DATABASE MANAGEMENT SYSTEM
PROJECT J COMPONENT
HEALTHMAX HOSPITAL
DATABASE MANGAMENT SYSTEM
SLOT- L33+34

REVIEW-1

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Introduction-

Our DBMS project is based upon the management system for the database of hospitals, named as “Healthmax”. The hospital has various information about patients, doctors, bills ,pharmacy, medicines, hospital itself, nurses,departments and the Head of departments. This database has every necessary details that are required for the hospital to work fluently and without any problems.

All the information about the every patient is stored in this database. Doctors that are working in the hospital have their information stored in this database.

DATA REQUIREMENTS-

ENTITY TYPES-

1) HOSPITAL - The hospital has its attributes as Hospital_id (PK) which is unique to one hospital and can not be null, the Hospital_name which stores the particular name of the hospital it also can not be null. The address is also an attribute which has address value in it, also a not null field. Hospital_phone stores the contact field of the hospital.

2) Patient- Every patient in the hospital is given a unique patient_id (PK), Patients name is stored as p_name and it can not null. Date of birth stored as p_dob is not null.Contact information like address and phone no. of the patient is also stored and both fields are a not null fields. Gender of the patient is mandatory is not null. Blood group of the patient is also recorded. Appointment_date is also recorded as well as Appointment. Reason store the problem the patient is having.

3) Doctor- Doctors working in the hospital have their unique id as doctor_id (PK). Name of the doctor is mandatory and not null. Department in which he/she works and is not null field.Phone number is stored in the database too.

4) Department- Each department has a unique id that is dep_id (PK) and is not null. Dep_name stores the name of the department. Location stores the location of the department. Contact stores the department's contact number.

5) HOD- The Head of the Department is a senior doctor that heads the various departments and supervises the doctors present in the hospital. The hod_id is(PK) is used for the unique identification. Name is stored in the name attribute. Department stores the name of the department he/she is the head of .Mobile number store the contact info.

6) Medicine- Medicine has a regulatory number,reg_no (PK) which is unique and not null. Medicine_name stores the name of the medicine a not null attribute, Cost stores the cost of the medicine and is not null. Brand stores the company name is also a not null field

7) Bill- The bill the hospital generates has various attributes. The Bill_no (PK) is a unique id for the bill and is not null. Patient information is also linked and patient_id is used as foreign key in bill table.Total_amount to paid by the patient and the paid_amount by the patient both are stored. Due_amount is obtained by the total and paid amount,Due_date which is the last date to pay the amount in full is also provided. Payment date and time is also stored and are not null.

8) Pharmacy- The pharmacy has attributes like License number (PK) which is unique to the pharmacy and is not null. Name stores the name of the Pharmacy. Contact number is also stored as an attribute

9) Nurses- They are provide with a unique id nurse_id (PK) which is unique to them and is not null. Name stores the name of the nurse which is also not null. Shift timing is stored for each of the nurse working in hospital. Mobile stores the contact information about the nurse and is not null. Address is also stored as an attribute of the nurse information.

Relationship types

1.) Doctor work in a Hospital (1:N)
A Doctor can work only in one hospital at a time and a hospital can have many doctors. It is not always that doctor works in a hospital but the hospital have at least one doctor.

2.) Patient visit Hospital (M:N)

A patient is free to visit as many hospitals He/she wants and one hospital can have many visiting patient.

3.) Doctor checks a patient (1:N)

Here the relation type is (1:N) because a doctor may give treatment to many patient but a patient have only one doctor at a time.

4.) Nurses assist Doctors (M:N)

This relationship is many to many as nurses can assist many doctors and doctors have may nurses that assist them with treatment of patient.

5.) Nurses take care patients (M:N)

The nurses can take of many patients and a patient can have many nurses giving him medicines and etc. So the relationship is many to many

6.) Patient takes Medicine (M:N)

This relation is (M:N) type because any patient take medicine from many medicine shop.

7.) Hospital generates a Bill (1:M)

Hospital can generate many number of bill as required but a particular bill can be generated by one hospital only.

8.) Patient pays the bill (1:1)

It clear that patient will pays on bill and a particular bill belongs to only one patient.

9.) Pharmacy sells medicine (M:N)

Pharmacy can sell many medicines and similarly a medicine can be sold in various pharmacies

10.) HOD Heads the Department (1:1)

Each and every department of the hospital has a HOD and it only one person so similarly a HOD can head only one department.

Functional Requirements-

Patients:

When the patient visits the hospital if he/she is new patient get herself registered by the hospital is. The hospital generates a unique id for him and her . Patients can book appointment with the doctors that are available in the hospital.They can view their test results and details of the doctor that is treating them. They can see what medicines are prescribed to them and what other medical assists they are required. They can see the amount that the hospital is charging on them for the test and medicine.

Doctors:

Doctors can login with their unique id and should be able to see his her appointments. They should be able to get the problems that the patients are having and the. Doctors should be able to see the lab reports of the patients they are treating at that moment and can give remarks on them. Doctors should be able to get information about the helping team i.e. the nurses and that are appointed to him/her during the treatment of the patient .

Nurses:

Nurses should be able to login with their unique id that is provided by the hospital to them. They should be able to see to which doctor they are appointed to and what patients they have to oversee. They should be able see the patients details and the medication that has been given to them. The instruction such as dosage of the medicine as prescribed by the doctor to a patient should be known to them.

1) Removal of old Data:

- The patient's data should be deleted after 5 years of his/her discharge from the hospital.

- Delete the Doctors information from the Hospital Database when he/she leaves the hospital.

- If all the due amount is paid in full the Bill details should be deleted after the patients discharge.

- If some medicine stops selling then the information about the medicine should be deleted from medicine table.

1) MODIFICATION OF DATA:

- When a new patient visits the hospital then the hospital should enter the various details about the patient to its database.

- If a patient has paid some amount then the due amount in the Bill table should be changed.

- Change the details such as brand, price of the medicine if a newer and better medicine is available for the same treatment.

- The blood group of people can be a null field so the details about the Blood Group of the patient can be updated.

- If the patients is not paying the amount in full by the due_date, then late charges are added to the to the amount of the patient's bill.

- The new doctors that joins the hospital,the data about them should be stored.

2)Retrieval of data:

- Find the names and details of the doctors that are present in the hospital

- Find the Patients information which have Reason as CORONA to visit the hospital

- Find the doctor that works in a particular Hospital

- Retrieve the appointment date for a particular patient that has visited the hospital

- Find the details about the Hospital such as Address and Contact information about that hospital

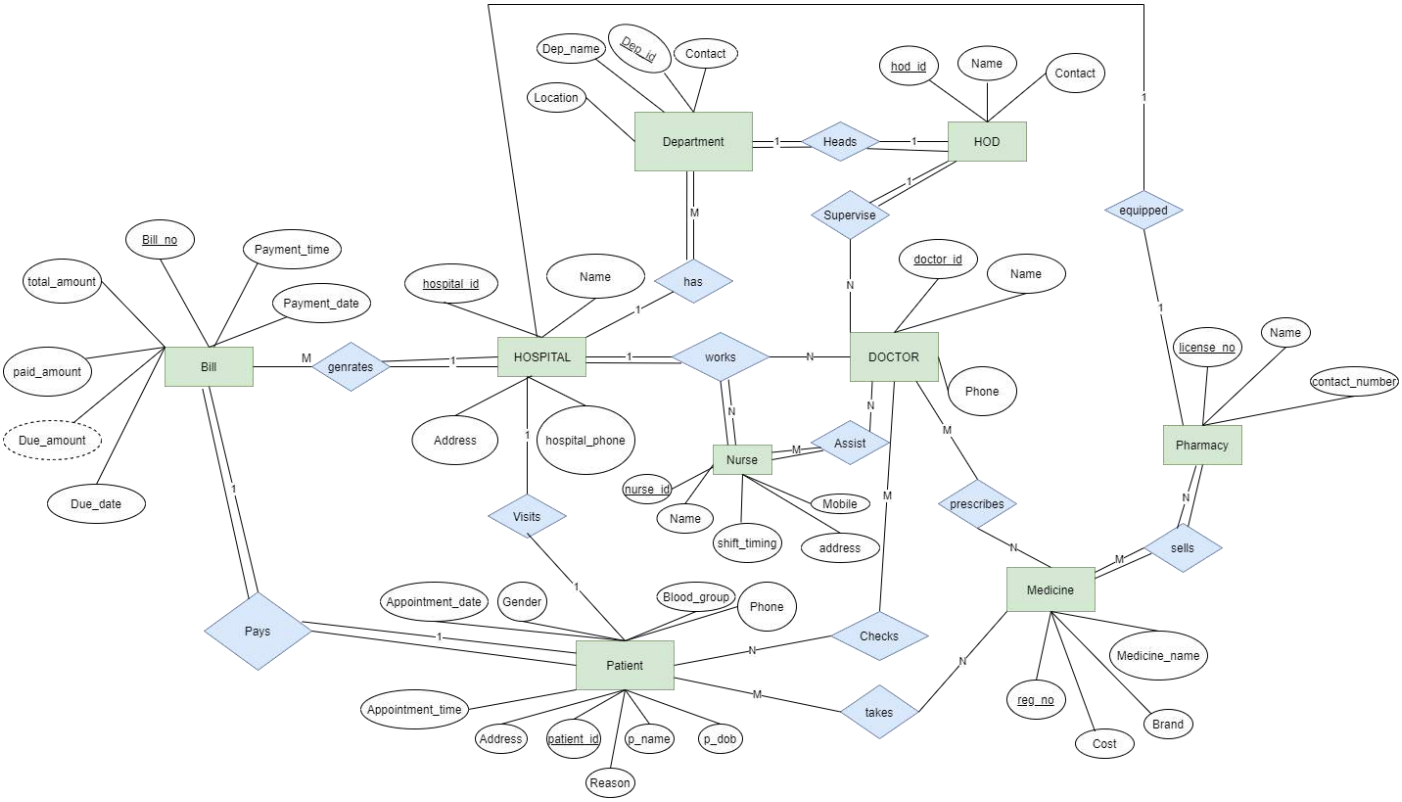
- Find the amount that has to be payed by the patient before he/she is discharged from the hospital.

- Find the Patients and the information about them that have past the due date to pay the final amount.

- Find the patient who had a particular test done in the hospital.

- Get the Information about a particular medicine that is sold in the pharmacy.

ER Diagram:



Note:- Please zoom in to the picture to see the primary keys that are mentioned in the ER diagram.

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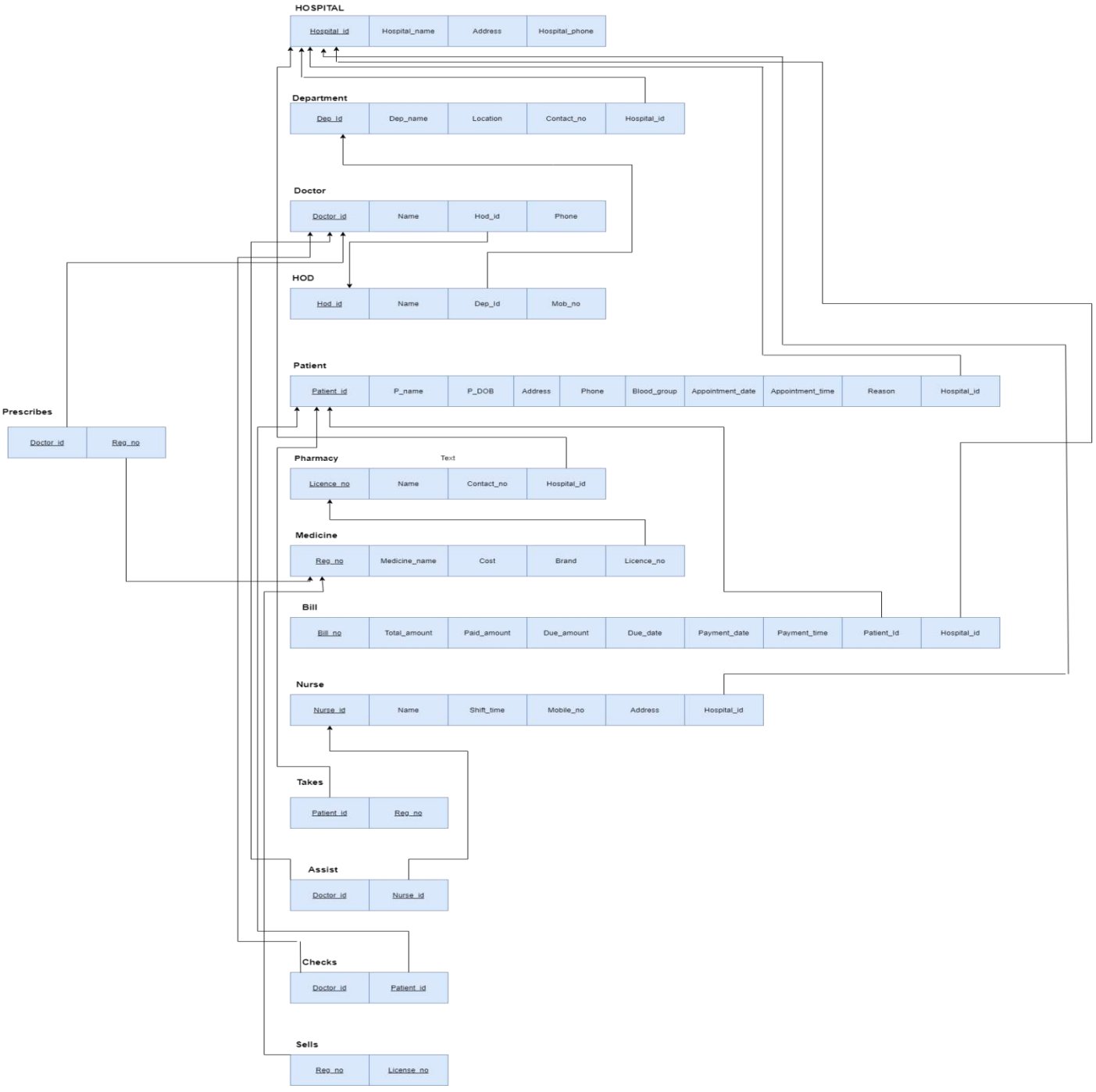
REVIEW-2

Relationship Schema-



Implementation of Schema as tables in Mysql

1)Hospital:-

create table hospital (hospital_id varchar(20) constraint h_id primary key not null, hospital_name varchar(20) not null, address varchar(50) not null, hospital_phone varchar(15));

```
SQL> create table hospital (hospital_id varchar(20) constraint h_id primary key not null,
  2  hospital_name varchar(20) not null,
  3  address varchar(50) not null,
  4  hospital_phone varchar(15));

Table created.

SQL> commit;

Commit complete.

SQL> desc hospital
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 HOSPITAL_ID                               NOT NULL VARCHAR2(20)
 HOSPITAL_NAME                             NOT NULL VARCHAR2(20)
 ADDRESS                                   NOT NULL VARCHAR2(50)
 HOSPITAL_PHONE                                     VARCHAR2(15)
```

```
SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='HOSPITAL';

CONSTRAINT_NAME                C
------------------------------ -
SYS_C007041                    C
SYS_C007042                    C
SYS_C007043                    C
H_ID                           P
```

Insertion-

```
SQL> insert into hospital values(&hospital_id,
  2  &hospital_name,
  3  &address,
  4  &hospital_phone);
Enter value for hospital_id: 'ap01_lko'
old   1: insert into hospital values(&hospital_id,
new   1: insert into hospital values('ap01_lko',
Enter value for hospital_name: 'apollo'
old   2: &hospital_name,
new   2: 'apollo',
Enter value for address: 'powerhouse,ashiyana,lucknow'
old   3: &address,
new   3: 'powerhouse,ashiyana,lucknow',
Enter value for hospital_phone: '0535-2940152'
old   4: &hospital_phone)
new   4: '0535-2940152')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into hospital values(&hospital_id,
  2  &hospital_name,
  3  &address,
  4  &hospital_phone);
Enter value for hospital_id: 'md02_lko'
old   1: insert into hospital values(&hospital_id,
new   1: insert into hospital values('md02_lko',
Enter value for hospital_name: 'medanta'
old   2: &hospital_name,
new   2: 'medanta',
Enter value for address: 'gomtinagar,lucknow'
old   3: &address,
new   3: 'gomtinagar,lucknow',
Enter value for hospital_phone: '0535-2900012'
old   4: &hospital_phone)
new   4: '0535-2900012')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> select * from hospital;

HOSPITAL_ID          HOSPITAL_NAME
-------------------- --------------------
ADDRESS                                            HOSPITAL_PHONE
-------------------------------------------------- --------------
ap01_lko             apollo
powerhouse,ashiyana,lucknow                        0535-2940152

md02_lko             medanta
gomtinagar,lucknow                                 0535-2900012
```

2)Patient:-

create table patient(patient_id varchar(20) constraint p_id primary key not null, p_name varchar(20) not null, p_dob date not null, address varchar(50) not null, phone_no varchar(15) not null, blood_group varchar(5),appointment_date date, appointment_time timestamp(0), reason varchar(50), hospital_id constraint h_id1 references hospital);

```
SQL> create table patient(patient_id varchar(20) constraint p_id primary key not null,
  2  p_name varchar(20) not null,
  3  p_dob date not null,
  4  address varchar(50) not null,
  5  phone_no varchar(15) not null,
  6  blood_group varchar(5),
  7  appointment_date date,
  8  appointment_time timestamp(0),
  9  reason varchar(50),
 10  hospital_id constraint h_id1 references hospital);

Table created.

SQL> commit;

Commit complete.

SQL> desc patient
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 PATIENT_ID                                NOT NULL VARCHAR2(20)
 P_NAME                                    NOT NULL VARCHAR2(20)
 P_DOB                                     NOT NULL DATE
 ADDRESS                                   NOT NULL VARCHAR2(50)
 PHONE_NO                                  NOT NULL VARCHAR2(15)
 BLOOD_GROUP                                        VARCHAR2(5)
 APPOINTMENT_DATE                                   DATE
 APPOINTMENT_TIME                                   TIMESTAMP(0)
 REASON                                             VARCHAR2(50)
 HOSPITAL_ID                                        VARCHAR2(20)
```

```
SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='PATIENT';

CONSTRAINT_NAME                C
------------------------------ -
SYS_C007045                    C
SYS_C007046                    C
SYS_C007047                    C
SYS_C007048                    C
SYS_C007049                    C
P_ID                           P
H_ID1                          R

7 rows selected.
```

Insertion-

```
SQL> insert into patient values(&patient_id,
  2  &p_name,
  3  &p_dob,
  4  &address,
  5  &phone_no,
  6  &blood_group,
  7  &appointment_date,
  8  &appointment_time,
  9  &reason,
 10  &hospital_id);
Enter value for patient_id: 'p001'
old   1: insert into patient values(&patient_id,
new   1: insert into patient values('p001',
Enter value for p_name: 'saksham'
old   2: &p_name,
new   2: 'saksham',
Enter value for p_dob: to_date('03-08-00','dd-mm-yy')
old   3: &p_dob,
new   3: to_date('03-08-00','dd-mm-yy'),
Enter value for address: 'ashiyana,lucknow'
old   4: &address,
new   4: 'ashiyana,lucknow',
Enter value for phone_no: '9300222668'
old   5: &phone_no,
new   5: '9300222668',
Enter value for blood_group: 'B+'
old   6: &blood_group,
new   6: 'B+',
Enter value for appointment_date: to_date('05-06-21','dd-mm-yy')
old   7: &appointment_date,
new   7: to_date('05-06-21','dd-mm-yy'),
Enter value for appointment_time: to_timestamp('09:00','hh24:mi')
old   8: &appointment_time,
new   8: to_timestamp('09:00','hh24:mi'),
Enter value for reason: 'over stress anxiety'
old   9: &reason,
new   9: 'over stress anxiety',
Enter value for hospital_id: 'ap01_lko'
old  10: &hospital_id)
new  10: 'ap01_lko')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into patient values(&patient_id,
  2  &p_name,
  3  &p_dob,
  4  &address,
  5  &phone_no,
  6  &blood_group,
  7  &appointment_date,
  8  &appointment_time,
  9  &reason,
 10  &hospital_id);
Enter value for patient_id: 'p002'
old   1: insert into patient values(&patient_id,
new   1: insert into patient values('p002',
Enter value for p_name: 'yuraj singh'
old   2: &p_name,
new   2: 'yuraj singh',
Enter value for p_dob: to_date('10-09-89','dd-mm-yy')
old   3: &p_dob,
new   3: to_date('10-09-89','dd-mm-yy'),
Enter value for address: 'chandigarh,punjab'
old   4: &address,
new   4: 'chandigarh,punjab',
Enter value for phone_no: '9358222660'
old   5: &phone_no,
new   5: '9358222660',
Enter value for blood_group: 'O+'
old   6: &blood_group,
new   6: 'O+',
Enter value for appointment_date: to_date('02-06-21','dd-mm-yy')
old   7: &appointment_date,
new   7: to_date('02-06-21','dd-mm-yy'),
Enter value for appointment_time: to_timestamp('11:00','hh24:mi')
old   8: &appointment_time,
new   8: to_timestamp('11:00','hh24:mi'),
Enter value for reason: 'skin cancer'
old   9: &reason,
new   9: 'skin cancer',
Enter value for hospital_id: 'md02_lko'
old  10: &hospital_id)
new  10: 'md02_lko')

1 row created.

SQL> commit;

Commit complete.
SQL> select * from patient;

PATIENT_ID           P_NAME               P_DOB
-------------------- -------------------- ---------
ADDRESS                                           PHONE_NO        BLOOD
------------------------------------------------- --------------- -----
APPOINTME
---------
APPOINTMENT_TIME
-------------------------------------------------------------------------------
REASON                                            HOSPITAL_ID
------------------------------------------------- --------------------
p001                 saksham              03-AUG-00
ashiyana,lucknow                                  9300222668      B+
05-JUN-21

PATIENT_ID           P_NAME               P_DOB
-------------------- -------------------- ---------
ADDRESS                                           PHONE_NO        BLOOD
------------------------------------------------- --------------- -----
APPOINTME
---------
APPOINTMENT_TIME
-------------------------------------------------------------------------------
REASON                                            HOSPITAL_ID
------------------------------------------------- --------------------
01-MAY-21 09.00.00 AM
over stress anxiety                               ap01_lko

PATIENT_ID           P_NAME               P_DOB
-------------------- -------------------- ---------
ADDRESS                                           PHONE_NO        BLOOD
------------------------------------------------- --------------- -----
APPOINTME
---------
APPOINTMENT_TIME
-------------------------------------------------------------------------------
REASON                                            HOSPITAL_ID
------------------------------------------------- --------------------
p002                 yuraj singh          10-SEP-89
chandigarh,punjab                                 9358222660      O+
02-JUN-21

PATIENT_ID           P_NAME               P_DOB
-------------------- -------------------- ---------
ADDRESS                                           PHONE_NO        BLOOD
------------------------------------------------- --------------- -----
APPOINTME
---------

PATIENT_ID           P_NAME               P_DOB
-------------------- -------------------- ---------
ADDRESS                                           PHONE_NO        BLOOD
------------------------------------------------- --------------- -----
APPOINTME
---------
APPOINTMENT_TIME
-------------------------------------------------------------------------------
REASON                                            HOSPITAL_ID
------------------------------------------------- --------------------
p002                 yuraj singh          10-SEP-89
chandigarh,punjab                                 9358222660      O+
02-JUN-21

PATIENT_ID           P_NAME               P_DOB
-------------------- -------------------- ---------
ADDRESS                                           PHONE_NO        BLOOD
------------------------------------------------- --------------- -----
APPOINTME
---------
APPOINTMENT_TIME
-------------------------------------------------------------------------------
REASON                                            HOSPITAL_ID
------------------------------------------------- --------------------
01-MAY-21 11.00.00 AM
skin cancer                                       md02_lko
```

3)Department :-

create table department(dep_id varchar(20) constraint dep_id primary key not null, dep_name varchar(20), location varchar(50), contact_no varchar(15), hospital_id constraint h_id2 references hospital);

```
SQL> create table department(dep_id varchar(20) constraint dep_id primary key not null,
  2  dep_name varchar(20),
  3  location varchar(50),
  4  contact_no varchar(15),
  5  hospital_id constraint h_id2 references hospital);

Table created.

SQL> COMMIT;

Commit complete.

SQL> desc department;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DEP_ID                                    NOT NULL VARCHAR2(20)
 DEP_NAME                                           VARCHAR2(20)
 LOCATION                                           VARCHAR2(50)
 CONTACT_NO                                         VARCHAR2(15)
 HOSPITAL_ID                                        VARCHAR2(20)
```

```
SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='DEPARTMENT';

CONSTRAINT_NAME                C
------------------------------ -
SYS_C007054                    C
DEP_ID                         P
H_ID2                          R
```

Insertion-

```
SQL> insert into department values(&dep_id,
  2  &dep_name,
  3  &location,
  4  &contact_no,
  5  &hospital_id);
Enter value for dep_id: 'ap_cardio_01'
old   1: insert into department values(&dep_id,
new   1: insert into department values('ap_cardio_01',
Enter value for dep_name: 'cardiology'
old   2: &dep_name,
new   2: 'cardiology',
Enter value for location: 'b-block,apollo,ashiyana,lucknow'
old   3: &location,
new   3: 'b-block,apollo,ashiyana,lucknow',
Enter value for contact_no: '0535-2987212'
old   4: &contact_no,
new   4: '0535-2987212',
Enter value for hospital_id: 'ap01_lko'
old   5: &hospital_id)
new   5: 'ap01_lko')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into department values(&dep_id,
  2  &dep_name,
  3  &location,
  4  &contact_no,
  5  &hospital_id);
Enter value for dep_id: 'md_pshy_02'
old   1: insert into department values(&dep_id,
new   1: insert into department values('md_pshy_02',
Enter value for dep_name: 'pshycology'
old   2: &dep_name,
new   2: 'pshycology',
Enter value for location: 'a-block,medanta,gomtinagar,lucknow'
old   3: &location,
new   3: 'a-block,medanta,gomtinagar,lucknow',
Enter value for contact_no: '0535-2977722'
old   4: &contact_no,
new   4: '0535-2977722',
Enter value for hospital_id: 'md02_lko'
old   5: &hospital_id)
new   5: 'md02_lko')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> select * from department;

DEP_ID               DEP_NAME
-------------------- --------------------
LOCATION                                           CONTACT_NO
-------------------------------------------------- ---------------
HOSPITAL_ID
--------------------
ap_cardio_01         cardiology
b-block,apollo,ashiyana,lucknow                    0535-2987212
ap01_lko

md_pshy_02           pshycology
a-block,medanta,gomtinagar,lucknow                 0535-2977722
md02_lko

DEP_ID               DEP_NAME
-------------------- --------------------
LOCATION                                           CONTACT_NO
-------------------------------------------------- ---------------
HOSPITAL_ID
--------------------
```

4)Doctor:-

create table doctor(doctor_id varchar(20) constraint d_id primary key not null, name varchar(20) not null,dep_id constraint dep_id1 references department, phone_no varchar(15));

```
SQL> create table doctor(doctor_id varchar(20) constraint d_id primary key not null,
  2  name varchar(20) not null,
  3  dep_id constraint dep_id1 references department,
  4  phone_no varchar(15));

Table created.

SQL> COMMIT;

Commit complete.

SQL> desc doctor;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DOCTOR_ID                                 NOT NULL VARCHAR2(20)
 NAME                                      NOT NULL VARCHAR2(20)
 DEP_ID                                             VARCHAR2(20)
 PHONE_NO                                           VARCHAR2(15)
```

```
SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='DOCTOR';

CONSTRAINT_NAME                C
------------------------------ -
SYS_C007057                    C
SYS_C007058                    C
D_ID                           P
DEP_ID1                        R
```

Insertion-

```
SQL> insert into doctor values(&doctor_id,
  2  &name,
  3  &dep_id,
  4  &phone_no);
Enter value for doctor_id: 'cardio_012'
old   1: insert into doctor values(&doctor_id,
new   1: insert into doctor values('cardio_012',
Enter value for name: 'prakash jha'
old   2: &name,
new   2: 'prakash jha',
Enter value for dep_id: 'ap_cardio_01'
old   3: &dep_id,
new   3: 'ap_cardio_01',
Enter value for phone_no: '9454237689'
old   4: &phone_no)
new   4: '9454237689')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into doctor values(&doctor_id,
  2  &name,
  3  &dep_id,
  4  &phone_no);
Enter value for doctor_id: 'pshyco_111'
old   1: insert into doctor values(&doctor_id,
new   1: insert into doctor values('pshyco_111',
Enter value for name: 'deepak kumar'
old   2: &name,
new   2: 'deepak kumar',
Enter value for dep_id: 'md_pshy_02'
old   3: &dep_id,
new   3: 'md_pshy_02',
Enter value for phone_no: '9415089723'
old   4: &phone_no)
new   4: '9415089723')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> select * from doctor;

DOCTOR_ID           NAME                DEP_ID              PHONE_NO
------------------- ------------------- ------------------- ---------------
cardio_012          prakash jha         ap_cardio_01        9454237689
pshyco_111          deepak kumar        md_pshy_02          9415089723
```

5)Hod:-

create table hod(hod_id varchar(20) constraint hod1 primary key not null, name varchar(20), dep_id constraint dep_id2 references department , mob_no varchar(20));

```
SQL> create table hod(hod_id varchar(20) constraint hod1 primary key not null,
  2  name varchar(20),
  3  dep_id constraint dep_id2 references department ,
  4  mob_no varchar(20));

Table created.

SQL> COMMIT;

Commit complete.

SQL> DESC HOD
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 HOD_ID                                    NOT NULL VARCHAR2(20)
 NAME                                               VARCHAR2(20)
 DEP_ID                                             VARCHAR2(20)
 MOB_NO                                             VARCHAR2(20)

SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='HOD';

CONSTRAINT_NAME                C
------------------------------ -
SYS_C007061                    C
HOD1                           P
DEP_ID2                        R
```

Insertion-

```
SQL> insert into hod values(&hod_id,
  2  &name,
  3  &dep_id,
  4  &mob_no);
Enter value for hod_id: 'head_cardio_01'
old   1: insert into hod values(&hod_id,
new   1: insert into hod values('head_cardio_01',
Enter value for name: 'ujjawal'
old   2: &name,
new   2: 'ujjawal',
Enter value for dep_id: 'ap_cardio_01'
old   3: &dep_id,
new   3: 'ap_cardio_01',
Enter value for mob_no: '9358222669'
old   4: &mob_no)
new   4: '9358222669')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into hod values(&hod_id,
  2  &name,
  3  &dep_id,
  4  &mob_no);
Enter value for hod_id: 'head_pshy_02'
old   1: insert into hod values(&hod_id,
new   1: insert into hod values('head_pshy_02',
Enter value for name: 'prajwal'
old   2: &name,
new   2: 'prajwal',
Enter value for dep_id: 'md_pshy_02'
old   3: &dep_id,
new   3: 'md_pshy_02',
Enter value for mob_no: '8005406590'
old   4: &mob_no)
new   4: '8005406590')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> select * from hod;

HOD_ID               NAME                 DEP_ID
-------------------- -------------------- --------------------
MOB_NO
--------------------
head_cardio_01       ujjawal              ap_cardio_01
9358222669

head_pshy_02         prajwal              md_pshy_02
8005406590
```

6)Pharmacy:-

create table pharmacy(license_no varchar(15) constraint l_id primary key not null, name varchar(20), contact_no varchar(15), hospital_id constraint h_id3 references hospital);

```
SQL> create table pharmacy(license_no varchar(15) constraint l_id primary key not null,
  2  name varchar(20),
  3  contact_no varchar(15),
  4  hospital_id constraint h_id3 references hospital);

Table created.

SQL> commit;

Commit complete.

SQL> desc pharmacy
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 LICENSE_NO                                NOT NULL VARCHAR2(15)
 NAME                                               VARCHAR2(20)
 CONTACT_NO                                         VARCHAR2(15)
 HOSPITAL_ID                                        VARCHAR2(20)
```

```
SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='PHARMACY';

CONSTRAINT_NAME                C
------------------------------ -
SYS_C007066                    C
L_ID                           P
H_ID3                          R
```

Insertion-

```
SQL> insert into pharmacy values(&license_no,
  2  &name,
  3  &contact_no,
  4  &hospital_id);
Enter value for license_no: 'apollo_134rt'
old   1: insert into pharmacy values(&license_no,
new   1: insert into pharmacy values('apollo_134rt',
Enter value for name: 'apollo medicis'
old   2: &name,
new   2: 'apollo medicis',
Enter value for contact_no: '9867344567'
old   3: &contact_no,
new   3: '9867344567',
Enter value for hospital_id: 'ap01_lko'
old   4: &hospital_id)
new   4: 'ap01_lko')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into pharmacy values(&license_no,
  2  &name,
  3  &contact_no,
  4  &hospital_id);
Enter value for license_no: 'medanta_556rt'
old   1: insert into pharmacy values(&license_no,
new   1: insert into pharmacy values('medanta_556rt',
Enter value for name: 'medanta pharma'
old   2: &name,
new   2: 'medanta pharma',
Enter value for contact_no: '8765340978'
old   3: &contact_no,
new   3: '8765340978',
Enter value for hospital_id: 'md02_lko'
old   4: &hospital_id)
new   4: 'md02_lko')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> select * from pharmacy;

LICENSE_NO      NAME                 CONTACT_NO      HOSPITAL_ID
--------------- -------------------- --------------- --------------------
apollo_134rt    apollo medicis       9867344567      ap01_lko
medanta_556rt   medanta pharma       8765340978      md02_lko
```

7)Medicines:-

create table medicine(reg_no varchar(20) constraint med_id primary key not null ,medicine_name varchar(15) not null,cost number(5) not null, brand varchar(20), license_no constraint pharma_id references pharmacy);

```
SQL> create table medicine(reg_no varchar(20) constraint med_id primary key not null ,
  2  medicine_name varchar(15)  not null,
  3  cost number(5) not null,
  4  brand varchar(20),
  5  license_no constraint pharma_id references pharmacy);

Table created.

SQL> COMMIT;

Commit complete.

SQL> desc medicine
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 REG_NO                                    NOT NULL VARCHAR2(20)
 MEDICINE_NAME                             NOT NULL VARCHAR2(15)
 COST                                      NOT NULL NUMBER(5)
 BRAND                                              VARCHAR2(20)
 LICENSE_NO                                         VARCHAR2(15)

SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='MEDICINE';

CONSTRAINT_NAME                C
------------------------------ -
SYS_C007069                    C
SYS_C007070                    C
SYS_C007071                    C
MED_ID                         P
PHARMA_ID                      R
```

Insertion-

```
SQL> insert into medicine values(&reg_no,
  2  &medicine_name,
  3  &cost,
  4  &brand,
  5  &license_no);
Enter value for reg_no: 'india_reg98'
old   1: insert into medicine values(&reg_no,
new   1: insert into medicine values('india_reg98',
Enter value for medicine_name: 'covishield'
old   2: &medicine_name,
new   2: 'covishield',
Enter value for cost: 600
old   3: &cost,
new   3: 600,
Enter value for brand: 'pfizer'
old   4: &brand,
new   4: 'pfizer',
Enter value for license_no: 'apollo_134rt'
old   5: &license_no)
new   5: 'apollo_134rt')

1 row created.
```

```
SQL> insert into medicine values(&reg_no,
  2  &medicine_name,
  3  &cost,
  4  &brand,
  5  &license_no);
Enter value for reg_no: 'india_reg45'
old   1: insert into medicine values(&reg_no,
new   1: insert into medicine values('india_reg45',
Enter value for medicine_name: 'covaxin'
old   2: &medicine_name,
new   2: 'covaxin',
Enter value for cost: 2000
old   3: &cost,
new   3: 2000,
Enter value for brand: 'cipla'
old   4: &brand,
new   4: 'cipla',
Enter value for license_no: 'medanta_556rt'
old   5: &license_no)
new   5: 'medanta_556rt')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> select * from medicine;

REG_NO              MEDICINE_NAME         COST BRAND
------------------- --------------- ---------- --------------------
LICENSE_NO
---------------
india_reg98         covishield             600 pfizer
apollo_134rt

india_reg45         covaxin               2000 cipla
medanta_556rt
```

8)Bill:-

create table bill(bill_no varchar(15) constraint b_id primary key not null, patient_id constraint p_id1 references patient, total_amount number(5,2), paid_ammount number(5,2), due_amount number(5,2), due_date date, payment_date date not null, payment_time timestamp(0) not null);

```
SQL> create table bill(bill_no varchar(15) constraint b_id primary key not null,
  2  patient_id constraint p_id1 references patient,
  3  total_amount number(5,2),
  4  paid_ammount number(5,2),
  5  due_amount number(5,2),
  6  due_date date,
  7  payment_date date not null,
  8  payment_time timestamp(0) not null);

Table created.
```

```
SQL> alter table bill
  2  add hospital_id constraint h_id6 references hospital;

Table altered.

SQL> desc bill;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 BILL_NO                                   NOT NULL VARCHAR2(15)
 PATIENT_ID                                         VARCHAR2(20)
 TOTAL_AMOUNT                                       NUMBER(5,2)
 PAID_AMMOUNT                                       NUMBER(5,2)
 DUE_AMOUNT                                         NUMBER(5,2)
 DUE_DATE                                           DATE
 PAYMENT_DATE                              NOT NULL DATE
 PAYMENT_TIME                              NOT NULL TIMESTAMP(0)
 HOSPITAL_ID                                        VARCHAR2(20)
```

```
SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='BILL';

CONSTRAINT_NAME                C
------------------------------ -
SYS_C007074                    C
SYS_C007075                    C
SYS_C007076                    C
B_ID                           P
P_ID1                          R
```

Insertion-

```
SQL> insert into bill values(&bill_no,
  2  &patient_id,
  3  &total_amount,
  4  &paid_amount,
  5  &due_amount,
  6  &due_date,
  7  &payment_date,
  8  &payment_time);
Enter value for bill_no: 'apollo_b9834'
old   1: insert into bill values(&bill_no,
new   1: insert into bill values('apollo_b9834',
Enter value for patient_id: 'p001'
old   2: &patient_id,
new   2: 'p001',
Enter value for total_amount: 458.89
old   3: &total_amount,
new   3: 458.89,
Enter value for paid_amount: 50.00
old   4: &paid_amount,
new   4: 50.00,
Enter value for due_amount: null
old   5: &due_amount,
new   5: null,
Enter value for due_date: to_date('15-06-21','dd-mm-yy')
old   6: &due_date,
new   6: to_date('15-06-21','dd-mm-yy'),
Enter value for payment_date: to_date('05-06-21','dd-mm-yy')
old   7: &payment_date,
new   7: to_date('05-06-21','dd-mm-yy'),
Enter value for payment_time: to_timestamp('13:23','hh24:mi')
old   8: &payment_time)
new   8: to_timestamp('13:23','hh24:mi'))

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into bill values(&bill_no,
  2  &patient_id,
  3  &total_amount,
  4  &paid_amount,
  5  &due_amount,
  6  &due_date,
  7  &payment_date,
  8  &payment_time);
Enter value for bill_no: 'medanta_c7860'
old   1: insert into bill values(&bill_no,
new   1: insert into bill values('medanta_c7860',
Enter value for patient_id: 'p002'
old   2: &patient_id,
new   2: 'p002',
Enter value for total_amount: 786.56
old   3: &total_amount,
new   3: 786.56,
Enter value for paid_amount: 100.00
old   4: &paid_amount,
new   4: 100.00,
Enter value for due_amount: null
old   5: &due_amount,
new   5: null,
Enter value for due_date: to_date('30-06-21','dd-mm-yy')
old   6: &due_date,
new   6: to_date('30-06-21','dd-mm-yy'),
Enter value for payment_date: to_date('02-06-21','dd-mm-yy')
old   7: &payment_date,
new   7: to_date('02-06-21','dd-mm-yy'),
Enter value for payment_time: to_timestamp('20:23','hh24:mi')
old   8: &payment_time)
new   8: to_timestamp('20:23','hh24:mi'))

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> select * from bill;

BILL_NO         PATIENT_ID           TOTAL_AMOUNT PAID_AMMOUNT DUE_AMOUNT
--------------- -------------------- ------------ ------------ ----------
DUE_DATE  PAYMENT_D
--------- ---------
PAYMENT_TIME
---------------------------------------------------------------------------
HOSPITAL_ID
--------------------
apollo_b9834    p001                       458.89           50
15-JUN-21 05-JUN-21
01-MAY-21 01.23.00 PM
ap01_lko


BILL_NO         PATIENT_ID           TOTAL_AMOUNT PAID_AMMOUNT DUE_AMOUNT
--------------- -------------------- ------------ ------------ ----------
DUE_DATE  PAYMENT_D
--------- ---------
PAYMENT_TIME
---------------------------------------------------------------------------
HOSPITAL_ID
--------------------
medanta_c7860   p002                       786.56          100
30-JUN-21 02-JUN-21
01-MAY-21 08.23.00 PM
md02_lko
```

9)Nurse:-

create table nurse(nurse_id varchar(15) constraint n_id primary key not null, name varchar(20) not null, shift_time timestamp(0), mobile_no varchar(15) not null, address varchar(50), hospital_id constraint h_id4 references hospital);

```
SQL> create table nurse(nurse_id varchar(15) constraint n_id primary key not null,
  2  name varchar(20) not null,
  3  shift_time timestamp(0),
  4  mobile_no varchar(15) not null,
  5  address varchar(50),
  6  hospital_id constraint h_id4 references hospital);

Table created.

SQL> commit;

Commit complete.

SQL> desc nurse
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 NURSE_ID                                  NOT NULL VARCHAR2(15)
 NAME                                      NOT NULL VARCHAR2(20)
 SHIFT_TIME                                         TIMESTAMP(0)
 MOBILE_NO                                 NOT NULL VARCHAR2(15)
 ADDRESS                                            VARCHAR2(50)
 HOSPITAL_ID                                        VARCHAR2(20)
```

```
SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='NURSE';

CONSTRAINT_NAME                C
------------------------------ -
SYS_C007079                    C
SYS_C007080                    C
SYS_C007081                    C
N_ID                           P
H_ID4                          R
```

Insertion-

```
SQL> insert into nurse values(&nurse_id,
  2  &name,
  3  &shift_time,
  4  &mobile_no,
  5  &address,
  6  &hospital_id);
Enter value for nurse_id: 'staff_1092'
old   1: insert into nurse values(&nurse_id,
new   1: insert into nurse values('staff_1092',
Enter value for name: 'sita devi'
old   2: &name,
new   2: 'sita devi',
Enter value for shift_time: to_timestamp('08:00','hh24:mi')
old   3: &shift_time,
new   3: to_timestamp('08:00','hh24:mi'),
Enter value for mobile_no: '7856129034'
old   4: &mobile_no,
new   4: '7856129034',
Enter value for address: 'sec-g,lda colony, lucknow'
old   5: &address,
new   5: 'sec-g,lda colony, lucknow',
Enter value for hospital_id: 'ap01_lko'
old   6: &hospital_id)
new   6: 'ap01_lko')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into nurse values(&nurse_id,
  2  &name,
  3  &shift_time,
  4  &mobile_no,
  5  &address,
  6  &hospital_id);
Enter value for nurse_id: 'nur_staff_4567'
old   1: insert into nurse values(&nurse_id,
new   1: insert into nurse values('nur_staff_4567',
Enter value for name: 'geeta devi'
old   2: &name,
new   2: 'geeta devi',
Enter value for shift_time: to_timestamp('13:00','hh24:mi')
old   3: &shift_time,
new   3: to_timestamp('13:00','hh24:mi'),
Enter value for mobile_no: '7834634441'
old   4: &mobile_no,
new   4: '7834634441',
Enter value for address: 'vibhuti khand,gomtinagar,lucknow'
old   5: &address,
new   5: 'vibhuti khand,gomtinagar,lucknow',
Enter value for hospital_id: 'md02_lko'
old   6: &hospital_id)
new   6: 'md02_lko')

1 row created.

SQL> commit;

Commit complete.

SQL> select * from nurse;

NURSE_ID        NAME
--------------- --------------------
SHIFT_TIME
---------------------------------------------------------------------------
MOBILE_NO       ADDRESS
--------------- --------------------------------------------------
HOSPITAL_ID
--------------------
staff_1092      sita devi
01-MAY-21 08.00.00 AM
7856129034      sec-g,lda colony, lucknow
ap01_lko


NURSE_ID        NAME
--------------- --------------------
SHIFT_TIME
---------------------------------------------------------------------------
MOBILE_NO       ADDRESS
--------------- --------------------------------------------------
HOSPITAL_ID
--------------------
nur_staff_4567  geeta devi
01-MAY-21 01.00.00 PM
7834634441      vibhuti khand,gomtinagar,lucknow
md02_lko
```

10) Checks-

create table checks(doctor_id constraint ch references doctor, patient_id constraint pi references patient,constraint rel1 primary key (doctor_id,patient_id));

```
SQL> create table checks(doctor_id constraint ch references doctor,
  2  patient_id constraint pi references patient,constraint rel1  primary key (doctor_id,patient_id));

Table created.

SQL> commit;

Commit complete.

SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='CHECKS'
  3  /

CONSTRAINT_NAME               C
----------------------------- -
REL1                          P
CH                            R
PI                            R

SQL> DESC CHECKS
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DOCTOR_ID                                 NOT NULL VARCHAR2(20)
 PATIENT_ID                                NOT NULL VARCHAR2(20)
```

```
SQL> insert into checks values(&doctor_id,
  2  &patient_id);
Enter value for doctor_id: 'cardio_012'
old   1: insert into checks values(&doctor_id,
new   1: insert into checks values('cardio_012',
Enter value for patient_id: 'p001'
old   2: &patient_id)
new   2: 'p001')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into checks values(&doctor_id,
  2  &patient_id);
Enter value for doctor_id: 'pshyco_111'
old   1: insert into checks values(&doctor_id,
new   1: insert into checks values('pshyco_111',
Enter value for patient_id: 'p002'
old   2: &patient_id)
new   2: 'p002')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> select * from checks;

DOCTOR_ID           PATIENT_ID
------------------- -------------------
cardio_012          p001
pshyco_111          p002
```

11) Takes:-

create table takes (patient_id constraint pi2 references patient, reg_no constraint pi3 references medicine,constraint rel2 primary key(patient_id,reg_no));

```
SQL> create table takes ( patient_id constraint pi2 references patient,
  2  reg_no constraint pi3 references medicine,constraint rel2 primary key(patient_id,reg_no));

Table created.

SQL> COMMIT;

Commit complete.

SQL> desc takes;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 PATIENT_ID                                NOT NULL VARCHAR2(20)
 REG_NO                                    NOT NULL VARCHAR2(20)

SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='TAKES'
  3  /

CONSTRAINT_NAME               C
------------------------------ -
REL2                          P
PI2                           R
PI3                           R
```

```
SQL> insert into takes values(&patient_id,
  2  &reg_no);
Enter value for patient_id: 'p001'
old   1: insert into takes values(&patient_id,
new   1: insert into takes values('p001',
Enter value for reg_no: 'india_reg98'
old   2: &reg_no)
new   2: 'india_reg98')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into takes values(&patient_id,
  2  &reg_no);
Enter value for patient_id: 'p002'
old   1: insert into takes values(&patient_id,
new   1: insert into takes values('p002',
Enter value for reg_no: 'india_reg45'
old   2: &reg_no)
new   2: 'india_reg45')

1 row created.

SQL> commit;

Commit complete.

SQL> select * from takes;

PATIENT_ID           REG_NO
-------------------- --------------------
p001                 india_reg98
p002                 india_reg45
```

12) Sells:-

create table sells(reg_no constraint mi references medicine, license_no constraint li references pharmacy,constraint rel3 primary key(reg_no,license_no));

```
SQL> create table sells(reg_no constraint mi references medicine,
  2  license_no constraint li references pharmacy,constraint rel3 primary key(reg_no,license_no));

Table created.

SQL> commit;

Commit complete.

SQL> desc sells
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 REG_NO                                    NOT NULL VARCHAR2(20)
 LICENSE_NO                                NOT NULL VARCHAR2(15)

SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='SELLS';

CONSTRAINT_NAME              C
---------------------------- -
REL3                         P
MI                           R
LI                           R
```

```
SQL> insert into sells values (&reg_no,
  2  &license_no);
Enter value for reg_no: 'india_reg98'
old   1: insert into sells values (&reg_no,
new   1: insert into sells values ('india_reg98',
Enter value for license_no: 'apollo_134rt'
old   2: &license_no)
new   2: 'apollo_134rt')

1 row created.

SQL> commit;

Commit complete
```

```
SQL> insert into sells values (&reg_no,
  2  &license_no);
Enter value for reg_no: 'india_reg45'
old   1: insert into sells values (&reg_no,
new   1: insert into sells values ('india_reg45',
Enter value for license_no: 'medanta_556rt'
old   2: &license_no)
new   2: 'medanta_556rt')

1 row created.
```

```
SQL> select  * from sells;

REG_NO               LICENSE_NO
-------------------- ---------------
india_reg98          apollo_134rt
india_reg45          medanta_556rt
```

13) Prescribes:-

create table prescribes(doctor_id constraint di references doctor, reg_no constraint rn references medicine,constraint rel4 primary key (doctor_id,reg_no));

```
SQL> create table prescribes(doctor_id constraint di references doctor,
  2  reg_no constraint rn references medicine,constraint rel4  primary key (doctor_id,reg_no));

Table created.

SQL> COMMIT;

Commit complete.

SQL> desc prescribes
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DOCTOR_ID                                 NOT NULL VARCHAR2(20)
 REG_NO                                    NOT NULL VARCHAR2(20)

SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='PRESCRIBES';

CONSTRAINT_NAME              C
---------------------------- -
REL4                         P
DI                           R
RN                           R
```

```
SQL> insert into prescribes values(&doctor_id,
  2  &reg_no);
Enter value for doctor_id: 'cardio_012'
old   1: insert into prescribes values(&doctor_id,
new   1: insert into prescribes values('cardio_012',
Enter value for reg_no: 'india_reg98'
old   2: &reg_no)
new   2: 'india_reg98')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into prescribes values(&doctor_id,
  2  &reg_no);
Enter value for doctor_id: 'pshyco_111'
old   1: insert into prescribes values(&doctor_id,
new   1: insert into prescribes values('pshyco_111',
Enter value for reg_no: 'india_reg45'
old   2: &reg_no)
new   2: 'india_reg45')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> select * from prescribes;

DOCTOR_ID            REG_NO
-------------------- --------------------
cardio_012           india_reg98
pshyco_111           india_reg45
```

14) Assist:-

create table assist(doctor_id constraint di2 references doctor, nurse_id constraint ni references nurse,constraint rel5 primary key (doctor_id,nurse_id));

```
SQL> create table assist(doctor_id constraint di2  references doctor,
  2  nurse_id constraint ni references nurse,constraint rel5  primary key (doctor_id,nurse_id));

Table created.

SQL> commit;

Commit complete.

SQL> desc assist
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DOCTOR_ID                                 NOT NULL VARCHAR2(20)
 NURSE_ID                                  NOT NULL VARCHAR2(15)

SQL> select constraint_name,constraint_type from
  2  user_constraints where table_name='ASSIST';

CONSTRAINT_NAME               C
------------------------------ -
REL5                          P
DI2                           R
NI                            R
```

```
SQL> insert into assist values(&doctor_id,
  2  &nurse_id);
Enter value for doctor_id: 'cardio_012'
old   1: insert into assist values(&doctor_id,
new   1: insert into assist values('cardio_012',
Enter value for nurse_id: 'staff_1092'
old   2: &nurse_id)
new   2: 'staff_1092')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> insert into assist values(&doctor_id,
  2  &nurse_id);
Enter value for doctor_id: 'pshyco_111'
old   1: insert into assist values(&doctor_id,
new   1: insert into assist values('pshyco_111',
Enter value for nurse_id: 'nur_staff_4567'
old   2: &nurse_id)
new   2: 'nur_staff_4567')

1 row created.

SQL> commit;

Commit complete.
```

```
SQL> select * from assist;

DOCTOR_ID            NURSE_ID
-------------------- --------------
cardio_012           staff_1092
pshyco_111           nur_staff_4567
```

DATABASE MANAGEMENT SYSTEM
PROJECT J COMPONENT
HEALTHMAX HOSPITAL
DATABASE MANGAMENT SYSTEM
SLOT- L33+34
REVIEW-3

Various SQL query operation on the database-

Altering Patient table and adding age column

```
SQL> alter table patient add age varchar(3);

Table altered.
```

```
SQL> desc patient;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 PATIENT_ID                                NOT NULL VARCHAR2(20)
 P_NAME                                    NOT NULL VARCHAR2(20)
 P_DOB                                     NOT NULL DATE
 ADDRESS                                   NOT NULL VARCHAR2(50)
 PHONE_NO                                  NOT NULL VARCHAR2(15)
 BLOOD_GROUP                                        VARCHAR2(5)
 APPOINTMENT_DATE                                   DATE
 APPOINTMENT_TIME                                   TIMESTAMP(0)
 REASON                                             VARCHAR2(50)
 HOSPITAL_ID                                        VARCHAR2(20)
 AGE                                                VARCHAR2(3)
```

Updating Hospital information-

```
SQL> select * from hospital;

HOSPITAL_ID          HOSPITAL_NAME
-------------------- --------------------
ADDRESS                                            HOSPITAL_PHONE
-------------------------------------------------- ---------------
ap01_1ko             apollo
powerhouse,ashiyana,lucknow                        0535-2940152

md02_1ko             medanta
gomtinagar,lucknow                                 0535-2900012
```

```
SQL> Update hospital set address='Sitanagar,licknow' where hospital_id='ap01_1ko' ;

1 row updated.
```

```
SQL> select * from hospital;

HOSPITAL_ID          HOSPITAL_NAME
-------------------- --------------------
ADDRESS                                            HOSPITAL_PHONE
-------------------------------------------------- ---------------
ap01_1ko             apollo
Sitanagar,licknow                                  0535-2940152

md02_1ko             medanta
gomtinagar,lucknow                                 0535-2900012
```

Updating doctors table-

```
SQL> select * from doctor;

DOCTOR_ID            NAME                 DEP_ID               PHONE_NO
-------------------- -------------------- -------------------- ---------------
cardio_012           prakash jha          ap_cardio_01         9454237689
pshyco_111           deepak kumar         md_pshy-02           8949354342
```

```
SQL> Update doctor set name='Vishnu prabhakar',phone_no=7023757382 where doctor_id='cardio_012' ;

1 row updated.
```

```
SQL> select * from doctor;

DOCTOR_ID            NAME                 DEP_ID               PHONE_NO
-------------------- -------------------- -------------------- ---------------
cardio_012           Vishnu prabhakar     ap_cardio_01         7023757382
pshyco_111           deepak kumar         md_pshy-02           8949354342
```

Updating Information of nurse-

```
SQL> select * from nurse;

NURSE_ID         NAME
---------------- --------------------
SHIFT_TIME
---------------------------------------------------------------------------
MOBILE_NO        ADDRESS
---------------- --------------------------------------------------
HOSPITAL_ID
--------------------
staff_1092       sita devi
01-JUN-21 08.00.00 AM
7856129034       sec-g,lda colony,lucknow
ap01_1ko

NURSE_ID         NAME
---------------- --------------------
SHIFT_TIME
---------------------------------------------------------------------------
MOBILE_NO        ADDRESS
---------------- --------------------------------------------------
HOSPITAL_ID
--------------------
nur_staff_4567   geeta_kumari
01-JUN-21 01.00.00 PM
9431891813       bibhutinagar,gomtinagar,lucknow
md02_1ko
```

```
SQL> Update nurse set name='Juhi',mobile_no=7023757382,address='wardNo-04,Madhepura,Bihar' where nurse_id='staff_1092' ;

1 row updated.

SQL> select * from nurse;

NURSE_ID         NAME
---------------- --------------------
SHIFT_TIME
---------------------------------------------------------------------------
MOBILE_NO        ADDRESS
---------------- --------------------------------------------------
HOSPITAL_ID
--------------------
staff_1092       Juhi
01-JUN-21 08.00.00 AM
7023757382       wardNo-04,Madhepura,Bihar
ap01_1ko


NURSE_ID         NAME
---------------- --------------------
SHIFT_TIME
---------------------------------------------------------------------------
MOBILE_NO        ADDRESS
---------------- --------------------------------------------------
HOSPITAL_ID
--------------------
nur_staff_4567   geeta_kumari
01-JUN-21 01.00.00 PM
9431891813       bibhutinagar,gomtinagar,lucknow
md02_1ko
```

These are the four different scenarios of removal of old data.

1. Bill table

```
SQL> select * from bill;

BILL_NO          PATIENT_ID           TOTAL_AMOUNT PAID_AMMOUNT DUE_AMOUNT
---------------- -------------------- ------------ ------------ ----------
DUE_DATE  PAYMENT_D
--------- ---------
PAYMENT_TIME
--------------------------------------------------------------------------------
HOSPITAL_ID
--------------------
apollo_b9834     p001                        458.89           50
15-JUN-21 05-JUN-21
01-MAY-21 01.23.00 PM
ap01_lko

BILL_NO          PATIENT_ID           TOTAL_AMOUNT PAID_AMMOUNT DUE_AMOUNT
---------------- -------------------- ------------ ------------ ----------
DUE_DATE  PAYMENT_D
--------- ---------
PAYMENT_TIME
--------------------------------------------------------------------------------
HOSPITAL_ID
--------------------
medanta_c7860    p002                        786.56          100
30-JUN-21 02-JUN-21
01-MAY-21 08.23.00 PM
md02_lko
```

```
SQL> delete from bill where bill_no='apollo_b9834';

1 row deleted.
```

```
SQL> select * from bill;

BILL_NO          PATIENT_ID           TOTAL_AMOUNT PAID_AMMOUNT DUE_AMOUNT
---------------- -------------------- ------------ ------------ ----------
DUE_DATE  PAYMENT_D
--------- ---------
PAYMENT_TIME
--------------------------------------------------------------------------------
medanta_c7860    p002                        786.56          100
30-JUN-21 02-JUN-21
01-JUN-21 08.23.00 PM
```

2- Hod details

```
SQL> select * from hod;

HOD_ID               NAME                 DEP_ID
-------------------- -------------------- --------------------
MOB_NO
--------------------
head_cardio_01       ujjawal              ap_cardio_01
9358222669

head_pshy_02         prajwal              md_pshy_02
8005406590
```

```
SQL> delete from hod where hod_id='head_cardio_01';

1 row deleted.

SQL> select * from hod;

HOD_ID              NAME                DEP_ID
------------------- ------------------- -------------------
MOB_NO
-------------------
head_pshy_02        prajwal             md_pshy_02
8005406590
```

3- From the Checks table-

```
SQL> select * from checks;

DOCTOR_ID           PATIENT_ID
------------------- --------------------
cardio_012          p001
pshyco_111          p002
```

```
SQL> DELETE FROM checks WHERE doctor_id='cardio_012';

1 row deleted.

SQL> select * from checks;

DOCTOR_ID           PATIENT_ID
------------------- --------------------
pshyco_111          p002
```

4- Delete from the Assist table

```
SQL> DELETE FROM assist WHERE doctor_id='cardio_012';

1 row deleted.
```

```
SQL> select * from assist;

DOCTOR_ID           NURSE_ID
------------------- ---------------
pshyco_111          nur_staff_4567
```

Nvl statement-

Display the bill_no and patient_id of those bills whose due_amount null and print ‘0’ as due_amount.

select bill_no,patient_id, nvl(due_amount,0) "due_amount" from bill;

```
SQL> select bill_no,patient_id, nvl(due_amount,0) "due_amount" from bill;

BILL_NO         PATIENT_ID           due_amount
--------------- -------------------- ----------
apollo_b9834    p001                          0
medanta_c7860   p002                          0

SQL>
```

Nullif-

Display the patient id, total amount, paid amount for the patients who payment date is not same as the due dates.

select patient_id, total_amount, paid_ammount, nullif(payment_date,due_date) "PAY_DATE" from bill;

```
SQL> select patient_id, total_amount, paid_ammount, nullif(payment_date,due_date) "PAY_DATE" from bill;

PATIENT_ID           TOTAL_AMOUNT PAID_AMMOUNT PAY_DATE
-------------------- ------------ ------------ ---------
p001                       458.89           50 05-JUN-21
p002                       786.56          100 02-JUN-21

SQL>
```

Order by clause

Display the details of the medicines and their pharmacy whose cost is less than 5000 rupees using order clause

select * from pharmacy inner join medicine on pharmacy.license_no = medicine.lic_no where cost<'5000' order by cost;

```
SQL> select * from pharmacy inner join medicine on pharmacy.license_no = medicine.lic_no where cost<'5000' order by cost;

LICENSE_NO      NAME                 CONTACT_NO      HOSPITAL_ID
--------------- -------------------- --------------- --------------------
REG_NO              MEDICINE_NAME         COST BRAND
------------------- --------------- ---------- --------------------
LIC_NO
---------------
apollo_134rt    apollo medicis       986744567       ap01_lko
india_reg98          covisheild             600 pfizer
apollo_134rt

medanta_556rt   medanta pharma       8765340978      md02_lko
india_reg45          covaxin               2000 cipla
medanta_556rt

LICENSE_NO      NAME                 CONTACT_NO      HOSPITAL_ID
--------------- -------------------- --------------- --------------------
REG_NO              MEDICINE_NAME         COST BRAND
------------------- --------------- ---------- --------------------
LIC_NO
---------------
```

Uncorrelated nested query.

Find the name and contact info of the HOD of the ‘cardiology’ department in the ‘apollo’ hospital

select name, mob_no from hod where dep_id in (select dep_id from department where dep_name='cardiology'and hospital_id in (select hospital_id from hospital where hospital name='apollo'));

```
SQL> select name, mob_no from hod where dep_id in (select dep_id from department where dep_name='cardiology'and
  2  hospital_id in (select hospital_id from hospital where hospital_name='apollo'));

NAME                 MOB_NO
-------------------- --------------------
ujjawal              935822269

SQL>
```

Correlated nested query

Find the id and name of the patient that takes covaxin medicine for the treatment.

select p_name,patient_id from patient where exists(
select patient_id from takes where
patient.patient_id=takes.patient_id
and exists(select medicine_name from medicine where
takes.reg_no=medicine.reg_no
group by medicine_name having medicine_name ='covaxin'));

```
SQL> select p_name,patient_id from patient where exists(
  2  select patient_id from takes where
  3  patient.patient_id=takes.patient_id
  4  and exists(select medicine_name from medicine where takes.reg_no=medicine.reg_no
  5  group by medicine_name having medicine_name ='covaxin'));

P_NAME               PATIENT_ID
-------------------- --------------------
yuvraj singh         p002
```

SET operation-

Display the patient_id who has not payed a bill yet.

select patient_id from patient intersect select patient_id from bill where due_amount=0;

```
SQL> select patient_id from patient intersect select patient_id from bill where due_amount=0;

PATIENT_ID
--------------------
p003
```

Outer join query-

Display the patient id and patient name of the patients who have yet to pay the total amount of the bill

select patient.patient_id, p_name from patient left outer join bill on patient.patient_id=bill.patient_id where total_amount>paid_ammount;

```
SQL> select patient.patient_id, p_name from patient left outer join bill on
  2  patient.patient_id=bill.patient_id where total_amount>paid_ammount;

PATIENT_ID           P_NAME
-------------------- --------------------
p001                 saksham
p002                 yuvraj singh
```

Group by having clause usage-

Find the details of the hospital having more than one patient in their treatment at a time.

select * from hospital where exists(select patient.hospital_id from patient where patient.hospital_id=hospital.hospital_id group by patient.hospital_id having count(patient_id)>1);

```
SQL> select * from hospital where exists(select patient.hospital_id from patient
  2  where patient.hospital_id=hospital.hospital_id group by patient.hospital_id having count(patient_id)>1);

HOSPITAL_ID          HOSPITAL_NAME
-------------------- --------------------
ADDRESS                                            HOSPITAL_PHONE
-------------------------------------------------- ---------------
md02_lko             medanta
gomtinagar,lucknow                                 0535-2900012
```

Update statements with embedded Select Statement-

1- Updating the reason of the patient to corona who had skin cancer

update patient set reason='Corona' where patient_id in(select patient_id from patient where reason='skin cancer');

```
SQL> update patient set reason='Corona' where patient_id in(select patient_id from patient where reason='skin cancer');

1 row updated.

SQL> select * from patient
  2  /

PATIENT_ID           P_NAME               P_DOB
-------------------- -------------------- ---------
ADDRESS                                            PHONE_NO        BLOOD
-------------------------------------------------- --------------- -----
APPOINTME
---------
APPOINTMENT_TIME
--------------------------------------------------------------------------------
REASON                                             HOSPITAL_ID
-------------------------------------------------- --------------------
p002                 yuvraj singh         10-SEP-89
chandigarh,punjab                                  9358222660      O+
01-JUN-21

PATIENT_ID           P_NAME               P_DOB
-------------------- -------------------- ---------
ADDRESS                                            PHONE_NO        BLOOD
-------------------------------------------------- --------------- -----
APPOINTME
---------
APPOINTMENT_TIME
--------------------------------------------------------------------------------
REASON                                             HOSPITAL_ID
-------------------------------------------------- --------------------
01-JUN-21 11.00.00 AM
Corona                                             md02_lko
```

2- Updating the mobile number of the nurse named as ‘Sita devi’ in the nurse details.
update nurse set mobile_no='8127642700' where nurse_id in(select nurse_id from patient where name='sita devi');

```
SQL> update nurse set mobile_no='8127642700' where nurse_id in(select nurse_id from patient where name='sita devi');

1 row updated.

SQL> select * from nurse where name='sita devi'
  2  /

NURSE_ID        NAME
--------------- --------------------
SHIFT_TIME
--------------------------------------------------------------------------------
MOBILE_NO       ADDRESS
--------------- --------------------------------------------------
HOSPITAL_ID
--------------------
staff_1092      sita devi
01-JUN-21 08.00.00 AM
8127642700      sec-g,lda colony, luckonw
ap01_lko
```

3- Update the phone no of the APOLLO hospital.

update hospital set hospital_phone='08222-4444440' where hospital_id=(select hospital_id from hospital where hospital_name='apollo');

```
SQL> update hospital set hospital_phone='08222-4444440' where hospital_id=(select hospital_id from hospital where hospital_name='apollo
');

1 row updated.

SQL> select * from hospital;

HOSPITAL_ID         HOSPITAL_NAME
------------------- -------------------
ADDRESS                                          HOSPITAL_PHONE
------------------------------------------------ --------------
ap01_1ko            apollo
powerhouse,ashiyana,lucknow                      08222-4444440

md02_1ko            medanta
gomtinagar,lucknow                               0535-2900012
```

4- Update Name of the pharmacy in Apollo Hospital to ‘Universal Medics’

update pharmacy set name='Universal midicis' where license_no=(select
  2 license_no from pharmacy where hospital_id='ap01_1ko')
  /

```
SQL> update pharmacy set name='Universal midicis' where license_no=(select
  2  license_no from pharmacy where hospital_id='ap01_1ko'
  3  )
  4  /

1 row updated.

SQL> select * from pharmacy;

LICENSE_NO      NAME                 CONTACT_NO      HOSPITAL_ID
--------------- -------------------- --------------- --------------------
apollo_134rt    Universal midicis    9867344567      ap01_1ko
medanta_556rt   medanta pharma       8765340978      md02_1ko
```

Delete query with embedded select statement-

1- Delete the bill of the patient whose name is ‘Saksham’ from the database.

```
SQL> delete from bill where patient_id=(select patient_id from patient where p_name='saksham');

1 row deleted.

SQL>
```

2- Delete the bill information of the patient who has paid the bill in full;

delete from bill where patient_id in(select patient_id from bill where total_amount=paid_ammount);

```
SQL> delete from bill where patient_id in(select patient_id from bill where total_amount=paid_ammount);

1 row deleted.
```

3- Delete the info about the nurse whose name is ‘geeta kumari’

delete from nurse where nurse_id=(select nurse_id from nurse where name='geeta_kumari')

```
SQL> delete from nurse where nurse_id=(select nurse_id from nurse where name='geeta_kumari')
  2  /

1 row deleted.

SQL> select * from nurse;

NURSE_ID        NAME
--------------- --------------------
SHIFT_TIME
---------------------------------------------------------------------------
MOBILE_NO       ADDRESS
--------------- --------------------------------------------------
HOSPITAL_ID
--------------------
staff_1092      sita devi
01-JUN-21 08.00.00 AM
7856129034      sec-g,lda colony,lucknow
ap01_1ko
```

4- Delete medicines of the brand name as ‘pfizer’

delete from medicine where reg_no=(select reg_no from medicine where brand='pfizer')

```
SQL> delete from medicine where reg_no=(select reg_no from medicine where brand='pfizer')
  2  /

1 row deleted.

SQL> select * from medicine;

REG_NO               MEDICINE_NAME         COST BRAND
-------------------- -------------- ---------- --------------------
LICENSE_NO
---------------
india_reg45          covaxin               2000 cipla
medanta_556rt
```

Select statements-

1- Find the patients who have cancerous problem
Select * from patient where reason is like ‘%cancer’;

```
SQL> select * from patient where reason like '%cancer';

PATIENT_ID           P_NAME               P_DOB
-------------------- -------------------- ---------
ADDRESS                                           PHONE_NO        BLOOD
------------------------------------------------- --------------- -----
APPOINTME
---------
APPOINTMENT_TIME
--------------------------------------------------------------------------------
REASON                                            HOSPITAL_ID
------------------------------------------------- --------------------
p002                 yuraj singh          10-SEP-89
chandigarh,punjab                                 9358222660      O+
02-JUN-21

PATIENT_ID           P_NAME               P_DOB
-------------------- -------------------- ---------
ADDRESS                                           PHONE_NO        BLOOD
------------------------------------------------- --------------- -----
APPOINTME
---------
APPOINTMENT_TIME
--------------------------------------------------------------------------------
REASON                                            HOSPITAL_ID
------------------------------------------------- --------------------
01-MAY-21 11.00.00 AM
skin cancer                                       md02_lko
```

2- Find the nurse whose shifts starts before noon

```
SQL> select name,nurse_id from nurse where shift_time < to_timestamp('12:00','hh24:mi');

NAME                 NURSE_ID
-------------------- --------------
sita devi            staff_1092
geeta devi           nur_staff_4567
```

3- Find the name of the vaccine having price less than 1000

```
SQL> select medicine_name,reg_no from medicine where cost < 1000;

MEDICINE_NAME   REG_NO
--------------- --------------------
covishield      india_reg98
```

4- Find the name and contact details of the doctor having doctor id as= user input;

```
SQL> select name,phone_no from doctor where doctor_id=&doctor_id ;
Enter value for doctor_id: 'cardio_012'
old   1: select name,phone_no from doctor where doctor_id=&doctor_id
new   1: select name,phone_no from doctor where doctor_id='cardio_012'

NAME                 PHONE_NO
-------------------- ---------------
prakash jha          9454237689

SQL>
```

A procedure to update the bill as patient pays.

```
create or replace procedure billup(pid in varchar2,up_price in number) is
cursor crq is select patient_id,paid_ammount,total_amount,due_amount from
bill for update;
crq_rec crq%rowtype ;
begin
open crq;
fetch crq into crq_rec;
while crq%found loop
if pid= crq_rec.patient_id then
update bill
set paid_ammount =paid_ammount + up_price,
due_amount = total_amount-up_price
where current of crq;
end if;
fetch crq into crq_rec;
end loop;
close crq;
end;
/
```

```
SQL> create or replace procedure billup(pid in varchar2,up_price in number) is
  2  cursor crq is select patient_id,paid_ammount,total_amount,due_amount from bill for update;
  3  crq_rec crq%rowtype ;
  4  begin
  5  open crq;
  6  fetch crq into crq_rec;
  7  while crq%found loop
  8  if pid= crq_rec.patient_id then
  9  update bill
 10  set paid_ammount =paid_ammount + up_price,
 11  due_amount = total_amount-up_price
 12  where current of crq;
 13  end if;
 14  fetch crq into crq_rec;
 15  end loop;
 16  close crq;
 17  end;
 18  /

Procedure created.

SQL> exec billup('p001','200.00');

PL/SQL procedure successfully completed.
```

```
SQL> select * from bill
  2  where patient_id='p001';

BILL_NO         PATIENT_ID           TOTAL_AMOUNT PAID_AMMOUNT DUE_AMOUNT
--------------- -------------------- ------------ ------------ ----------
DUE_DATE  PAYMENT_D
--------- ---------
PAYMENT_TIME
-------------------------------------------------------------------------------
HOSPITAL_ID
--------------------
apollo_b9834    p001                      458.89          250     258.89
15-JUN-21 05-JUN-21
01-MAY-21 01.23.00 PM
ap01_lko
```

A procedure to Print detail about patient which show his illness , doctor , hospital.

```
create or replace procedure pdetail(pname in varchar2) is
cursor cr is select
patient.p_name,patient.patient_id,patient.reason,hospital.hospital_name,docto
r.name
from patient,hospital,department,doctor,checks
where patient.patient_id = checks.patient_id
and checks.doctor_id= doctor.doctor_id
and hospital.hospital_id= patient.hospital_id
and department.dep_id = doctor.dep_id
and department.hospital_id= hospital.hospital_id;
cr_rec cr%rowtype;
begin
```

```
open cr;
fetch cr into cr_rec;
while cr%found loop
if pname= cr_rec.p_name then
dbms_output.put_line('Patient : '||cr_rec.p_name||' patient
id:'||cr_rec.patient_id);
dbms_output.put_line('Doctor  : '||cr_rec.name);
dbms_output.put_line('hospital: '||cr_rec.hospital_name);
dbms_output.put_line('Illness : '||cr_rec.reason);
end if;
fetch cr into cr_rec;
end loop;
close cr;
end;
```

```
SQL> create or replace procedure pdetail(pname in varchar2) is
  2  cursor cr is select patient.p_name,patient.patient_id,patient.reason,hospital.hospital_name,doctor.name
  3  from patient,hospital,department,doctor,checks
  4  where patient.patient_id = checks.patient_id
  5  and checks.doctor_id= doctor.doctor_id
  6  and hospital.hospital_id= patient.hospital_id
  7  and department.dep_id = doctor.dep_id
  8  and department.hospital_id= hospital.hospital_id;
  9  cr_rec cr%rowtype;
 10  begin
 11  open cr;
 12  fetch cr into cr_rec;
 13  while cr%found loop
 14  if pname= cr_rec.p_name then
 15  dbms_output.put_line('Patient : '||cr_rec.p_name||' patient id:'||cr_rec.patient_id);
 16  dbms_output.put_line('Doctor  : '||cr_rec.name);
 17  dbms_output.put_line('hospital: '||cr_rec.hospital_name);
 18  dbms_output.put_line('Illness : '||cr_rec.reason);
 19  end if;
 20  fetch cr into cr_rec;
 21  end loop;
 22  close cr;
 23  end;
 24  /

Procedure created.

SQL> exec pdetail('saksham');
Patient : saksham patient id:p001
Doctor  : prakash jha
hospital: apollo
Illness : over stress anxiety

PL/SQL procedure successfully completed.

SQL>
```

Create a function to get the no of the doctors in a department of the hospital

```
create or replace function no_doc(did in varchar2) return number is
c number :=0;
cursor sca is select dep_id from doctor;
sca_rec sca%rowtype;
begin
for sca_rec in sca loop
```

```
if did = sca_rec.dep_id then
c :=c+1;
end if;
end loop;
return c;
end;
/
```

```
SQL> create or replace function no_doc(did in varchar2) return number is
  2  c number :=0;
  3  cursor sca is select dep_id from doctor;
  4  sca_rec sca%rowtype;
  5  begin
  6  for sca_rec in sca loop
  7  if did = sca_rec.dep_id then
  8  c :=c+1;
  9  end if;
 10  end loop;
 11  return c;
 12  end;
 13  /

Function created.

SQL> variable doc_no number;
SQL> exec:doc_no := no_doc('md_pshy_02');

PL/SQL procedure successfully completed.

SQL> print doc_no;

    DOC_NO
----------
         1
```

Create a function to determine the severity of the of the patients problem

```
create or replace function deg_pat(pid in varchar2) return varchar2 is
remar varchar(200);
cursor sc is select reason,patient_id,p_name from patient;
sc_rec sc%rowtype;
begin
open sc;
fetch sc into sc_rec;
while sc%found loop
if pid = sc_rec.patient_id then
dbms_output.put_line('Patient : '||sc_rec.p_name);
if sc_rec.reason = 'skin cancer' or sc_rec.reason = 'cancer' or sc_rec.reason =
'heart attack' then
remar := 'Very critical . Urgent care needed';
elsif sc_rec.reason = 'over stress anxiety' or sc_rec.reason = 'depression' then
remar:= 'mental health patient';
elsif sc_rec.reason = 'corona' then
remar := 'urgent care in COVID  ward';
else
```

```
remar := 'not so serious.general department ';
end if;
end if;
fetch sc into sc_rec;
end loop;
close sc;
return remar;
end;
/
```

```
SQL> create or replace function deg_pat(pid in varchar2) return varchar2 is
  2  remar varchar(200);
  3  cursor sc is select reason,patient_id,p_name from patient;
  4  sc_rec sc%rowtype;
  5  begin
  6  open sc;
  7  fetch sc into sc_rec;
  8  while sc%found loop
  9  if pid = sc_rec.patient_id then
 10  dbms_output.put_line('Patient : '||sc_rec.p_name);
 11  if sc_rec.reason = 'skin cancer' or sc_rec.reason = 'cancer' or sc_rec.reason = 'heart attack' then
 12  remar := 'Very critical . Urgent care needed';
 13  elsif sc_rec.reason = 'over stress anxiety' or sc_rec.reason = 'depression' then
 14  remar:= 'mental health patient';
 15  elsif sc_rec.reason = 'corona' then
 16  remar := 'urgent care in COVID  ward';
 17  else
 18  remar := 'not so serious.general department ';
 19  end if;
 20  end if;
 21  fetch sc into sc_rec;
 22  end loop;
 23  close sc;
 24  return remar;
 25  end;
 26  /

Function created.
```

```
SQL> variable remark_patient varchar2(200);
SQL> exec:remark_patient:=deg_pat('p001');
Patient : saksham

PL/SQL procedure successfully completed.

SQL> print remark_patient;

REMARK_PATIENT
--------------------------------------------------------------------------------
mental health patient

SQL>
```