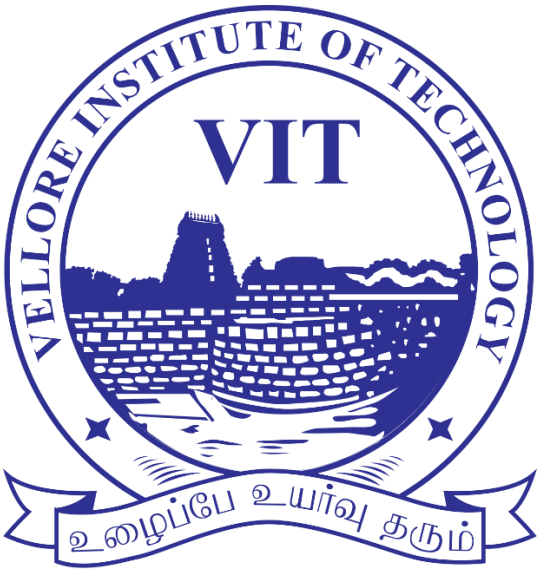


DATABASE MANAGEMENT SYSTEMS

Cycle Sheet – 1

Name: **VIBHU KUMAR SINGH**
Reg. No: **19BCE0215**
Teacher: **Nancy Victor**

1. Create all tables in Hospital database as per the requirement given below;

a) The primay key for each table to be created as specified (refer database)

b) **Appropriate data type and size should be chosen for each attribute**

c) **Appropriate integrity constraints should be used while creating tables (NULL, NOT NULL, FOREIGN KEY, CHECK) - Refer Figure 1**

d) **The values for some attributes should be as follows; include appropriate CHECK constraints to achieve them.**

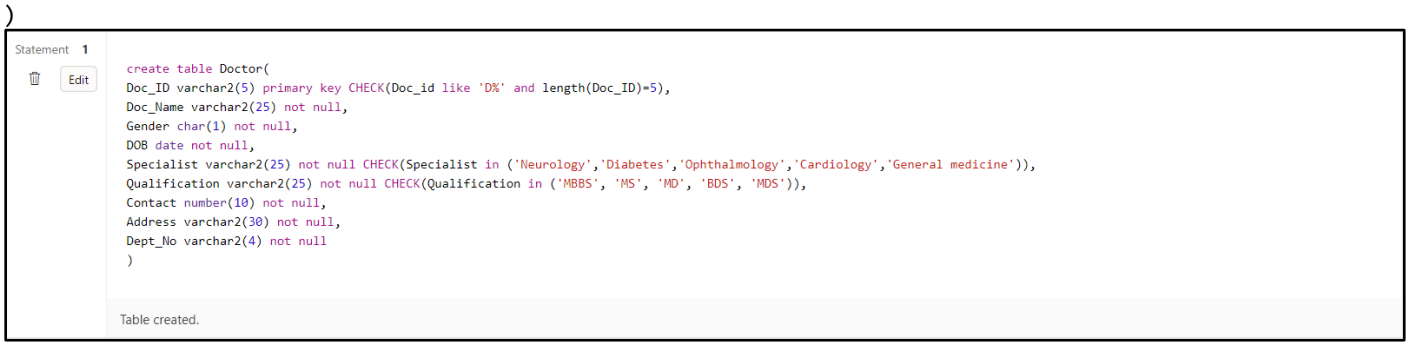
i) **Primary key values should be created with uniformity. For example, Doc_ID can be like 'D0001' [five characters long and start with 'D'], Staff_ID like 'S0001', Pres_ID like 'PR00001' and so on.**

Attributes and permitted values (you can decide and include such values wherever required)

A1.

Doctor:

```
create table Doctor(
Doc_ID varchar2(5) primary key CHECK(Doc_id like 'D%' and length(Doc_ID)=5),
Doc_Name varchar2(25) not null,
Gender char(1) not null,
DOB date not null,
Specialist varchar2(25) not null CHECK(Specialist in
('Neurology','Diabetes','Ophthalmology','Cardiology','General medicine')),
Qualification varchar2(25) not null CHECK(Qualification in ('MBBS', 'MS', 'MD', 'BDS', 'MDS')),
Contact number(10) not null,
Address varchar2(30) not null,
Dept_No varchar2(4) not null
)
```



Department:

```
create table Department(
Dept_No varchar2(5) primary key CHECK(Dept_No like 'D%' and length(Dept_No)=4),
Dept_Name char(20) not null CHECK(Dept_Name in('Cardiology','Intensive care
unit','Neurology','Oncology','Obstetrics and gynaecology','Diabetes')),
Dept_Room_No number(4) not null,
Dept_Floor number(2) not null,
Dept_HOD varchar2(10) not null,
Dept_Estd_Date date not null CHECK(Dept_Estd_Date > '01-Jan-2010')
)
```

Statement 2

Edit

```
create table Department(
Dept_No varchar2(5) primary key CHECK(Dept_No like 'D%' and length(Dept_No)=4),
Dept_Name char(20) not null CHECK(Dept_Name in('Cardiology','Intensive care unit','Neurology','Oncology','Obstetrics and gynaecology','Diabetes')),
Dept_Room_No number(4) not null,
Dept_Floor number(2) not null,
Dept_HOD varchar2(10) not null,
Dept_Estd_Date date not null CHECK(Dept_Estd_Date > '01-Jan-2010')
)
```

Table created.

Staff:

```
create table Staff(
Staff_ID varchar2(5) primary key not null CHECK(Staff_ID like 'S%' and length(Staff_ID)=5),
Staff_Name varchar2(20) not null,
Categoryy varchar2(20) not null check(Categoryy in ('Nurse','Lab Technician','Attender','Helper')),
dob date,
Contact number(10) not null,
Address varchar2(100),
Dept_No varchar2(4),
Designation varchar2(100) not null check (Designation in ('Staff Nurse','Head Nurse','Technician','Senior Attender','Junior Attender'))
)
```

Statement 3

Edit

```
create table Staff(
Staff_ID varchar2(5) primary key not null CHECK(Staff_ID like 'S%' and length(Staff_ID)=5),
Staff_Name varchar2(20) not null,
Categoryy varchar2(20) not null check(categoryy in ('Nurse','Lab Technician','Attender','Helper')),
dob date,
Contact number(10) unique,
Address varchar2(100),
Dept_No varchar2(4),
Designation varchar2(100) not null check (Designation in ('Staff Nurse','Head Nurse','Technician','Senior Attender','Junior Attender'))
)
```

Table created.

Patient:

```
create table Patient(
Pat_ID varchar2(5) primary key check( Pat_ID like 'PT%' and length(Pat_ID)=5),
Pat_Name varchar2(25) not null,
DOB date not null,
Gender char(1) not null check(Gender in ('M','F','T')),
Contact number(10) not null,
Address varchar2(30) not null
)
```

Statement 4

Edit

```
create table Patient(
Pat_ID varchar2(5) primary key check( Pat_ID like 'PT%' and length(Pat_ID)=5),
Pat_Name varchar2(25) not null,
DOB date not null,
Gender char(1) not null check(Gender in ('M','F','T')),
Contact number(10) not null,
Address varchar2(30) not null
)
```

Table created.

In_Patient:

```
create table In_Patient(
Pat_ID varchar2(5) not null,
Date_of_admission date not null,
Bed_No number(4) not null,
Start_Time timestamp not null,
End_Time timestamp not null,
CHECK(Start_Time BETWEEN Date_of_admission AND End_Time)
)
```

Statement 5

```
create table In_Patient(
Pat_ID varchar2(5) not null,
Date_of_admission date not null,
Bed_No number(4) not null,
Start_Time timestamp not null,
End_Time timestamp not null,
CHECK(Start_Time BETWEEN Date_of_admission AND End_Time)
)
```

Table created.

In_Patient_Prescription:

```
create table In_Patient_Prescription(
Pat_ID varchar2(5) not null CHECK( Pat_ID like 'PT%' and length(Pat_ID)=5),
Pres_ID varchar2(7) not null CHECK(Pres_ID like 'PR%' and length(Pres_ID)=7)
)
```

Statement 6

```
create table In_Patient_Prescription(
Pat_ID varchar2(5) not null CHECK( Pat_ID like 'PT%' and length(Pat_ID)=5),
Pres_ID varchar2(7) not null CHECK(Pres_ID like 'PR%' and length(Pres_ID)=7)
)
```

Table created.

Appointment:

```
create table Appointment(
App_ID varchar2(5) primary key CHECK( App_ID like 'APP%' and length(App_ID)=5),
Pat_ID varchar2(5) not null,
Doc_ID varchar2(5) not null CHECK(Doc_id like 'D%' and length(Doc_ID)=5),
Nurse_ID varchar2(5) not null,
Consult_Room_No number(4) not null,
Date_ date not null,
time_ timestamp not null
)
```

Statement 7

```
create table Appointment(
App_ID varchar2(5) primary key CHECK( App_ID like 'APP%' and length(App_ID)=5),
Pat_ID varchar2(5) not null,
Doc_ID varchar2(5) not null CHECK(Doc_id like 'D%' and length(Doc_ID)=5),
Nurse_ID varchar2(5) not null,
Consult_Room_No number(4) not null,
Date_ date not null,
time_ timestamp not null
)
```

Table created.

Prescription:

```
create table Prescription(
Pres_ID varchar2(7) primary key CHECK(Pres_ID like 'PR%' and length(Pres_ID)=7),
App_ID varchar2(5) CHECK( App_ID like 'APP%' and length(App_ID)=5),
Date_ date not null,
time_ timestamp not null,
Diagnosis_Detail varchar(30) not null
)
```

Statement 8

```
create table Prescription(
Pres_ID varchar2(7) primary key CHECK(Pres_ID like 'PR%' and length(Pres_ID)=7),
App_ID varchar2(5) CHECK( App_ID like 'APP%' and length(App_ID)=5),
Date_ date not null,
time_ timestamp not null,
Diagnosis_Detail varchar(30) not null
)
```

Table created.

Prescribed_Medicines:

```
create table Prescribed_Medicines(
Pres_ID varchar2(7) CHECK(Pres_ID like 'PR%' and length(Pres_ID)=7),
Medicine_Name varchar2(15) not null,
Dosage varchar2(15) not null,
```

```
Brand varchar2(15) not null
)
```

Statement 9

```
create table Prescribed_Medicines(
Pres_ID varchar2(7) CHECK(Pres_ID like 'PR%' and length(Pres_ID)=7),
Medicine_Name varchar2(15) not null,
Dosage varchar2(15) not null,
Brand varchar2(15) not null
)
```

Table created.

Hospital_Bill:

```
create table Hospital_Bill(
Inv_No varchar2(6) unique,
Inv_Date date not null,
Pat_ID varchar2(5) CHECK(Pat_ID like 'PT%' and length(Pat_ID)=5),
Bill_Amount number(8) not null,
Payment_Type varchar2(15) not null,
discount number(2) not null
)
```

Statement 10

```
create table Hospital_Bill(
Inv_No varchar2(6) unique,
Inv_Date date not null,
Pat_ID varchar2(5) CHECK(Pat_ID like 'PT%' and length(Pat_ID)=5),
Bill_Amount number(8) not null,
Payment_Type varchar2(15) not null,
discount number(2) not null
)
```

Table created.

Lab_Tests:

```
create table Lab_Tests(
Test_ID varchar2(5) primary key CHECK(Test_ID like 'TI%' and length(Test_ID)=5),
Pat_ID varchar2(5) CHECK( Pat_ID like 'PT%' and length(Pat_ID)=5),
Date_ date not null,
time_ timestamp not null
)
```

Statement 11

```
create table Lab_Tests(
Test_ID varchar2(5) primary key CHECK(Test_ID like 'TI%' and length(Test_ID)=5),
Pat_ID varchar2(5) CHECK( Pat_ID like 'PT%' and length(Pat_ID)=5),
Date_ date not null,
time_ timestamp not null
)
```

Table created.

Test_results:

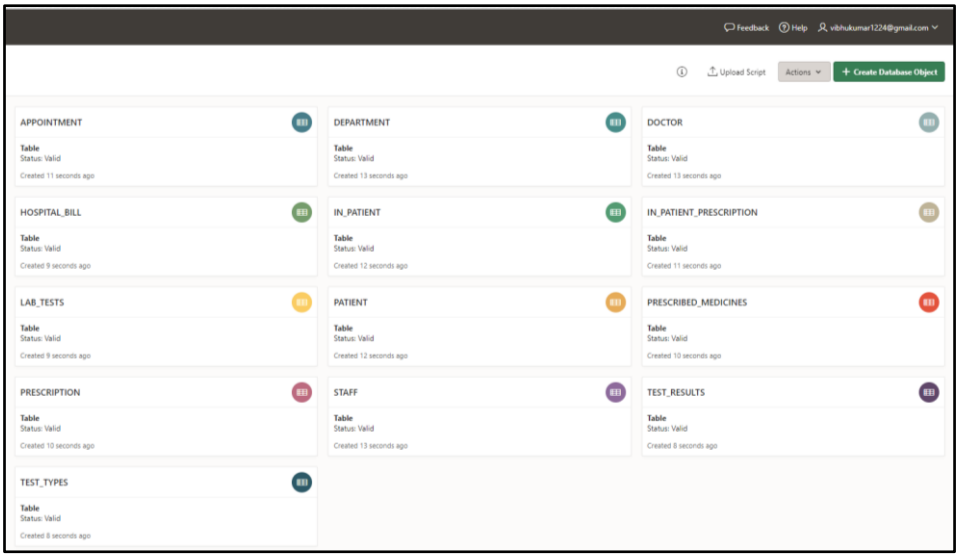
```
create table Test_results(
Test_ID varchar2(5)CHECK(Test_ID like 'TI%' and length(Test_ID)=5),
TT_ID varchar2(5) CHECK( TT_ID like 'TT%' and length(TT_ID)=5),
Result varchar2(10) not null
)
```

Statement 12

```
create table Test_results(
Test_ID varchar2(5)CHECK(Test_ID like 'TI%' and length(Test_ID)=5),
TT_ID varchar2(5) CHECK( TT_ID like 'TT%' and length(TT_ID)=5),
Result varchar2(10) not null
)
```

Table created.

SCHEMA:



Making foreign keys:

```
1  alter table doctor
2  add constraint Dept_No
3  foreign key (Dept_No) references Department(Dept_No);
4
```

```
ORA-02275: such a referential constraint already exists in the table
```

```
1  alter table department
2  add constraint HOD
3  foreign key (HOD) references Doctor(Doc_ID);
4
```

```
ORA-02275: such a referential constraint already exists in the table
```

```
1  ALTER TABLE Staff
2  ADD FOREIGN KEY (Dept_no) REFERENCES Department(Dept_no);
3
4
```

```
SQL Statement Output
```

```
1  ALTER TABLE In_Patient
2  ADD FOREIGN KEY (Pat_ID) REFERENCES Patient(Pat_ID);
3
4
```

```
Table altered.
```

```
1  ALTER TABLE In_Patient_Prescription
2  ADD FOREIGN KEY (Pat_ID) REFERENCES Patient(Pat_ID);
3
4
```

```
Table altered.
```

```
ALTER TABLE Appointment
ADD FOREIGN KEY (Pat_ID) REFERENCES Patient(Pat_ID);
```

```
Table altered.
```

```
ALTER TABLE Lab_tests
ADD FOREIGN KEY (Pat_ID) REFERENCES Patient(Pat_ID);
```

```
Table altered.
```

```
ALTER TABLE Hospital_Bill
ADD FOREIGN KEY (Pat_ID) REFERENCES Patient(Pat_ID);
```

```
Table altered.
```

```
ALTER TABLE Appointment
ADD FOREIGN KEY (Nurse_ID) REFERENCES Staff(Staff_ID);
```

```
Table altered.
```

```
ALTER TABLE Test_types
ADD FOREIGN KEY (Technician) REFERENCES Staff(Staff_ID);
```

```
Table altered.
```

```
ALTER TABLE Appointment
ADD FOREIGN KEY (Doc_ID) REFERENCES Doctor(Doc_ID);
```

```
Table altered.
```

```
ALTER TABLE In_Patient_prescription
ADD FOREIGN KEY (Pres_ID) REFERENCES Prescription(Pres_ID);
```

```
Table altered.
```

```
1  ALTER TABLE Prescribed_Medicines
2  ADD FOREIGN KEY (Pres_ID) REFERENCES Prescription(Pres_ID);
3
4
```

```
Table altered.
```

```
1  ALTER TABLE Test_Results
2  ADD FOREIGN KEY (Test_ID) REFERENCES Lab_Tests(Test_ID);
3
4
```

```
ORA-02275: such a referential constraint already exists in the table
```

```
1  ALTER TABLE Prescription
2  ADD FOREIGN KEY (App_ID) REFERENCES Appointment(App_ID);
3
4
```

```
Table altered.
```

2. **Populate each table with appropriate, valid and meaningful data.**

A2.

Doctor:

```
insert into Doctor values('D0001','Vibhu Kumar Singh','M','01-Jan-
1990','Neurology','MBBS',8529759229,'Vasundhara','D102');
insert into Doctor values('D0002','Lionel Messi','F','02-Jan-
1990','Ophthalmology','MD',8529759230,'Ghaziabad','D104');
insert into Doctor values('D0003','Akansha Sharma','F','03-Jan-1990','Cardiology','MDS',8529759231,'Kavi
Nagar','D100');
insert into Doctor values('D0004','Sanjay Kumar','M','01-Jan-1990','General
medicine','MBBS',8529759232,'Shastri Nagar','D103');
insert into Doctor values('D0005','Zaheer Khan','M','01-Jan-1990','Neurology','BDS',8529759233,'South
Delhi','D102');
```

Department:

```
insert into Department values('D100','Cardiology',1001,01,'D0001','1-Jan-2020');
insert into Department values('D104','Intensive care unit',1002,01,'D0002','2-Jan-2020');
insert into Department values('D102','Neurology',1003,03,'D0003','3-Jan-2020');
insert into Department values('D103','Oncology',1004,04,'D0004','4-Jan-2020');
insert into Department values('D101','Diabetes',1005,05,'D0005','5-Jan-2020');
```

Staff:

```
insert into Staff values('S0005','Sania','Nurse','01-Jan-1990',1234567892,'Jhotwara','D102','Staff
Nurse');
insert into Staff values('S0001','Sam','Lab Technician','02-Jan-
1990',1234567893,'Jaipur','D102','Technician');
insert into Staff values('S0002','Ramesh','Attender','03-Jan-1990',1234567894,'Jaisalmer','D100','Junior
Attender');
insert into Staff values('S0003','Suresh','Nurse','04-Jan-1990',1234567895,'Goa','D101','Staff Nurse');
insert into Staff values('S0004','Manju','Nurse','05-Jan-1990',1234567891,'Pakistan','D190','Junior
Attender');
```

Patient:

```
insert into Patient values('PT001','Sam','01-Jan-2000','M',8529759249,'Thane West');
insert into Patient values('PT002','mary','02-Jan-2000','F',8529759257,'Thane East');
insert into Patient values('PT003','Kevin','03-Jan-2000','M',8340613668,'Chennai');
insert into Patient values('PT004','Jay','04-Jan-2000','M',8529659228,'Borivali West');
insert into Patient values('PT005','Nancy','05-Jan-2000','F',8526759234,'Worli');
```

In_Patient:

```
insert into In_Patient values('PT001','01-Jan-2020',1010,to_timestamp('2020-11-03:08:49:01','YYYY-MM-DD
HH24:MI:SS'),to_timestamp('2020-11-03:09:49:01','YYYY-MM-DD:HH24:MI:SS'));
insert into In_Patient values('PT002','02-Jan-2020',1012,to_timestamp('2020-10-04:09:34:01','YYYY-MM-
DD:HH24:MI:SS'),to_timestamp('2020-10-04:11:34:01','YYYY-MM-DD:HH24:MI:SS'));
insert into In_Patient values('PT003','03-Jan-2020',1013,to_timestamp('2020-04-11:10:23:01','YYYY-MM-
DD:HH24:MI:SS'),to_timestamp('2020-04-11:12:23:01','YYYY-MM-DD:HH24:MI:SS'));
insert into In_Patient values('PT004','04-Jan-2020',1014,to_timestamp('2020-06-20:11:55:01','YYYY-MM-
DD:HH24:MI:SS'),to_timestamp('2020-06-20:13:55:01','YYYY-MM-DD:HH24:MI:SS'));
insert into In_Patient values('PT005','05-Jan-2020',1015,to_timestamp('2020-05-07:07:23:01','YYYY-MM-
DD:HH24:MI:SS'),to_timestamp('2020-05-07:09:23:01','YYYY-MM-DD:HH24:MI:SS'));
insert into In_Patient values('PT006','01-May-2020',100,to_timestamp('2020-11-03:08:49:01','YYYY-MM-DD
HH24:MI:SS'),to_timestamp('2020-11-03:09:49:01','YYYY-MM-DD:HH24:MI:SS'));
insert into In_Patient values('PT007','01-May-2020',100,to_timestamp('2020-11-03:08:49:20','YYYY-MM-DD
HH24:MI:SS'),to_timestamp('2020-11-03:09:49:01','YYYY-MM-DD:HH24:MI:SS'));
```

In_Patient_Presciption:

```
insert into In_Patient_Prescription values('PT001','PR00001');
insert into In_Patient_Prescription values('PT002','PR00002');
insert into In_Patient_Prescription values('PT003','PR00003');
insert into In_Patient_Prescription values('PT004','PR00012');
insert into In_Patient_Prescription values('PT005','PR00005');
```

Appointment:

```
insert into Appointment values('APP01','PT001','D0001','S0003',111,'01-Jan-2020',to_timestamp('2020-11-
01:09:49:01','YYYY-MM-DD:HH24:MI:SS'));
insert into Appointment values('APP02','PT002','D0002','S0005',111,'02-Jan-2020',to_timestamp('2020-10-
22:11:30:01','YYYY-MM-DD:HH24:MI:SS'));
insert into Appointment values('APP03','PT003','D0003','S0005',111,'03-Jan-2020',to_timestamp('2020-04-
13:08:49:01','YYYY-MM-DD:HH24:MI:SS'));
insert into Appointment values('APP04','PT004','D0004','S0003',112,'04-Jan-2020',to_timestamp('2020-06-
23:12:34:01','YYYY-MM-DD:HH24:MI:SS'));
insert into Appointment values('APP05','PT005','D0005','S0003',113,'05-Jan-2020',to_timestamp('2020-05-
16:13:40:01','YYYY-MM-DD:HH24:MI:SS'));
insert into Appointment values('APP06','PT003','D0001','S0003',111,'11-Jan-2020',to_timestamp('2020-11-
01:09:49:01','YYYY-MM-DD:HH24:MI:SS'));
insert into Appointment values('APP07','PT002','D0001','S0003',111,'11-Jan-2020',to_timestamp('2020-11-
01:09:49:01','YYYY-MM-DD:HH24:MI:SS'));
```

Prescription:

```
insert into Prescription values('PR00001','APP01','01-Jan-2020',to_timestamp('2020-11-01:09:49:01','YYYY-
MM-DD:HH24:MI:SS'),'High BP');
insert into Prescription values('PR00002','APP02','02-Jan-2020',to_timestamp('2020-10-22:11:30:01','YYYY-
MM-DD:HH24:MI:SS'),'Low Vitamins');
insert into Prescription values('PR00003','APP03','03-Jan-2020',to_timestamp('2020-04-13:08:49:01','YYYY-
MM-DD:HH24:MI:SS'),'Low Bone Density');
insert into Prescription values('PR00012','APP04','04-Jan-2020',to_timestamp('2020-06-23:12:34:01','YYYY-
MM-DD:HH24:MI:SS'),'Anaemia');
insert into Prescription values('PR00005','APP05','05-Jan-2020',to_timestamp('2020-05-16:13:40:01','YYYY-
MM-DD:HH24:MI:SS'),'Fracture');
```

Prescribed_Medicines:

```
insert into Prescribed_medicines values('PR00001','crocin','10mg','Hamway');
insert into Prescribed_medicines values('PR00002','Combiflame','15mg','Hamway');
insert into Prescribed_medicines values('PR00003','SHA256','10ml','HDM');
insert into Prescribed_medicines values('PR00012','SHA1','20ml','HDM');
insert into Prescribed_medicines values('PR00005','SHA128','15ml','Hamway');
```

Hospital_Bill:

```
insert into Hospital_Bill values('4072','01-Jan-2020','PT001',150000,'cash',5);
insert into Hospital_Bill values('4073','02-Jan-2020','PT002',200000,'credit card',10);
insert into Hospital_Bill values('4074','03-Jan-2020','PT003',40000,'debit card',5);
insert into Hospital_Bill values('4075','04-Jan-2020','PT004',3000,'cash',10);
insert into Hospital_Bill values('4078','05-Jan-2020','PT005',5000,'debit card',15);
```

Lab_Test:

```
insert into Lab_tests values('TI001','PT001','01-Jan-2020',to_timestamp('2020-11-03:08:49:01','YYYY-MM-DD:HH24:MI:SS'));
insert into Lab_tests values('TI002','PT002','02-Jan-2020',to_timestamp('2020-10-04:09:34:01','YYYY-MM-DD:HH24:MI:SS'));
insert into Lab_tests values('TI003','PT003','03-Jan-2020',to_timestamp('2020-04-11:10:23:01','YYYY-MM-DD:HH24:MI:SS'));
insert into Lab_tests values('TI004','PT004','04-Jan-2020',to_timestamp('2020-06-20:11:55:01','YYYY-MM-DD:HH24:MI:SS'));
insert into Lab_tests values('TI005','PT005','05-Jan-2020',to_timestamp('2020-05-07:07:23:01','YYYY-MM-DD:HH24:MI:SS'));
```

Test_results:

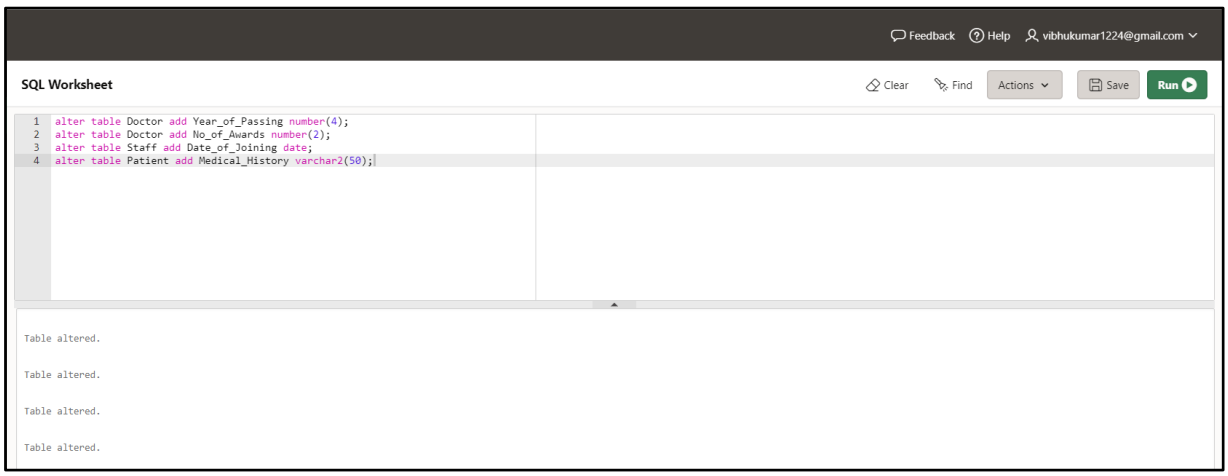
```
insert into Test_results values('TI001','TT001','Positive');
insert into Test_results values('TI002','TT002','Positive');
insert into Test_results values('TI003','TT003','Negative');
insert into Test_results values('TI004','TT004','Negative');
insert into Test_results values('TI005','TT005','Positive');
```

Test_Types:

```
insert into Test_Types values('TT001','Blood test',26,66,'Blood sample','S0004');
insert into Test_Types values('TT002','Blood test',23,65,'Blood sample','S0004');
insert into Test_Types values('TT003','Urine test',30,74,'Urine sample','S0004');
insert into Test_Types values('TT004','Urine test',11,23,'Urine sample','S0004');
insert into Test_Types values('TT005','Urine test',15,24,'Urine sample','S0004');
```

3. **Add some attributes with few tables and justify the additions.**

A3.



Justification for the addition of the above attributes:

- A doctor may be considered for a position like the HOD of a department based on his experience and the no. of awards he has bagged throughout the course of his

career.

- Similarly, for staff, their promotions may be decided on the basis of the years they have served in the hospital.
- A patient's previous medical records can help a doctor analyze the situation well and consequently better aid the patient.

4. **Write DML queries to achieve the following;**

a) **Find the details of all doctors.**

b) **Display all the hospital bill details.**

c) **List the doctors who are specialized in 'Cardiology' and 'Neurology'**

d) **List all the appointments made for consultation room number 111, on '11-Jan- 2020'.**

e) **Display all the test types that have the values in the range of 25 and 75.**

f) **Find the diagnosis details of the patient with prescription id 'PR00012'.**

g) **Display the name of the patients whose gender is female or the contact number is 9878987890.**

h) **Find the staff name and staff id who are not working in the department 'D102'**

i) **Find the patients who are admitted on '01-May-2020' in the bed 100.**

j) **Delete the test results that are 'Positive'**

k) **Increase the discount with 5% more for all the patients whose bill amount is greater than 100000.**

l) **Change the HOD of cardiology department with doctor 'D0003'**

m) **Delete the prescribed medicines records that have the brand name 'XYZ'**

n) **Modify the low value and high value to 10 and 30 respectively for the clinical test 'urine'**

o) **Update the contact number of all staffs who are in the category 'Nurse'**

p) **Delete the staff records that have designations 'junior attender' or 'technician' and belongs to the department 'D190'.**

A4.

a) select * from Doctor;

DOC_ID	DOC_NAME	GENDER	DOB	SPECIALIST	QUALIFICATION	CONTACT	ADDRESS	DEPT_NO
D0001	Vibhu Kumar Singh	M	01-JAN-90	Neurology	MBBS	8529759229	Vasundhara	D102
D0002	Lionel Messi	F	02-JAN-90	Ophthalmology	MD	8529759230	Ghaziabad	D104
D0003	Akansha Sharma	F	03-JAN-90	Cardiology	MDS	8529759231	Kavi Nagar	D100
D0004	Sanjay Kumar	M	01-JAN-90	General medicine	MBBS	8529759232	Shastri Nagar	D103
D0005	Zaheer Khan	M	01-JAN-90	Neurology	BDS	8529759233	South Delhi	D102

b) select * from Hospital_bill;

INV_NO	INV_DATE	PAT_ID	BILL_AMOUNT	PAYMENT_TYPE	DISCOUNT
4072	01-JAN-20	PT001	150000	cash	5
4073	02-JAN-20	PT002	200000	credit card	10
4074	03-JAN-20	PT003	40000	debit card	5
4075	04-JAN-20	PT004	3000	cash	10
4078	05-JAN-20	PT005	5000	debit card	15

c) select * from Doctor where specialist in ('Cardiology','Neurology');

DOC_ID	DOC_NAME	GENDER	DOB	SPECIALIST	QUALIFICATION	CONTACT	ADDRESS	DEPT_NO
D0001	Vibhu Kumar Singh	M	01-JAN-90	Neurology	MBBS	8529759229	Vasundhara	D102
D0003	Akansha Sharma	F	03-JAN-90	Cardiology	MDS	8529759231	Kavi Nagar	D100
D0005	Zaheer Khan	M	01-JAN-90	Neurology	BDS	8529759233	South Delhi	D102

d) select * from Appointment where Consult_Room_No = 111 and Date_ = '11-Jan-2020';

APP_ID	PAT_ID	DOC_ID	NURSE_ID	CONSULT_ROOM_NO	DATE_	TIME_
APP06	PT003	D0001	S0003	111	11-JAN-20	01-NOV-20 09.49.01.000000 AM
APP07	PT002	D0001	S0003	111	11-JAN-20	01-NOV-20 09.49.01.000000 AM

e) select * from Test_Types where Low_value>= 25 and High_value<= 75;

TT_ID	DESCRIPTION	LOW_VALUE	HIGH_VALUE	TEST_METHOD	TECHNICIAN
TT001	Blood test	26	66	Blood sample	S0004
TT003	Urine test	30	74	Urine sample	S0004

f) select Diagnosis_Detail from Prescription where pres_id = 'PR00012';

DIAGNOSIS_DETAIL
Anaemia

g) select Pat_Name from Patient where gender = 'F' or contact = 9414486833;

PAT_NAME
mary
Nancy

h) select Staff_Name, Staff_ID from staff where dept_no not in 'DP102';

STAFF_NAME	STAFF_ID
Sania	S0005
Sam	S0001
Ramesh	S0002
Suresh	S0003
Manju	S0004

i) select * from In_Patient where Bed_no=100 AND Date_of_admission='01-May-2020';

PAT_ID	DATE_OF_ADMISSION	BED_NO	START_TIME	END_TIME
PT006	01-MAY-20	100	03-NOV-20 08.49.01.000000 AM	03-NOV-20 09.49.01.000000 AM
PT007	01-MAY-20	100	03-NOV-20 08.49.20.000000 AM	03-NOV-20 09.49.01.000000 AM

j) delete from Test_results where Result='Positive';

3 row(s) deleted.

TEST_ID	TT_ID	RESULT
TI003	TT003	Negative
TI004	TT004	Negative

k) update Hospital_Bill set discount=discount+5 where Bill_Amount>100000;

2 row(s) updated.

INV_NO	INV_DATE	PAT_ID	BILL_AMOUNT	PAYMENT_TYPE	DISCOUNT
4072	01-JAN-20	PT001	150000	cash	10
4073	02-JAN-20	PT002	200000	credit card	15
4074	03-JAN-20	PT003	40000	debit card	5
4075	04-JAN-20	PT004	3000	cash	10
4078	05-JAN-20	PT005	5000	debit card	15

l) update Department SET Dept_HOD='D0003' where Dept_name='Cardiology';

1 row(s) updated.

DEPT_NO	DEPT_NAME	DEPT_ROOM_NO	DEPT_FLOOR	DEPT_HOD	DEPT_ESTD_DATE
D100	Cardiology	1001	1	D0003	01-JAN-20
D104	Intensive care unit	1002	1	D0002	02-JAN-20
D102	Neurology	1003	3	D0003	03-JAN-20
D103	Oncology	1004	4	D0004	04-JAN-20
D101	Diabetes	1005	5	D0005	05-JAN-20

m) delete from Prescribed_Medicines where Brand='Hamway';

3 row(s) deleted.

PRES_ID	MEDICINE_NAME	DOSAGE	BRAND
PR00003	SHA256	10ml	HDM
PR00012	SHA1	20ml	HDM

n) update Test_Types set Low_value=10 where Description='Urine Test';
update Test_Types set High_value=30 where Description='Urine Test';

```
3 row(s) updated.


3 row(s) updated.
```

TT_ID	DESCRIPTION	LOW_VALUE	HIGH_VALUE	TEST_METHOD	TECHNICIAN
TT001	Blood test	26	66	Blood sample	S0004
TT002	Blood test	23	65	Blood sample	S0004
TT003	Urine test	10	30	Urine sample	S0004
TT004	Urine test	10	30	Urine sample	S0004
TT005	Urine test	10	30	Urine sample	S0004

o) update Staff set Contact=9836278675 where Categoryy='Nurse';

```
3 row(s) updated.
```

STAFF_ID	STAFF_NAME	CATEGORYY	DOB	CONTACT	ADDRESS	DEPT_NO	DESIGNATION
S0005	Sania	Nurse	01-JAN-90	9836278675	Jhotwara	D102	Staff Nurse
S0001	Sam	Lab Technician	02-JAN-90	1234567893	Jaipur	D102	Technician
S0002	Ramesh	Attender	03-JAN-90	1234567894	Jaisalmer	D100	Junior Attender
S0003	Suresh	Nurse	04-JAN-90	9836278675	Goa	D101	Staff Nurse
S0004	Manju	Nurse	05-JAN-90	9836278675	Pakistan	D190	Junior Attender

p) delete from Staff where Designation in ('Junior Attender', 'Technician') and Dept_No = 'D190';

```
1 row(s) deleted.
```

STAFF_ID	STAFF_NAME	CATEGORYY	DOB	CONTACT	ADDRESS	DEPT_NO	DESIGNATION
S0005	Sania	Nurse	01-JAN-90	1234567892	Jhotwara	D102	Staff Nurse
S0001	Sam	Lab Technician	02-JAN-90	1234567893	Jaipur	D102	Technician
S0002	Ramesh	Attender	03-JAN-90	1234567894	Jaisalmer	D100	Junior Attender
S0003	Suresh	Nurse	04-JAN-90	1234567895	Goa	D101	Staff Nurse