INFO 6210

Database Management and Database Design

FINAL PROJECT REPORT

CLINICAL RESEARCH DATABASE

SUBMITTED BY

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INDEX

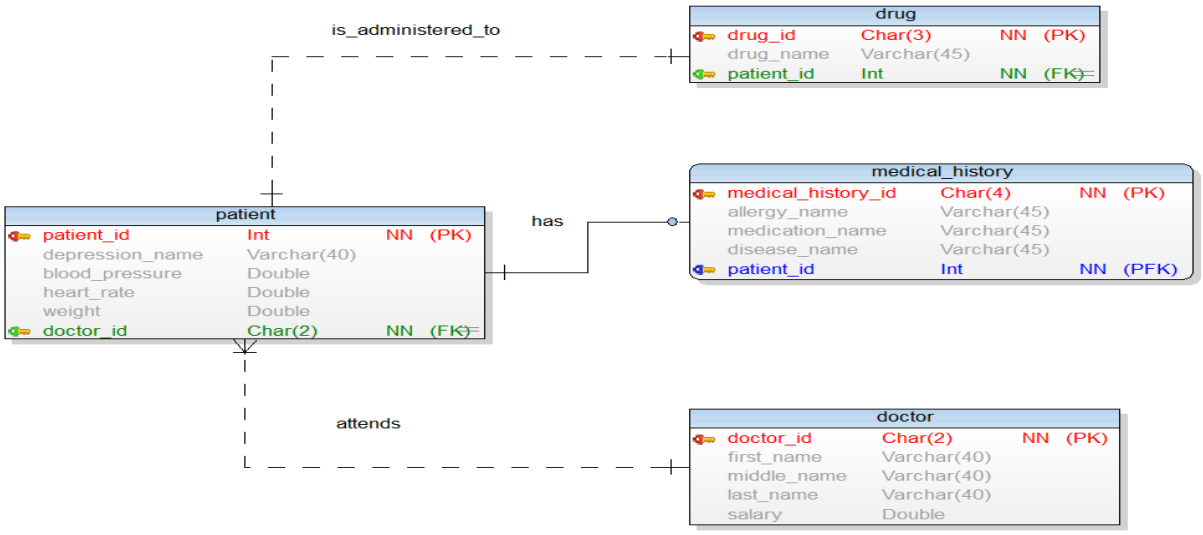
INTRODUCTION AND NEED FOR THE DATABASE

- The Clinical Research being done is a double-blinded study where the doctor and patient are unaware of what drug they are administering and what drug they are receiving.
- The current mechanism being employed for this study is paper based and leads to various ambiguities at different stages and hence a database is required to handle the system in a precise, unambiguous manner.
- The presence of database would also help in storing large amount of data in little time and access to it would be easy and quick.
- Mechanisms like backups and security in a database would help prevent the loss of data in case of failures or accidents.
- It would also help provide various users the opportunity to access the data that is useful to them.
- The need for the database mainly comes down to three stakeholders who are researchers, doctors and patients.
- The researchers will be the super users of the database and would have access to the entire database, they need information about the drug, the doctors and various patients in the system.
- The doctors would be adding data to the database as they record every incoming patient and capture their details on various occasions, they won't have access to the drugs as it is a blinded study.
- The patients would have access to their details, the doctor's notes and the depression they are suffering from.

CREATING AN ERD AND NORMALIZATION

According to the Clinical Research, a doctor will attend one or more patients. The doctor will administer drugs to the patient which would be unknown to the patient and doctor, a term double-blinded study is used to describe such a study in which both the investigator or the participant are blinded to or unaware of the nature of the treatment the participant is receiving. Only the two researchers will know who will receive what drug.

To design the database, I would first start with **four main entities that are patient, doctor, drug and medical history.** The patient is the person receiving the treatment or drug, the doctor is a trained professional who would be administering this drug, the drug is the drug being administered to the patient and is unknown to the doctor and patient, the medical history records the various factors including the allergies the patient has, any medication that they take and any diseases that they are suffering.



ENTITY RELATIONSHIP DIAGRAM WITH NO NORMALIZATION

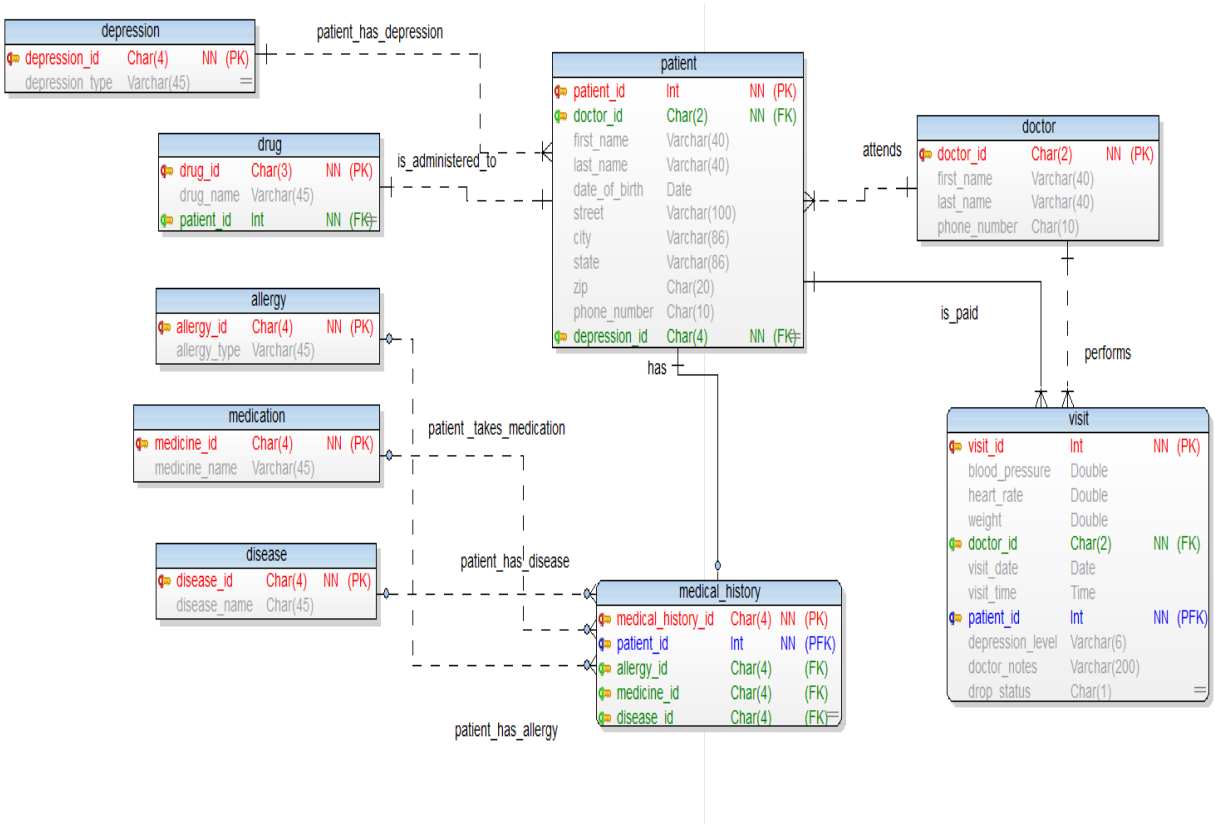
In the basic design the patient has attributes like depression name, blood pressure, heart rate and weight. These would violate the First Normal Form as a patient may suffer from more than one type of depression and these entries might be added by using commas or repetition of rows. Also, every time the blood pressure, heart rate and weight of a patient is recorded it might not be the same, the varying values would result in redundancy and hence the violation of First Normal Form. Every patient is attended by only one doctor.

The Drug table has the drug id and name and patient's id who is being administered the drug.

As only the drug table contains information about the patient, the patient won't be able to access the data related to the drug. Also, a particular drug is being administered to only one patient and a patient is being administered only one drug to conduct the research successfully.

The Medical History table has attributes like allergy name, medication name, disease name, etc. These would violate the First Normal Form as a patient may have one or more allergies, might be taking one or more medications and is or might have suffered various diseases, recording these values would lead to redundancy and grouping of data. A patient might not have a medical history.

The Doctor's Table has an unnecessary column salary which has no relevance to the clinical research database and can be safely removed. One doctor can attend many patients.



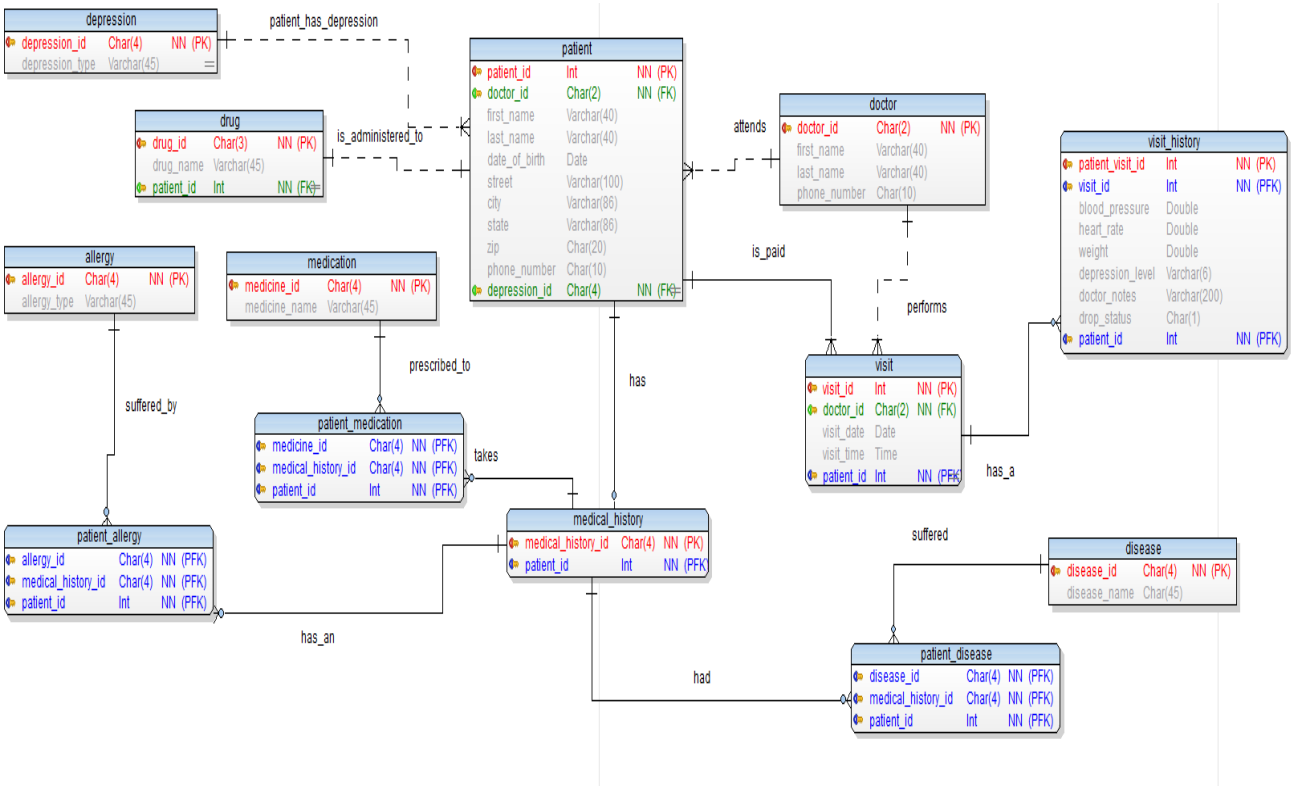
ENTITY RELATIONSHIP DIAGRAM IN FIRST NORMAL FORM

The table is now in first normal form as all attributes that could previously take up multiple values have been moved to seperate tables and given appropriate identifiers. Also, entity depression has been added to the data model as the drug administered is to monitor the levels of depression in the patient for the clinical research. Some more meaningful attributes have been added to the patient table and a visit table has been added to record the patient's blood pressure, heart rate etc. which was previously being recorded in the patient table and would have lead to inconsistenices due to non-atomic values.

All tables are already in second normal form as there are no partial dependencies present in any table.

We can observe that in the visit table the key , visit_id is being used to determine all columns but there is transitive dependency as parameters like blood_pressure,heart_rate,weight,

depression_level, drop_status and doctor_notes can alsobe determined using the patient_id. Hence, to normalize the tables we would take these attributes to another table and achieve the third normal form.



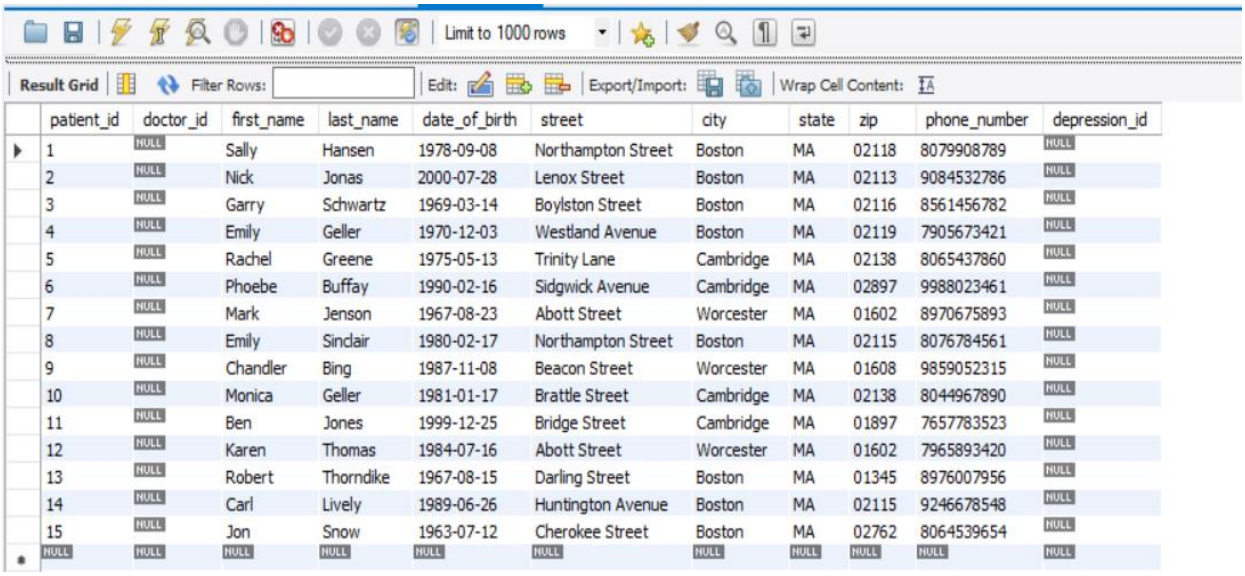
ENTITY RELATIONSHIP DIAGRAM IN THIRD NORMAL FORM

The tables have been normalized to third normal form also the many to many relationship between medical history and medication, medical history and allergy, medical history and disease have been realised. All relationships have been appropriately named and represent the data model required for the clinical research case study.

The data model would be now forward engineered and further implementations would be done.

DATA IN TABLES

Patient Table



patient_id	doctor_id	first_name	last_name	date_of_birth	street	city	state	zip	phone_number	depression_id
1	NULL	Sally	Hansen	1978-09-08	Northampton Street	Boston	MA	02118	8079908789	NULL
2	NULL	Nick	Jonas	2000-07-28	Lenox Street	Boston	MA	02113	9084532786	NULL
3	NULL	Garry	Schwartz	1969-03-14	Boylston Street	Boston	MA	02116	8561456782	NULL
4	NULL	Emily	Geller	1970-12-03	Westland Avenue	Boston	MA	02119	7905673421	NULL
5	NULL	Rachel	Greene	1975-05-13	Trinity Lane	Cambridge	MA	02138	8065437860	NULL
6	NULL	Phoebe	Buffay	1990-02-16	Sidgwick Avenue	Cambridge	MA	02897	9988023461	NULL
7	NULL	Mark	Jenson	1967-08-23	Abott Street	Worcester	MA	01602	8970675893	NULL
8	NULL	Emily	Sinclair	1980-02-17	Northampton Street	Boston	MA	02115	8076784561	NULL
9	NULL	Chandler	Bing	1987-11-08	Beacon Street	Worcester	MA	01608	9859052315	NULL
10	NULL	Monica	Geller	1981-01-17	Brattle Street	Cambridge	MA	02138	8044967890	NULL
11	NULL	Ben	Jones	1999-12-25	Bridge Street	Cambridge	MA	01897	7657783523	NULL
12	NULL	Karen	Thomas	1984-07-16	Abott Street	Worcester	MA	01602	7965893420	NULL
13	NULL	Robert	Thorndike	1967-08-15	Darling Street	Boston	MA	01345	8976007956	NULL
14	NULL	Carl	Lively	1989-06-26	Huntington Avenue	Boston	MA	02115	9246678548	NULL
15	NULL	Jon	Snow	1963-07-12	Cherokee Street	Boston	MA	02762	8064539654	NULL

Depression Table

```
25  INSERT INTO `clinical_research`.`depression`
26  (`depression_id`,
27  `depression_type`)
28  VALUES('DEP5','Postpartum Depression');
29
30  INSERT INTO `clinical_research`.`depression`
31  (`depression_id`,
32  `depression_type`)
```

depression_id	depression_type
DEP1	Dysthymia
DEP2	Major Depressive Disorder
DEP3	Persistent Depressive Disorder
DEP4	Bipolar Disorder
DEP5	Postpartum Depression
DEP6	Seasonal Affective Disorder
DEP7	Premenstrual Dysphoric Disorder
DEP8	Atypical Depression
NULL	NULL

Drug Table

```
USE clinical_research;

DESCRIBE drug;

ALTER table drug modify drug_id char(4);
```

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

drug_id	drug_name	patient_id
DR1	Nardil	13
DR10	Norpramin	5
DR11	Asendin	6
DR12	Emitrip	4
DR13	Elavil	2
DR14	Deconil	11
DR15	Amoxapine	9
DR2	Tofranil	1
DR3	Vivactil	10
DR4	Pamelor	7
DR5	Luvox CR	8
DR6	Surmontil	15
DR7	Imavate	3
DR8	Anafranil	14
DR9	Janimine	12
NULL	NULL	NULL

Doctor Table

```
SELECT *FROM doctor;
```

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

doctor_id	first_name	last_name	phone_number
D1	Daniel	Thompson	9706784532
D2	Richard	Ferguson	8078954634
D3	Emma	Watson	8904578896
D4	Bob	Waldorf	9987675466
D5	Emilia	Clarke	7655509673
NULL	NULL	NULL	NULL

Allergy Table

```
SELECT *FROM allergy;
```

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

allergy_id	allergy_type
AL1	Dust Allergy
AL2	Mold Allergy
AL3	Latex Allergy
AL4	Wheat Allergy
AL5	Pollen Allergy
NULL	NULL

Medication Table

```
SELECT *FROM medication;
```

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

medicine_id	medicine_name
M1	Amlodipine
M2	Ibuprofen
M3	Lyrica
M4	Zoloft
M5	Codeine
NULL	NULL

Visit Table

```
SELECT *FROM visit;
```

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

visit_id	doctor_id	visit_date	visit_time	patient_id
1	D4	2018-11-25	10:00:00	1
2	D4	2018-11-25	14:30:00	9
3	D2	2018-11-26	09:00:00	10
4	D2	2018-11-26	15:00:00	15
5	D5	2018-11-27	12:30:00	7
6	D5	2018-11-27	16:50:00	11
7	D1	2018-11-28	11:50:00	4
8	D1	2018-11-28	17:05:00	12
9	D4	2018-11-29	18:00:00	1
10	D4	2018-11-29	22:50:00	9
11	D3	2018-11-30	12:08:00	14
12	D3	2018-11-30	14:00:00	2
13	D2	2018-12-01	12:50:00	6
14	D1	2018-12-01	17:45:00	8
15	D1	2018-12-02	11:55:00	12
16	D3	2018-12-02	14:00:00	5
17	D5	2018-12-03	14:00:00	3
18	D5	2018-12-03	17:50:00	7
19	D2	2018-12-04	12:40:00	10

Visit History Table

```
SELECT *FROM visit_history;
```

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

patient_visit_id	visit_id	blood_pressure	heart_rate	weight	depression_level	doctor_notes	drop_status	patient_id
1	1	90	60	124	low	Getting good results,reduced depression	N	1
2	2	106	74	140	medium	Getting results,depression level seems to be decreasing	N	9
3	3	80.2	78	117.45	high	Drug not effective	N	10
4	4	120.89	80	130	low	Getting good results,reduced depression	N	15
5	5	105.7	89	127.78	medium	Getting results,depression level seems to be decreasing	N	7
6	6	89.8	75	124.43	high	Drug not effective	N	11
7	7	109.7	78	140.43	low	Good results, prescribing nutrients for better health	N	4
8	8	108.56	63	132.43	medium	Drugs seems to be working,prescribing vitamin D tablets	N	12
9	9	189.8	90	124.43	low	patient is stable, getting good results from the drug	N	1
10	10	110.89	79	142.89	low	Drug giving positive results, patient health improving	N	9
11	11	130.89	80	130.78	high	Drug not effective,prescribing medication for better sleep	N	14
12	12	189.8	76	140.9	high	Drug not effective	N	2
13	13	178.8	79	132.43	low	Drug giving positive results	N	6
14	14	109.9	70	128.43	medium	Drug seems to be working,prescribing nutrients	N	8
15	15	129.9	68	130.43	low	Patient is stable, great results	N	12
16	16	124.31	73	140.65	high	Drug not suitable for patient, prescribing medication for bo...	N	5
17	17	118.71	90	150.87	medium	Drug seems to be working	N	3
18	18	107.53	78	130.89	low	Patient health is stable, drug working well	N	7
19	19	89.2	76	118.45	high	Drug not effective	N	10

Disease Table

```
1  SELECT *FROM disease;
2
3
```

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

disease_id	disease_name
DI1	Arthritis
DI2	Cancer
DI3	HIV/AIDS
DI4	Tuberculosis
DI5	Malaria
NULL	NULL

CREATING USERS

After adding data to the tables we create two users that are the super users for clinical_research as follows:

```
CREATE USER 'Researcher1'@'localhost' IDENTIFIED BY 'res1*';
GRANT ALL PRIVILEGES ON clinical_research.* TO 'Researcher1'@'localhost';

CREATE USER 'Researcher2'@'localhost' IDENTIFIED BY 'res2*';
GRANT ALL PRIVILEGES ON clinical_research.* TO 'Researcher2'@'localhost';
```

A procedure to create user logins for doctors is created so that they can be easily granted access to various concerned tables.

The doctor is responsible for maintaining data with respect to their patients in the database.

```
DELIMITER //
CREATE PROCEDURE create_doctor(IN doctor_nm CHAR(20), IN doctor_pwd CHAR(20))

BEGIN

SET @host_name = 'localhost';
SET @doc_nm := doctor_nm ;
SET @doc_pwd := doctor_pwd;
SET @db_name :='clinical_research';
SET @allergy_table:='allergy';
SET @dep_table := 'depression';
SET @disease := 'disease';
SET @doctor := 'doctor';
SET @medical_history ='medical_history';
SET @medication := 'medication';
SET @patient := 'patient';
SET @patient_allergy := 'patient_allergy';
SET @patient_disease := 'patient_disease';
SET @patient_medication := 'patient_medication';
SET @visit := 'visit';
SET @visit_history :='visit_history';

SET @creation := CONCAT("CREATE USER ",QUOTE(@doc_nm),"@",QUOTE(@host_name)," IDENTIFIED BY ", QUOTE(@doc_pwd));
PREPARE statement FROM @creation;
EXECUTE statement;

SET @granting := CONCAT("GRANT ALL ON ",@db_name,".",@allergy_table," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));
PREPARE statement1 FROM @granting;
EXECUTE statement1;

SET @granting1 := CONCAT("GRANT ALL ON ",@db_name,".",@dep_table," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));
PREPARE statement2 FROM @granting1;
EXECUTE statement2;

SET @granting2 := CONCAT("GRANT ALL ON ",@db_name,".",@disease," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));
PREPARE statement3 FROM @granting2;
EXECUTE statement3;

SET @granting3 := CONCAT("GRANT ALL ON ",@db_name,".",@doctor," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));
```

```
EXECUTE statement6;

SET @granting6 := CONCAT("GRANT ALL ON ",@db_name,".",@patient," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));
PREPARE statement7 FROM @granting6;
EXECUTE statement7;

SET @granting7 := CONCAT("GRANT ALL ON ",@db_name,".",@patient_allergy," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));
PREPARE statement8 FROM @granting7;
EXECUTE statement8;


SET @granting8 := CONCAT("GRANT ALL ON ",@db_name,".",@patient_disease," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));
PREPARE statement9 FROM @granting8;
EXECUTE statement9;

SET @granting9 := CONCAT("GRANT ALL ON ",@db_name,".",@patient_medication," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));
PREPARE statement10 FROM @granting9;
EXECUTE statement10;

SET @granting10 := CONCAT("GRANT ALL ON ",@db_name,".",@visit," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));
PREPARE statement11 FROM @granting10;
EXECUTE statement11;

SET @granting11 := CONCAT("GRANT ALL ON ",@db_name,".",@visit_history," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));
PREPARE statement12 FROM @granting11;
EXECUTE statement12;


END//
DELIMITER ;

CALL create_doctor('Doctor1','doc1*');
CALL create_doctor('Doctor2','doc2*');
CALL create_doctor('Doctor3','doc3*');
CALL create_doctor('Doctor4','doc4*');
CALL create_doctor('Doctor5','doc5*');
```

TRIGGERS

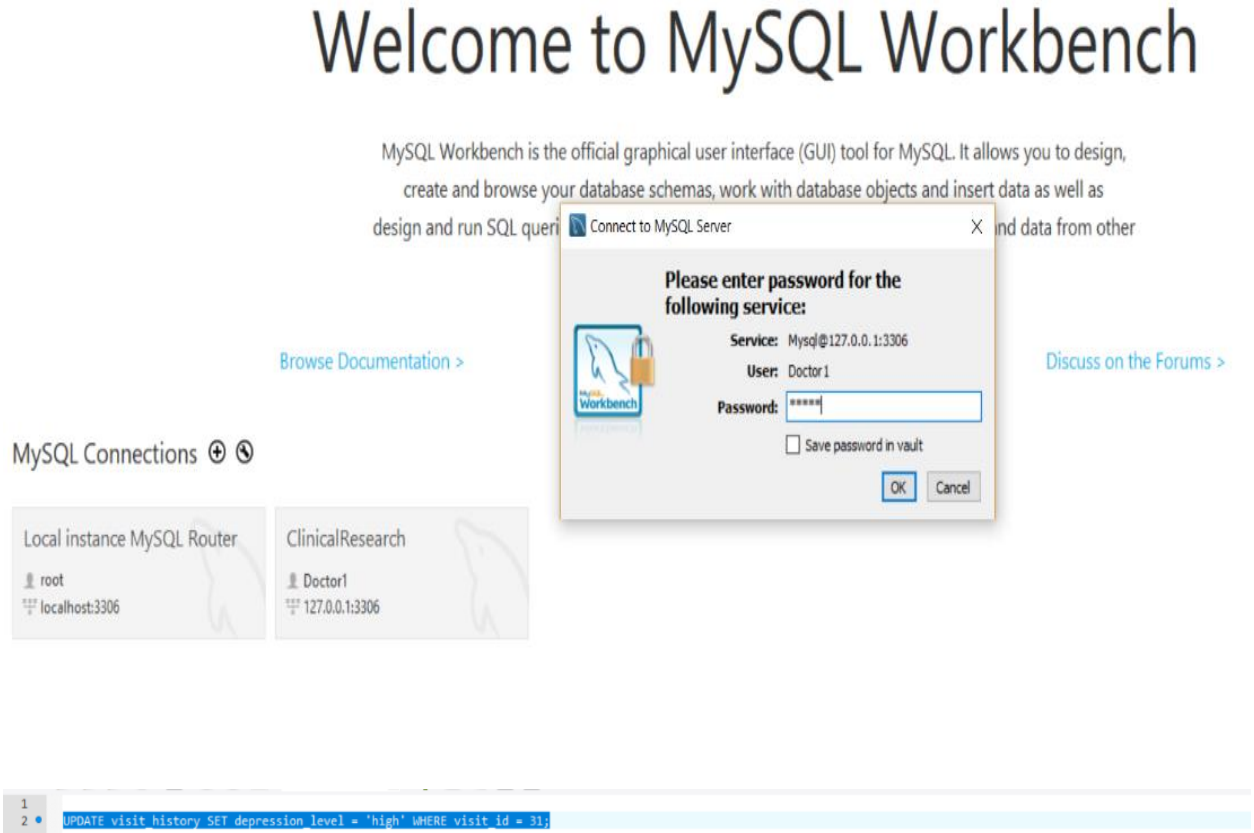
As depression is the main reason for the clinical_research database, every time there is a change in the depression level concerned with a patient it is logged in a log_visithistory.

```
CREATE TABLE log_visithistory(id int not null auto_increment primary key,username varchar(40),visit_id int not null,
old_depression_level varchar(6) not null, new_depression_level varchar(6) not null,
patient_id int not null);

DELIMITER //
CREATE TRIGGER patient_depression
BEFORE UPDATE
ON visit_history
FOR EACH ROW
BEGIN

INSERT INTO log_visithistory(visit_id,username,old_depression_level,new_depression_level,patient_id)
VALUES(new.visit_id,user(), OLD.depression_level, NEW.depression_level,new.patient_id);

END//
DELIMITER ;

select *from log_visithistory;
```

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

username	visit_id	old_depression_level	new_depression_level	patient_id
Doctor 1@localhost	31	medium	medium	16
Doctor 1@localhost	31	medium	high	16
NULL	NULL	NULL	NULL	NULL

thistory 22 ×




```
1
2 • UPDATE visit_history SET depression_level = 'high' WHERE visit_id = 31;
```

The researchers have 20 drugs and the research requires 20 patients as one drug can be tested on one patient only hence, every time a patient is added a drug is assigned to them.

```
DELIMITER //
CREATE TRIGGER new_patient
AFTER INSERT
ON patient
FOR EACH ROW
BEGIN
SET @drug= ELT(FLOOR(RAND()*4)+1, 'Zoloft', 'Doxipine', 'Sarafem', 'Lexapro');


INSERT INTO drug(drug_id,drug_name,patient_id)
VALUES(CONCAT('DR',new.patient_id),@drug,new.patient_id);
END//

DELIMITER ;

INSERT INTO patient (doctor_id,depression_id) VALUES('D3','DEP7');

SELECT *FROM drug;
```

drug_id	drug_name	patient_id
DR1	Nardil	13
DR10	Norpramin	5
DR11	Asendin	6
DR12	Emitrip	4
DR13	Elavil	2
DR14	Deconil	11
DR15	Amoxapine	9
DR16	Nardil	16
DR17	Venlafaxine	17
DR2	Tofranil	1

As only 20 patients are allowed hence a trigger patient_capacity is used to enforce that, as soon as 20 patients are entered the trigger starts generating error hence, no more patients can be added.

```
USE clinical_research;

DELIMITER $$
CREATE TRIGGER patient_capacity
   BEFORE INSERT ON patient
   FOR EACH ROW
  BEGIN
    IF ((Select count(*) from patient) =20 )THEN
      DELETE FROM patient WHERE patient.patient_id>20;
    END if;
  END$$
DELIMITER ;

INSERT INTO patient(DOCTOR_ID,DEPRESSION_ID) VALUES('D3','DEP7');

SELECT *FROM PATIENT;
```

patient_id	doctor_id	first_name	last_name	date_of_birth	street	city	state	zip	phone_number	depression_id
11	D5	Ben	Jones	1999-12-25	Bridge Street	Cambridge	MA	01897	7657783523	DEP8
12	D1	Karen	Thomas	1984-07-16	Abott Street	Worcester	MA	01602	7965893420	DEP7
13	D4	Robert	Thorndike	1967-08-15	Darling Street	Boston	MA	01345	8976007956	DEP3
14	D3	Carl	Lively	1989-06-26	Huntington Avenue	Boston	MA	02115	9246678548	DEP4
15	D2	Jon	Snow	1963-07-12	Cherokee Street	Boston	MA	02762	8064539654	DEP2
16	D1	Test	Patient	1990-08-07	Huntington Avenue	Boston	MA	02115	9988025419	DEP2
17	D3	Unknown	Unknown	NULL	NULL	NULL	NULL	NULL	NULL	DEP7
18	D3	Unknown	Unknown	NULL	NULL	NULL	NULL	NULL	NULL	DEP7
19	D3	Unknown	Unknown	NULL	NULL	NULL	NULL	NULL	NULL	DEP7
20	D3	Unknown	Unknown	NULL	NULL	NULL	NULL	NULL	NULL	DEP7

PATIENT 2

Output

Action Output

#	Time	Action	Message
10	04:14:56	INSERT INTO patient(DOCTOR_ID,DEPRESSION_ID) VALUES('D3','DEP7')	Error Code: 1442. Can't update table 'patie

VIEWS

The researchers in the clinical_research database are the super users and have access to the entire database. The researchers are concerned with what drug is being administered to which patient, which doctor is attending a particular patient and what drug is being administered to a person with a certain depression_type, hence a view patient_details_researcher has been created for them to retrieve this information easily.

```
2
3  CREATE VIEW patient_details_researcher AS
4  SELECT patient.patient_id AS 'Patient Id' ,CONCAT(patient.first_name," ",patient.last_name) AS 'Patient Name',drug.drug_name AS Drug,
5  depression.depression_type AS 'Depression Type',doctor.doctor_id AS 'Doctor Id',CONCAT(doctor.first_name," ",doctor.last_name) AS 'Doctor Name'
6  FROM drug
7  JOIN patient
8  ON drug.patient_id = patient.patient_id
9  JOIN depression
10 ON patient.depression_id = depression.depression_id
11 JOIN doctor
12 ON patient.doctor_id = doctor.doctor_id
13 ORDER BY patient.patient_id;
14
15 SELECT * FROM patient_details_researcher;
```

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

Patient Id	Patient Name	Drug	Depression Type	Doctor Id	Doctor Name
1	Sally Hansen	Tofranil	Postpartum Depression	D4	Bob Waldorf
2	Nick Jonas	Elavil	Atypical Depression	D3	Emma Watson
3	Garry Schwartz	Imavate	Seasonal Affective Disorder	D5	Emilia Clarke
4	Emily Geller	Emitrip	Postpartum Depression	D1	Daniel Thompson
5	Rachel Greene	Norpramin	Dysthymia	D3	Emma Watson
6	Phoebe Buffay	Asendin	Premenstrual Dysphoric Disorder	D2	Richard Ferguson
7	Mark Jenson	Pamelor	Bipolar Disorder	D5	Emilia Clarke
8	Emily Sinclair	Luvox CR	Major Depressive Disorder	D1	Daniel Thompson
9	Chandler Bing	Amoxapine	Dysthymia	D4	Bob Waldorf
10	Monica Geller	Vivactil	Seasonal Affective Disorder	D2	Richard Ferguson
11	Ben Jones	Deconil	Atypical Depression	D5	Emilia Clarke
12	Karen Thomas	Janimine	Premenstrual Dysphoric Disorder	D1	Daniel Thompson

patient_details_researcher 4 ×

Output

Action Output

#	Time	Action	Message
110	21:28:15	CREATE VIEW patient_details_researcher AS SELECT patient.patient_id AS 'Patient Id' ,CONCAT(patient.first...	0 row(s) affected
111	21:28:18	SELECT * FROM patient_details_researcher LIMIT 0, 1000	15 row(s) returned

The researchers further plan to research on allergies, diseases and various medications people take hence views have been created to display allergies, diseases and medications concerned with the respective patient. This also help doctors examine what factors like past or current diseases, medications a person is or was taking and allergies they have affects their depression levels.

```
CREATE VIEW patient_allergy_information AS
SELECT CONCAT(patient.first_name," ",patient.last_name) AS 'Patient Name',medical_history.medical_history_id AS 'Medical History Id',
allergy.allergy_type AS 'Allergy Type' FROM
medical_history
JOIN
patient
ON patient.patient_id = medical_history.patient_id
JOIN
patient_allergy
ON medical_history.medical_history_id = patient_allergy.medical_history_id
JOIN
allergy
ON patient_allergy.allergy_id = allergy.allergy_id;


SELECT * FROM patient_allergy_information;
```

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

Patient Name	Medical History Id	Allergy Type
Sally Hansen	MH1	Dust Allergy
Test Patient	MH16	Dust Allergy
Chandler Bing	MH9	Dust Allergy
Mark Jenson	MH7	Mold Allergy
Carl Lively	MH14	Latex Allergy
Emily Geller	MH4	Latex Allergy
Rachel Greene	MH5	Wheat Allergy
Karen Thomas	MH12	Pollen Allergy
Emily Geller	MH4	Pollen Allergy

atient_allergy_information 11 ×

Limit to 1000 rows

```
CREATE VIEW patient_disease_information AS
SELECT CONCAT(patient.first_name," ",patient.last_name) AS 'Patient Name',medical_history.medical_history_id AS 'Medical History Id',
disease.disease_name AS 'Disease' FROM
medical_history
JOIN
patient
ON patient.patient_id = medical_history.patient_id
JOIN
patient_disease
ON medical_history.medical_history_id = patient_disease.medical_history_id
JOIN
disease
ON patient_disease.disease_id = disease.disease_id;

SELECT * FROM patient_disease_information;
```

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

Patient Name	Medical History Id	Disease
Ben Jones	MH11	Arthritis
Test Patient	MH16	Arthritis
Jon Snow	MH15	Cancer
Emily Sinclair	MH8	Cancer
Nick Jonas	MH2	HIV/AIDS
Phoebe Buffay	MH6	HIV/AIDS
Nick Jonas	MH2	Tuberculosis
Emily Sinclair	MH8	Tuberculosis
Ben Jones	MH11	Malaria
Garry Schwartz	MH3	Malaria

patient_disease_information 14 ×

```
Limit to 1000 rows

1
2
3  CREATE VIEW patient_medication_information AS
4  SELECT CONCAT(patient.first_name," ",patient.last_name) AS 'Patient Name',medical_history.medical_history_id AS 'Medical History Id',
5  medication.medicine_name AS 'Disease' FROM
6  medical_history
7  JOIN
8  patient
9  ON patient.patient_id = medical_history.patient_id
10 JOIN
11 patient_medication
12 ON medical_history.medical_history_id = patient_medication.medical_history_id
13 JOIN
14 medication
15 ON patient_medication.medicine_id = medication.medicine_id;
16
17 SELECT * FROM patient_medication_information;
```

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

Patient Name	Medical History Id	Disease
Monica Geller	MH10	Amlodipine
Jon Snow	MH15	Amlodipine
Emily Geller	MH4	Amlodipine
Monica Geller	MH10	Ibuprofen
Sally Hansen	MH1	Lyrica
Monica Geller	MH10	Lyrica
Test Patient	MH16	Lyrica
Mark Jenson	MH7	Lyrica
Robert Thorndike	MH13	Zoloft
Mark Jenson	MH7	Zoloft

PROCEDURES

A procedure patient_information has been created for doctors where they can view their patients most relevant details. This procedure will provide the doctors with the privilege to view the patients they are dealing with, however they can also check other patient details by entering another doctor's doctor_id if they know it.

```
desc patient;

DELIMITER //
CREATE PROCEDURE patient_information(IN doctor_id char(3))
BEGIN
SET @doc_id:= doctor_id;

SELECT patient.patient_id,patient.first_name,patient.last_name,patient.date_of_birth,patient.phone_number,depression.depression_type
FROM patient
JOIN depression
ON patient.depression_id = depression.depression_id
WHERE patient.doctor_id = @doc_id;

END//
DELIMITER ;

CALL patient_information('D1');
```

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

patient_id	first_name	last_name	date_of_birth	phone_number	depression_type
4	Emily	Geller	1970-12-03	7905673421	Postpartum Depression
8	Emily	Sinclair	1980-02-17	8076784561	Major Depressive Disorder
12	Karen	Thomas	1984-07-16	7965893420	Premenstrual Dysphoric Disorder

```
desc patient;

DELIMITER //
CREATE PROCEDURE patient_information(IN doctor_id char(3))
BEGIN
SET @doc_id:= doctor_id;

SELECT patient.patient_id,patient.first_name,patient.last_name,patient.date_of_birth,patient.phone_number,depression.depression_type
FROM patient
JOIN depression
ON patient.depression_id = depression.depression_id
WHERE patient.doctor_id = @doc_id;

END//
DELIMITER ;

CALL patient_information('D2');
```

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

patient_id	first_name	last_name	date_of_birth	phone_number	depression_type
6	Phoebe	Buffay	1990-02-16	9988023461	Premenstrual Dysphoric Disorder
10	Monica	Geller	1981-01-17	8044967890	Seasonal Affective Disorder
15	Jon	Snow	1963-07-12	8064539654	Major Depressive Disorder

The Patient is another stakeholder in the database and is concerned with the visits they had from doctors, the doctors who are attending them and the kind of depression they have. They can also view personal details for verification purposes. Therefore, the procedure patient_details has been created where a patient can input their patient_id and receive all results.

```
BEGIN
SET @patient:= patient_id;

SELECT CONCAT(patient.first_name," ",patient.last_name) AS 'Name',
patient.date_of_birth AS 'Date of Birth',CONCAT_WS(",",patient.street,patient.city,patient.state,patient.zip) AS Address,
patient.phone_number AS 'Phone Number', depression.depression_type AS 'Depression Type',
CONCAT_WS(" ",doctor.first_name,doctor.last_name) AS 'Doctor Name',visit.visit_date AS 'Visit Date',visit_history.doctor_notes AS 'Doctor Notes'
FROM patient
JOIN depression
ON patient.depression_id = depression.depression_id
JOIN doctor
ON patient.doctor_id = doctor.doctor_id
JOIN visit
ON patient.patient_id = visit.patient_id
JOIN visit_history
ON visit.visit_id = visit_history.visit_id
WHERE patient.patient_id = @patient;

END//
DELIMITER ;

CALL patient_details(6);
```

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

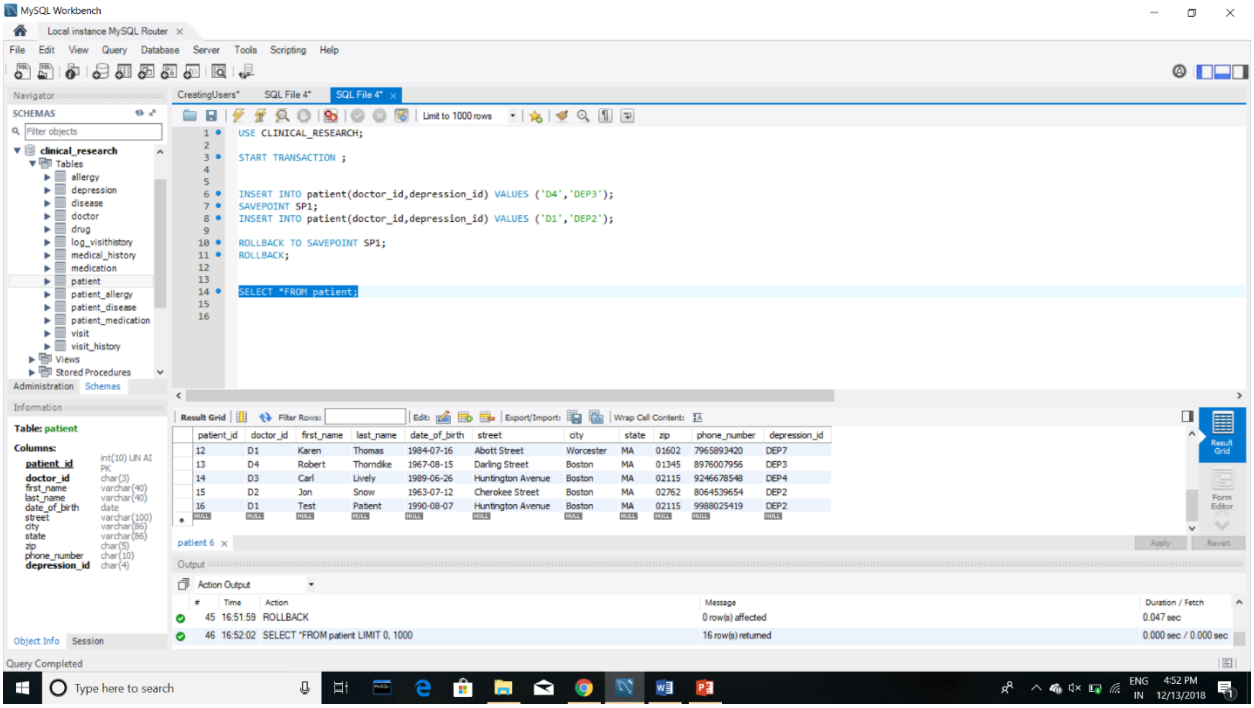
Name	Date of Birth	Address	Phone Number	Depression Type	Doctor Name	Visit Date	Doctor Notes
Phoebe Buffay	1990-02-16	Sidgwick Avenue,Cambridge,MA,02897	9988023461	Premenstrual Dysphoric Disorder	Richard Ferguson	2018-12-01	Drug giving positive results
Phoebe Buffay	1990-02-16	Sidgwick Avenue,Cambridge,MA,02897	9988023461	Premenstrual Dysphoric Disorder	Richard Ferguson	2018-12-07	Patient is stable,drug giving positive results

Result 5

TRANSACTION

```
USE CLINICAL_RESEARCH;

START TRANSACTION ;


INSERT INTO patient(doctor_id,depression_id) VALUES ('D4','DEP3');
SAVEPOINT SP1;
INSERT INTO patient(doctor_id,depression_id) VALUES ('D1','DEP2');

ROLLBACK TO SAVEPOINT SP1;
ROLLBACK;


SELECT *FROM patient;
```

patient_id	doctor_id	first_name	last_name	date_of_birth	street	city	state	zip	phone_number	depression_id
14	D3	Carl	Lively	1989-06-26	Huntington Avenue	Boston	MA	02115	9246678548	DEP4
15	D2	Jon	Snow	1963-07-12	Cherokee Street	Boston	MA	02762	8064539654	DEP2
16	D1	Test	Patient	1990-08-07	Huntington Avenue	Boston	MA	02115	9988025419	DEP2
17	D4	Unknown	Unknown	NULL	NULL	NULL	NULL	NULL	NULL	DEP3
18	D1	Unknown	Unknown	NULL	NULL	NULL	NULL	NULL	NULL	DEP2
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL



REFERENCES

1. https://www.verywellmind.com/common-types-of-depression-1067313
2. https://www.webmd.com/drugs/2/condition-1022/depression
3. https://www.aafa.org/types-of-allergies/
4. https://www.drugs.com/drug_information.html
5. https://www.cdc.gov/diseasesconditions/az/a.html

APPENDIX -MYSQL DUMP

```
CREATE DATABASE  IF NOT EXISTS `clinical_research` /*!40100 DEFAULT CHARACTER SET utf8mb4 COLLATE utf8mb4_0900_ai_ci */;

USE `clinical_research`;

-- MySQL dump 10.13  Distrib 8.0.12, for Win64 (x86_64)

--

-- Host: localhost    Database: clinical_research

-- ------------------------------------------------------

-- Server version        8.0.12


/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;

/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;

/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;

 SET NAMES utf8 ;

/*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;

/*!40103 SET TIME_ZONE='+00:00' */;

/*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;

/*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;

/*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;

/*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;


--

-- Table structure for table `allergy`

--


DROP TABLE IF EXISTS `allergy`;
```

```
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `allergy` (
  `allergy_id` char(4) NOT NULL,
  `allergy_type` varchar(45) NOT NULL,
  PRIMARY KEY (`allergy_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `allergy`
--

LOCK TABLES `allergy` WRITE;
/*!40000 ALTER TABLE `allergy` DISABLE KEYS */;
INSERT INTO `allergy` (`allergy_id`, `allergy_type`) VALUES ('AL1','Dust Allergy'),('AL2','Mold Allergy'),('AL3','Latex Allergy'),('AL4','Wheat Allergy'),('AL5','Pollen Allergy');
/*!40000 ALTER TABLE `allergy` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `depression`
--

DROP TABLE IF EXISTS `depression`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `depression` (
```

```
  `depression_id` char(4) NOT NULL,
  `depression_type` varchar(45) NOT NULL,
  PRIMARY KEY (`depression_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;


--
-- Dumping data for table `depression`
--


LOCK TABLES `depression` WRITE;
/*!40000 ALTER TABLE `depression` DISABLE KEYS */;
INSERT INTO `depression` (`depression_id`, `depression_type`) VALUES ('DEP1','Dysthymia'),('DEP2','Major Depressive Disorder'),('DEP3','Persistent Depressive Disorder'),('DEP4','Bipolar Disorder'),('DEP5','Postpartum Depression'),('DEP6','Seasonal Affective Disorder'),('DEP7','Premenstrual Dysphoric Disorder'),('DEP8','Atypical Depression');
/*!40000 ALTER TABLE `depression` ENABLE KEYS */;
UNLOCK TABLES;


--
-- Table structure for table `disease`
--


DROP TABLE IF EXISTS `disease`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `disease` (
  `disease_id` char(4) NOT NULL,
  `disease_name` varchar(45) NOT NULL,
```

```
  PRIMARY KEY (`disease_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `disease`
--

LOCK TABLES `disease` WRITE;
/*!40000 ALTER TABLE `disease` DISABLE KEYS */;
INSERT INTO `disease` (`disease_id`, `disease_name`) VALUES ('DI1','Arthritis'),('DI2','Cancer'),('DI3','HIV/AIDS'),('DI4','Tuberculosis'),('DI5','Malaria');
/*!40000 ALTER TABLE `disease` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `doctor`
--

DROP TABLE IF EXISTS `doctor`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `doctor` (
  `doctor_id` char(3) NOT NULL,
  `first_name` varchar(40) DEFAULT 'Unknown',
  `last_name` varchar(40) DEFAULT 'Unknown',
  `phone_number` varchar(40) DEFAULT 'Unknown',
  PRIMARY KEY (`doctor_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
```

```
/*!40101 SET character_set_client = @saved_cs_client */;


--
-- Dumping data for table `doctor`
--


LOCK TABLES `doctor` WRITE;
/*!40000 ALTER TABLE `doctor` DISABLE KEYS */;
INSERT INTO `doctor` (`doctor_id`, `first_name`, `last_name`, `phone_number`) VALUES ('D1','Daniel','Thompson','9706784532'),('D2','Richard','Ferguson','8078954634'),('D3','Emma','Watson','8904578896'),('D4','Bob','Waldorf','9987675466'),('D5','Emilia','Clarke','7655509673');
/*!40000 ALTER TABLE `doctor` ENABLE KEYS */;
UNLOCK TABLES;


--
-- Table structure for table `drug`
--


DROP TABLE IF EXISTS `drug`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `drug` (
  `drug_id` char(4) NOT NULL,
  `drug_name` varchar(45) NOT NULL,
  `patient_id` int(10) unsigned NOT NULL,
  PRIMARY KEY (`drug_id`),
  KEY `is_administered_to` (`patient_id`),
  CONSTRAINT `is_administered_to` FOREIGN KEY (`patient_id`) REFERENCES `patient` (`patient_id`)
```

```
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `drug`
--

LOCK TABLES `drug` WRITE;
/*!40000 ALTER TABLE `drug` DISABLE KEYS */;
INSERT INTO `drug` (`drug_id`, `drug_name`, `patient_id`) VALUES ('DR1','Nardil',13),('DR10','Norpramin',5),('DR11','Asendin',6),('DR12','Emitrip',4),('DR13','Elavil',2),('DR14','Deconil',11),('DR15','Amoxapine',9),('DR16','Nardil',16),('DR2','Tofranil',1),('DR3','Vivactil',10),('DR4','Pamelor',7),('DR5','Luvox CR',8),('DR6','Surmontil',15),('DR7','Imavate',3),('DR8','Anafranil',14),('DR9','Janimine',12);
/*!40000 ALTER TABLE `drug` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `log_visithistory`
--

DROP TABLE IF EXISTS `log_visithistory`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `log_visithistory` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `username` varchar(40) DEFAULT NULL,
  `visit_id` int(11) NOT NULL,
  `old_depression_level` varchar(6) NOT NULL,
  `new_depression_level` varchar(6) NOT NULL,
```

```
  `patient_id` int(11) NOT NULL,
  PRIMARY KEY (`id`)
) ENGINE=InnoDB AUTO_INCREMENT=13 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `log_visithistory`
--

LOCK TABLES `log_visithistory` WRITE;
/*!40000 ALTER TABLE `log_visithistory` DISABLE KEYS */;
INSERT INTO `log_visithistory` (`id`, `username`, `visit_id`, `old_depression_level`, `new_depression_level`, `patient_id`) VALUES (1,'Doctor1@localhost',31,'medium','medium',16),(2,'Doctor1@localhost',31,'medium','high',16),(11,'root@localhost',31,'high','high',16),(12,'root@localhost',31,'high','high',16);
/*!40000 ALTER TABLE `log_visithistory` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `medical_history`
--

DROP TABLE IF EXISTS `medical_history`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `medical_history` (
  `medical_history_id` char(4) NOT NULL,
  `patient_id` int(10) unsigned NOT NULL,
  PRIMARY KEY (`medical_history_id`,`patient_id`),
```

```
  KEY `has` (`patient_id`),
  CONSTRAINT `has` FOREIGN KEY (`patient_id`) REFERENCES `patient` (`patient_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `medical_history`
--

LOCK TABLES `medical_history` WRITE;
/*!40000 ALTER TABLE `medical_history` DISABLE KEYS */;
INSERT INTO `medical_history` (`medical_history_id`, `patient_id`) VALUES ('MH1',1),('MH2',2),('MH3',3),('MH4',4),('MH5',5),('MH6',6),('MH7',7),('MH8',8),('MH9',9),('MH10',10),('MH11',11),('MH12',12),('MH13',13),('MH14',14),('MH15',15),('MH16',16);
/*!40000 ALTER TABLE `medical_history` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `medication`
--

DROP TABLE IF EXISTS `medication`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `medication` (
  `medicine_id` char(4) NOT NULL,
  `medicine_name` varchar(45) NOT NULL,
  PRIMARY KEY (`medicine_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
```

```
/*!40101 SET character_set_client = @saved_cs_client */;


--
-- Dumping data for table `medication`
--


LOCK TABLES `medication` WRITE;
/*!40000 ALTER TABLE `medication` DISABLE KEYS */;
INSERT INTO `medication` (`medicine_id`, `medicine_name`) VALUES ('M1','Amlodipine'),('M2','Ibuprofen'),('M3','Lyrica'),('M4','Zoloft'),('M5','Codeine');
/*!40000 ALTER TABLE `medication` ENABLE KEYS */;
UNLOCK TABLES;


--
-- Table structure for table `patient`
--


DROP TABLE IF EXISTS `patient`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `patient` (
  `patient_id` int(10) unsigned NOT NULL AUTO_INCREMENT,
  `doctor_id` char(3) NOT NULL,
  `first_name` varchar(40) DEFAULT 'Unknown',
  `last_name` varchar(40) DEFAULT 'Unknown',
  `date_of_birth` date DEFAULT NULL,
  `street` varchar(100) DEFAULT NULL,
  `city` varchar(86) DEFAULT NULL,
  `state` varchar(86) DEFAULT NULL,
```

```
  `zip` char(5) DEFAULT NULL,
  `phone_number` char(10) DEFAULT NULL,
  `depression_id` char(4) NOT NULL,
  PRIMARY KEY (`patient_id`),
  KEY `patient_has_depression` (`depression_id`),
  KEY `attends` (`doctor_id`),
  CONSTRAINT `attends` FOREIGN KEY (`doctor_id`) REFERENCES `doctor` (`doctor_id`),
  CONSTRAINT `patient_has_depression` FOREIGN KEY (`depression_id`) REFERENCES `depression` (`depression_id`)
) ENGINE=InnoDB AUTO_INCREMENT=21 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;


--
-- Dumping data for table `patient`
--


LOCK TABLES `patient` WRITE;
/*!40000 ALTER TABLE `patient` DISABLE KEYS */;
INSERT INTO `patient` (`patient_id`, `doctor_id`, `first_name`, `last_name`, `date_of_birth`, `street`, `city`, `state`, `zip`, `phone_number`, `depression_id`) VALUES (1,'D4','Sally','Hansen','1978-09-08','Northampton
Street','Boston','MA','02118','8079908789','DEP5'),(2,'D3','Nick','Jonas','2000-07-28','Lenox
Street','Boston','MA','02113','9084532786','DEP8'),(3,'D5','Garry','Schwartz','1969-03-
14','Boylston Street','Boston','MA','02116','8561456782','DEP6'),(4,'D1','Emily','Geller','1970-12-
03','Westland
Avenue','Boston','MA','02119','7905673421','DEP5'),(5,'D3','Rachel','Greene','1975-05-
13','Trinity Lane','Cambridge','MA','02138','8065437860','DEP1'),(6,'D2','Phoebe','Buffay','1990-
02-16','Sidgwick
Avenue','Cambridge','MA','02897','9988023461','DEP7'),(7,'D5','Mark','Jenson','1967-08-
23','Abott Street','Worcester','MA','01602','8970675893','DEP4'),(8,'D1','Emily','Sinclair','1980-
02-17','Northampton
Street','Boston','MA','02115','8076784561','DEP2'),(9,'D4','Chandler','Bing','1987-11-08','Beacon
Street','Worcester','MA','01608','9859052315','DEP1'),(10,'D2','Monica','Geller','1981-01-
```

```
17','Brattle Street','Cambridge','MA','02138','8044967890','DEP6'),(11,'D5','Ben','Jones','1999-12-25','Bridge
Street','Cambridge','MA','01897','7657783523','DEP8'),(12,'D1','Karen','Thomas','1984-07-16','Abott
Street','Worcester','MA','01602','7965893420','DEP7'),(13,'D4','Robert','Thorndike','1967-08-15','Darling  Street','Boston','MA','01345','8976007956','DEP3'),(14,'D3','Carl','Lively','1989-06-26','Huntington  Avenue','Boston','MA','02115','9246678548','DEP4'),(15,'D2','Jon','Snow','1963-07-12','Cherokee
Street','Boston','MA','02762','8064539654','DEP2'),(16,'D1','Test','Patient','1990-08-07','Huntington Avenue','Boston','MA','02115','9988025419','DEP2');

/*!40000 ALTER TABLE `patient` ENABLE KEYS */;

UNLOCK TABLES;

/*!50003 SET @saved_cs_client      = @@character_set_client */ ;

/*!50003 SET @saved_cs_results     = @@character_set_results */ ;

/*!50003 SET @saved_col_connection = @@collation_connection */ ;

/*!50003 SET character_set_client  = utf8mb4 */ ;

/*!50003 SET character_set_results = utf8mb4 */ ;

/*!50003 SET collation_connection  = utf8mb4_0900_ai_ci */ ;

/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;

/*!50003 SET sql_mode              = 'STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION' */ ;

DELIMITER ;;

/*!50003 CREATE*/ /*!50017 DEFINER=`root`@`localhost`*/ /*!50003 TRIGGER `patient_capacity` BEFORE INSERT ON `patient` FOR EACH ROW BEGIN

  IF ((Select count(*) from patient) =20 )THEN

    DELETE FROM patient WHERE patient.patient_id>20;

  END if;

 END */;;

DELIMITER ;

/*!50003 SET sql_mode              = @saved_sql_mode */ ;

/*!50003 SET character_set_client  = @saved_cs_client */ ;

/*!50003 SET character_set_results = @saved_cs_results */ ;
```

```
/*!50003 SET collation_connection  = @saved_col_connection */ ;

/*!50003 SET @saved_cs_client      = @@character_set_client */ ;

/*!50003 SET @saved_cs_results     = @@character_set_results */ ;

/*!50003 SET @saved_col_connection = @@collation_connection */ ;

/*!50003 SET character_set_client  = utf8mb4 */ ;

/*!50003 SET character_set_results = utf8mb4 */ ;

/*!50003 SET collation_connection  = utf8mb4_0900_ai_ci */ ;

/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;

/*!50003 SET sql_mode              = 'STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION'
*/ ;

DELIMITER ;;

/*!50003 CREATE*/ /*!50017 DEFINER=`root`@`localhost`*/ /*!50003 TRIGGER
`new_patient` AFTER INSERT ON `patient` FOR EACH ROW BEGIN

SET @drug= ELT(FLOOR(RAND()*6)+1, 'Zoloft', 'Doxipine', 'Sarafem', 'Lexapro' ,
'Venlafaxine' , 'Parnate');



INSERT INTO drug(drug_id,drug_name,patient_id)

VALUES(CONCAT('DR',new.patient_id),@drug,new.patient_id);

END */;;

DELIMITER ;

/*!50003 SET sql_mode              = @saved_sql_mode */ ;

/*!50003 SET character_set_client  = @saved_cs_client */ ;

/*!50003 SET character_set_results = @saved_cs_results */ ;

/*!50003 SET collation_connection  = @saved_col_connection */ ;


--

-- Table structure for table `patient_allergy`

--
```

```
DROP TABLE IF EXISTS `patient_allergy`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `patient_allergy` (
  `allergy_id` char(4) NOT NULL,
  `medical_history_id` char(4) NOT NULL,
  `patient_id` int(10) unsigned NOT NULL,
  PRIMARY KEY (`allergy_id`,`medical_history_id`,`patient_id`),
  KEY `has_an` (`medical_history_id`,`patient_id`),
  CONSTRAINT `has_an` FOREIGN KEY (`medical_history_id`, `patient_id`) REFERENCES `medical_history` (`medical_history_id`, `patient_id`),
  CONSTRAINT `suffered_by` FOREIGN KEY (`allergy_id`) REFERENCES `allergy` (`allergy_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `patient_allergy`
--

LOCK TABLES `patient_allergy` WRITE;
/*!40000 ALTER TABLE `patient_allergy` DISABLE KEYS */;
INSERT INTO `patient_allergy` (`allergy_id`, `medical_history_id`, `patient_id`) VALUES ('AL1','MH1',1),('AL5','MH12',12),('AL3','MH14',14),('AL1','MH16',16),('AL3','MH4',4),('AL5','MH4',4),('AL4','MH5',5),('AL2','MH7',7),('AL1','MH9',9);
/*!40000 ALTER TABLE `patient_allergy` ENABLE KEYS */;
UNLOCK TABLES;

--
```

```
-- Temporary view structure for view `patient_allergy_information`
--

DROP TABLE IF EXISTS `patient_allergy_information`;
/*!50001 DROP VIEW IF EXISTS `patient_allergy_information`*/;
SET @saved_cs_client     = @@character_set_client;
SET character_set_client = utf8mb4;
/*!50001 CREATE VIEW `patient_allergy_information` AS SELECT
 1 AS `Patient Name`,
 1 AS `Medical History Id`,
 1 AS `Allergy Type`*/;
SET character_set_client = @saved_cs_client;

--
-- Temporary view structure for view `patient_details_researcher`
--

DROP TABLE IF EXISTS `patient_details_researcher`;
/*!50001 DROP VIEW IF EXISTS `patient_details_researcher`*/;
SET @saved_cs_client     = @@character_set_client;
SET character_set_client = utf8mb4;
/*!50001 CREATE VIEW `patient_details_researcher` AS SELECT
 1 AS `Patient Id`,
 1 AS `Patient Name`,
 1 AS `Drug`,
 1 AS `Depression Type`,
 1 AS `Doctor Id`,
 1 AS `Doctor Name`*/;
```

```
SET character_set_client = @saved_cs_client;


--
-- Table structure for table `patient_disease`
--

DROP TABLE IF EXISTS `patient_disease`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `patient_disease` (
  `disease_id` char(4) NOT NULL,
  `medical_history_id` char(4) NOT NULL,
  `patient_id` int(10) unsigned NOT NULL,
  PRIMARY KEY (`disease_id`,`medical_history_id`,`patient_id`),
  KEY `had` (`medical_history_id`,`patient_id`),
  CONSTRAINT `had` FOREIGN KEY (`medical_history_id`, `patient_id`) REFERENCES `medical_history` (`medical_history_id`, `patient_id`),
  CONSTRAINT `suffered` FOREIGN KEY (`disease_id`) REFERENCES `disease` (`disease_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;


--
-- Dumping data for table `patient_disease`
--

LOCK TABLES `patient_disease` WRITE;
/*!40000 ALTER TABLE `patient_disease` DISABLE KEYS */;
```

```
INSERT INTO `patient_disease` (`disease_id`, `medical_history_id`, `patient_id`) VALUES ('DI1','MH11',11),('DI5','MH11',11),('DI2','MH15',15),('DI1','MH16',16),('DI3','MH2',2),('DI4','MH2',2),('DI5','MH3',3),('DI3','MH6',6),('DI2','MH8',8),('DI4','MH8',8);

/*!40000 ALTER TABLE `patient_disease` ENABLE KEYS */;

UNLOCK TABLES;


--

-- Temporary view structure for view `patient_disease_information`

--


DROP TABLE IF EXISTS `patient_disease_information`;

/*!50001 DROP VIEW IF EXISTS `patient_disease_information`*/;

SET @saved_cs_client     = @@character_set_client;

SET character_set_client = utf8mb4;

/*!50001 CREATE VIEW `patient_disease_information` AS SELECT

 1 AS `Patient Name`,

 1 AS `Medical History Id`,

 1 AS `Disease`*/;

SET character_set_client = @saved_cs_client;


--

-- Table structure for table `patient_medication`

--


DROP TABLE IF EXISTS `patient_medication`;

/*!40101 SET @saved_cs_client     = @@character_set_client */;

 SET character_set_client = utf8mb4 ;

CREATE TABLE `patient_medication` (

  `medicine_id` char(4) NOT NULL,
```

```
  `medical_history_id` char(4) NOT NULL,
  `patient_id` int(10) unsigned NOT NULL,
  PRIMARY KEY (`medicine_id`,`medical_history_id`,`patient_id`),
  KEY `takes` (`medical_history_id`,`patient_id`),
  CONSTRAINT `prescribed_to` FOREIGN KEY (`medicine_id`) REFERENCES `medication` (`medicine_id`),
  CONSTRAINT `takes` FOREIGN KEY (`medical_history_id`, `patient_id`) REFERENCES `medical_history` (`medical_history_id`, `patient_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `patient_medication`
--

LOCK TABLES `patient_medication` WRITE;
/*!40000 ALTER TABLE `patient_medication` DISABLE KEYS */;
INSERT INTO `patient_medication` (`medicine_id`, `medical_history_id`, `patient_id`) VALUES
('M3','MH1',1),('M1','MH10',10),('M2','MH10',10),('M3','MH10',10),('M4','MH13',13),('M1','MH15',15),('M3','MH16',16),('M1','MH4',4),('M5','MH4',4),('M3','MH7',7),('M4','MH7',7);
/*!40000 ALTER TABLE `patient_medication` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Temporary view structure for view `patient_medication_information`
--

DROP TABLE IF EXISTS `patient_medication_information`;
/*!50001 DROP VIEW IF EXISTS `patient_medication_information`*/;
```

```
SET @saved_cs_client     = @@character_set_client;
SET character_set_client = utf8mb4;
/*!50001 CREATE VIEW `patient_medication_information` AS SELECT
 1 AS `Patient Name`,
 1 AS `Medical History Id`,
 1 AS `Disease`*/;
SET character_set_client = @saved_cs_client;

--
-- Table structure for table `visit`
--

DROP TABLE IF EXISTS `visit`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `visit` (
  `visit_id` int(11) NOT NULL AUTO_INCREMENT,
  `doctor_id` char(3) NOT NULL,
  `visit_date` date NOT NULL,
  `visit_time` time NOT NULL,
  `patient_id` int(10) unsigned NOT NULL,
  PRIMARY KEY (`visit_id`,`patient_id`),
  KEY `is_paid` (`patient_id`),
  KEY `performs` (`doctor_id`),
  CONSTRAINT `is_paid` FOREIGN KEY (`patient_id`) REFERENCES `patient` (`patient_id`),
  CONSTRAINT `performs` FOREIGN KEY (`doctor_id`) REFERENCES `doctor` (`doctor_id`)
) ENGINE=InnoDB AUTO_INCREMENT=32 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;
```

```
--

-- Dumping data for table `visit`

--


LOCK TABLES `visit` WRITE;

/*!40000 ALTER TABLE `visit` DISABLE KEYS */;

INSERT INTO `visit` (`visit_id`, `doctor_id`, `visit_date`, `visit_time`, `patient_id`) VALUES (1,'D4','2018-11-25','10:00:00',1),(2,'D4','2018-11-25','14:30:00',9),(3,'D2','2018-11-26','09:00:00',10),(4,'D2','2018-11-26','15:00:00',15),(5,'D5','2018-11-27','12:30:00',7),(6,'D5','2018-11-27','16:50:00',11),(7,'D1','2018-11-28','11:50:00',4),(8,'D1','2018-11-28','17:05:00',12),(9,'D4','2018-11-29','18:00:00',1),(10,'D4','2018-11-29','22:50:00',9),(11,'D3','2018-11-30','12:08:00',14),(12,'D3','2018-11-30','14:00:00',2),(13,'D2','2018-12-01','12:50:00',6),(14,'D1','2018-12-01','17:45:00',8),(15,'D1','2018-12-02','11:55:00',12),(16,'D3','2018-12-02','14:00:00',5),(17,'D5','2018-12-03','14:00:00',3),(18,'D5','2018-12-03','17:50:00',7),(19,'D2','2018-12-04','12:40:00',10),(20,'D1','2018-12-04','18:50:00',4),(21,'D4','2018-12-05','09:00:00',13),(22,'D3','2018-12-05','15:30:00',2),(23,'D5','2018-12-06','12:45:00',11),(24,'D2','2018-12-06','14:50:00',15),(25,'D2','2018-12-07','09:00:00',6),(26,'D3','2018-12-07','15:45:00',5),(27,'D3','2018-12-08','12:30:00',14),(28,'D1','2018-12-08','16:45:00',8),(29,'D5','2018-12-09','14:00:00',3),(30,'D4','2018-12-09','17:08:00',13),(31,'D1','2018-12-10','08:50:00',16);

/*!40000 ALTER TABLE `visit` ENABLE KEYS */;

UNLOCK TABLES;


--

-- Table structure for table `visit_history`

--


DROP TABLE IF EXISTS `visit_history`;

/*!40101 SET @saved_cs_client     = @@character_set_client */;

 SET character_set_client = utf8mb4 ;
```

```
CREATE TABLE `visit_history` (
  `patient_visit_id` int(11) NOT NULL AUTO_INCREMENT,
  `visit_id` int(11) NOT NULL,
  `blood_pressure` double DEFAULT NULL,
  `heart_rate` double DEFAULT NULL,
  `weight` double DEFAULT NULL,
  `depression_level` varchar(6) DEFAULT NULL,
  `doctor_notes` varchar(200) DEFAULT NULL,
  `drop_status` char(1) NOT NULL DEFAULT 'N',
  `patient_id` int(10) unsigned NOT NULL,
  PRIMARY KEY (`patient_visit_id`,`visit_id`,`patient_id`),
  KEY `has_a` (`visit_id`,`patient_id`),
  CONSTRAINT `has_a` FOREIGN KEY (`visit_id`, `patient_id`) REFERENCES `visit` (`visit_id`, `patient_id`)
) ENGINE=InnoDB AUTO_INCREMENT=32 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;


--
-- Dumping data for table `visit_history`
--


LOCK TABLES `visit_history` WRITE;
/*!40000 ALTER TABLE `visit_history` DISABLE KEYS */;
INSERT INTO `visit_history` (`patient_visit_id`, `visit_id`, `blood_pressure`, `heart_rate`, `weight`, `depression_level`, `doctor_notes`, `drop_status`, `patient_id`) VALUES (1,1,90,60,124,'low','Getting good results,reduced depression','N',1),(2,2,106,74,140,'medium','Getting results,depression level seems to be decreasing','N',9),(3,3,80.2,78,117.45,'high','Drug not effective','N',10),(4,4,120.89,80,130,'low','Getting good results,reduced depression','N',15),(5,5,105.7,89,127.78,'medium','Getting results,depression level seems to be
```

decreasing','N',7),(6,6,89.8,75,124.43,'high','Drug not effective','N',11),(7,7,109.7,78,140.43,'low','Good results, prescribing nutrients for better health','N',4),(8,8,108.56,63,132.43,'medium','Drugs seems to be working,prescribing vitamin D tablets','N',12),(9,9,189.8,90,124.43,'low','patient is stable, getting good results from the drug','N',1),(10,10,110.89,79,142.89,'low','Drug giving positive results, patient health improving','N',9),(11,11,130.89,80,130.78,'high','Drug not effective,prescribing medication for better sleep','N',14),(12,12,189.8,76,140.9,'high','Drug not effective','N',2),(13,13,178.8,79,132.43,'low','Drug giving positive results','N',6),(14,14,109.9,70,128.43,'medium','Drug seems to be working,prescribing nutrients','N',8),(15,15,129.9,68,130.43,'low','Patient is stable, great results','N',12),(16,16,124.31,73,140.65,'high','Drug not suitable for patient, prescribing medication for bodyaches','N',5),(17,17,118.71,90,150.87,'medium','Drug seems to be working','N',3),(18,18,107.53,78,130.89,'low','Patient health is stable, drug working well','N',7),(19,19,89.2,76,118.45,'high','Drug not effective','N',10),(20,20,110.5,75,140.31,'low','Good results, patient is stable','N',4),(21,21,118.32,75,150.31,'medium','Drug seems to be working,prescribing vitamins','N',13),(22,22,118.8,60,140.3,'high','Drug not effective','N',2),(23,23,99.8,79,127.43,'high','Drug not effective','N',11),(24,24,122.89,81,128,'low','Patient is stable,drug works well','N',15),(25,25,150.4,72,130.69,'low','Patient is stable,drug giving positive results','N',6),(26,26,120.31,65,138.65,'medium','Drug seems to be working','N',5),(27,27,128.89,75,132.78,'medium','Drug seems to be working','N',14),(28,28,110.89,77,126.58,'medium','Drug seems to be working,prescribing nutrients','N',8),(29,29,108.71,85,151.87,'medium','Drug seems to be working','N',3),(30,30,118.33,78,148.7,'low','Patient is stable','N',13),(31,31,109,89,140.78,'high','Drug is not giving positive results','Y',16);

/*!40000 ALTER TABLE `visit_history` ENABLE KEYS */;

UNLOCK TABLES;

/*!50003 SET @saved_cs_client = @@character_set_client */ ;

/*!50003 SET @saved_cs_results = @@character_set_results */ ;

/*!50003 SET @saved_col_connection = @@collation_connection */ ;

/*!50003 SET character_set_client = utf8mb4 */ ;

/*!50003 SET character_set_results = utf8mb4 */ ;

/*!50003 SET collation_connection = utf8mb4_0900_ai_ci */ ;

/*!50003 SET @saved_sql_mode = @@sql_mode */ ;

/*!50003 SET sql_mode = 'STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION' */ ;

```
DELIMITER ;;
/*!50003 CREATE*/ /*!50017 DEFINER=`root`@`localhost`*/ /*!50003 TRIGGER `patient_depression` BEFORE UPDATE ON `visit_history` FOR EACH ROW BEGIN

INSERT INTO log_visithistory(visit_id,username,old_depression_level,new_depression_level,patient_id)
VALUES(new.visit_id,user(), OLD.depression_level, NEW.depression_level,new.patient_id);

END */;;
DELIMITER ;
/*!50003 SET sql_mode              = @saved_sql_mode */ ;
/*!50003 SET character_set_client  = @saved_cs_client */ ;
/*!50003 SET character_set_results = @saved_cs_results */ ;
/*!50003 SET collation_connection  = @saved_col_connection */ ;

--
-- Dumping events for database 'clinical_research'
--

--
-- Dumping routines for database 'clinical_research'
--
/*!50003 DROP PROCEDURE IF EXISTS `create_doctor` */;
/*!50003 SET @saved_cs_client      = @@character_set_client */ ;
/*!50003 SET @saved_cs_results     = @@character_set_results */ ;
/*!50003 SET @saved_col_connection = @@collation_connection */ ;
/*!50003 SET character_set_client  = utf8mb4 */ ;
/*!50003 SET character_set_results = utf8mb4 */ ;
/*!50003 SET collation_connection  = utf8mb4_0900_ai_ci */ ;
```

```
/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;

/*!50003 SET sql_mode              = 'STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION'
*/ ;

DELIMITER ;;

CREATE DEFINER=`root`@`localhost` PROCEDURE `create_doctor`(IN doctor_nm
CHAR(20), IN doctor_pwd CHAR(20))

BEGIN


SET @host_name = 'localhost';

SET @doc_nm := doctor_nm ;

SET @doc_pwd := doctor_pwd;

SET @db_name :='clinical_research';

SET @allergy_table:='allergy';

SET @dep_table := 'depression';

SET @disease := 'disease';

SET @doctor := 'doctor';

SET @medical_history ='medical_history';

SET @medication := 'medication';

SET @patient := 'patient';

SET @patient_allergy := 'patient_allergy';

SET @patient_disease := 'patient_disease';

SET @patient_medication := 'patient_medication';

SET @visit := 'visit';

SET @visit_history :='visit_history';


SET @creation := CONCAT("CREATE USER
",QUOTE(@doc_nm),"@",QUOTE(@host_name)," IDENTIFIED BY ", QUOTE(@doc_pwd));

PREPARE statement FROM @creation;

EXECUTE statement;
```

```
SET @granting := CONCAT("GRANT ALL ON ",@db_name,".",@allergy_table," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement1 FROM @granting;

EXECUTE statement1;


SET @granting1 := CONCAT("GRANT ALL ON ",@db_name,".",@dep_table," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement2 FROM @granting1;

EXECUTE statement2;


SET @granting2 := CONCAT("GRANT ALL ON ",@db_name,".",@disease," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement3 FROM @granting2;

EXECUTE statement3;


SET @granting3 := CONCAT("GRANT ALL ON ",@db_name,".",@doctor," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement4 FROM @granting3;

EXECUTE statement4;


SET @granting4 := CONCAT("GRANT ALL ON ",@db_name,".",@medical_history," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement5 FROM @granting4;

EXECUTE statement5;


SET @granting5 := CONCAT("GRANT ALL ON ",@db_name,".",@medication," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement6 FROM @granting5;

EXECUTE statement6;
```

```
SET @granting6 := CONCAT("GRANT ALL ON ",@db_name,".",@patient," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement7 FROM @granting6;

EXECUTE statement7;


SET @granting7 := CONCAT("GRANT ALL ON ",@db_name,".",@patient_allergy," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement8 FROM @granting7;

EXECUTE statement8;



SET @granting8 := CONCAT("GRANT ALL ON ",@db_name,".",@patient_disease," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement9 FROM @granting8;

EXECUTE statement9;


SET @granting9 := CONCAT("GRANT ALL ON ",@db_name,".",@patient_medication," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement10 FROM @granting9;

EXECUTE statement10;


SET @granting10 := CONCAT("GRANT ALL ON ",@db_name,".",@visit," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement11 FROM @granting10;

EXECUTE statement11;


SET @granting11 := CONCAT("GRANT ALL ON ",@db_name,".",@visit_history," TO ",QUOTE(@doc_nm),"@",QUOTE(@host_name));

PREPARE statement12 FROM @granting11;
```

```
EXECUTE statement12;



END ;;
DELIMITER ;
/*!50003 SET sql_mode              = @saved_sql_mode */ ;
/*!50003 SET character_set_client  = @saved_cs_client */ ;
/*!50003 SET character_set_results = @saved_cs_results */ ;
/*!50003 SET collation_connection  = @saved_col_connection */ ;
/*!50003 DROP PROCEDURE IF EXISTS `patient_details` */;
/*!50003 SET @saved_cs_client      = @@character_set_client */ ;
/*!50003 SET @saved_cs_results     = @@character_set_results */ ;
/*!50003 SET @saved_col_connection = @@collation_connection */ ;
/*!50003 SET character_set_client  = utf8mb4 */ ;
/*!50003 SET character_set_results = utf8mb4 */ ;
/*!50003 SET collation_connection  = utf8mb4_0900_ai_ci */ ;
/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;
/*!50003 SET sql_mode              = 'STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION'
*/ ;
DELIMITER ;;
CREATE DEFINER=`root`@`localhost` PROCEDURE `patient_details`(IN patient_id int)
BEGIN
SET @patient:= patient_id;


SELECT CONCAT(patient.first_name," ",patient.last_name) AS 'Name',
patient.date_of_birth AS 'Date of
Birth',CONCAT_WS(",",patient.street,patient.city,patient.state,patient.zip) AS Address,
patient.phone_number AS 'Phone Number', depression.depression_type AS 'Depression Type',
```

```
CONCAT_WS(" ",doctor.first_name,doctor.last_name) AS 'Doctor Name',visit.visit_date AS 'Visit Date',visit_history.doctor_notes AS 'Doctor Notes'

FROM patient

JOIN depression

ON patient.depression_id = depression.depression_id

JOIN doctor

ON patient.doctor_id = doctor.doctor_id

JOIN visit

ON patient.patient_id = visit.patient_id

JOIN visit_history

ON visit.visit_id = visit_history.visit_id

WHERE patient.patient_id = @patient;


END ;;

DELIMITER ;

/*!50003 SET sql_mode              = @saved_sql_mode */ ;

/*!50003 SET character_set_client  = @saved_cs_client */ ;

/*!50003 SET character_set_results = @saved_cs_results */ ;

/*!50003 SET collation_connection  = @saved_col_connection */ ;

/*!50003 DROP PROCEDURE IF EXISTS `patient_information` */;

/*!50003 SET @saved_cs_client      = @@character_set_client */ ;

/*!50003 SET @saved_cs_results     = @@character_set_results */ ;

/*!50003 SET @saved_col_connection = @@collation_connection */ ;

/*!50003 SET character_set_client  = utf8mb4 */ ;

/*!50003 SET character_set_results = utf8mb4 */ ;

/*!50003 SET collation_connection  = utf8mb4_0900_ai_ci */ ;

/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;

/*!50003 SET sql_mode              = 'STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION'
*/ ;
```

```
DELIMITER ;;

CREATE DEFINER=`root`@`localhost` PROCEDURE `patient_information`(IN doctor_id char(3))

BEGIN

SET @doc_id:= doctor_id;


SELECT
patient.patient_id,patient.first_name,patient.last_name,patient.date_of_birth,patient.phone_number,depression.depression_type

FROM patient

JOIN depression

ON patient.depression_id = depression.depression_id

WHERE patient.doctor_id = @doc_id;


END ;;

DELIMITER ;

/*!50003 SET sql_mode              = @saved_sql_mode */ ;

/*!50003 SET character_set_client  = @saved_cs_client */ ;

/*!50003 SET character_set_results = @saved_cs_results */ ;

/*!50003 SET collation_connection  = @saved_col_connection */ ;


--

-- Final view structure for view `patient_allergy_information`

--


/*!50001 DROP VIEW IF EXISTS `patient_allergy_information`*/;

/*!50001 SET @saved_cs_client          = @@character_set_client */;

/*!50001 SET @saved_cs_results         = @@character_set_results */;

/*!50001 SET @saved_col_connection     = @@collation_connection */;
```

```
/*!50001 SET character_set_client      = utf8mb4 */;

/*!50001 SET character_set_results     = utf8mb4 */;

/*!50001 SET collation_connection      = utf8mb4_0900_ai_ci */;

/*!50001 CREATE ALGORITHM=UNDEFINED */

/*!50013 DEFINER=`root`@`localhost` SQL SECURITY DEFINER */

/*!50001 VIEW `patient_allergy_information` AS select concat(`patient`.`first_name`,' ',`patient`.`last_name`) AS `Patient Name`,`medical_history`.`medical_history_id` AS `Medical History Id`,`allergy`.`allergy_type` AS `Allergy Type` from (((`medical_history` join `patient` on((`patient`.`patient_id` = `medical_history`.`patient_id`))) join `patient_allergy` on((`medical_history`.`medical_history_id` = `patient_allergy`.`medical_history_id`))) join `allergy` on((`patient_allergy`.`allergy_id` = `allergy`.`allergy_id`))) */;

/*!50001 SET character_set_client      = @saved_cs_client */;

/*!50001 SET character_set_results     = @saved_cs_results */;

/*!50001 SET collation_connection      = @saved_col_connection */;


--

-- Final view structure for view `patient_details_researcher`

--


/*!50001 DROP VIEW IF EXISTS `patient_details_researcher`*/;

/*!50001 SET @saved_cs_client          = @@character_set_client */;

/*!50001 SET @saved_cs_results         = @@character_set_results */;

/*!50001 SET @saved_col_connection     = @@collation_connection */;

/*!50001 SET character_set_client      = utf8mb4 */;

/*!50001 SET character_set_results     = utf8mb4 */;

/*!50001 SET collation_connection      = utf8mb4_0900_ai_ci */;

/*!50001 CREATE ALGORITHM=UNDEFINED */

/*!50013 DEFINER=`root`@`localhost` SQL SECURITY DEFINER */

/*!50001 VIEW `patient_details_researcher` AS select `patient`.`patient_id` AS `Patient Id`,concat(`patient`.`first_name`,' ',`patient`.`last_name`) AS `Patient Name`,`drug`.`drug_name` AS `Drug`,`depression`.`depression_type` AS `Depression Type`,`doctor`.`doctor_id` AS `Doctor
```

```
Id`,concat(`doctor`.`first_name`,' ',`doctor`.`last_name`) AS `Doctor Name` from (((`drug` join `patient` on((`drug`.`patient_id` = `patient`.`patient_id`))) join `depression` on((`patient`.`depression_id` = `depression`.`depression_id`))) join `doctor` on((`patient`.`doctor_id` = `doctor`.`doctor_id`))) order by `patient`.`patient_id` */;

/*!50001 SET character_set_client      = @saved_cs_client */;

/*!50001 SET character_set_results     = @saved_cs_results */;

/*!50001 SET collation_connection      = @saved_col_connection */;


--

-- Final view structure for view `patient_disease_information`

--


/*!50001 DROP VIEW IF EXISTS `patient_disease_information`*/;

/*!50001 SET @saved_cs_client          = @@character_set_client */;

/*!50001 SET @saved_cs_results         = @@character_set_results */;

/*!50001 SET @saved_col_connection     = @@collation_connection */;

/*!50001 SET character_set_client      = utf8mb4 */;

/*!50001 SET character_set_results     = utf8mb4 */;

/*!50001 SET collation_connection      = utf8mb4_0900_ai_ci */;

/*!50001 CREATE ALGORITHM=UNDEFINED */

/*!50013 DEFINER=`root`@`localhost` SQL SECURITY DEFINER */

/*!50001 VIEW `patient_disease_information` AS select concat(`patient`.`first_name`,' ',`patient`.`last_name`) AS `Patient Name`,`medical_history`.`medical_history_id` AS `Medical History Id`,`disease`.`disease_name` AS `Disease` from (((`medical_history` join `patient` on((`patient`.`patient_id` = `medical_history`.`patient_id`))) join `patient_disease` on((`medical_history`.`medical_history_id` = `patient_disease`.`medical_history_id`))) join `disease` on((`patient_disease`.`disease_id` = `disease`.`disease_id`))) */;

/*!50001 SET character_set_client      = @saved_cs_client */;

/*!50001 SET character_set_results     = @saved_cs_results */;

/*!50001 SET collation_connection      = @saved_col_connection */;
```

```
--
-- Final view structure for view `patient_medication_information`
--

/*!50001 DROP VIEW IF EXISTS `patient_medication_information`*/;
/*!50001 SET @saved_cs_client          = @@character_set_client */;
/*!50001 SET @saved_cs_results         = @@character_set_results */;
/*!50001 SET @saved_col_connection     = @@collation_connection */;
/*!50001 SET character_set_client      = utf8mb4 */;
/*!50001 SET character_set_results     = utf8mb4 */;
/*!50001 SET collation_connection      = utf8mb4_0900_ai_ci */;
/*!50001 CREATE ALGORITHM=UNDEFINED */
/*!50013 DEFINER=`root`@`localhost` SQL SECURITY DEFINER */
/*!50001 VIEW `patient_medication_information` AS select concat(`patient`.`first_name`,' ',`patient`.`last_name`) AS `Patient Name`,`medical_history`.`medical_history_id` AS `Medical History Id`,`medication`.`medicine_name` AS `Disease` from (((`medical_history` join `patient` on((`patient`.`patient_id` = `medical_history`.`patient_id`))) join `patient_medication` on((`medical_history`.`medical_history_id` = `patient_medication`.`medical_history_id`))) join `medication` on((`patient_medication`.`medicine_id` = `medication`.`medicine_id`))) */;
/*!50001 SET character_set_client      = @saved_cs_client */;
/*!50001 SET character_set_results     = @saved_cs_results */;
/*!50001 SET collation_connection      = @saved_col_connection */;
/*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;

/*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
/*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
/*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

```
/*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;


-- Dump completed on 2018-12-13 10:46:27
```