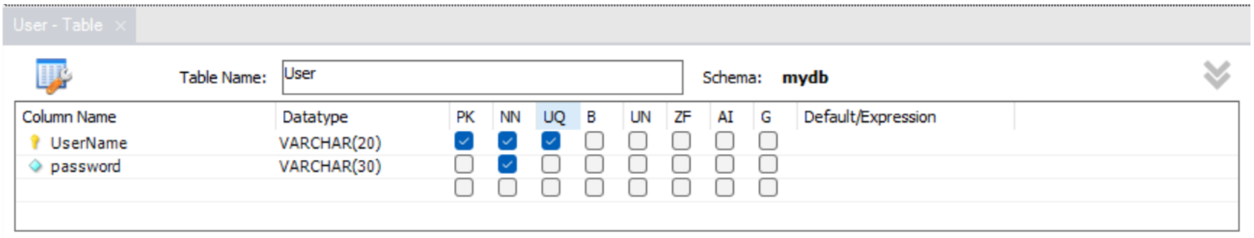
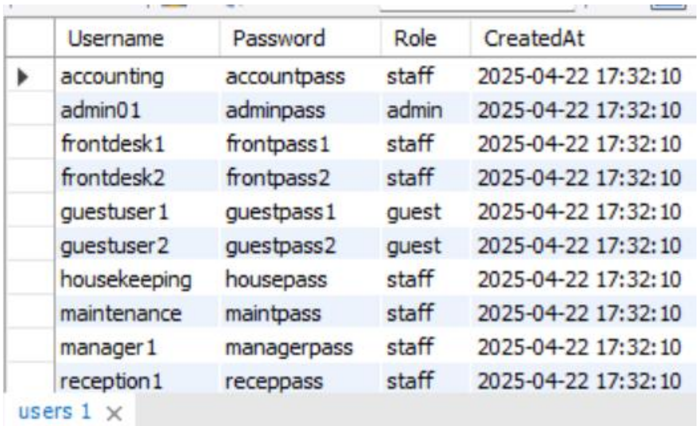


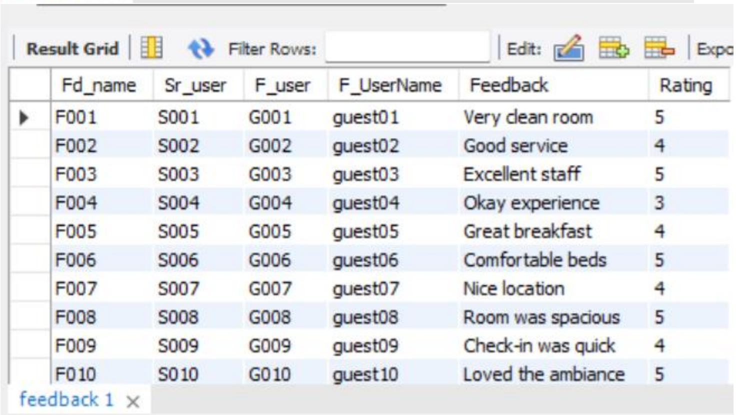
Table Name: User Schema: **mydb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
UserName	VARCHAR(20)	☑	☑	☑	□	□	□	□	□	
password	VARCHAR(30)	□	☑	□	□	□	□	□	□	
		□	□	□	□	□	□	□	□	

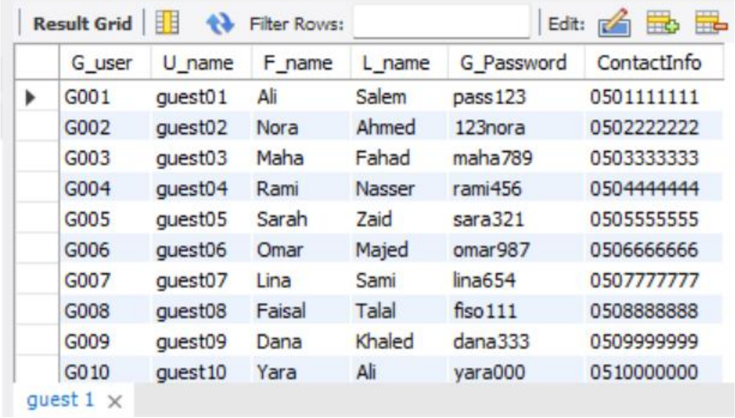
Fill Tables with 10 records:



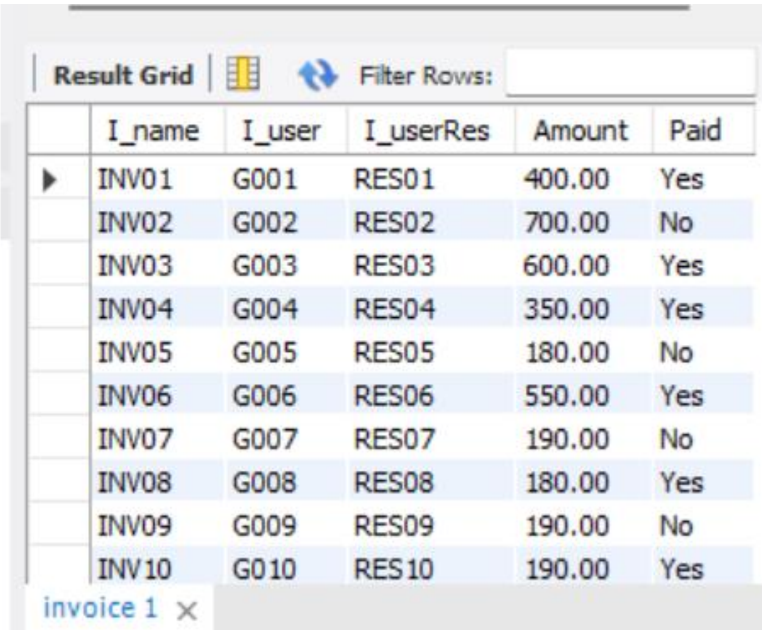
Username	Password	Role	CreatedAt
accounting	accountpass	staff	2025-04-22 17:32:10
admin01	adminpass	admin	2025-04-22 17:32:10
frontdesk1	frontpass1	staff	2025-04-22 17:32:10
frontdesk2	frontpass2	staff	2025-04-22 17:32:10
guestuser1	guestpass1	guest	2025-04-22 17:32:10
guestuser2	guestpass2	guest	2025-04-22 17:32:10
housekeeping	housepass	staff	2025-04-22 17:32:10
maintenance	maintpass	staff	2025-04-22 17:32:10
manager1	managerpass	staff	2025-04-22 17:32:10
reception1	receppass	staff	2025-04-22 17:32:10



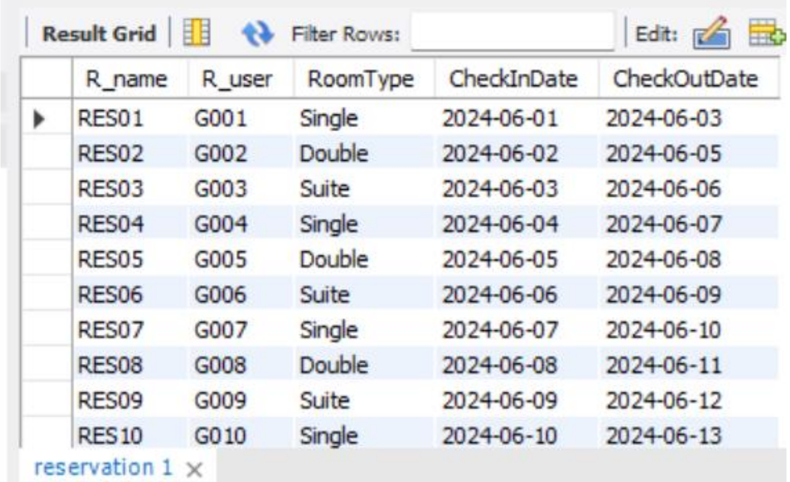
Fd_name	Sr_user	F_user	F_UserName	Feedback	Rating
F001	S001	G001	guest01	Very clean room	5
F002	S002	G002	guest02	Good service	4
F003	S003	G003	guest03	Excellent staff	5
F004	S004	G004	guest04	Okay experience	3
F005	S005	G005	guest05	Great breakfast	4
F006	S006	G006	guest06	Comfortable beds	5
F007	S007	G007	guest07	Nice location	4
F008	S008	G008	guest08	Room was spacious	5
F009	S009	G009	guest09	Check-in was quick	4
F010	S010	G010	guest10	Loved the ambiance	5



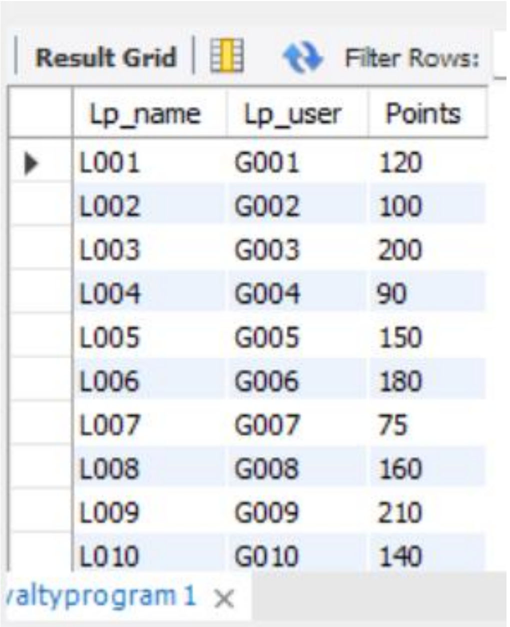
G_user	U_name	F_name	L_name	G_Password	ContactInfo
G001	guest01	Ali	Salem	pass123	0501111111
G002	guest02	Nora	Ahmed	123nora	0502222222
G003	guest03	Maha	Fahad	maha789	0503333333
G004	guest04	Rami	Nasser	rami456	0504444444
G005	guest05	Sarah	Zaid	sara321	0505555555
G006	guest06	Omar	Majed	omar987	0506666666
G007	guest07	Lina	Sami	lina654	0507777777
G008	guest08	Faisal	Talal	fiso111	0508888888
G009	guest09	Dana	Khaled	dana333	0509999999
G010	guest10	Yara	Ali	yara000	0510000000



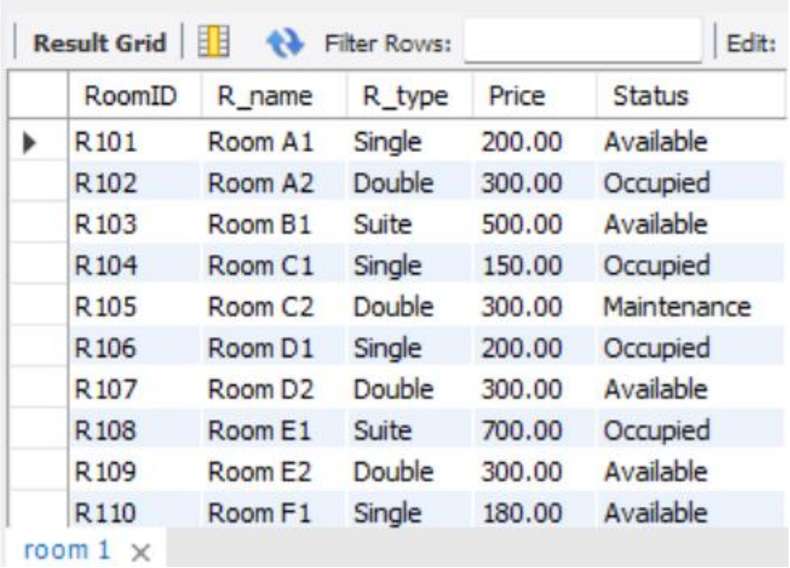
I_name	I_user	I_userRes	Amount	Paid
INV01	G001	RES01	400.00	Yes
INV02	G002	RES02	700.00	No
INV03	G003	RES03	600.00	Yes
INV04	G004	RES04	350.00	Yes
INV05	G005	RES05	180.00	No
INV06	G006	RES06	550.00	Yes
INV07	G007	RES07	190.00	No
INV08	G008	RES08	180.00	Yes
INV09	G009	RES09	190.00	No
INV10	G010	RES10	190.00	Yes



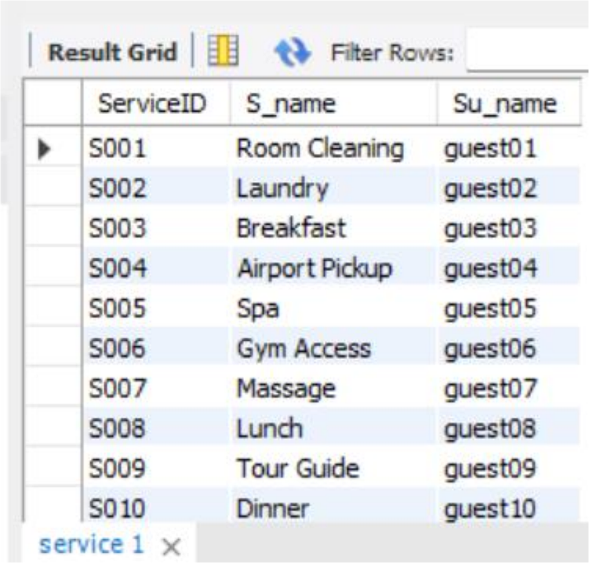
R_name	R_user	RoomType	CheckInDate	CheckOutDate
RES01	G001	Single	2024-06-01	2024-06-03
RES02	G002	Double	2024-06-02	2024-06-05
RES03	G003	Suite	2024-06-03	2024-06-06
RES04	G004	Single	2024-06-04	2024-06-07
RES05	G005	Double	2024-06-05	2024-06-08
RES06	G006	Suite	2024-06-06	2024-06-09
RES07	G007	Single	2024-06-07	2024-06-10
RES08	G008	Double	2024-06-08	2024-06-11
RES09	G009	Suite	2024-06-09	2024-06-12
RES10	G010	Single	2024-06-10	2024-06-13



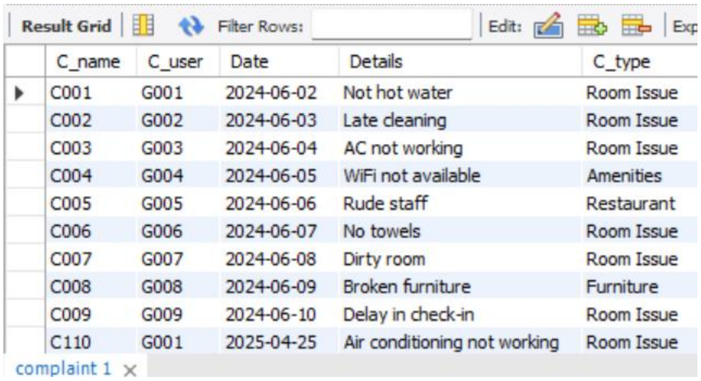
Lp_name	Lp_user	Points
L001	G001	120
L002	G002	100
L003	G003	200
L004	G004	90
L005	G005	150
L006	G006	180
L007	G007	75
L008	G008	160
L009	G009	210
L010	G010	140



RoomID	R_name	R_type	Price	Status
R101	Room A1	Single	200.00	Available
R102	Room A2	Double	300.00	Occupied
R103	Room B1	Suite	500.00	Available
R104	Room C1	Single	150.00	Occupied
R105	Room C2	Double	300.00	Maintenance
R106	Room D1	Single	200.00	Occupied
R107	Room D2	Double	300.00	Available
R108	Room E1	Suite	700.00	Occupied
R109	Room E2	Double	300.00	Available
R110	Room F1	Single	180.00	Available



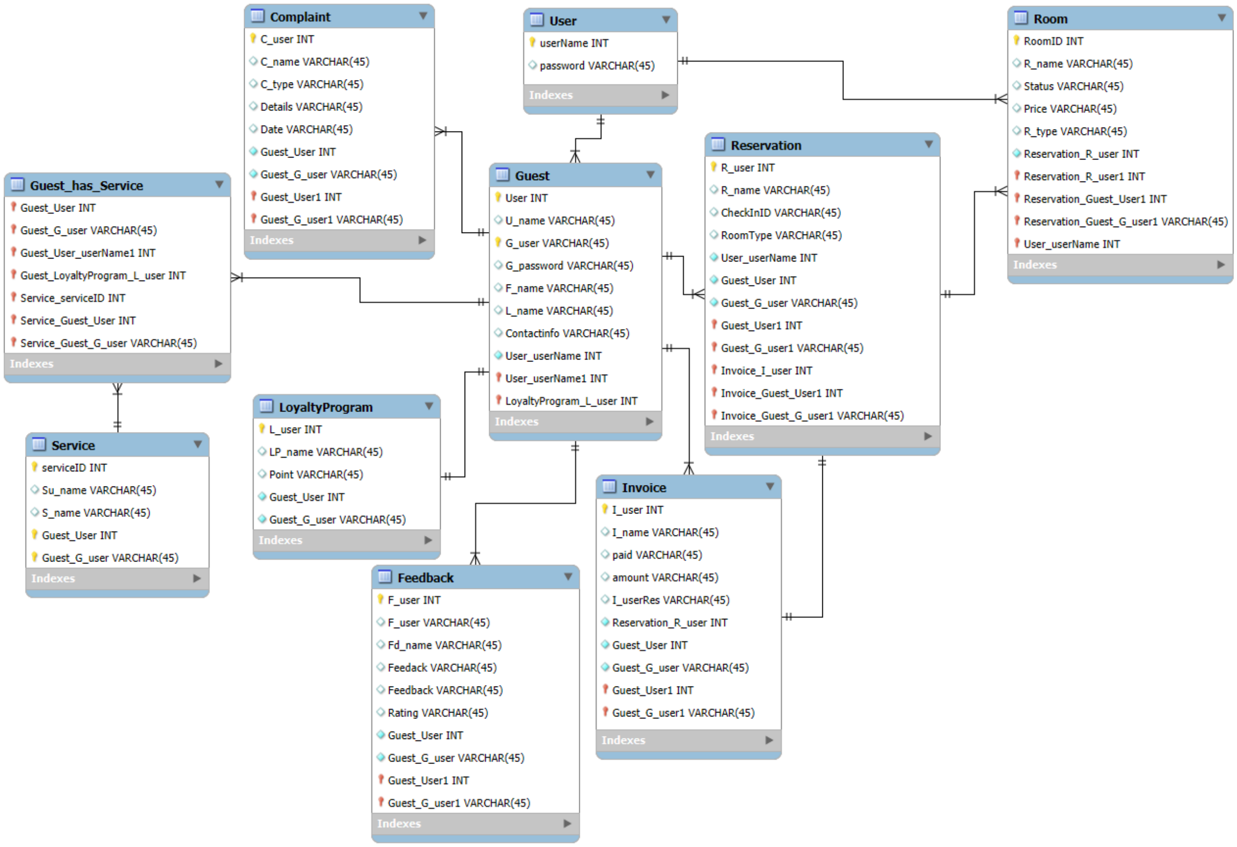
ServiceID	S_name	Su_name
S001	Room Cleaning	guest01
S002	Laundry	guest02
S003	Breakfast	guest03
S004	Airport Pickup	guest04
S005	Spa	guest05
S006	Gym Access	guest06
S007	Massage	guest07
S008	Lunch	guest08
S009	Tour Guide	guest09
S010	Dinner	guest10



C_name	C_user	Date	Details	C_type
C001	G001	2024-06-02	Not hot water	Room Issue
C002	G002	2024-06-03	Late cleaning	Room Issue
C003	G003	2024-06-04	AC not working	Room Issue
C004	G004	2024-06-05	WiFi not available	Amenities
C005	G005	2024-06-06	Rude staff	Restaurant
C006	G006	2024-06-07	No towels	Room Issue
C007	G007	2024-06-08	Dirty room	Room Issue
C008	G008	2024-06-09	Broken furniture	Furniture
C009	G009	2024-06-10	Delay in check-in	Room Issue
C110	G001	2025-04-25	Air conditioning not working	Room Issue

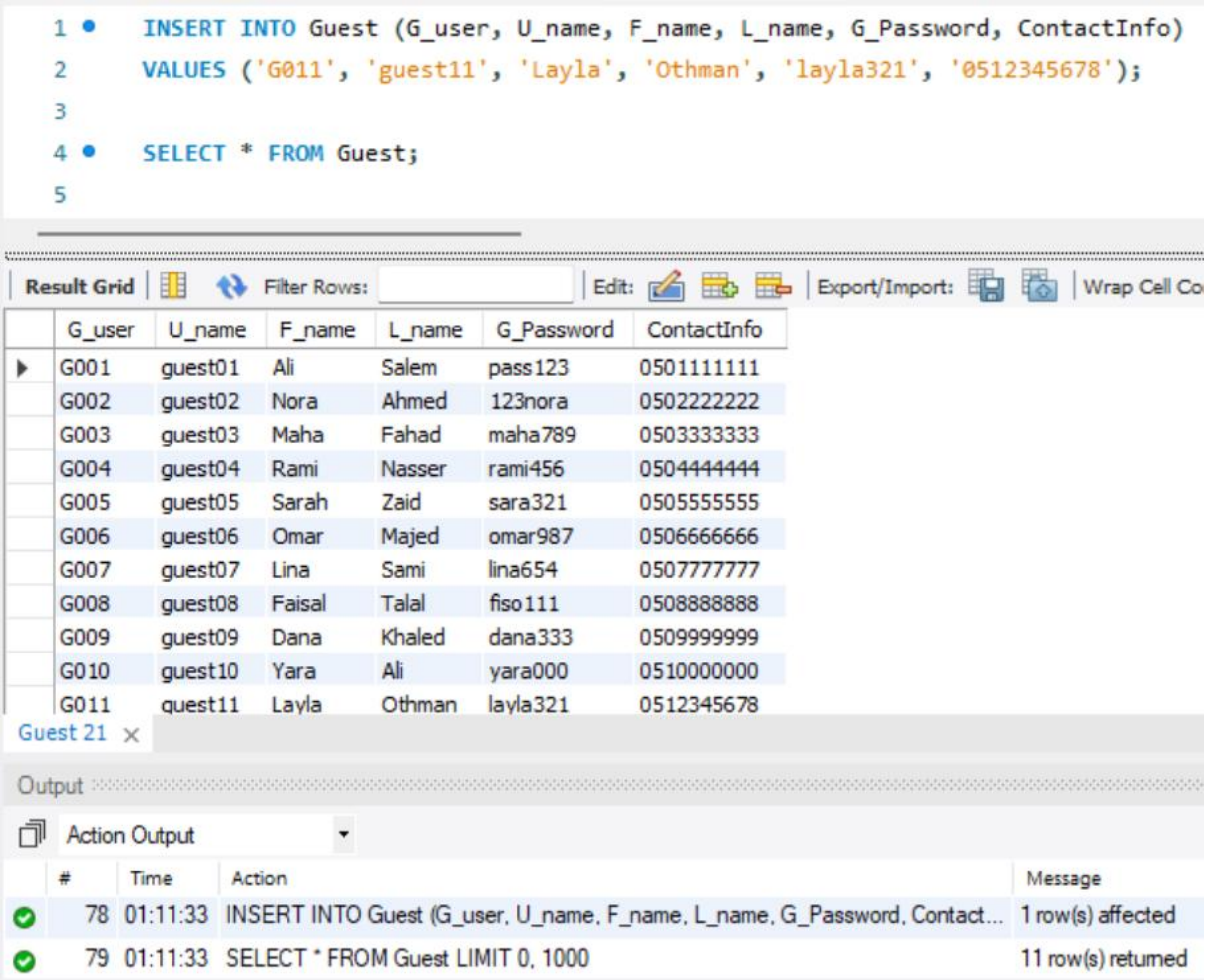
SQL Query Statements (5 marks)

❖ ***Database Diagram:***



Write all SQL Queries required in your system to achieve all requirements (screenshot the result for each query).

1. *INSERT(Add a new guest who did not previously exist)*

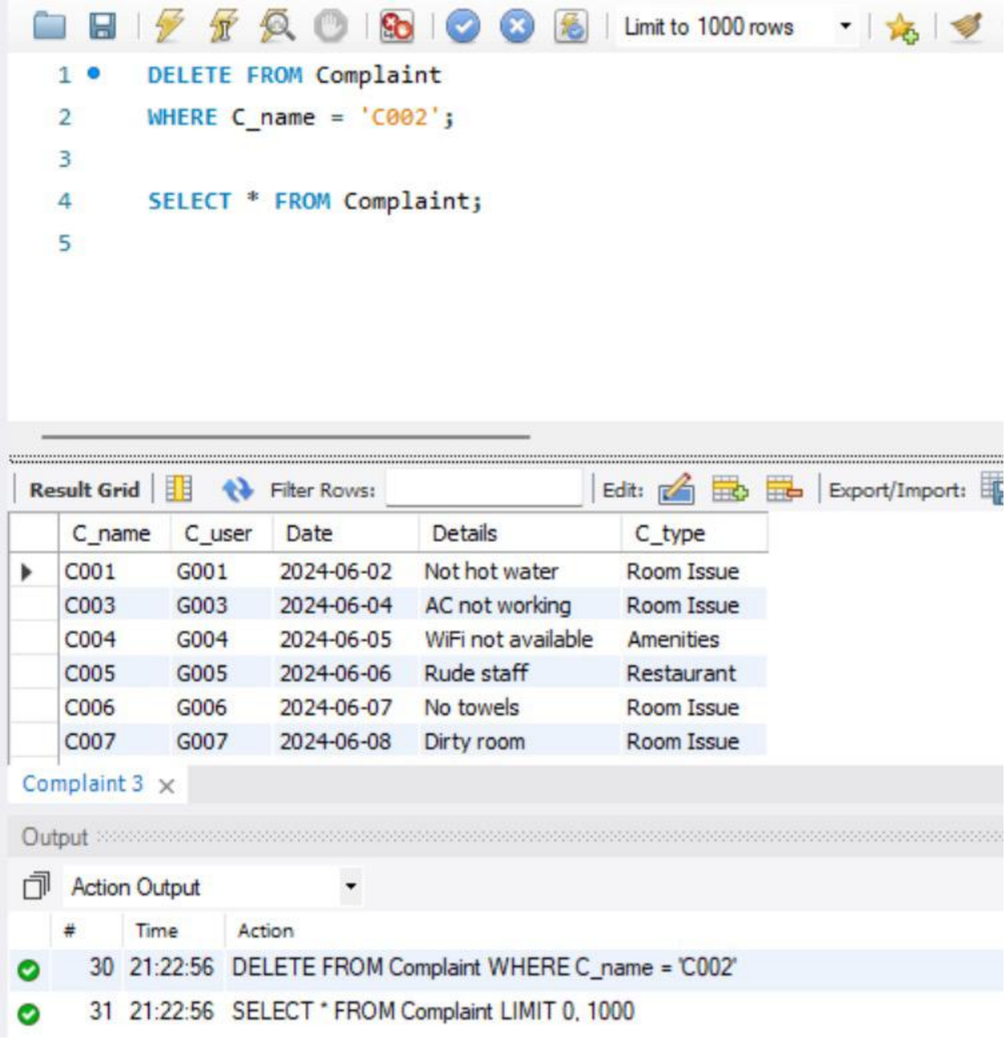


```sql
INSERT INTO Guest (G_user, U_name, F_name, L_name, G_Password, ContactInfo)
VALUES ('G011', 'guest11', 'Layla', 'Othman', 'layla321', '0512345678');

SELECT * FROM Guest;
```

G_user	U_name	F_name	L_name	G_Password	ContactInfo
G001	guest01	Ali	Salem	pass123	0501111111
G002	guest02	Nora	Ahmed	123nora	0502222222
G003	guest03	Maha	Fahad	maha789	0503333333
G004	guest04	Rami	Nasser	rami456	0504444444
G005	guest05	Sarah	Zaid	sara321	0505555555
G006	guest06	Omar	Majed	omar987	0506666666
G007	guest07	Lina	Sami	lina654	0507777777
G008	guest08	Faisal	Talal	fiso111	0508888888
G009	guest09	Dana	Khaled	dana333	0509999999
G010	guest10	Yara	Ali	yara000	0510000000
G011	guest11	Layla	Othman	layla321	0512345678

	#	Time	Action	Message
✓	78	01:11:33	INSERT INTO Guest (G_user, U_name, F_name, L_name, G_Password, Contact...	1 row(s) affected
✓	79	01:11:33	SELECT * FROM Guest LIMIT 0, 1000	11 row(s) returned

2. Delete (user complaint from the complaints table)

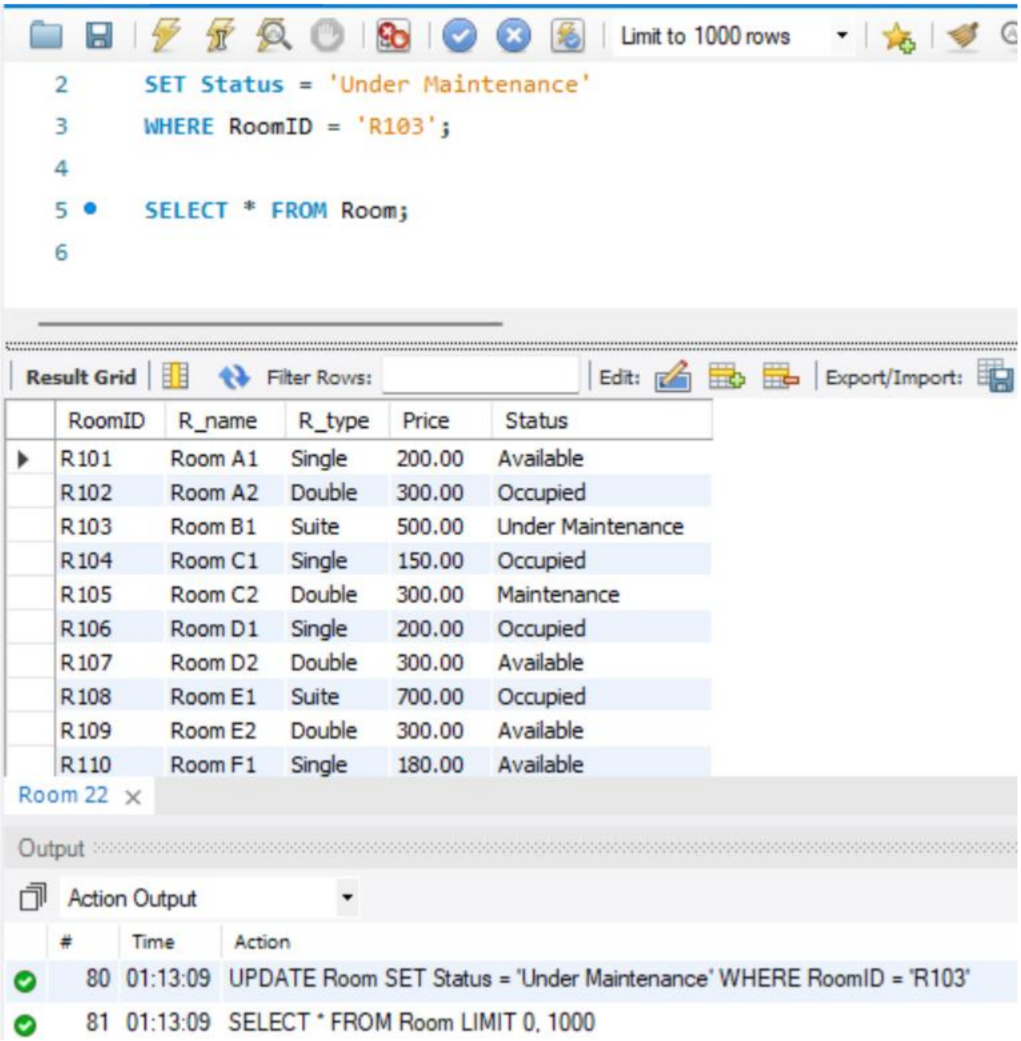


```
DELETE FROM Complaint
WHERE C_name = 'C002';

SELECT * FROM Complaint;
```

C_name	C_user	Date	Details	C_type
C001	G001	2024-06-02	Not hot water	Room Issue
C003	G003	2024-06-04	AC not working	Room Issue
C004	G004	2024-06-05	WiFi not available	Amenities
C005	G005	2024-06-06	Rude staff	Restaurant
C006	G006	2024-06-07	No towels	Room Issue
C007	G007	2024-06-08	Dirty room	Room Issue

```
#   Time      Action
30  21:22:56  DELETE FROM Complaint WHERE C_name = 'C002'
31  21:22:56  SELECT * FROM Complaint LIMIT 0, 1000
```

3. UPDATE (Update room status)

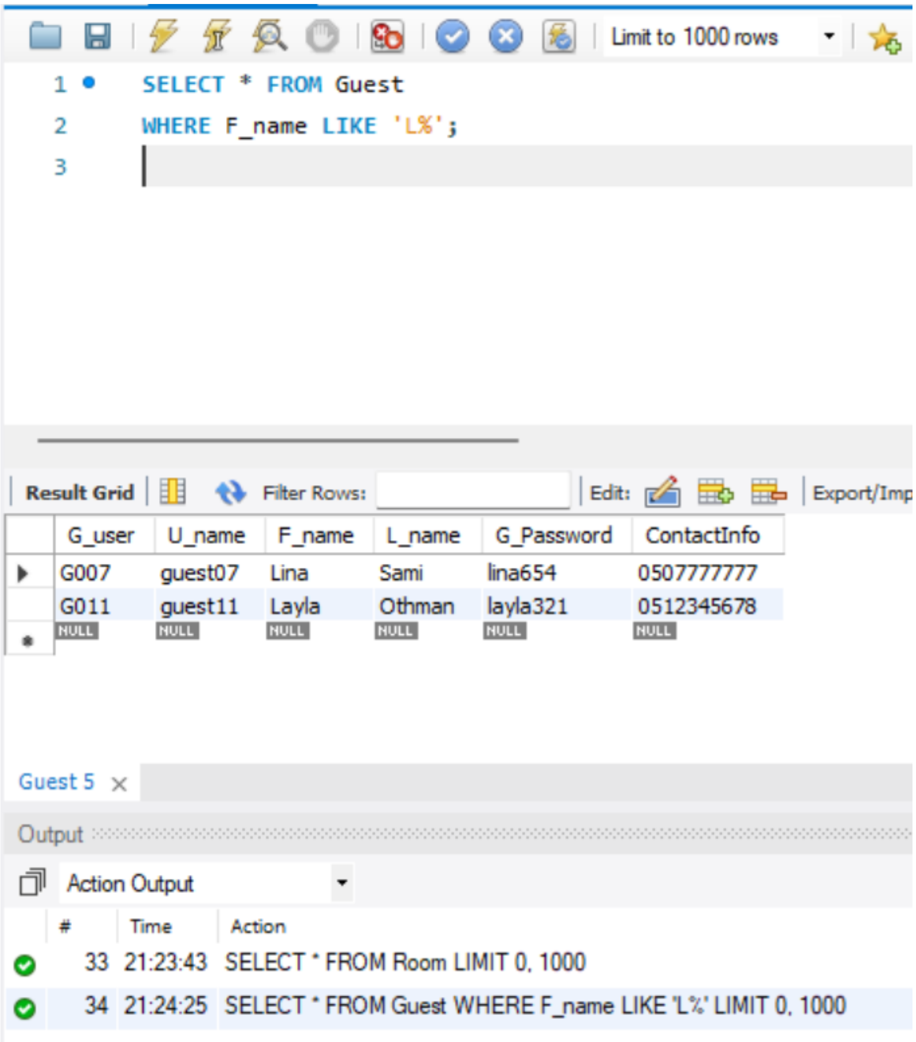


```
SET Status = 'Under Maintenance'
WHERE RoomID = 'R103';

SELECT * FROM Room;
```

RoomID	R_name	R_type	Price	Status
R101	Room A1	Single	200.00	Available
R102	Room A2	Double	300.00	Occupied
R103	Room B1	Suite	500.00	Under Maintenance
R104	Room C1	Single	150.00	Occupied
R105	Room C2	Double	300.00	Maintenance
R106	Room D1	Single	200.00	Occupied
R107	Room D2	Double	300.00	Available
R108	Room E1	Suite	700.00	Occupied
R109	Room E2	Double	300.00	Available
R110	Room F1	Single	180.00	Available

```
#    Time      Action
80   01:13:09  UPDATE Room SET Status = 'Under Maintenance' WHERE RoomID = 'R103'
81   01:13:09  SELECT * FROM Room LIMIT 0, 1000
```

4. Display guests whose names start with L

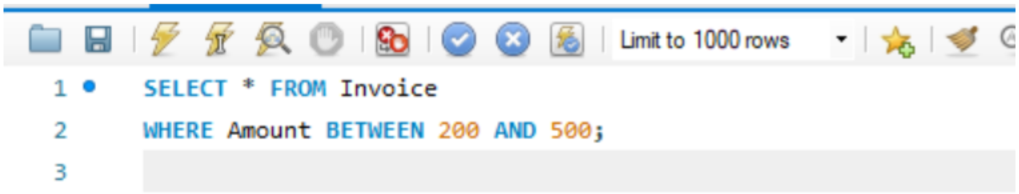


```sql
SELECT * FROM Guest
WHERE F_name LIKE 'L%';
```

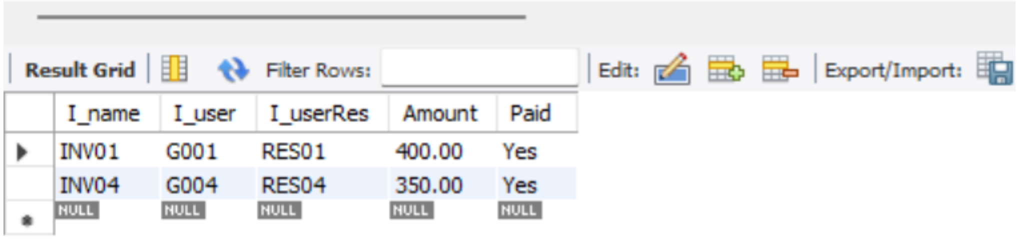
	G_user	U_name	F_name	L_name	G_Password	ContactInfo
▶	G007	guest07	Lina	Sami	lina654	0507777777
	G011	guest11	Layla	Othman	layla321	0512345678
*	NULL	NULL	NULL	NULL	NULL	NULL

```
     #   Time      Action
✓   33   21:23:43  SELECT * FROM Room LIMIT 0, 1000
✓   34   21:24:25  SELECT * FROM Guest WHERE F_name LIKE 'L%' LIMIT 0, 1000
```

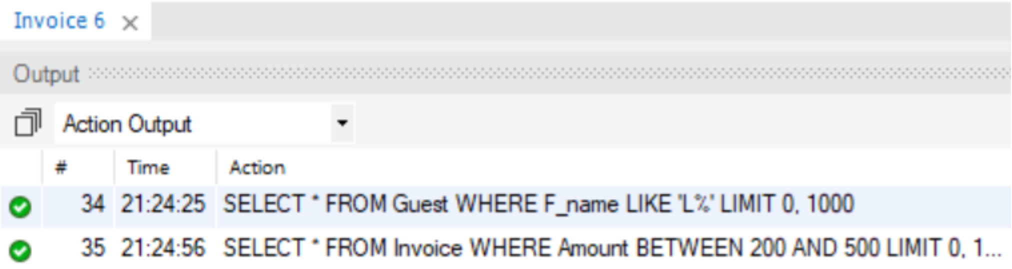
5. Display invoices between 200 and 500



```
SELECT * FROM Invoice
WHERE Amount BETWEEN 200 AND 500;
```



	I_name	I_user	I_userRes	Amount	Paid
▶	INV01	G001	RES01	400.00	Yes
	INV04	G004	RES04	350.00	Yes
*	NULL	NULL	NULL	NULL	NULL



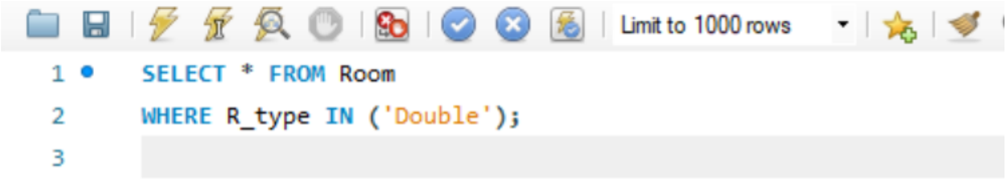
Invoice 6

Output

Action Output

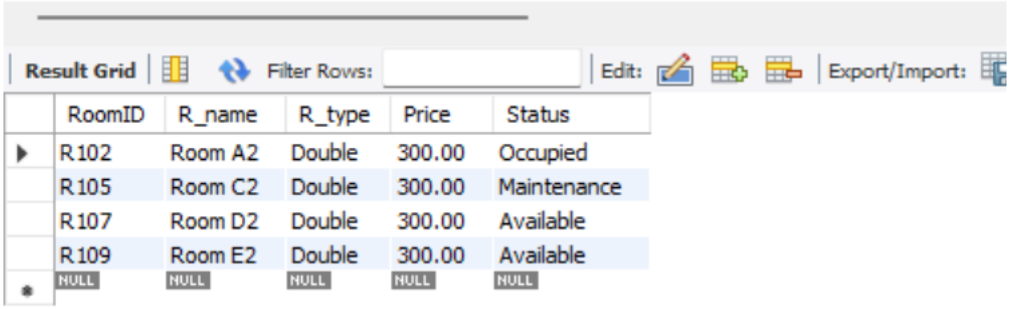
```
   #   Time      Action
✓  34  21:24:25  SELECT * FROM Guest WHERE F_name LIKE 'L%' LIMIT 0, 1000
✓  35  21:24:56  SELECT * FROM Invoice WHERE Amount BETWEEN 200 AND 500 LIMIT 0, 1...
```

6. In (display Double rooms)

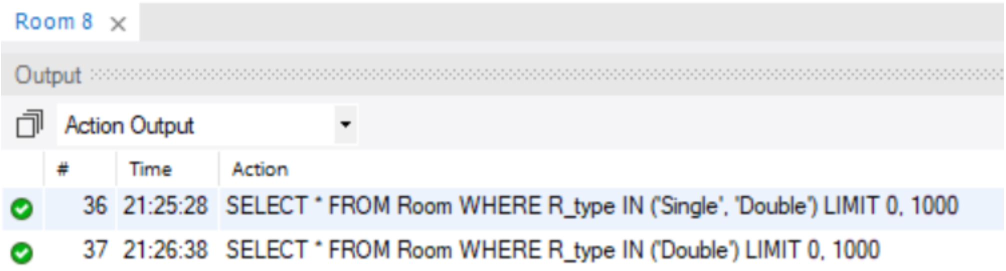


Limit to 1000 rows

```
SELECT * FROM Room
WHERE R_type IN ('Double');
```

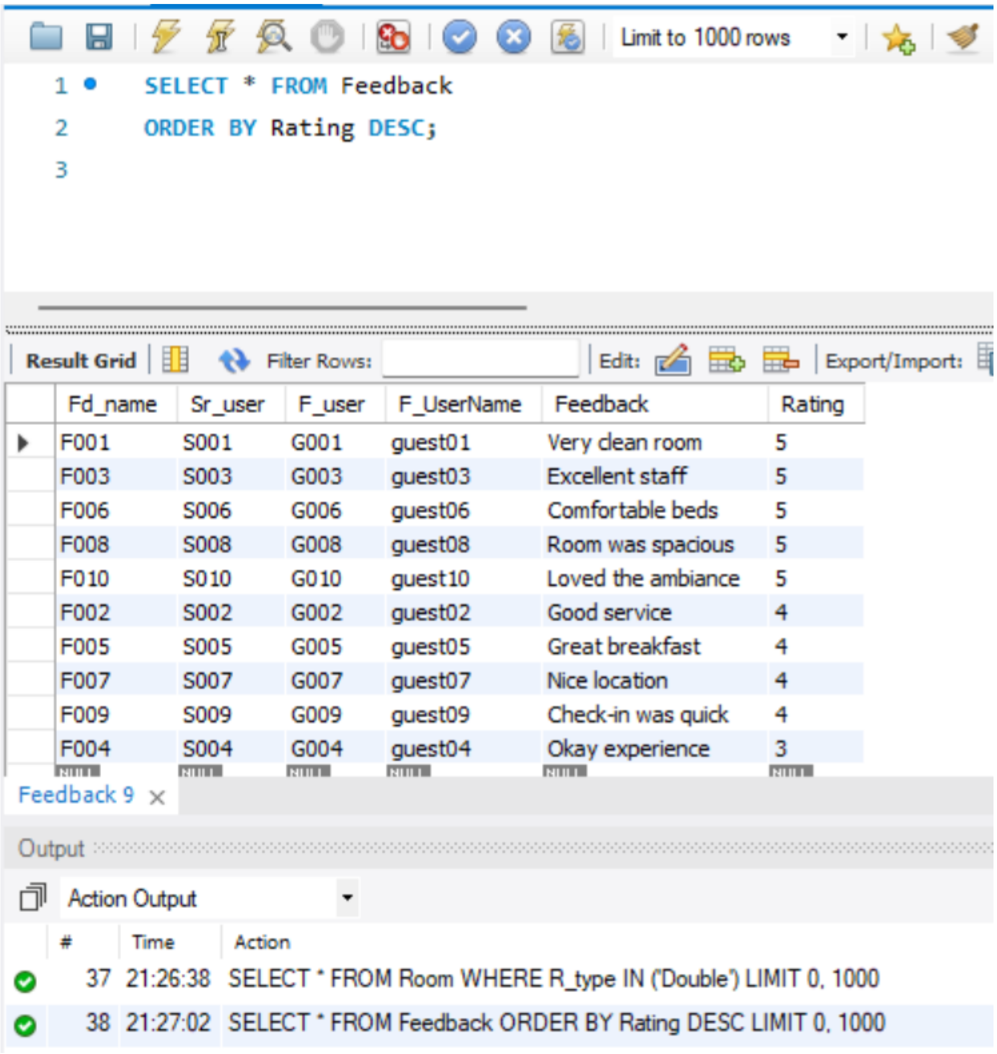


RoomID	R_name	R_type	Price	Status
R102	Room A2	Double	300.00	Occupied
R105	Room C2	Double	300.00	Maintenance
R107	Room D2	Double	300.00	Available
R109	Room E2	Double	300.00	Available
NULL	NULL	NULL	NULL	NULL



```
#   Time      Action
36  21:25:28  SELECT * FROM Room WHERE R_type IN ('Single', 'Double') LIMIT 0, 1000
37  21:26:38  SELECT * FROM Room WHERE R_type IN ('Double') LIMIT 0, 1000
```

7. Order By(Ranking from highest to lowest)

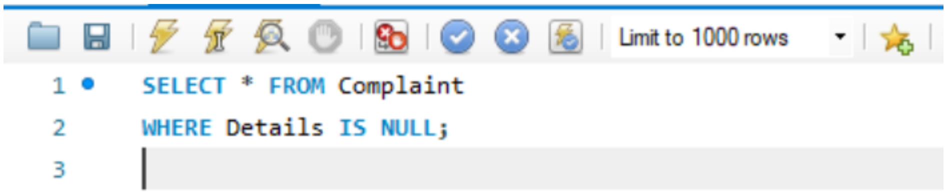


```
SELECT * FROM Feedback
ORDER BY Rating DESC;
```

Fd_name	Sr_user	F_user	F_UserName	Feedback	Rating
F001	S001	G001	guest01	Very clean room	5
F003	S003	G003	guest03	Excellent staff	5
F006	S006	G006	guest06	Comfortable beds	5
F008	S008	G008	guest08	Room was spacious	5
F010	S010	G010	guest10	Loved the ambiance	5
F002	S002	G002	guest02	Good service	4
F005	S005	G005	guest05	Great breakfast	4
F007	S007	G007	guest07	Nice location	4
F009	S009	G009	guest09	Check-in was quick	4
F004	S004	G004	guest04	Okay experience	3
NULL	NULL	NULL	NULL	NULL	NULL

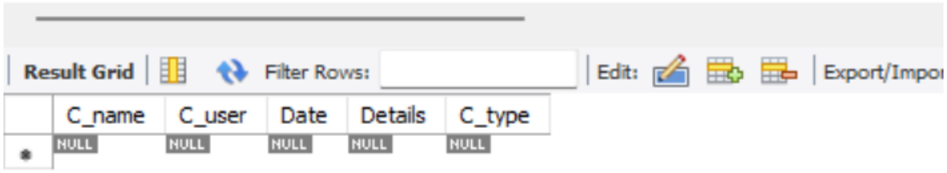
```
#   Time      Action
37  21:26:38  SELECT * FROM Room WHERE R_type IN ('Double') LIMIT 0, 1000
38  21:27:02  SELECT * FROM Feedback ORDER BY Rating DESC LIMIT 0, 1000
```

8 . Is Null (Display incomplete details)

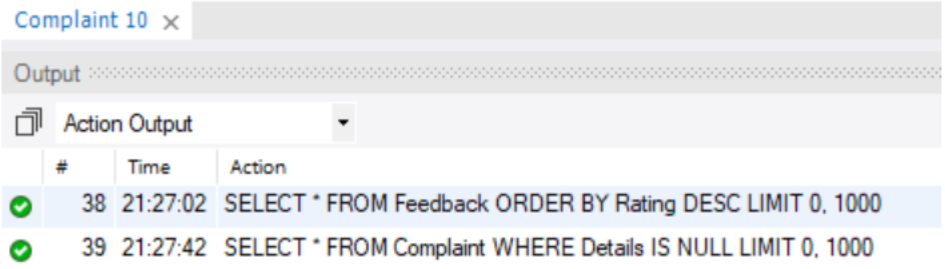


Limit to 1000 rows

```sql
SELECT * FROM Complaint
WHERE Details IS NULL;
```

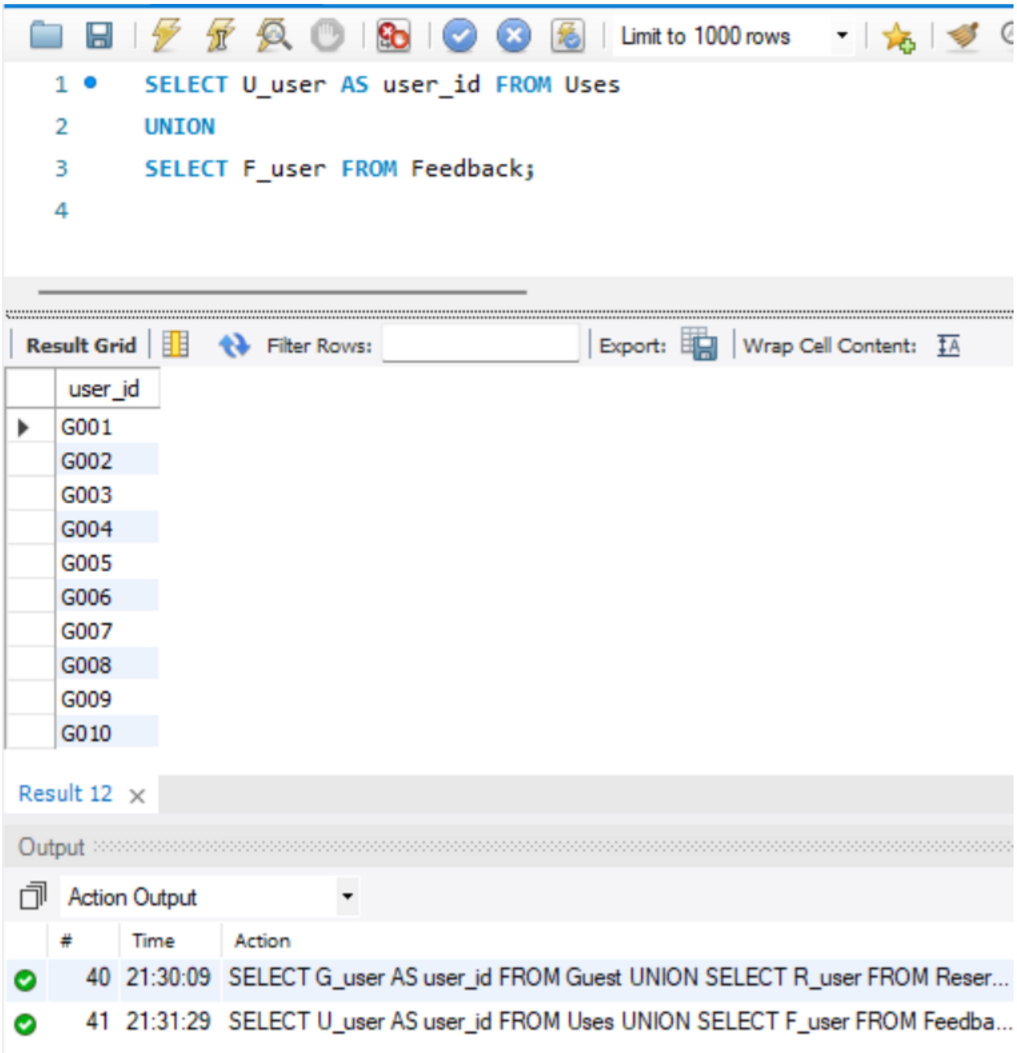


C_name	C_user	Date	Details	C_type
NULL	NULL	NULL	NULL	NULL



```
#   Time      Action
38  21:27:02  SELECT * FROM Feedback ORDER BY Rating DESC LIMIT 0, 1000
39  21:27:42  SELECT * FROM Complaint WHERE Details IS NULL LIMIT 0, 1000
```

9. UNION(Display all users from the uses table and feedback without duplication)

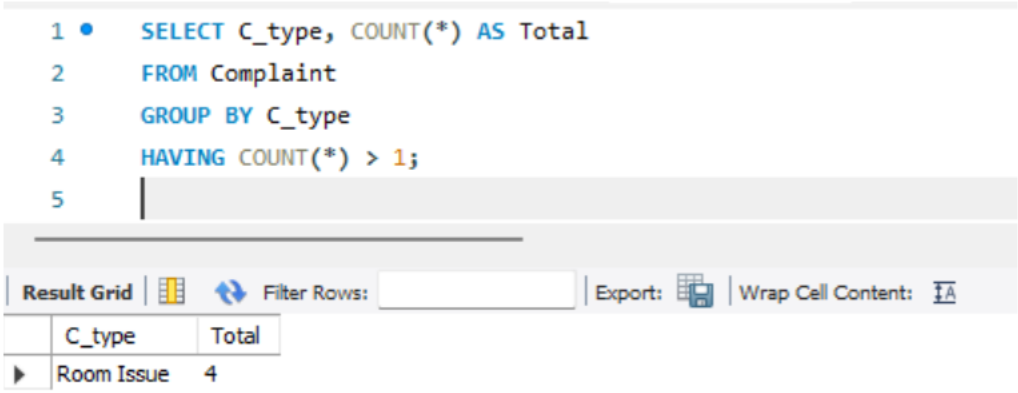


```
SELECT U_user AS user_id FROM Uses
UNION
SELECT F_user FROM Feedback;
```

user_id
G001
G002
G003
G004
G005
G006
G007
G008
G009
G010

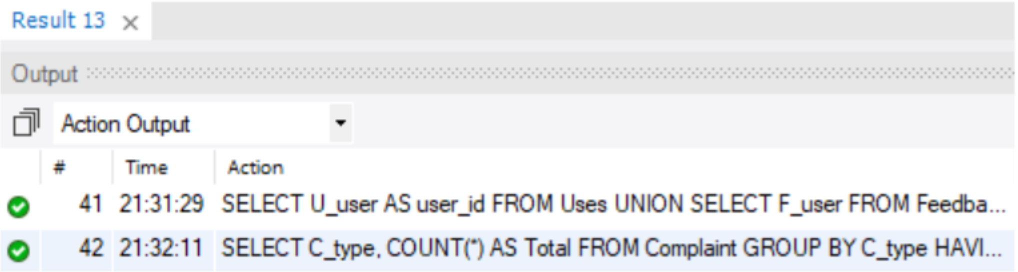
```
#   Time      Action
40  21:30:09  SELECT G_user AS user_id FROM Guest UNION SELECT R_user FROM Reser...
41  21:31:29  SELECT U_user AS user_id FROM Uses UNION SELECT F_user FROM Feedba...
```

10. Aggregate + GROUP BY + HAVING (Number of complaints by type, provided that there is more than one complaint)



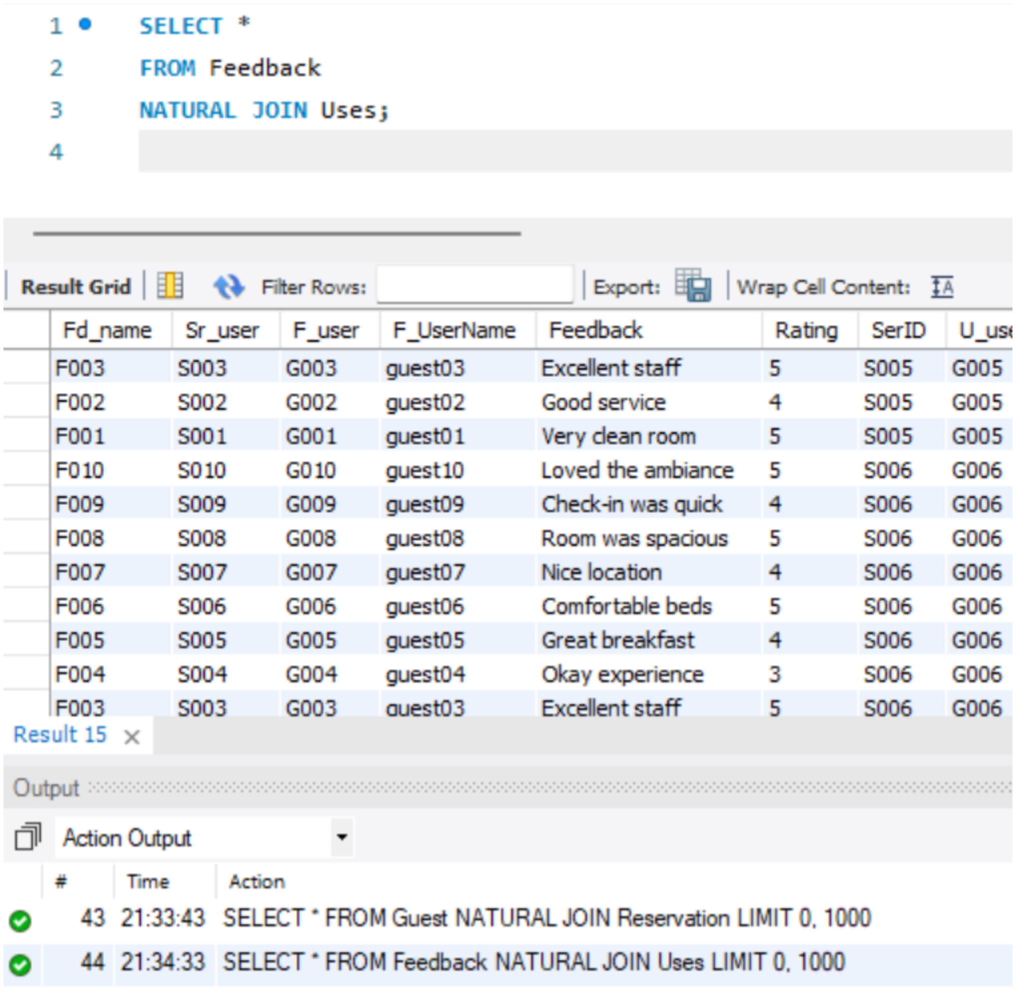
```sql
SELECT C_type, COUNT(*) AS Total
FROM Complaint
GROUP BY C_type
HAVING COUNT(*) > 1;
```

C_type	Total
Room Issue	4



#	Time	Action
41	21:31:29	SELECT U_user AS user_id FROM Uses UNION SELECT F_user FROM Feedba...
42	21:32:11	SELECT C_type, COUNT(*) AS Total FROM Complaint GROUP BY C_type HAVI...

11. Natural Join (Between feedback and uses)

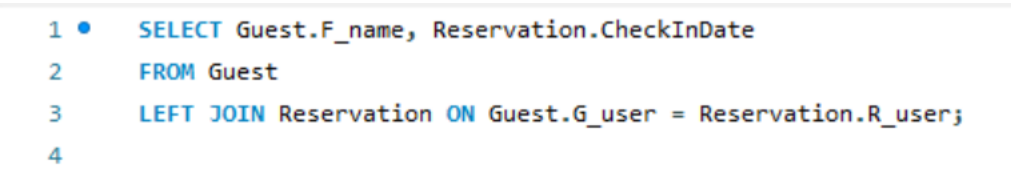


```
SELECT *
FROM Feedback
NATURAL JOIN Uses;
```

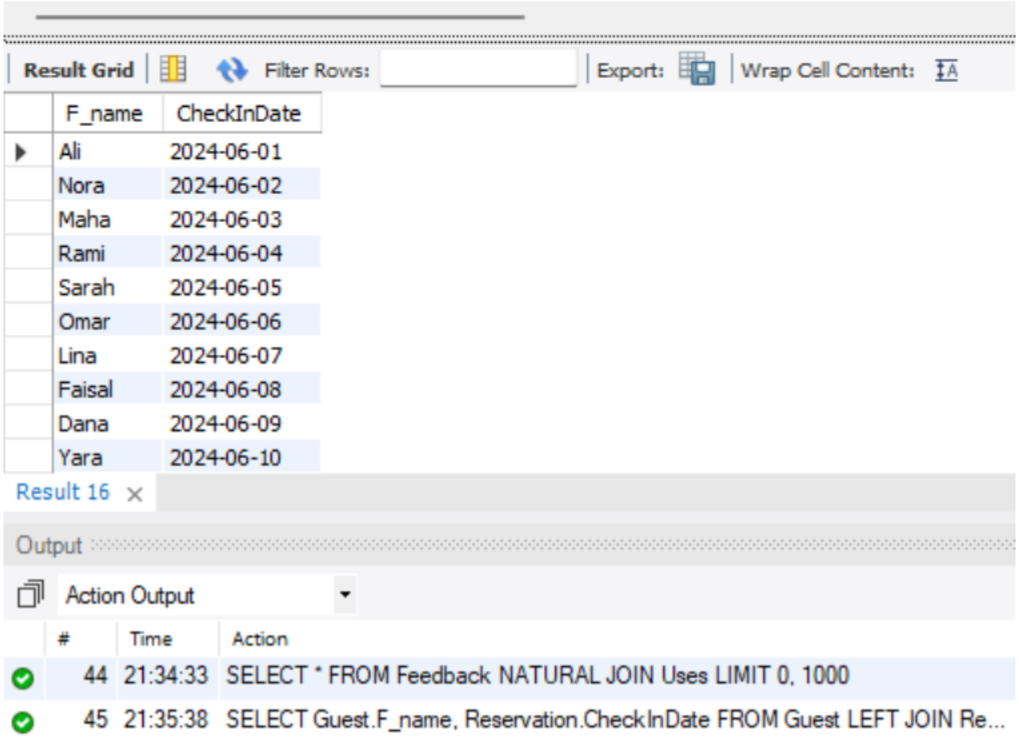
Fd_name	Sr_user	F_user	F_UserName	Feedback	Rating	SerID	U_use
F003	S003	G003	guest03	Excellent staff	5	S005	G005
F002	S002	G002	guest02	Good service	4	S005	G005
F001	S001	G001	guest01	Very clean room	5	S005	G005
F010	S010	G010	guest10	Loved the ambiance	5	S006	G006
F009	S009	G009	guest09	Check-in was quick	4	S006	G006
F008	S008	G008	guest08	Room was spacious	5	S006	G006
F007	S007	G007	guest07	Nice location	4	S006	G006
F006	S006	G006	guest06	Comfortable beds	5	S006	G006
F005	S005	G005	guest05	Great breakfast	4	S006	G006
F004	S004	G004	guest04	Okay experience	3	S006	G006
F003	S003	G003	guest03	Excellent staff	5	S006	G006

#	Time	Action
43	21:33:43	SELECT * FROM Guest NATURAL JOIN Reservation LIMIT 0, 1000
44	21:34:33	SELECT * FROM Feedback NATURAL JOIN Uses LIMIT 0, 1000

12. LEFT OUTER JOIN (Display guest names and booking dates)



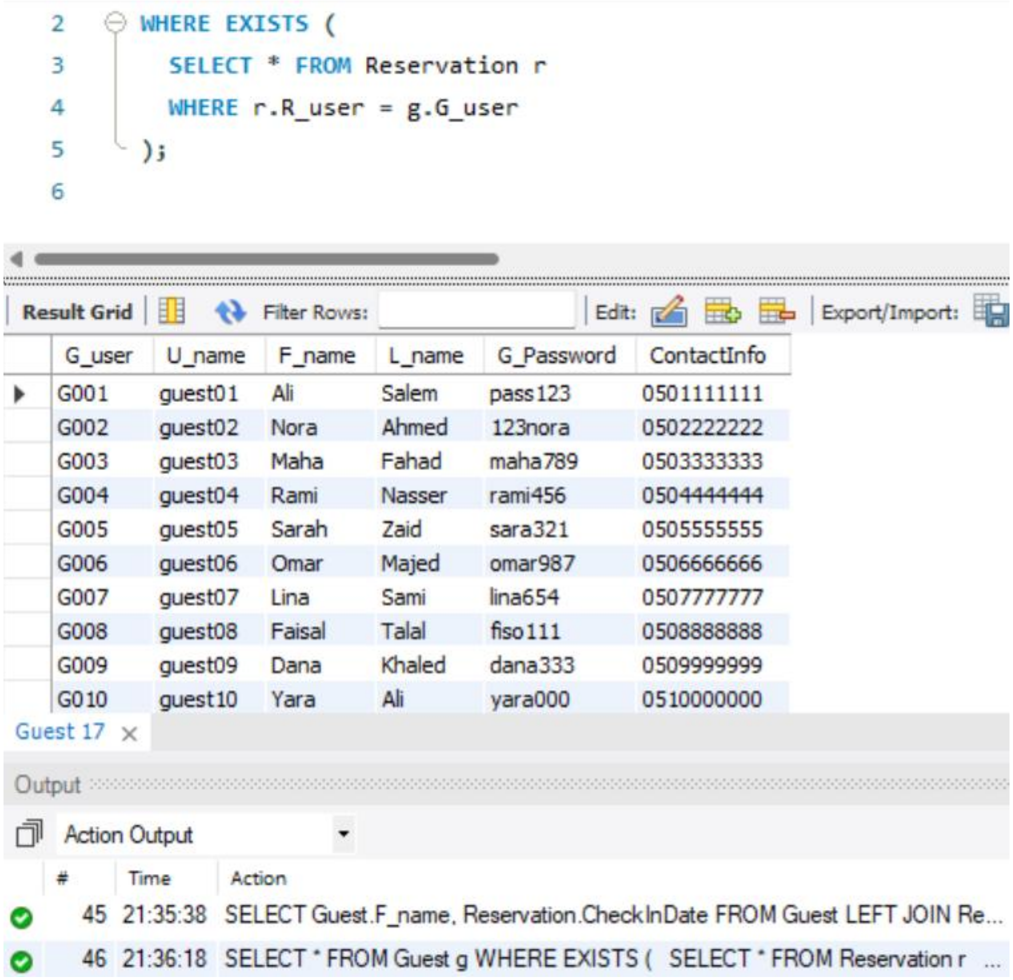
```sql
SELECT Guest.F_name, Reservation.CheckInDate
FROM Guest
LEFT JOIN Reservation ON Guest.G_user = Reservation.R_user;
```



F_name	CheckInDate
Ali	2024-06-01
Nora	2024-06-02
Maha	2024-06-03
Rami	2024-06-04
Sarah	2024-06-05
Omar	2024-06-06
Lina	2024-06-07
Faisal	2024-06-08
Dana	2024-06-09
Yara	2024-06-10

	#	Time	Action
✓	44	21:34:33	SELECT * FROM Feedback NATURAL JOIN Uses LIMIT 0, 1000
✓	45	21:35:38	SELECT Guest.F_name, Reservation.CheckInDate FROM Guest LEFT JOIN Re...

13. EXISTS (Display guests who have reservations)

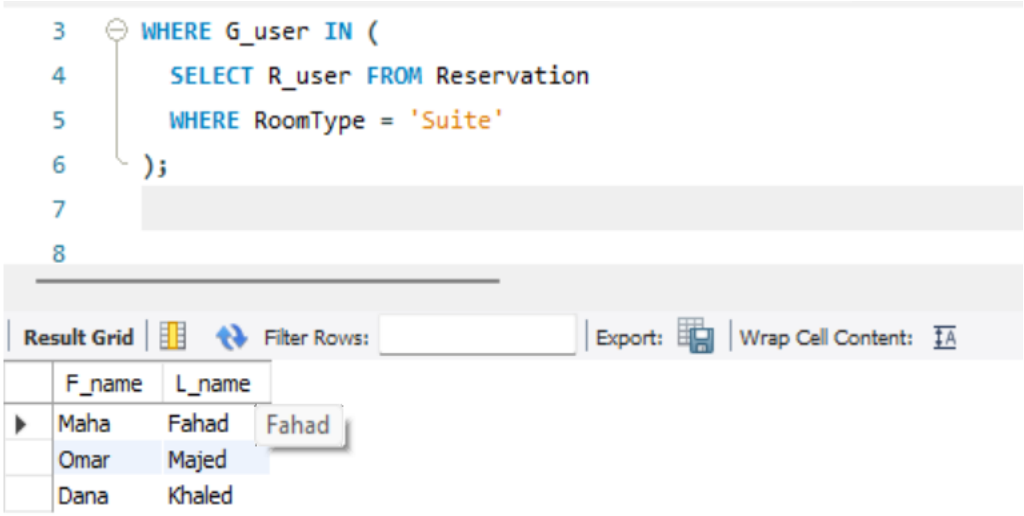


```
WHERE EXISTS (
    SELECT * FROM Reservation r
    WHERE r.R_user = g.G_user
);
```

G_user	U_name	F_name	L_name	G_Password	ContactInfo
G001	guest01	Ali	Salem	pass123	0501111111
G002	guest02	Nora	Ahmed	123nora	0502222222
G003	guest03	Maha	Fahad	maha789	0503333333
G004	guest04	Rami	Nasser	rami456	0504444444
G005	guest05	Sarah	Zaid	sara321	0505555555
G006	guest06	Omar	Majed	omar987	0506666666
G007	guest07	Lina	Sami	lina654	0507777777
G008	guest08	Faisal	Talal	fiso111	0508888888
G009	guest09	Dana	Khaled	dana333	0509999999
G010	guest10	Yara	Ali	yara000	0510000000

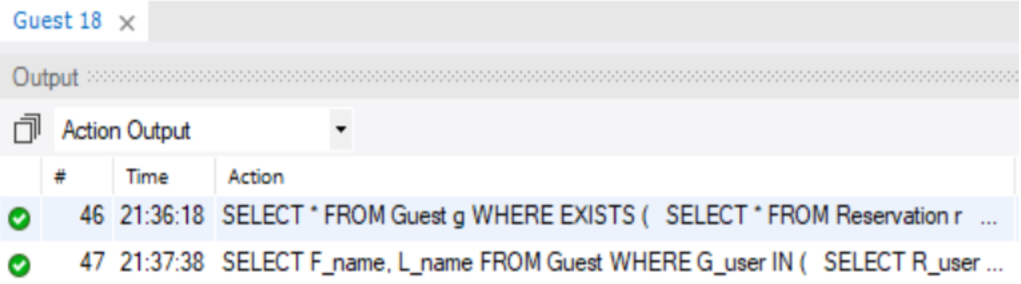
```
#    Time       Action
45   21:35:38   SELECT Guest.F_name, Reservation.CheckInDate FROM Guest LEFT JOIN Re...
46   21:36:18   SELECT * FROM Guest g WHERE EXISTS (  SELECT * FROM Reservation r   ...
```

14. *Nested Query (Guests who booked " suite ")*



```
WHERE G_user IN (
  SELECT R_user FROM Reservation
  WHERE RoomType = 'Suite'
);
```

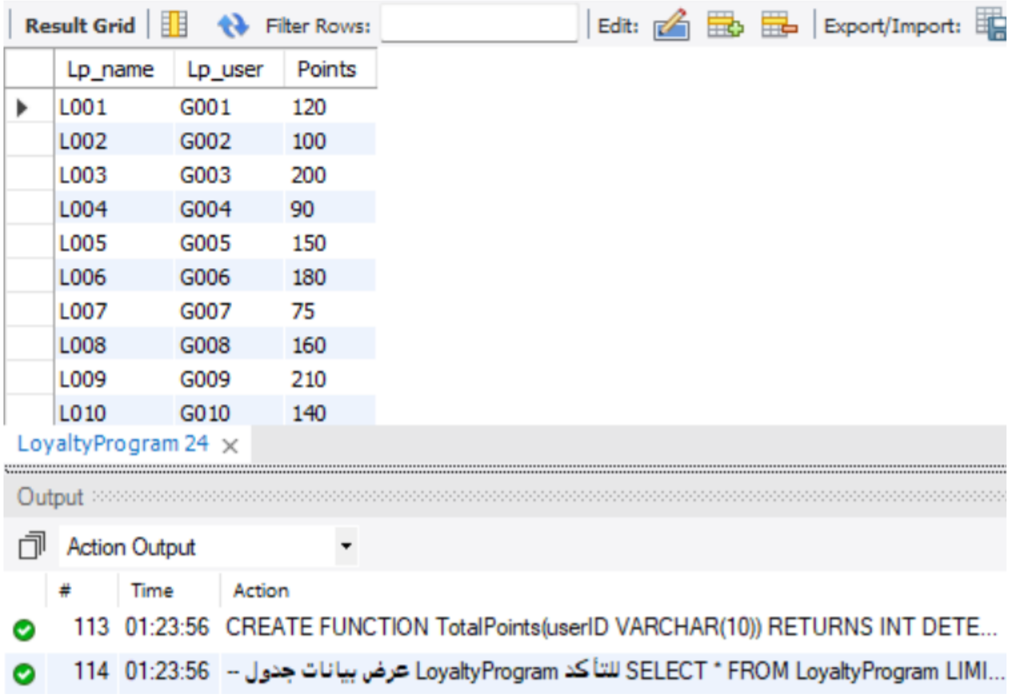
F_name	L_name
Maha	Fahad
Omar	Majed
Dana	Khaled



```
#   Time      Action
46  21:36:18  SELECT * FROM Guest g WHERE EXISTS (  SELECT * FROM Reservation r  ...
47  21:37:38  SELECT F_name, L_name FROM Guest WHERE G_user IN (  SELECT R_user ...
```

15. Function (display the number of points in the loyalty program)

```
DELIMITER //

CREATE FUNCTION TotalPoints(userID VARCHAR(10))

RETURNS INT

DETERMINISTIC

BEGIN

  DECLARE total INT;

  SELECT Points INTO total FROM LoyaltyProgram WHERE Lp_user = userID;

  RETURN total;

END;

//

DELIMITER ;

SELECT * FROM LoyaltyProgram;
```

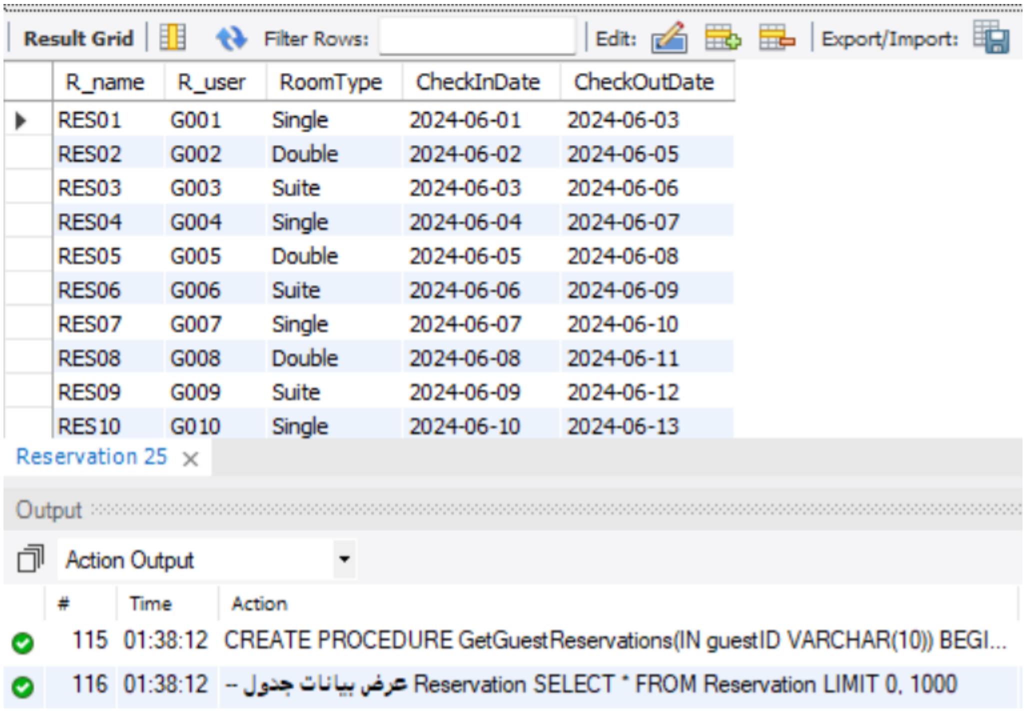


Lp_name	Lp_user	Points
L001	G001	120
L002	G002	100
L003	G003	200
L004	G004	90
L005	G005	150
L006	G006	180
L007	G007	75
L008	G008	160
L009	G009	210
L010	G010	140

```
#     Time      Action
113   01:23:56  CREATE FUNCTION TotalPoints(userID VARCHAR(10)) RETURNS INT DETE...
114   01:23:56  -- عرض بيانات جدول LoyaltyProgram للتأكد SELECT * FROM LoyaltyProgram LIMI...
```

16. Stored Procedure (View all reservations for a specific guest)

```
DELIMITER //

CREATE PROCEDURE GetGuestReservations(IN guestID VARCHAR(10))

BEGIN

  SELECT * FROM Reservation

  WHERE R_user = guestID;

END;

//

DELIMITER ;

SELECT * FROM Reservation;
```

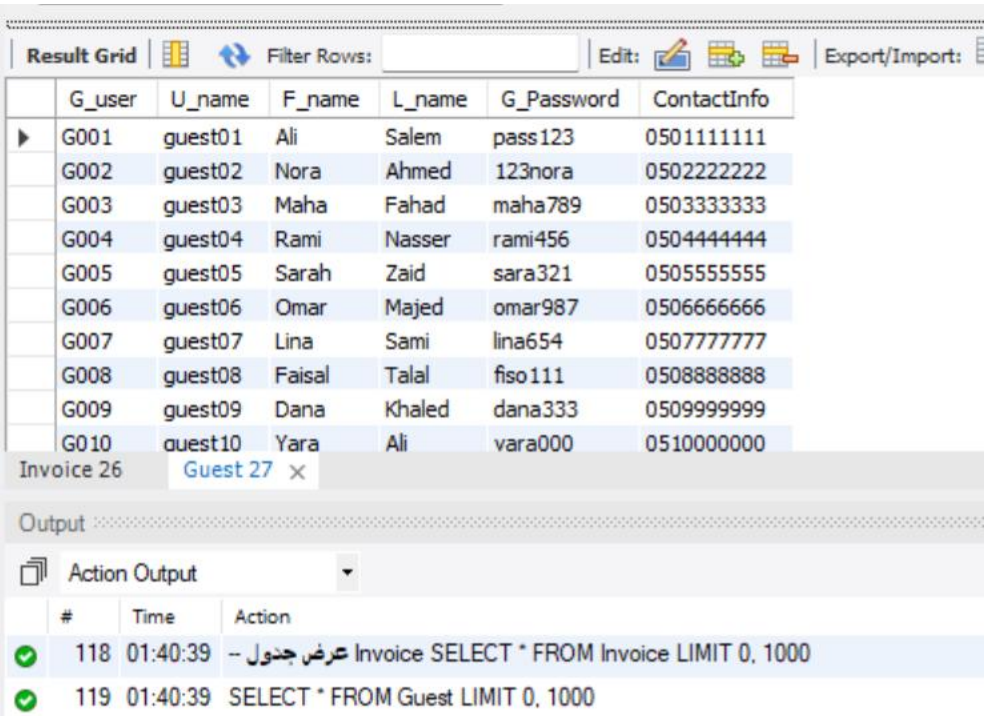


R_name	R_user	RoomType	CheckInDate	CheckOutDate
RES01	G001	Single	2024-06-01	2024-06-03
RES02	G002	Double	2024-06-02	2024-06-05
RES03	G003	Suite	2024-06-03	2024-06-06
RES04	G004	Single	2024-06-04	2024-06-07
RES05	G005	Double	2024-06-05	2024-06-08
RES06	G006	Suite	2024-06-06	2024-06-09
RES07	G007	Single	2024-06-07	2024-06-10
RES08	G008	Double	2024-06-08	2024-06-11
RES09	G009	Suite	2024-06-09	2024-06-12
RES10	G010	Single	2024-06-10	2024-06-13

```
#    Time      Action
115  01:38:12  CREATE PROCEDURE GetGuestReservations(IN guestID VARCHAR(10)) BEGI...
116  01:38:12  -- عرض بيانات جدول Reservation SELECT * FROM Reservation LIMIT 0, 1000
```

17. Trigger (updat Guest information after adding an invoice)

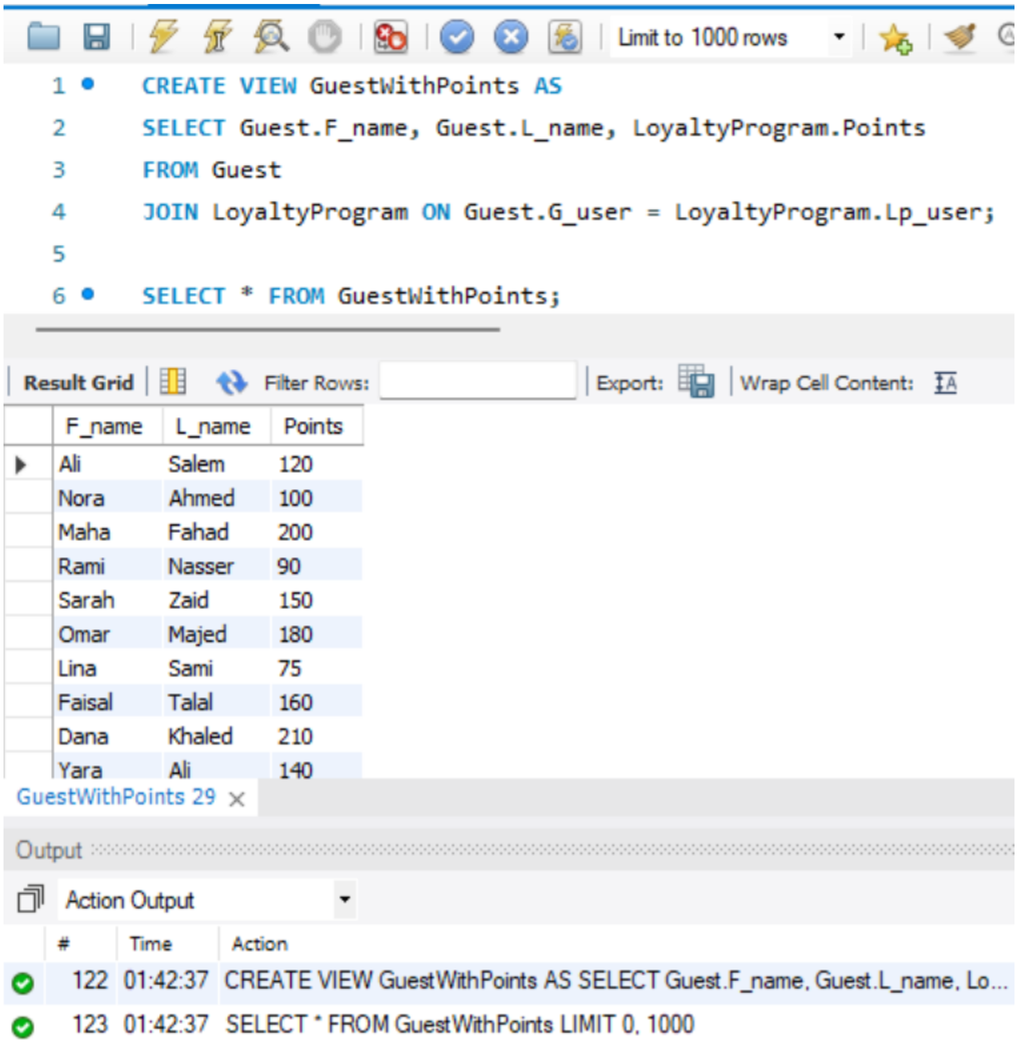
```
DELIMITER //

CREATE PROCEDURE GetGuestReservations(IN guestID VARCHAR(10))

BEGIN

  SELECT * FROM Reservation

  WHERE R_user = guestID;

END;

//

DELIMITER ;

SELECT * FROM Reservation;
```



G_user	U_name	F_name	L_name	G_Password	ContactInfo
G001	guest01	Ali	Salem	pass123	0501111111
G002	guest02	Nora	Ahmed	123nora	0502222222
G003	guest03	Maha	Fahad	maha789	0503333333
G004	guest04	Rami	Nasser	rami456	0504444444
G005	guest05	Sarah	Zaid	sara321	0505555555
G006	guest06	Omar	Majed	omar987	0506666666
G007	guest07	Lina	Sami	lina654	0507777777
G008	guest08	Faisal	Talal	fiso111	0508888888
G009	guest09	Dana	Khaled	dana333	0509999999
G010	guest10	Yara	Ali	yara000	0510000000

```
#    Time      Action
118  01:40:39  -- عرض جدول Invoice SELECT * FROM Invoice LIMIT 0, 1000
119  01:40:39  SELECT * FROM Guest LIMIT 0, 1000
```

18. Trigger (updat Guest information after adding an invoice)



```
CREATE VIEW GuestWithPoints AS
SELECT Guest.F_name, Guest.L_name, LoyaltyProgram.Points
FROM Guest
JOIN LoyaltyProgram ON Guest.G_user = LoyaltyProgram.Lp_user;

SELECT * FROM GuestWithPoints;
```

F_name	L_name	Points
Ali	Salem	120
Nora	Ahmed	100
Maha	Fahad	200
Rami	Nasser	90
Sarah	Zaid	150
Omar	Majed	180
Lina	Sami	75
Faisal	Talal	160
Dana	Khaled	210
Yara	Ali	140

```
#    Time      Action
122  01:42:37  CREATE VIEW GuestWithPoints AS SELECT Guest.F_name, Guest.L_name, Lo...
123  01:42:37  SELECT * FROM GuestWithPoints LIMIT 0, 1000
```