

Question 1

1.1) Write necessary queries to register new user roles and personas

CREATE ROLE doctor;

GRANT SELECT ON milestone1.patient TO doctor;

GRANT SELECT, INSERT ON milestone1.Prescribe TO doctor;

GRANT SELECT, insert ON milestone1.PatientDiagnosis TO doctor;

Create role nurse;

GRANT SELECT ON milestone1.patient TO nurse;

GRANT SELECT ON milestone1.Prescribe TO nurse;

GRANT SELECT ON milestone1.PatientDiagnosis TO nurse;

CREATE ROLE receptionist;

GRANT SELECT, INSERT ON milestone1.patient TO receptionist;

CREATE USER 'kaif'@'%' IDENTIFIED BY 'kaif1234';

grant doctor to 'kaif'@'%';

show grants for 'kaif'@'%';

The screenshot shows the MySQL Workbench interface with two tabs open: 'queries_executed' and 'Result Grid'. The 'queries_executed' tab displays the SQL commands run, including the creation of roles, users, and grants. The 'Result Grid' tab shows the output of the 'show grants for' command, which lists the grants for the user 'kaif'@'%'.

queries_executed:

```
379 • GRANT SELECT ON milestone1.Prescribe TO doctor;
380 • GRANT SELECT ON milestone1.PatientDiagnosis TO doctor;
381
382 • CREATE ROLE receptionist;
383 • GRANT SELECT, INSERT ON milestone1.patient TO receptionist;
384
385 • CREATE USER 'kaif'@'%' IDENTIFIED BY 'kaif1234';
386
387 • grant doctor to 'kaif'@'%';
388
389 • show grants for 'kaif'@'%';
390
391
392
393
```

Result Grid:

Grants for kaif@%
GRANT USAGE ON *.* TO 'kaif'@'%' GRANT 'doctor' @'%' TO 'kaif'@'%'

Object Info:

Table: prescribe

Columns:

PatientID	int PK
PrescriptionID	int
dr_id	int
medication_id	int
date	timestamp
dosage	varchar(10)

```

Command Prompt - mysql -u
Microsoft Windows [Version 10.0_2621.3097]
(c) Microsoft Corporation. All rights reserved.

C:\Users\masasi>mysql -u kaif -p
Enter password: *****
Welcome to the MySQL monitor,  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.36 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show database
-> exit
->
-> clear
->
-> exit
->
->

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'database'
exit

clear

exit at line 1
mysql> show database;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'database' at line 1
mysql> show databases ;
+-----+
| Database |
+-----+
| information_schema |
| performance_schema |
+-----+
2 rows in set (0.01 sec)

mysql> set role doctor ;
Query OK, 0 rows affected (0.04 sec)

mysql> show databases ;
+-----+
| Database |
+-----+
| information_schema |
| milestone1 |
| performance_schema |
+-----+
3 rows in set (0.00 sec)

mysql> use milestone1 ;
Database changed
mysql> show tables ;
+-----+
| Tables_in_milestone1 |
+-----+
| patient |
| patientdiagnosis |
| precribe |
+-----+
3 rows in set (0.02 sec)

mysql> select * from patient ;
+-----+
| PatientID | FirstName | LastName | Address | PinCode | Age | Gender | Phone | insurance_id |
+-----+
1 | John | Doe | 123 Main St | 123456 | 30 | M | 12345678900 | 1
2 | Jane | Smith | 456 Elm St | 123456 | 25 | F | 23456789012 | 2
3 | Michael | Johnson | 789 Oak St | 345678 | 40 | M | 5678901234 | 3
4 | Emily | Williams | 321 Pine St | 987654 | 35 | F | 4567890123 | 4
5 | Bob | Lee | 567 Cedar St | 234567 | 50 | M | 7654321098 | 5
6 | Sarah | Taylor | 987 Cedar St | 234567 | 22 | F | 9876543210 | 6
7 | Christopher | Lee | 761 Birch St | 890123 | 45 | M | 6789012345 | 7
8 | Amanda | Martinez | 456 Birch St | 456789 | 37 | F | 3456789012 | 8
9 | Daniel | Martinez | 452 Cherry St | 456789 | 29 | M | 2345678901 | 9
10 | Jessica | Garcia | 159 Poplar St | 678901 | 27 | F | 8901234567 | 10
+-----+
10 rows in set (0.00 sec)

mysql> drop table patient ;
ERROR 1399 (HY000): You don't have permission to use 'Kaif'@'localhost' for table 'patient'
mysql> select * from patientdiagnosis ;
+-----+
| DiagnosisID | PatientID | dr_id | Diagnosis | DiagnosisDate |
+-----+
11 | 1 | 1 | Fever | 2023-01-15 |
12 | 2 | 2 | Headache | 2023-02-10 |
13 | 3 | 3 | Flu | 2023-03-05 |
14 | 4 | 4 | Allergies | 2023-04-20 |
15 | 5 | 5 | Sprained Ankle | 2023-05-12 |
16 | 1 | 1 | Common Cold | 2023-06-20 |
17 | 2 | 2 | Migraine | 2023-09-14 |
18 | 3 | 3 | Stomachache | 2023-07-18 |
19 | 4 | 4 | Back Pain | 2023-08-25 |
20 | 5 | 5 | Fractured Arm | 2023-10-05 |
21 | 1 | 6 | Influenza | 2023-11-20 |
22 | 2 | 7 | Ear Infection | 2023-12-15 |
23 | 3 | 8 | Gastroenteritis | 2024-01-10 |
24 | 4 | 9 | Bronchitis | 2024-02-05 |
25 | 5 | 10 | Sprained Wrist | 2024-03-02 |
+-----+
15 rows in set (0.00 sec)

```

```

Command Prompt - mysql -u
Microsoft Windows [Version 10.0_2621.3097]
(c) Microsoft Corporation. All rights reserved.

C:\Users\masasi>mysql -u kaif -p
Enter password: *****
Welcome to the MySQL monitor,  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.36 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show database
-> exit
->
-> clear
->
-> exit
->
->

clear

exit at line 1
mysql> show database;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'database' at line 1
mysql> show databases ;
+-----+
| Database |
+-----+
| information_schema |
| milestone1 |
| performance_schema |
+-----+
3 rows in set (0.00 sec)

mysql> use milestone1 ;
Database changed
mysql> show tables ;
+-----+
| Tables_in_milestone1 |
+-----+
| patient |
| patientdiagnosis |
| precribe |
+-----+
3 rows in set (0.02 sec)

mysql> select * from patient ;
+-----+
| PatientID | FirstName | LastName | Address | PinCode | Age | Gender | Phone | insurance_id |
+-----+
1 | John | Doe | 123 Main St | 123456 | 30 | M | 12345678900 | 1
2 | Jane | Smith | 456 Elm St | 123456 | 25 | F | 23456789012 | 2
3 | Michael | Johnson | 789 Oak St | 345678 | 40 | M | 5678901234 | 3
4 | Emily | Williams | 321 Pine St | 987654 | 35 | F | 4567890123 | 4
5 | Bob | Lee | 567 Cedar St | 234567 | 50 | M | 7654321098 | 5
6 | Sarah | Taylor | 987 Cedar St | 234567 | 22 | F | 9876543210 | 6
7 | Christopher | Lee | 761 Birch St | 890123 | 45 | M | 6789012345 | 7
8 | Amanda | Martinez | 456 Birch St | 456789 | 37 | F | 3456789012 | 8
9 | Daniel | Martinez | 452 Cherry St | 456789 | 29 | M | 2345678901 | 9
10 | Jessica | Garcia | 159 Poplar St | 678901 | 27 | F | 8901234567 | 10
+-----+
10 rows in set (0.00 sec)

mysql> drop table patient ;
ERROR 1399 (HY000): You don't have permission to use 'Kaif'@'localhost' for table 'patient'
mysql> select * from patientdiagnosis ;
+-----+
| DiagnosisID | PatientID | dr_id | Diagnosis | DiagnosisDate |
+-----+
11 | 1 | 1 | Fever | 2023-01-15 |
12 | 2 | 2 | Headache | 2023-02-10 |
13 | 3 | 3 | Flu | 2023-03-05 |
14 | 4 | 4 | Allergies | 2023-04-20 |
15 | 5 | 5 | Sprained Ankle | 2023-05-12 |
16 | 1 | 1 | Common Cold | 2023-06-20 |
17 | 2 | 2 | Migraine | 2023-09-14 |
18 | 3 | 3 | Stomachache | 2023-07-18 |
19 | 4 | 4 | Back Pain | 2023-08-25 |
20 | 5 | 5 | Fractured Arm | 2023-10-05 |
21 | 1 | 6 | Influenza | 2023-11-20 |
22 | 2 | 7 | Ear Infection | 2023-12-15 |
23 | 3 | 8 | Gastroenteritis | 2024-01-10 |
24 | 4 | 9 | Bronchitis | 2024-02-05 |
25 | 5 | 10 | Sprained Wrist | 2024-03-02 |
+-----+
15 rows in set (0.00 sec)

```

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed

SCHEMAS

milestone1

Tables

- affiliated_with
- bed
- department
- doctor
- insurance
- medication
- nurse
- patient
- patient_diagnosis
- prescribe
- prescribe_old
- stay
- treatment
- undergoes_treatment

Views

Stored Procedures

Functions

sys

trial

queries_executed

```

372 • CREATE ROLE doctor;
373 • GRANT SELECT ON milestone1.patient TO doctor;
374 • GRANT SELECT, INSERT ON milestone1.Prescribe TO doctor;
375 • GRANT SELECT, INSERT ON milestone1.PatientDiagnosis TO doctor;
376
377 • Create role nurse;
378 • GRANT SELECT ON milestone1.patient TO nurse;
379 • GRANT SELECT ON milestone1.Prescribe TO nurse;
380 • GRANT SELECT ON milestone1.PatientDiagnosis TO nurse;
381
382 • CREATE ROLE receptionist;
383 • GRANT SELECT, INSERT ON milestone1.patient TO receptionist;
384
385 • CREATE USER 'kaif'@'%' IDENTIFIED BY 'kaif1234';
386
387 • grant doctor to 'kaif'@'%';
388
389 • show grants for 'kaif'@'%';
390
391

```

Action Output

#	Time	Action	Message	Duration / Fetch
126	05:34:08	GRANT SELECT, INSERT ON milestone1.patient TO receptionist	0 row(s) affected	0.045 sec
127	05:34:31	GRANT SELECT ON milestone1.patient TO nurse	0 row(s) affected	0.047 sec
128	05:34:34	GRANT SELECT ON milestone1.Prescribe TO nurse	0 row(s) affected	0.047 sec
129	05:34:36	GRANT SELECT ON milestone1.PatientDiagnosis TO nurse	0 row(s) affected	0.047 sec
130	05:36:00	CREATE USER kaif@'%' IDENTIFIED BY 'kaif1234'	0 row(s) affected	0.031 sec
131	05:39:18	grant doctor to 'kaif'@'%';	0 row(s) affected	0.047 sec
132	05:39:49	show grants for 'kaif'@'%';	2 row(s) returned	0.016 sec / 0.000 sec

Context Help Snippets

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed

SCHEMAS

milestone1

Tables

- affiliated_with
- bed
- department
- doctor
- insurance
- medication
- nurse
- patient
- patient_diagnosis
- prescribe
- prescribe_old
- stay
- treatment
- undergoes_treatment

Views

Stored Procedures

Functions

sys

trial

queries_executed

```

388 • GRANT SELECT ON milestone1.PatientDiagnosis TO nurse;
389
390
391
392 • CREATE ROLE receptionist;
393 • GRANT SELECT, INSERT ON milestone1.patient TO receptionist;

```

Action Output

#	Time	Action	Message	Duration / Fetch
111	04:09:02	select * from PatientDiagnosis LIMIT 0, 1000	15 row(s) returned	0.000 sec / 0.000 sec
112	05:20:02	CREATE ROLE doctor	0 row(s) affected	0.141 sec
113	05:21:58	GRANT SELECT ON milestone1.patients TO doctor	Error Code: 1146. Table 'milestone1.patients' doesn't exist	0.047 sec
114	05:22:12	GRANT SELECT ON milestone1.patient TO doctor	0 row(s) affected	0.063 sec
115	05:26:45	GRANT SELECT,insert ON milestone1.prescribe, milestone1.PatientDiagnosis TO doctor	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se... 0.016 sec	
116	05:27:58	GRANT SELECT, INSERT ON milestone1.Prescribe TO doctor	0 row(s) affected	0.047 sec
117	05:28:39	GRANT SELECT ON milestone1.PatientDiagnosis TO doctor	Error Code: 1146. Table 'milestone1.PatientDiagnos' doesn't exist	0.000 sec
118	05:29:30	GRANT SELECT, insert ON milestone1.PatientDiagnosis TO doctor	0 row(s) affected	0.047 sec
119	05:31:24	Create role nurse	0 row(s) affected	0.047 sec
120	05:31:28	GRANT SELECT ON milestone1.patient TO doctor	0 row(s) affected	0.047 sec
121	05:31:31	GRANT SELECT ON milestone1.Prescribe TO doctor	0 row(s) affected	0.047 sec
122	05:31:34	GRANT SELECT ON milestone1.PatientDiagnosis TO doctor	0 row(s) affected	0.063 sec
123	05:32:05	CREATE ROLE receptionist	0 row(s) affected	0.063 sec
124	05:33:32	GRANT SELECT, INSERT ON milestone1.Prescribe TO doctor	0 row(s) affected	0.047 sec
125	05:33:35	GRANT SELECT, insert ON milestone1.PatientDiagnosis TO doctor	0 row(s) affected	0.063 sec
126	05:34:08	GRANT SELECT, INSERT ON milestone1.patient TO receptionist	0 row(s) affected	0.046 sec
127	05:34:31	GRANT SELECT ON milestone1.patient TO nurse	0 row(s) affected	0.047 sec
128	05:34:34	GRANT SELECT ON milestone1.Prescribe TO nurse	0 row(s) affected	0.047 sec
129	05:34:36	GRANT SELECT ON milestone1.PatientDiagnosis TO nurse	0 row(s) affected	0.047 sec
130	05:36:00	CREATE USER kaif@'%' IDENTIFIED BY 'kaif1234'	0 row(s) affected	0.031 sec
131	05:39:18	grant doctor to 'kaif'@'%';	0 row(s) affected	0.047 sec
132	05:39:49	show grants for 'kaif'@'%';	2 row(s) returned	0.016 sec / 0.000 sec

Context Help Snippets

1.2) Write necessary queries to add to the list of diagnosis of the patient tagged by date.

```
INSERT INTO PatientDiagnosis (PatientID, dr_id, Diagnosis, DiagnosisDate)
VALUES
```

```
(1, 1, 'Fever', '2023-01-15'),
(2, 2, 'Headache', '2023-02-10'),
(3, 3, 'Flu', '2023-03-05'),
(4, 4, 'Allergies', '2023-04-20'),
(5, 5, 'Sprained Ankle', '2023-05-12');
```

```
INSERT INTO PatientDiagnosis (PatientID, dr_id, Diagnosis, DiagnosisDate)
VALUES
```

```
(1, 1, 'Common Cold', '2023-06-30'),
(2, 2, 'Migraine', '2023-09-14'),
(3, 3, 'Stomachache', '2023-07-18'),
(4, 4, 'Sinusitis', '2023-08-25'),
(5, 5, 'Fractured Arm', '2023-10-05'),
(1, 6, 'Influenza', '2023-11-20'),
(2, 7, 'Ear Infection', '2023-12-15'),
(3, 8, 'Gastritis', '2024-01-10'),
(4, 9, 'Bronchitis', '2024-02-05'),
(5, 10, 'Sprained Wrist', '2024-03-02');
```

The screenshot shows the MySQL Workbench interface with the following details:

- Schemas:** The "milestone1" schema is selected, showing tables like affiliated_with, bed, department, doctors, insurance, medication, and prescribe.
- Query Editor:** The code for inserting data into PatientDiagnosis is visible, along with the creation of a new table "Prescribe" and its renaming.
- Result Grid:** A table titled "prescribe" is displayed with the following data:

DiagnosisID	PatientID	dr_id	Diagnosis	DiagnosisDate
11	1	1	Fever	2023-01-15
12	2	2	Headache	2023-02-10
13	3	3	Flu	2023-03-05
14	4	4	Allergies	2023-04-20
15	5	5	Sprained Ankle	2023-05-12
16	1	1	Common Cold	2023-06-30
17	2	2	Migraine	2023-09-14
18	3	3	Stomachache	2023-07-18
19	4	4	Sinusitis	2023-08-25
20	5	5	Fractured Arm	2023-10-05
21	1	6	Influenza	2023-11-20
22	2	7	Ear Infection	2023-12-15

- Output:** The action output shows two successful SELECT statements.
- Message:** The message indicates 10 rows returned for the first query and 15 rows returned for the second.
- Duration / Fetch:** The duration for both queries is 0.016 sec / 0.000 sec.

The screenshot shows the MySQL Workbench interface with two tabs open: 'Local instance MySQL80 (mai...)' and 'Local instance MySQL80 (mai... X)'. The left pane displays the 'milestone1' schema with various tables like 'affiliated_with', 'bed', 'department', etc. The right pane shows the 'queries_executed' tab with the following log:

```

339 • select * from PatientDiagnosis;
340
341 • ALTER TABLE Prescribe RENAME TO Prescribe_old;
342
343 • CREATE TABLE Prescribe (

```

The 'Result Grid' shows the data for the 'Prescribe' table:

DiagnosisID	PatientID	dr_id	Diagnosis	DiagnosisDate
11	1	1	Fever	2023-01-15
12	2	2	Headache	2023-02-10
13	3	3	Flu	2023-03-05
14	4	4	Allergies	2023-04-20
15	5	5	Sprained Ankle	2023-05-12
16	1	1	Common Cold	2023-06-30
17	2	2	Migraine	2023-09-14
18	3	3	Stomachache	2023-07-18
19	4	4	Sinusitis	2023-08-25
20	5	5	Fractured Arm	2023-10-05
21	1	6	Influenza	2023-11-20
22	2	7	Ear Infection	2023-12-15
23	3	8	Gastritis	2024-01-10
24	4	9	Bronchitis	2024-02-05
25	5	10	Sprained Wrist	2024-03-02

The 'Object Info' panel shows the structure of the 'prescribe' table:

```

Table: prescribe
Columns:
PatientID int PK
DiagnosisID int
dr_id int
appointment_id int
date timestamp
dosage varchar(100)

```

1.3) Write necessary queries to fetch required details of a particular patient.

```

SELECT FirstName, LastName, Age
FROM Patient
WHERE PatientID = 2;

```

```

SELECT PatientID, Diagnosis, DiagnosisDate
FROM Patientdiagnosis
WHERE PatientID = 2;

```

```

SELECT PatientID, date, dosage
FROM prescribe
WHERE PatientID = 2;

```

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed* X

Schemas: milestone1

Tables: affiliated_with, bed, department, doctors, insurance, medication, nurse, patient, patientdiagnosis, prescribe, prescribe_old, stay, treatment, undergoes_treatment

Views:

Stored Procedures:

Functions:

sys trial

Administration Schemas

Information:

Table: prescribe

Columns:

- PatientID int PK
- DiagnosisID int
- dr_id int
- prescription_id int
- date timestamp
- dosage varchar(10)

Action Output

#	Time	Action	Message	Duration / Fetch
132	05:39:49	show grants for kaif'@'%	2 row(s) returned	0.016 sec / 0.000 sec
133	05:59:35	select * from PatientDiagnosis LIMIT 0, 1000	15 row(s) returned	0.000 sec / 0.000 sec
134	06:06:12	SELECT FirstName, LastName, Age FROM Patient WHERE PatientID = 2 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

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

FirstName LastName Age

Jane Smith 25

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed* X

Schemas: milestone1

Tables: affiliated_with, bed, department, doctors, insurance, medication, nurse, patient, patientdiagnosis

Columns:

- DiagnosisID int
- PatientID int
- dr_id int
- Diagnosis varchar(10)
- DiagnosisDate date

Indexes:

Foreign Keys:

Triggers:

prescribe

prescribe_old

Action Output

#	Time	Action	Message	Duration / Fetch
131	05:39:49	show grants for kaif'@'%	2 row(s) returned	0.016 sec / 0.000 sec
132	05:39:49	SELECT FirstName, LastName, Age		
133	05:39:49	FROM Patient		
134	05:39:49	WHERE PatientID = 2;		
135	05:59:35	SELECT PatientID, Diagnosis, DiagnosisDate		
136	05:59:35	FROM Patientdiagnosis		
137	05:59:35	WHERE PatientID = 2;		
138	06:06:12	SELECT FirstName, LastName, Age FROM Patient WHERE PatientID = 2 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
139	06:12:28	SELECT PatientID, Diagnosis, DiagnosisDate FROM Patientdiagnosis WHERE PatientID = 2 LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

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

PatientID Diagnosis DiagnosisDate

2 Headache 2023-02-10

2 Migraine 2023-09-14

2 Ear Infection 2023-12-15

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

The screenshot shows the MySQL Workbench interface with the 'queries_executed' tab selected. The left pane displays the database schema for 'milestone1', specifically the 'prescribe' table. The right pane shows the execution history with the following queries:

```

391 • SELECT FirstName, LastName, Age
392   FROM Patient
393   WHERE PatientID = 2;
394
395 • SELECT PatientID, Diagnosis, DiagnosisDate
396   FROM Patientdiagnosis
397   WHERE PatientID = 2;
398
399 • SELECT PatientID, date, dosage
400   FROM prescribe
401   WHERE PatientID = 2;

```

The results grid shows one row from the 'prescribe' table:

PatientID	date	dosage
2	2023-02-10 00:00:00	2 tablets daily

The bottom pane shows the 'Action Output' for these queries, including the execution time, message, and duration.

1.4) Write necessary queries to prepare bill for the patient at the end of checkout.

```

SELECT
prescribe.patientID,patient.FirstName,patient.LastName,prescribe.dr_id,patientdiagnosis.DiagnosisID,patientdiagnosis.Diagnosis,medication.name as medication_name,
prescribe.dosage,medication.cost as Medication_cost,treatment.cost as Treatment_cost,DATEDIFF(end_time, start_time) AS days_stayed,medication.cost +
treatment.cost + (DATEDIFF(end_time, start_time) * 4500 ) + 1000 AS total_cost
FROM patientdiagnosis
INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID
INNER JOIN medication ON prescribe.medication_id = medication.m_id
INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID
INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code
INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id
INNER JOIN patient ON patient.PatientID = prescribe.PatientID;

```

```

SELECT *, Medication_cost + Treatment_cost + (days_stayed * 4500 ) + 1000 AS total_cost
FROM patient_checkout_view
WHERE PatientID = 7 ;

```

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed* | SQLAdditions

schemas

patient

Result Grid

patientID	FirstName	LastName	dr_id	DiagnosisID	Diagnosis	medication_name	Medication_cost	Treatment_cost	days_stayed	Total_Cost	
1	John	Doe	1	11	Fever	Paracetamol	1 pill twice a day	449.00	3500.00	0	4949.00
2	Jane	Smith	2	12	Headache	Ibuprofen	2 tablets daily	559.00	2100.00	0	3659.00
3	Michael	Johnson	3	13	Flu	Amoxicillin	1 capsule before meals	699.00	1050.00	0	2749.00
4	Emily	Williams	4	14	Allergies	Lisinopril	1 teaspoon every 6 hours	899.00	10500.00	0	12399.00
5	David	Brown	5	15	Sprained Ankle	Atorvastatin	1 spray as needed	1199.00	1400.00	0	3599.00
6	Sarah	Taylor	6	16	Common Cold	Omeprazole	1 pill before bedtime	675.00	2800.00	1	8975.00
7	Christopher	Lee	7	17	Migraine	Metformin	2 tablets with meals	485.00	700.00	1	12985.00
8	Amanda	Clark	8	18	Stomachache	Levothyroxine	1 capsule twice daily	820.00	1750.00	1	8070.00
9	James	Martinez	9	19	Sinusitis	Albuterol	1 tablet after breakfast	575.00	525.00	1	6600.00
10	Jessica	Garcia	10	20	Fractured Arm	Warfarin	1 spray every 4 hours	985.00	35000.00	1	41485.00

Action Output

- Time Action Message Duration / Fetch
- 183 13:34:36 select * from patient_checkout_view LIMIT 0, 1000 10 row(s) returned 0.016 sec / 0.000 sec
- 184 13:43:08 SELECT prescribe.patientID, patient.FirstName, patient.LastName, prescribe.dr_id, patientdiagnosis.DiagnosisID, patientdiagnosis.Diagnosis, medication_name, prescribe.dosage, medication.cost AS Medication_cost, treatment.cost AS Treatment_cost, DATEDIFF(end_time, start_time) AS days_stayed, medication FROM patientdiagnosis INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID INNER JOIN medication ON prescribe.medication_id = medication.m_id INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id INNER JOIN patient ON patient.PatientID = prescribe.PatientID; Error Code: 1054. Unknown column 'Medication_cost' in field list 0.000 sec
- 185 13:44:47 SELECT prescribe.patientID, patient.FirstName, patient.LastName, prescribe.dr_id, patientdiagnosis.DiagnosisID, patientdiagnosis.Diagnosis, medication_name, prescribe.dosage, medication.cost AS Medication_cost, treatment.cost AS Treatment_cost, DATEDIFF(end_time, start_time) AS days_stayed, medication FROM patientdiagnosis INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID INNER JOIN medication ON prescribe.medication_id = medication.m_id INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id INNER JOIN patient ON patient.PatientID = prescribe.PatientID; 10 row(s) returned 0.000 sec / 0.000 sec

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed* | SQLAdditions

schemas

patient

Result Grid

patientID	FirstName	LastName	dr_id	DiagnosisID	Diagnosis	medication_name	Medication_cost	Treatment_cost	days_stayed	Total_Cost	
7	Christopher	Lee	7	17	Migraine	Metformin	2 tablets with meals	465.00	7000.00	1	12985.00

Action Output

- Time Action Message Duration / Fetch
- 184 13:43:08 SELECT prescribe.patientID, patient.FirstName, patient.LastName, prescribe.dr_id, patientdiagnosis.DiagnosisID, patientdiagnosis.Diagnosis, medication_name, prescribe.dosage, medication.cost AS Medication_cost, treatment.cost AS Treatment_cost, DATEDIFF(end_time, start_time) AS days_stayed, medication FROM patientdiagnosis INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID INNER JOIN medication ON prescribe.medication_id = medication.m_id INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id INNER JOIN patient ON patient.PatientID = prescribe.PatientID; Error Code: 1054. Unknown column 'Medication_cost' in field list 0.000 sec
- 185 13:44:47 SELECT prescribe.patientID, patient.FirstName, patient.LastName, prescribe.dr_id, patientdiagnosis.DiagnosisID, patientdiagnosis.Diagnosis, medication_name, prescribe.dosage, medication.cost AS Medication_cost, treatment.cost AS Treatment_cost, DATEDIFF(end_time, start_time) AS days_stayed, medication FROM patientdiagnosis INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID INNER JOIN medication ON prescribe.medication_id = medication.m_id INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id INNER JOIN patient ON patient.PatientID = prescribe.PatientID; 10 row(s) returned 0.000 sec / 0.000 sec
- 186 13:46:54 SELECT *, Medication_cost + Treatment_cost + (days_stayed * 4500) + 1000 AS total_cost FROM patient_checkout_view WHERE PatientID = 7; 1 row(s) returned 0.000 sec / 0.000 sec

1.5) Write necessary queries to fetch and show data from various related tables (Joins)

```
SELECT
prescribe.patientID,prescribe.dr_id,prescribe.dosage,patientdiagnosis.DiagnosisID,patientdiagnosis.Diagnosis
FROM patientdiagnosis
INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID;
```

```
SELECT
prescribe.patientID,prescribe.dr_id,patientdiagnosis.DiagnosisID,patientdiagnosis.Diagnosis,medication.name as medication_name,prescribe.dosage
FROM patientdiagnosis
INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID
INNER JOIN medication ON prescribe.medication_id = medication.m_id;
```

patientID	dr_id	dosage	DiagnosisID	Diagnosis
1	1	1 pill twice a day	11	Fever
2	2	2 tablets daily	12	Headache
3	3	1 capsule before meals	13	Flu
4	4	1 teaspoon every 6 hours	14	Allergies
5	5	1 spray as needed	15	Sprained Ankle
6	6	1 pill before bedtime	16	Common Cold
7	7	2 tablets with meals	17	Migraine
8	8	1 capsule twice daily	18	Stomachache
9	9	1 tablet after breakfast	19	Sinusitis
10	10	1 spray every 4 hours	20	Fractured Arm

The screenshot shows the MySQL Workbench interface with a query editor window titled "queries_executed". The query is as follows:

```

412  (SELECT stay FROM medication WHERE m_id = 2 ) + 600 AS result FROM patient;
413
414 •  SELECT DATEDIFF(end_time, start_time) AS days_difference
415   FROM stay;
416 •  SELECT prescribe.patientID, prescribe.dr_id, patientdiagnosis.DiagnosisID, patientdiagnosis.Diagnosis, medication.name AS medication_name, prescribe.medication_id
417   FROM patientdiagnosis
418   INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID
419   INNER JOIN medication ON prescribe.medication_id = medication.m_id;
420
421
422

```

The results grid displays the following data:

patientID	dr_id	DiagnosedID	Diagnosis	medication_name	dosage
1	1	11	Fever	Paracetamol	1 pill twice a day
2	2	12	Headache	Ibuprofen	2 tablets daily
3	3	13	Flu	Amoxicillin	1 capsule before meals
4	4	14	Allergies	Lisinopril	1 teaspoon every 6 hours
5	5	15	Sprained Ankle	Atorvastatin	1 spray as needed
6	6	16	Common Cold	Omeprazole	1 pill before bedtime
7	7	17	Migraine	Metformin	2 tablets with meals
8	8	18	Stomachache	Levthyroxine	1 capsule twice daily
9	9	19	Sinusitis	Albuterol	1 tablet after breakfast
10	10	20	Fractured Arm	Warfarin	1 spray every 4 hours

Action Output log:

- # Time Action Message Duration / Fetch
 - 157 12:35:36 SELECT prescribe.patientID, prescribe.dr_id, patientdiagnosis.DiagnosisID, patientdiagnosis.Diagnosis, medication.name AS medication_name, prescribe.dosage, medication.cost AS Medication_cost, treatment.cost AS Treatment_cost, DATEDIFF(end_time, start_time) AS days_stayed FROM patientdiagnosis INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID INNER JOIN medication ON prescribe.medication_id = medication.m_id INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id INNER JOIN patient ON patient.PatientID = prescribe.PatientID;
 - 158 12:35:51 SELECT prescribe.patientID, prescribe.dr_id, patientdiagnosis.DiagnosisID, patientdiagnosis.Diagnosis, medication.name AS medication_name, prescribe.dosage, medication.cost AS Medication_cost, treatment.cost AS Treatment_cost, DATEDIFF(end_time, start_time) AS days_stayed FROM patientdiagnosis INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID INNER JOIN medication ON prescribe.medication_id = medication.m_id INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id INNER JOIN patient ON patient.PatientID = prescribe.PatientID;
 - 159 12:36:33 SELECT prescribe.patientID, prescribe.dr_id, patientdiagnosis.DiagnosisID, patientdiagnosis.Diagnosis, medication.name AS medication_name, prescribe.dosage, medication.cost AS Medication_cost, treatment.cost AS Treatment_cost, DATEDIFF(end_time, start_time) AS days_stayed FROM patientdiagnosis INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID INNER JOIN medication ON prescribe.medication_id = medication.m_id INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id INNER JOIN patient ON patient.PatientID = prescribe.PatientID;

1.6) Optimize repeated read operations using views/materialized views.

```

CREATE VIEW patient_checkout_view AS
SELECT
prescribe.patientID, patient.FirstName, patient.LastName, prescribe.dr_id, patientdiagnosis.DiagnosisID, patientdiagnosis.Diagnosis, medication.name AS medication_name,
prescribe.dosage, medication.cost AS Medication_cost, treatment.cost AS
Treatment_cost, DATEDIFF(end_time, start_time) AS days_stayed
FROM patientdiagnosis
INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID
INNER JOIN medication ON prescribe.medication_id = medication.m_id
INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID
INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code
INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id
INNER JOIN patient ON patient.PatientID = prescribe.PatientID;

```

The screenshot shows the MySQL Workbench interface with the following details:

- Schemas:** Local instance MySQL80 (mail) is selected.
- Code Editor:** A query window titled "queries_executed" contains the following SQL code:


```

428 INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id;
429
430 • CREATE VIEW patient_checkout_view AS
431     SELECT prescribe.patientID,patient.FirstName,patient.LastName,prescribe.dr_id,patientdiagnosis.DiagnosisID,patientdiagnosis.Diagnosis,medicati
432     prescribe.dosage,medication.cost AS Medication_cost,treatment.cost AS Treatment_cost,DATEDIFF(end_time, start_time) AS days_stayed
433     FROM patientdiagnosis
434
435     INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID
436     INNER JOIN medication ON prescribe.medication_id = medication.m_id
437     INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID
438     INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code
439
440     INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id
      
```
- Result Grid:** A table titled "patient_checkout_view 64" displays 10 rows of data:

patientID	FirstName	LastName	dr_id	DiagnosisID	Diagnosis	medication_name	dosage	Medication_cost	Treatment_cost	days_stayed
1	John	Doe	1	11	Fever	Paracetamol	1 pill twice a day	449.00	3500.00	0
2	Jane	Smith	2	12	Headache	Ibuprofen	2 tablets daily	559.00	2100.00	0
3	Michael	Johnson	3	13	Flu	Amoxicillin	1 capsule before meals	699.00	1050.00	0
4	Emily	Williams	4	14	Allergies	Lisinopril	1 teaspoon every 6 hours	899.00	10500.00	0
5	David	Brown	5	15	Sprained Ankle	Atorvastatin	1 spray as needed	1199.00	1400.00	0
6	Sarah	Taylor	6	16	Common Cold	Omeprazole	1 pill before bedtime	675.00	2800.00	1
7	Christopher	Lee	7	17	Migraine	Metformin	2 tablets with meals	485.00	7000.00	1
8	Amanda	Clark	8	18	Stomachache	Levothyroxine	1 capsule twice daily	820.00	1750.00	1
9	James	Martinez	9	19	Sinusitis	Albuterol	1 tablet after breakfast	575.00	525.00	1
10	Jessica	Garcia	10	20	Fractured Arm	Warfarin	1 spray every 4 hours	985.00	35000.00	1
- SQL Additions:** A panel on the right provides context help for the current caret position.

1.7) Optimize read operations using indexing wherever required. (Create index on at least 1 table)

```
CREATE INDEX idx_code ON Treatment(code);
```

```
CREATE INDEX patientID_index ON patient(patientID);
```

used it in many places like total_cost from checkout -

```

SELECT
prescribe.patientID,patient.FirstName,patient.LastName,prescribe.dr_id,patientdiagnosis.DiagnosisID,patientdiagnosis.Diagnosis,medication.name as medication_name,
prescribe.dosage,medication.cost as Medication_cost,treatment.cost as Treatment_cost,DATEDIFF(end_time, start_time) AS days_stayed,medication.cost +
treatment.cost + (DATEDIFF(end_time, start_time) * 4500 ) + 1000 AS total_cost
FROM patientdiagnosis
INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID
INNER JOIN medication ON prescribe.medication_id = medication.m_id
INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID
INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code
INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id
INNER JOIN patient ON patient.PatientID = prescribe.PatientID;
      
```

MySQL Workbench

Local instance MySQL80 (mai) Local instance MySQL80 (mai_...)

File Edit View Query Database Server Tools Scripting Help

Navigator: Schemas

SCHEMAS Filter objects

milestone1

- Tables affiliated_with, bed, department, doctors, insurance, medication, nurse, patient, prescribe, stay, treatment, undergoes_treatment
- Views
- Stored Procedures
- Functions

sys trial

Administration Schemas

Information:

Column: insurance_id

Definition: insurance_id int

patient 1 Treatment 8

Action Output

Time Action

- 75 02:35:24 CREATE INDEX idx_code ON Treatment(code)
- 76 02:35:38 select * from Treatment LIMIT 0,1000

Result Grid | Filter Rows: Export: Wrap Cell Content: Result Grid Form Editor Field Types

code	name	cost	description	duration
1	Physical Therapy	3500.00	Rehabilitation exercises	60
2	X-Ray	2100.00	Diagnostic imaging technique	15
3	Blood Test	1050.00	Laboratory analysis of blood sample	30
4	MRI Scan	10500.00	Magnetic Resonance Imaging scan	45
5	Dental Cleaning	1400.00	Routine dental cleaning	30
6	Ultrasound	2800.00	Diagnostic imaging technique using sound waves	20
7	Counseling Session	700.00	Therapeutic counseling session	60
8	Physician Consultation	1700.00	Consultation with a physician	15
9	Medication Review	525.00	Review of medication regimen	30
10	Surgery	35000.00	Surgical procedure	120

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench

Local instance MySQL80 (mai) Local instance MySQL80 (mai_...)

File Edit View Query Database Server Tools Scripting Help

Navigator: Schemas

SCHEMAS Filter objects

queries_executed*

452

453 • SELECT prescribe.patientID,patient.FirstName,patient.LastName,prescribe.dr_id,patientdiagnosis.DiagnosisID,patientdiagnosis.Diagnosis,medication.prescribe.dosage,medication.cost as Medication_cost,treatment.cost as Treatment_cost,DATEDIFF(end_time, start_time) AS days_stayed,medication FROM patientdiagnosis

454 INNER JOIN prescribe ON patientdiagnosis.DiagnosisID = prescribe.DiagnosisID

455 INNER JOIN medication ON prescribe.medication_id = medication.m_id

456 INNER JOIN undergoes_treatment ON undergoes_treatment.PatientID = prescribe.PatientID

457 INNER JOIN treatment ON treatment.code = undergoes_treatment.T_Code

458 INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id

459 INNER JOIN patient ON patient.PatientID = prescribe.PatientID;

460

461

462

Result Grid | Filter Rows: Export: Wrap Cell Content: Result Grid Form Editor Field Types

patientID	FirstName	LastName	dr_id	DiagnosisID	Diagnosis	medication_name	dosage	Medication_cost	Treatment_cost	days_stayed	total_cost
1	John	Doe	1	11	Fever	Paracetamol	1 pill twice a day	449.00	3500.00	0	4949.00
2	Jane	Smith	2	12	Headache	Ibuprofen	2 tablets daily	559.00	2100.00	0	3659.00
3	Michael	Johnson	3	13	Flu	Amoxicillin	1 capsule before meals	699.00	1050.00	0	2749.00
4	Emily	Williams	4	14	Allergies	Lisinopril	1 teaspoon every 6 hours	899.00	10500.00	0	12399.00
5	David	Brown	5	15	Sprained Ankle	Atorvastatin	1 spray as needed	1199.00	1400.00	0	3599.00
6	Sarah	Taylor	6	16	Common Cold	Omeprazole	1 pill before bedtime	675.00	2800.00	1	8975.00
7	Christopher	Lee	7	17	Migraine	Metformin	2 tablets with meals	485.00	7000.00	1	12985.00
8	Ananda	Clark	8	18	Stomachache	Levothyroxine	1 capsule twice daily	820.00	1750.00	1	8070.00
9	James	Martinez	9	19	Sinusitis	Albuterol	1 tablet after breakfast	575.00	525.00	1	6600.00
10	Jessica	Garcia	10	20	Fractured Arm	Warfarin	1 spray every 4 hours	885.00	35000.00	1	41485.00

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

1.8) Try optimizing bill generation using stored procedures.

DELIMITER //

```
CREATE PROCEDURE caltotal(IN pid INT)
BEGIN
    SELECT *, Medication_cost + Treatment_cost + (days_stayed * 4500 ) + 1000 AS total_cost
    FROM patient_checkout_view
    WHERE PatientID = pid ;
END//
```

DELIMITER ;

```
call caltotal(6);
```

The screenshot shows the MySQL Workbench interface with two tabs open: 'Local instance MySQL80 (mil...)' and 'Local instance MySQL80 (mil...'. The left pane displays the database schema, specifically the 'patient' table which has columns: PatientID, FirstName, LastName, Address, PinCode, Age, Gender, Phone, and Insurance_id. The right pane shows the SQL editor with the following code:

```
460     INNER JOIN stay ON stay.stay_id = undergoes_treatment.stay_id
461     INNER JOIN patient ON patient.PatientID = prescribe.PatientID;
462
463 •   CREATE INDEX patientID_index ON patient(patientID);
464
465 •   select * from patient where PatientID = 3;
466
467
468     DELIMITER //
469
470 •   CREATE PROCEDURE caltotal(IN pid INT)
471     BEGIN
472         SELECT *, Medication_cost + Treatment_cost + (days_stayed * 4500 ) + 1000 AS total_cost
473         FROM patient_checkout_view
474         WHERE PatientID = pid ;
475     END//
476
477
478     DELIMITER ;
479
```

The 'Output' tab at the bottom shows the execution log:

#	Time	Action	Message	Duration / Fetch
186	13:46:54	SELECT *, Medication_cost + Treatment_cost + (days_stayed * 4500) + 1000 AS total_cost FROM patient_checkout_view WHERE PatientID = 3 LIMIT 0,1000	1 row(s) returned	0.000 sec / 0.000 sec
187	14:03:36	CREATE INDEX patientID_index ON patient(patientID)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.188 sec
188	14:04:52	select * from patient where PatientID = 3 LIMIT 0,1000	1 row(s) returned	0.000 sec / 0.000 sec
189	14:16:22	CREATE PROCEDURE caltotal(IN pid INT) BEGIN SELECT *, Medication_cost + Tre...	0 row(s) affected	0.062 sec
190	14:18:21	drop procedure get_employees_in_department;	0 row(s) affected	0.047 sec
191	14:18:41	CREATE PROCEDURE caltotal(IN pid INT) BEGIN SELECT *, Medication_cost + Treatment_cost + (days_st...	0 row(s) affected	0.000 sec

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed* X

Schemas: Local instance MySQL80 (mai... Local instance MySQL80 (mai... X

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed* X

SQLAdditions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Result Grid | Filter Rows: Export: Wrap Cell Content: 15

patientID	FirstName	LastName	dr_id	DiagnosisID	Diagnosis	medication_name	dosage	Medication_cost	Treatment_cost	days_stayed	total_cost
6	Sarah	Taylor	6	16	Common Cold	Omeprazole	1 pill before bedtime	675.00	2800.00	1	8975.00

Result Grid Form Editor Field Types

Column: stay_id

Definition: stay_id int

Action Output

#	Time	Action	Message	Duration / Fetch
187	14:03:36	CREATE INDEX patientID_index ON patient(patientID)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.188 sec
188	14:04:52	select * from patient where PatientID = 3 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
189	14:16:22	CREATE PROCEDURE get_employees_in_department(IN pid INT) BEGIN SELECT * , Medication_cost + Tre...	0 row(s) affected	0.062 sec
190	14:18:21	drop procedure get_employees_in_department	0 row(s) affected	0.047 sec
191	14:18:41	CREATE PROCEDURE caltotal(IN pid INT) BEGIN SELECT * , Medication_cost + Treatment_cost + (days_st...	0 row(s) affected	0.000 sec

Object Info Session Read Only Context Help Snippets

1.9) Add necessary triggers to indicate when patients medical insurance limit has expired.

```
CREATE TRIGGER after_medical_insurance_insert
AFTER INSERT ON insurance
FOR EACH ROW
BEGIN
    IF NEW.end_date < CURDATE() THEN
        INSERT INTO insurance_expiry_alerts (patient_id, alert_message, alert_datetime)
        VALUES (NEW.id, 'Medical insurance limit has expired', NOW());
    END IF;
END//  
DELIMITER ;  
  
DELIMITER //
CREATE TRIGGER after_medical_insurance_update
AFTER UPDATE ON insurance
FOR EACH ROW
BEGIN
    IF NEW.end_date < CURDATE() THEN
        INSERT INTO insurance_expiry_alerts (patient_id, alert_message, alert_datetime)
        VALUES (NEW.id, 'Medical insurance limit has expired', NOW());
    END IF;
END//  
DELIMITER ;  
  
DELIMITER //
CREATE TRIGGER after_medical_insurance_delete
AFTER DELETE ON insurance
FOR EACH ROW
BEGIN
    IF OLD.end_date < CURDATE() THEN
        INSERT INTO insurance_expiry_alerts (patient_id, alert_message, alert_datetime)
        VALUES (OLD.id, 'Medical insurance limit has expired', NOW());
    END IF;
END//  
DELIMITER ;  
  
INSERT INTO insurance (id, limit1, start_date, end_date, provider)
VALUES
(11, 50000.00, '2023-01-01', '2024-01-01', 'ABC Insurance Company');  
  
select * from insurance_expiry_alerts;
```

MySQL Workbench

Local instance MySQL80 (mai) Local instance MySQL80 (mi...)

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed*

SCHEMAS: milestone1

Tables: affiliated_with, bed, department, doctors, insurance, provider

Columns: id, limit1, start_date, end_date, provider

Indexes, Foreign Keys, Triggers, insurance_expiry_alerts

```

488 ;
489 DELIMITER //;
490 • CREATE TRIGGER after_medical_insurance_insert
491 AFTER INSERT ON insurance
492 FOR EACH ROW
493 BEGIN
494     IF NEW.end_date < CURDATE() THEN
495         INSERT INTO insurance_expiry_alerts (patient_id, alert_message, alert_datetime)
496             VALUES (NEW.id, 'Medical insurance limit has expired', NOW());
497     END IF;
498 END//;
DELIMITER ;
```

501

```

502 DELIMITER //;
503 • CREATE TRIGGER after_medical_insurance_update
504 AFTER UPDATE ON insurance
505 FOR EACH ROW
506 BEGIN
507     IF NEW.end_date < CURDATE() THEN
508         INSERT INTO insurance_expiry_alerts (patient_id, alert_message, alert_datetime)
509             VALUES (NEW.id, 'Medical insurance limit has expired', NOW());
```

Information: Column: provider

Definition: provider varchar(100)

Object Info Session

Output: Action Output

#	Time	Action	Message	Duration / Fetch
194	14:57:07	CREATE TRIGGER after_medical_insurance_insert AFTER INSERT ON insurance FOR EACH ROW BEGIN ...	Error Code: 1054. Unknown column 'patient_id' in 'NEW'	0.046 sec
195	15:01:34	CREATE TRIGGER after_medical_insurance_insert AFTER INSERT ON insurance FOR EACH ROW BEGIN ...	0 rows affected	0.063 sec
196	15:01:34	CREATE TRIGGER after_medical_insurance_update AFTER UPDATE ON insurance FOR EACH ROW BEGIN ...	0 rows affected	0.016 sec
197	15:01:34	CREATE TRIGGER after_medical_insurance_delete AFTER DELETE ON insurance FOR EACH ROW BEGIN ...	0 row(s) affected	0.015 sec

SQLAdditions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

MySQL Workbench

Local instance MySQL80 (mai) Local instance MySQL80 (mi...)

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed*

SCHEMAS: milestone1

Tables: affiliated_with, bed, department, doctors, insurance, provider

Columns: id, limit1, start_date, end_date, provider

Indexes, Foreign Keys, Triggers, insurance_expiry_alerts

```

506 BEGIN
507     IF NEW.end_date < CURDATE() THEN
508         INSERT INTO insurance_expiry_alerts (patient_id, alert_message, alert_datetime)
509             VALUES (NEW.id, 'Medical insurance limit has expired', NOW());
510     END IF;
511 END//;
DELIMITER ;
```

512

```

513 
514 DELIMITER //;
515 • CREATE TRIGGER after_medical_insurance_delete
516 AFTER DELETE ON insurance
517 FOR EACH ROW
518 BEGIN
519     IF OLD.end_date < CURDATE() THEN
520         INSERT INTO insurance_expiry_alerts (patient_id, alert_message, alert_datetime)
521             VALUES (OLD.id, 'Medical insurance limit has expired', NOW());
522     END IF;
523 END//;
DELIMITER ;
```

526

527

Information: Column: provider

Definition: provider varchar(100)

Object Info Session

Output: Action Output

#	Time	Action	Message	Duration / Fetch
194	14:57:07	CREATE TRIGGER after_medical_insurance_insert AFTER INSERT ON insurance FOR EACH ROW BEGIN ...	Error Code: 1054. Unknown column 'patient_id' in 'NEW'	0.046 sec
195	15:01:34	CREATE TRIGGER after_medical_insurance_insert AFTER INSERT ON insurance FOR EACH ROW BEGIN ...	0 rows affected	0.063 sec
196	15:01:34	CREATE TRIGGER after_medical_insurance_update AFTER UPDATE ON insurance FOR EACH ROW BEGIN ...	0 rows affected	0.016 sec
197	15:01:34	CREATE TRIGGER after_medical_insurance_delete AFTER DELETE ON insurance FOR EACH ROW BEGIN ...	0 row(s) affected	0.015 sec

SQLAdditions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: queries_executed* X

Schemas: Local instance MySQL80 (mai... Local instance MySQL80 (mai... X

MySQL Workbench - MySQL 8.0.27 - Local instance MySQL80 (mai... - queries_executed*

SCHEMAS: milestone1

Tables:

- affiliated_with
- bed
- department
- doctors
- insurance
- patient
- prescribe
- prescribe_old

Columns:

- id
- limit1
- start_date
- end_date
- provider

Indexes

Foreign Keys

Triggers

insurance_expiry_alerts

- medication
- nurse
- patient
- patientdiagnosis
- prescribe
- prescribe_old

Administration Schemas

Information:

Column: provider

Collation: utf8mb4_0900_ai_ci

Definition: provider varchar(100)

Object Info Session

queries_executed* X

```

523     END IF;
524   END// 
525   DELIMITER ;
526
527 •  INSERT INTO insurance (id, limit1, start_date, end_date, provider)
528   VALUES
529     (11, 50000.00, '2023-01-01', '2024-01-01', 'ABC Insurance Company');
530
531 •  select * from insurance_expiry_alerts;
532
  
```

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

alert_id	patient_id	alert_message	alert_datetime
1	11	Medical insurance limit has expired	2024-02-05 15:05:10
2	11	Medical insurance limit has expired	2024-02-05 15:05:10

SQLAdditions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Result Grid Form Editor Field Types

Context Help Snippets

Action Output

#	Time	Action	Message	Duration / Fetch
196	15:01:34	CREATE TRIGGER after_medical_insurance_update AFTER UPDATE ON insurance FOR EACH ROW BEGIN	0 row(s) affected	0.016 sec
197	15:01:34	CREATE TRIGGER after_medical_insurance_delete AFTER DELETE ON insurance FOR EACH ROW BEGIN	0 row(s) affected	0.015 sec
198	15:05:10	INSERT INTO insurance (id, limit1, start_date, end_date, provider) VALUES (11, 50000.00, '2023-01-01', '2024-01-01', 'ABC Insurance Company')	1 row(s) affected	0.047 sec
199	15:05:49	select * from insurance_expiry_alerts LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec