DATABASE MANAGEMENT SYSTEMS

Cycle Sheet – 2

Name: **VIBHU KUMAR SINGH**
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Creating Tables:

Doctor:

```
create table Doctor(
doc_id varchar(20) primary key,
doc_name varchar(30) not null,
d_gender char(1),
constraint ck_d_gender check(d_gender = 'M' or d_gender = 'F' or d_gender = 'T'),
d_dob date not null,
specialist varchar(25),
qualification varchar(15),
d_Contact number(20),
d_Address varchar(50) not null,
d_dept_no varchar(20)
)
```

Statement 1

Edit

```
create table Doctor(
doc_id varchar(20) primary key,
doc_name varchar(30) not null,
d_gender char(1),
constraint ck_d_gender check(d_gender = 'M' or d_gender = 'F' or d_gender = 'T'),
d_dob date not null,
specialist varchar(25),
qualification varchar(15),
d_Contact number(20),
d_Address varchar(50) not null,
d_dept_no varchar(20)
)
```

Table created.

Department:

```
create table Department(
dept_no varchar(20) primary key,
dept_name varchar(30) not null,
room_no varchar(10),
floor number(5),
hod varchar(20),
constraint fk_hod foreign key(hod) references Doctor(doc_id),
estd_date date
)
```

Statement 2

Edit

```
create table Department(
dept_no varchar(20) primary key,
dept_name varchar(30) not null,
room_no varchar(10),
floor number(5),
hod varchar(20),
constraint fk_hod foreign key(hod) references Doctor(doc_id),
estd_date date
)
```

Table created.

Staff:

```
create table Staff(
staff_id varchar(15) primary key,
staff_name varchar(25) not null,
category varchar(20),
designation varchar(15) not null,
s_dob date not null,
s_contact number(15),
s_address varchar(50),
s_dept_no varchar(10),
constraint fk_s_dept_no foreign key(s_dept_no) references Department(dept_no)
)
```

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 varchar(20) primary key,
pat_name varchar(30) not null,
p_dob date not null,
p_gender varchar(10) not null,
constraint ck_p_gender check(p_gender = 'M'or p_gender = 'F' or p_gender ='T'),
p_contact number(20),
p_address varchar(50) 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(
ip_id varchar(20),
doa date not null,
primary key(ip_id,doa),
bed_no varchar(10),
start_time date,
end_time date,
constraint fk_ip_id foreign key (ip_id) references Patient(pat_id)
)
```

Statement 5

Edit

```
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(
in_pat_id varchar(20) not null,
ip_pres_id varchar(20) not null,
primary key(in_pat_id,ip_pres_id),
constraint fk_pres_id foreign key(ip_pres_id) references Prescription(pres_id),
constraint fk_in_pat_id foreign key(in_pat_id) references Patient(pat_id)
)
```

Statement 6

Edit

```
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 varchar(20) primary key,
a_pat_id varchar(20),
constraint fk_a_pat_id foreign key(a_pat_id) references Patient(pat_id),
a_doc_id varchar(20),
constraint fk_a_doc_id foreign key(a_doc_id) references Doctor(doc_id),
nurse_id varchar(20),
constraint fk_nurse_id foreign key(nurse_id) references Staff(staff_id),
consult_room_no number(20),
a_date date not null,
a_time varchar(10) 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 varchar(15) primary key,
p_app_id varchar(20),
constraint fk_p_app_id foreign key(p_app_id) references Appointment(app_id),
pres_date date not null,
pres_time varchar(10),
diagnosis_details varchar(20)
)
```

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(
m_pres_id varchar(25) ,
constraint fk_m_pres_id foreign key (m_pres_id) references Prescription(pres_id),
medicine_name varchar(40) not null,
primary key(m_pres_id,medicine_name),
dosage varchar(20),
brand varchar(10)
)
```

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 number(20),
inv_date date not null,
primary key(inv_no,inv_date),
i_pat_id varchar(20),
constraint fk_i_pat_id foreign key(i_pat_id) references Patient(pat_id),
bill_amount number(25),
payment_type varchar(25) not null,
discount number(20)
)
```

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 varchar(20) primary key,
L_pat_id varchar(20),
constraint fk_L_pat_id foreign key(L_pat_id) references Patient(pat_id),
lab_date date,
lab_time varchar(10)
)
```

Statement 11

Edit

```
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(
r_test_id varchar(20) ,
constraint fk_r_test_id foreign key (r_test_id) references Lab_Tests(test_id),
r_test_type_id varchar(20),
constraint fk_r_test_type_id foreign key(r_test_type_id) references test_types(tt_id),
primary key(r_test_id,r_test_type_id),
results varchar(20) not null
)
```

Statement 12

Edit

```
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.

Test_Types:

```
create table test_types(
tt_id varchar(20) primary key,
description varchar(30),
low_value number(25),
high_value number(25),
test_method varchar(25),
technician varchar(20),
constraint fk_technician foreign key(technician) references Staff(staff_id)
)
```

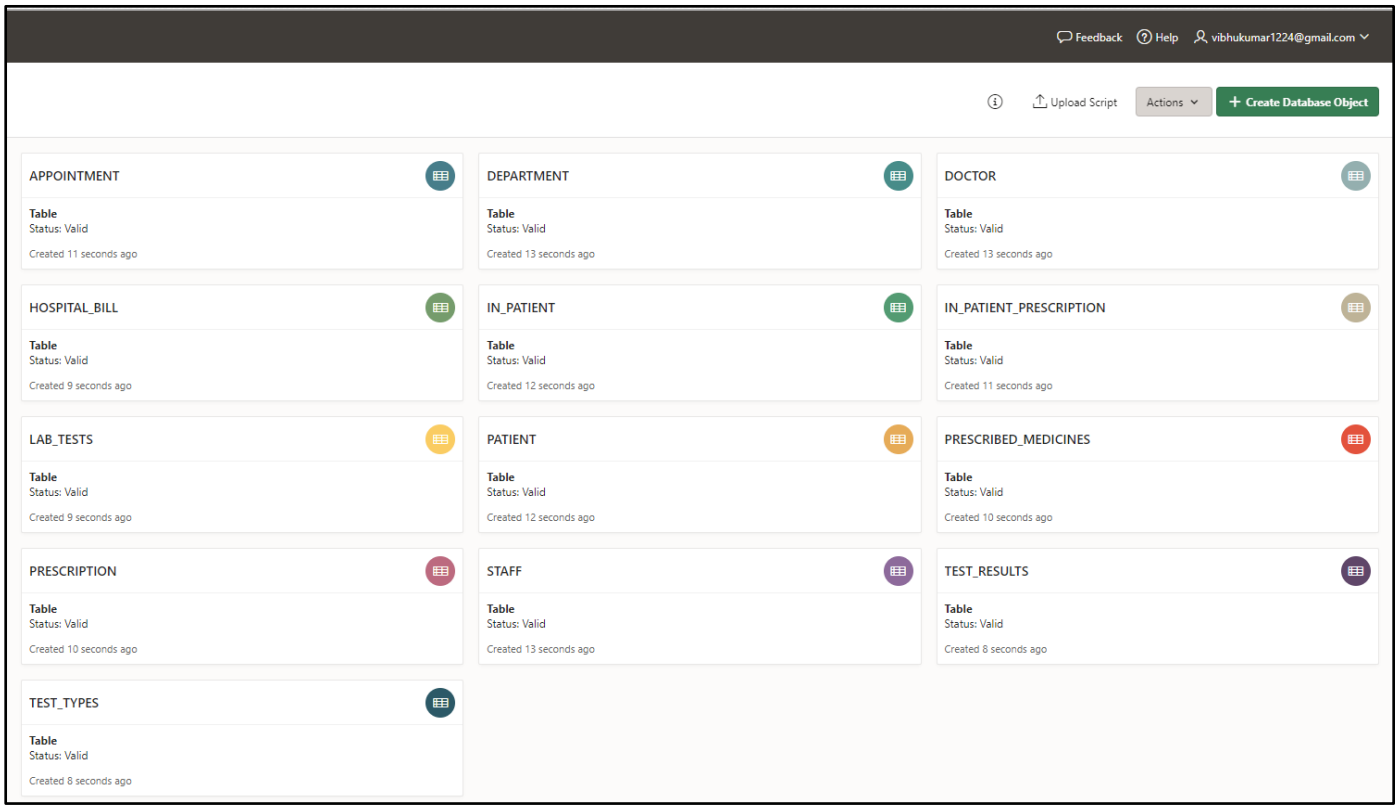
Statement 13

Edit

```
create table Test_Types(
TT_ID varchar2(5) primary key CHECK( TT_ID like 'TT%' and length(TT_ID)=5),
Description varchar2(20) not null CHECK(Description in('Blood test','Urine test','Ultrasound test','Biopsy')),
Low_value number(4) not null,
High_value number(4) not null,
Test_method varchar2(15) not null,
Technician varchar2(5) not null
)
```

Table created.

SCHEMA:



Inserting Values:

Doctor:

```
insert into Doctor values('D108','Vibhu Kumar','M','20-SEPTEMBER
1985','CARDIOLOGIST','MBBS',9926519823,'1,BAREILLY','D101');
insert into Doctor values('D105','Bhavya Singh','M','12-FEBRUARY-
1980','NEUROLOGIST','BAMS',9254376189,'15,LUCKNOW','D103');
insert into Doctor values('D101','Sanjay Kumar','F','21-AUGUST-
1989','NEPHROLOGIST','MD',976124512,'51,KANPUR','D101');
insert into Doctor values('D107','Aman Singh','M','01-JANUARY-
1992','ONCOLOGIST','MD',8449268172,'95,AGRA','D190');
insert into Doctor values('D104','Paman Singh','M','21-DECEMBER-
1991','GENERALMEDICINE','MD',8912678219,'102,PUNE','D101');
insert into Doctor values('D102','Tani Kaur','F','25-JUNE-
1990','CARDIOLOGIST','MBBS',9363981256,'530,DELHI','D100');
insert into Doctor values('D106','Raghavan','M','03-FEBRUARY-
1994','NEPHROLOGIST','MDS',9897268266,'17,MATHURA','D101');
insert into Doctor values('D103','Riya Patel','F','25-APRIL-
1984','CARDIOLOGIST','MD',7904226737,'121,GWALIOR','D005');
```

```
1  select * from Doctor;
2
```

DOC_ID	DOC_NAME	D_GENDER	D_DOB	SPECIALIST	QUALIFICATION	D_CONTACT	D_ADDRESS	D_DEPT_NO
D108	Vibhu Kumar	M	20-SEP-85	CARDIOLOGIST	MBBS	9926519823	1,BAREILLY	D101
D105	Bhavya Singh	M	12-FEB-80	NEUROLOGIST	BAMS	9254376189	15,LUCKNOW	D103
D101	Sanjay Kumar	F	21-AUG-89	NEPHROLOGIST	MD	976124512	51,KANPUR	D101
D107	Aman Singh	M	01-JAN-92	ONCOLOGIST	MD	8449268172	95,AGRA	D190
D104	Paman Singh	M	21-DEC-91	GENERALMEDICINE	MD	8912678219	102,PUNE	D101
D102	Tani Kaur	F	25-JUN-90	CARDIOLOGIST	MBBS	9363981256	530,DELHI	D100
D106	Raghavan	M	03-FEB-94	NEPHROLOGIST	MDS	9897268266	17,MATHURA	D101
D103	Riya Patel	F	25-APR-84	CARDIOLOGIST	MD	7904226737	121,GWALIOR	D005

Download CSV

8 rows selected.

Department:

```
insert into Department values('D101','CARDIOLOGY','A-111',7,'D108','20-MARCH-2012');
insert into Department values('D103','NEUROLOGY','A-120',5,'D101','10-JANUARY-2011');
insert into Department values('D190','ONCOLOGY','A-005',9,'D105','19-DECEMBER-2019');
insert into Department values('D100','CARDIOLOGY','C-050',7,'D106','21-APRIL-2019');
insert into Department values('D005','GM','D-110',7,'D104','31-DECEMBER-2011');
```

```
1  select * from Department;
2
```

DEPT_NO	DEPT_NAME	ROOM_NO	FLOOR	HOD	ESTD_DATE
D101	CARDIOLOGY	A-111	7	D108	20-MAR-12
D103	NEUROLOGY	A-120	5	D101	10-JAN-11
D190	ONCOLOGY	A-005	9	D105	19-DEC-19
D100	CARDIOLOGY	C-050	7	D106	21-APR-19
D005	GM	D-110	7	D104	31-DEC-11

Download CSV

5 rows selected.

Staff:

```
insert into Staff values('S0001','Kirti','nurse','staff nurse','18-AUGUST-
1998',9421862561,'BAREILLY','D101');
insert into Staff values('S0002','Swati Gangwar','nurse','staff nurse','05-SEPTEMBER-
1999',9721765571,'LUCKNOW','D103');
insert into Staff values('S0003','Shivani Maurya','nurse','staff nurse','10-JUNE-
1995',9421862561,'AGRA','D005');
insert into Staff values('S0004','Virat Singh','lab technician','technician','15-APRIL-
1997',978945121,'MATHURA','D190');
insert into Staff values('S0005','Rohit Kashyap','lab technician','technician','18-DECEMBER-
1998',978951124,'PILIBHIT','D190');
insert into Staff values('S0006','Deepanshu Gupta','cashier','staff cashier','11-DECEMBER-
1994',9421862561,'MUMBAI','D101');
insert into Staff values('S0008','Manoj Kumar','ward boy','ward boy','29-AUGUST-
1992',9787862561,'DELHI','D103');
insert into Staff values('S0009','Yash Jaiswal','security','staff security','06-DECEMBER-
1996',9421862561,'GURGAON','D005');
```

```
1  select * from Staff;
```

DEPT_NO	DEPT_NAME	ROOM_NO	FLOOR	HOD	ESTD_DATE
D101	CARDIOLOGY	A-111	7	D108	20-MAR-12
D103	NEUROLOGY	A-120	5	D101	10-JAN-11
D190	ONCOLOGY	A-005	9	D105	19-DEC-19
D100	CARDIOLOGY	C-050	7	D106	21-APR-19
D005	GM	D-110	7	D104	31-DEC-11

Download CSV

5 rows selected.

Patient:

```
insert into Patient values('P101','Vibhu Kumar','06-JULY-2000','M',9218357319,'52,BAREILLY');
insert into Patient values('P220','Tanuj','09-OCTOBER-1978','F',7841454511,'132,MUMBAI');
insert into Patient values('P103','Steve ','20-DECEMBER-1975','M',9751254454,'08,DELHI');
insert into Patient values('P104','Mani','15-JUNE-1995','M',944587122,'62,JHANSI');
insert into Patient values('P105','Fara Khan','19-DECEMBER-2014','F',9878987890,'12,GWALIOR');
insert into Patient values('P106','Gayle','25-MARCH-1990','M',944548412,'102,MATHURA');
insert into Patient values('P107','Mansi Jaiswal','07-JUNE-1994','F',9785458412,'190,BAREILLY');
insert into Patient values('P108','Karthik','21-AUGUST-1979','M',944548412,'06,KANPUR');
```

```
1  select * from Patient;
```

PAT_ID	PAT_NAME	P_DOB	P_GENDER	P_CONTACT	P_ADDRESS
P101	Vibhu Kumar	06-JUL-00	M	9218357319	52,BAREILLY
P220	Tanuj	09-OCT-78	F	7841454511	132,MUMBAI
P103	Steve	20-DEC-75	M	9751254454	08,DELHI
P104	Mani	15-JUN-95	M	944587122	62,JHANSI
P105	Fara Khan	19-DEC-14	F	9878987890	12,GWALIOR
P106	Gayle	25-MAR-90	M	944548412	102,MATHURA
P107	Mansi Jaiswal	07-JUN-94	F	9785458412	190,BAREILLY
P108	Karthik	21-AUG-79	M	944548412	06,KANPUR

Download CSV

8 rows selected.

In_Patient:

```
insert into In_Patient values('P101', '11-MARCH-2017','B101','11-MARCH-2017','18-MARCH-2017');
insert into In_Patient values('P220', '10-JANUARY-2020' ,'B012','10-JANUARY-2020','30-JANUARY-2020');
insert into In_Patient values('P104', '28-FEBRUARY-2020' ,'B101','28-FEBRUARY-2020','15-MARCH-2020');
insert into In_Patient values('P105', '30-MARCH-2017','B015','30-MARCH-2017','09-APRIL-2017');
insert into In_Patient values('P106', '30-DECEMBER-2019','B001','30-DECEMBER-2019','15-JANUARY-2020');
insert into In_Patient values('P107','30-MARCH-2020','B019','30-MARCH-2020','17-APRIL-2020');
insert into In_Patient values('P103','29-MAY-2020','B101','29-MAY-2020','12-JUNE-2020');
insert into In_Patient values('P108','30-NOVEMBER-2019','B14','30-NOVEMBER-2019','30-DEC-2019');
```

```
1  select * from In_Patient;
```

IP_ID	DOA	BED_NO	START_TIME	END_TIME
P101	11-MAR-17	B101	11-MAR-17	18-MAR-17
P220	10-JAN-20	B012	10-JAN-20	30-JAN-20
P104	28-FEB-20	B101	28-FEB-20	15-MAR-20
P105	30-MAR-17	B015	30-MAR-17	09-APR-17
P106	30-DEC-19	B001	30-DEC-19	15-JAN-20
P107	30-MAR-20	B019	30-MAR-20	17-APR-20
P103	29-MAY-20	B101	29-MAY-20	12-JUN-20
P108	30-NOV-19	B14	30-NOV-19	30-DEC-19

Download CSV

8 rows selected.

Appointment:

```
insert into Appointment values('A101','P101','D101','S0001',103,'12-MARCH-2017','13:00');
insert into Appointment values('A102','P220','D102','S0002',111,'11-JANUARY-2020','12:00');
insert into Appointment values('A103','P103','D103','S0003',100,'01-JANUARY-2020','17:00');
insert into Appointment values('A104','P104','D104','S0004',005,'18-FEBRUARY-2020','11:00');
insert into Appointment values('A105','P105','D105','S0005',120,'25-AUGUST-2019','08:00');
insert into Appointment values('A106','P106','D106','S0006',111,'01-MAY-2020','09:30');
insert into Appointment values('A107','P107','D107','S0008',111,'01-MAY-2020','10:15');
insert into Appointment values('A108','P108','D108','S0009',105,'01-MAY-2020','11:20');
```

```
1  select * from Appointment;
```

APP_ID	A_PAT_ID	A_DOC_ID	NURSE_ID	CONSULT_ROOM_NO	A_DATE	A_TIME
A101	P101	D101	S0001	103	12-MAR-17	13:00
A102	P220	D102	S0002	111	11-JAN-20	12:00
A103	P103	D103	S0003	100	01-JAN-20	17:00
A104	P104	D104	S0004	5	18-FEB-20	11:00
A105	P105	D105	S0005	120	25-AUG-19	08:00
A106	P106	D106	S0006	111	01-MAY-20	09:30
A107	P107	D107	S0008	111	01-MAY-20	10:15
A108	P108	D108	S0009	105	01-MAY-20	11:20

Download CSV

8 rows selected.

Precription:

```
insert into Prescription values('PR00001','A101', '12-MARCH-2017' ,'13:30','COUGH');
insert into Prescription values('PR00002','A102', '11-JANUARY-2020' ,'13:00','NEURAL ATTACK');
insert into Prescription values('PR00003','A103','02-JANUARY-2020','14:00','BILATERAL PNEUMONIA');
insert into Prescription values('PR00004','A104','18-FEBRUARY-2020','16:00','COUGH');
insert into Prescription values('PR00005','A105','25-AUGUST-2019','08:30','CARDIAC ARREST');
insert into Prescription values('PR00006','A106','01-MAY-2020','10:15','ACCIDENT');
insert into Prescription values('PR00007','A107','01-MAY-2020','11:25','COUGH');
insert into Prescription values('PR00008','A108','01-MAY-2020','12:30','CARDIAC ARREST');
```

```
1  select * from Prescription;
```

PRES_ID	P_APP_ID	PRES_DATE	PRES_TIME	DIAGNOSIS_DETAILS
PR00001	A101	12-MAR-17	13:30	COUGH
PR00002	A102	11-JAN-20	13:00	NEURAL ATTACK
PR00003	A103	02-JAN-20	14:00	BILATERAL PNEUMONIA
PR00004	A104	18-FEB-20	16:00	COUGH
PR00005	A105	25-AUG-19	08:30	CARDIAC ARREST
PR00006	A106	01-MAY-20	10:15	ACCIDENT
PR00007	A107	01-MAY-20	11:25	COUGH
PR00008	A108	01-MAY-20	12:30	CARDIAC ARREST

Download CSV

8 rows selected.

In_Patient_Prescription:

```
insert into In_Patient_Prescription values('P101','PR00001');
insert into In_Patient_Prescription values('P220','PR00002');
insert into In_Patient_Prescription values('P103','PR00003');
insert into In_Patient_Prescription values('P104','PR00004');
insert into In_Patient_Prescription values('P105','PR00005');
insert into In_Patient_Prescription values('P106','PR00006');
insert into In_Patient_Prescription values('P107','PR00007');
insert into In_Patient_Prescription values('P108','PR00008');
```

```
1  select * from In_Patient_Prescription;
```

IN_PAT_ID	IP_PRES_ID
P101	PR00001
P103	PR00003
P104	PR00004
P105	PR00005
P106	PR00006
P107	PR00007
P108	PR00008
P220	PR00002

Download CSV

8 rows selected.

Prescribed_Medicines:

```
insert into Prescribed_Medicines values('PR00001','AMOXICILLIN','TWICE A DAY','Ranbaxy');
insert into Prescribed_Medicines values('PR00002','AMANTADINE','ONCE A DAY','DEF');
insert into Prescribed_Medicines values('PR00003','MACROLIDE','ONCE A DAY','Ranbaxy');
insert into Prescribed_Medicines values('PR00004','AMOXICILLIN','THRICE A DAY','XYZ');
insert into Prescribed_Medicines values('PR00005','LIDOCAINE','TWICE A DAY','JKL');
insert into Prescribed_Medicines values('PR00006','TYLENOL','ONCE A DAY','MNO');
insert into Prescribed_Medicines values('PR00007','AMOXICILLIN','THRICE A DAY','PQR');
insert into Prescribed_Medicines values('PR00008','LIDOCAINE','TWICE A DAY','Ranbaxy');
insert into Hospital_Bill values(1020,'18-MARCH-2017','P101',10000,'CASH',12);
```

```
1  select * from Prescribed_Medicines;
```

M_PRES_ID	MEDICINE_NAME	DOSAGE	BRAND
PR00001	AMOXICILLIN	TWICE A DAY	Ranbaxy
PR00002	AMANTADINE	ONCE A DAY	DEF
PR00003	MACROLIDE	ONCE A DAY	Ranbaxy
PR00004	AMOXICILLIN	THRICE A DAY	XYZ
PR00005	LIDOCAINE	TWICE A DAY	JKL
PR00006	TYLENOL	ONCE A DAY	MNO
PR00007	AMOXICILLIN	THRICE A DAY	PQR
PR00008	LIDOCAINE	TWICE A DAY	Ranbaxy

Download CSV

8 rows selected.

Hospital_Bill:

```
insert into Hospital_Bill values(1021,'30-JANUARY-2020','P220',200000,'CREDIT CARD',15);
insert into Hospital_Bill values(1022,'30-MAY-2020','P103',11000,'DEBIT CARD',20);
insert into Hospital_Bill values(1023,'28-FEBRUARY-2020','P104',15000,'DEBIT CARD',13);
insert into Hospital_Bill values(1024,'30-JANUARY-2020','P105',20000,'CREDIT CARD',05);
insert into Hospital_Bill values(1025,'09-APRIL-2017','P106',7000,'CASH',22);
insert into Hospital_Bill values(1026,'17-APRIL-2020','P107',3500,'CASH',18);
insert into Hospital_Bill values(1027,'12-JUNE-2020','P108',42000,'DEBIT CARD',10);
insert into Hospital_Bill values(1028,'05-JUNE-2020','P103',2000,'DEBIT CARD',21);
insert into Hospital_Bill values(1029,'09-JUNE-2020','P103',15000,'DEBIT CARD',20);
```

```
1  select * from Hospital_Bill;
```

INV_NO	INV_DATE	I_PAT_ID	BILL_AMOUNT	PAYMENT_TYPE	DISCOUNT
1020	18-MAR-17	P101	10000	CASH	12
1021	30-JAN-20	P220	200000	CREDIT CARD	15
1022	30-MAY-20	P103	11000	DEBIT CARD	20
1023	28-FEB-20	P104	15000	DEBIT CARD	13
1024	30-JAN-20	P105	20000	CREDIT CARD	5
1025	09-APR-17	P106	7000	CASH	22
1026	17-APR-20	P107	3500	CASH	18
1027	12-JUN-20	P108	42000	DEBIT CARD	10
1028	05-JUN-20	P103	2000	DEBIT CARD	21
1029	09-JUN-20	P103	15000	DEBIT CARD	20

Download CSV

10 rows selected.

Lab_Tests:

```
insert into Lab_Tests values('T0001','P101','13-MARCH-2017','11:00');
insert into Lab_Tests values('T0002','P220','12-JANUARY-2020','09:00');
insert into Lab_Tests values('T0003','P103','03-JANUARY-2020','10:00');
insert into Lab_Tests values('T0004','P104','19-FEBRUARY-2020','09:30');
insert into Lab_Tests values('T0005','P105','26-AUGUST-2019','16:00');
insert into Lab_Tests values('T0006','P106','02-MAY-2020','17:00');
insert into Lab_Tests values('T0007','P107','03-MAY-2020','13:00');
insert into Lab_Tests values('T0008','P108','03-MAY-2020','14:00');
```

```
1  select * from Lab_Tests;
```

TEST_ID	L_PAT_ID	LAB_DATE	LAB_TIME
T0001	P101	13-MAR-17	11:00
T0002	P220	12-JAN-20	09:00
T0003	P103	03-JAN-20	10:00
T0004	P104	19-FEB-20	09:30
T0005	P105	26-AUG-19	16:00
T0006	P106	02-MAY-20	17:00
T0007	P107	03-MAY-20	13:00
T0008	P108	03-MAY-20	14:00

Download CSV

8 rows selected.

Test_Types:

```
insert into test_types values('TT0001','URINE TEST',26,74,'LAB','S0001');
insert into test_types values('TT0002','CT',15,20,'LAB','S0002');
insert into test_types values('TT0003','Blood Sugar Level',18,28,'LAB','S0003');
insert into test_types values('TT0004','XRAY TEST',38,52,'LAB','S0001');
insert into test_types values('TT0005','CT TEST',12.5,14.2,'LAB','S0005');
insert into test_types values('TT0006','URINE TEST',12,22,'LAB','S0001');
insert into test_types values('TT0007','XRAY',19,29,'LAB','S0009');
insert into test_types values('TT0008','Blood Glucose Level',2,10,'LAB','S0008');
```

```
1  select * from test_types;
```

TT_ID	DESCRIPTION	LOW_VALUE	HIGH_VALUE	TEST_METHOD	TECHNICIAN
TT0001	URINE TEST	26	74	LAB	S0001
TT0002	CT	15	20	LAB	S0002
TT0003	Blood Sugar Level	18	28	LAB	S0003
TT0004	XRAY TEST	38	52	LAB	S0001
TT0005	CT TEST	13	14	LAB	S0005
TT0006	URINE TEST	12	22	LAB	S0001
TT0007	XRAY	19	29	LAB	S0009
TT0008	Blood Glucose Level	2	10	LAB	S0008

Download CSV

8 rows selected.

Test_Results:

```
insert into Test_Results values('T0001','TT0001','POSITIVE');
insert into Test_Results values('T0002','TT0002','NEGATIVE');
insert into Test_Results values('T0003','TT0003','NEGATIVE');
insert into Test_Results values('T0004','TT0004','POSITIVE');
insert into Test_Results values('T0005','TT0005','NEGATIVE');
insert into Test_Results values('T0006','TT0006','NEGATIVE');
insert into Test_Results values('T0007','TT0007','POSITIVE');
insert into Test_Results values('T0008','TT0008','NEGATIVE');
```

```
1  select * from Test_Results;
```

R_TEST_ID	R_TEST_TYPE_ID	RESULTS
T0001	TT0001	POSITIVE
T0002	TT0002	NEGATIVE
T0003	TT0003	NEGATIVE
T0004	TT0004	POSITIVE
T0005	TT0005	NEGATIVE
T0006	TT0006	NEGATIVE
T0007	TT0007	POSITIVE
T0008	TT0008	NEGATIVE

Download CSV

8 rows selected.

Questions:
DDL statements (ALTER, CONSTRAINT etc):

Q1. Modify Hospital_Bill by adding an attribute consulting_physician and add foreign key constraint for that attribute. Use constraint name for foreign key constraint.

A1.

```
alter table Hospital_Bill add consulting_physician varchar(15);
alter table Hospital_Bill add constraint fk_con_physician foreign key(consulting_physician)
references Doctor(doc_id);
```

```
1  alter table Hospital_Bill add consulting_physician varchar(15);
2  alter table Hospital_Bill add constraint fk_con_physician foreign key(consulting_physician) references Doctor(doc_id);
```

```
Table altered.

Table altered.
```

Q2. In Patient table, replace address with three attributes namely street, city and pincode.

A2.

```
alter table Patient drop column p_address;
alter table Patient add street varchar(20);
alter table Patient add city varchar(15);
alter table Patient add pincode number(6);
```

```
1  alter table Patient drop column p_address;
2  alter table Patient add street varchar(20);
3  alter table Patient add city varchar(15);
4  alter table Patient add pincode number(6);
5
```

```
Table altered.

Table altered.

Table altered.

Table altered.
```

Q3. Add an attribute Test_Time which can accept only two values “Before food” and “After food” with proper constraint name.

A3.

```
alter table Patient add Test_Time varchar(10);
alter table Patient add constraint ck_test_time check(Test_Time = 'Before food' or Test_Time =
'After food');
```

```
1  alter table Patient add Test_Time varchar(10);
2  alter table Patient add constraint ck_test_time check(Test_Time = 'Before food' or Test_Time = 'After food');
```

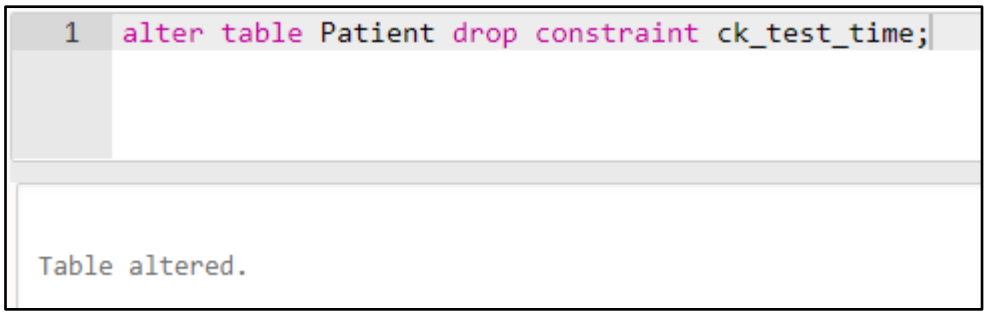
```
Table altered.

Table altered.
```

Q4. Remove the constraint only from test_time attribute.

A4.

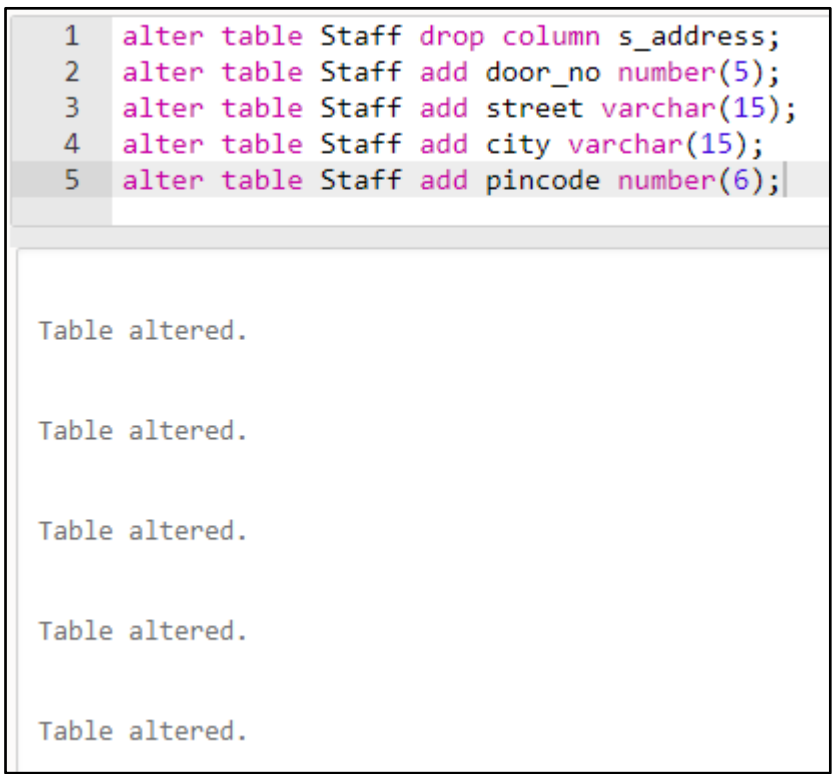
```
alter table Patient drop constraint ck_test_time;
```



Q5. Drop address attribute from staff table and add attributes door_no, street, city, and pincode.

A5.

```
alter table Staff drop column s_address;
alter table Staff add door_no number(5);
alter table Staff add street varchar(15);
alter table Staff add city varchar(15);
alter table Staff add pincode number(6);
```



6. Create a table Medicines with schema medicines=(med_name, brand, dosage, manu_date, exp_date). Ensure that manu_date should not be later than exp_date. Create an appropriate constraint to ensure this.

A6.

```
create table Medicines(
med_name varchar(30),
brand varchar(20),
primary key(med_name),
dosage varchar(25),
manu_date date,
exp_date date,
constraint ck_manu_date check(manu_date < exp_date)
);
```

```
1  create table Medicines(
2  med_name varchar(30),
3  brand varchar(20),
4  primary key(med_name),
5  dosage varchar(25),
6  manu_date date,
7  exp_date date,
8  constraint ck_manu_date check( manu_date < exp_date)
9  );

Table created.
```

Q7. Remove the attributes dosage and brand from Prescribed_Medicines and alter the medicine_name attribute as a foreign key referencing the new table Medicines.

A7.

```
alter table Prescribed_Medicines drop column dosage;
alter table Prescribed_Medicines drop column brand;
alter table Prescribed_Medicines add constraint fk_medicine_name foreign key(medicine_name)
references Medicines(med_name);
```

```
1  alter table Prescribed_Medicines drop column dosage;
2  alter table Prescribed_Medicines drop column brand;
3  alter table Prescribed_Medicines add constraint fk_medicine_name foreign key(medicine_name) references Medicines(med_name);

Table altered.

Table altered.

ORA-02298: cannot validate (SQL_FZNTALWEPPXHGBLCVGNYCDRWQ.FK_MEDICINE_NAME) - parent keys not found
```

↑

Error because there is no current values in the table Medicines.

Q8. Create a view for doctors who are specialized in 'Cardiology' from Doctor table with attributes doc_id, doc_name and gender.

A8.

```
create view Cardiology_Doctors as select doc_id, doc_name, d_gender from Doctor where specialist =
'Cardiology';
```

```
1  create view Cardiology_Doctors as select doc_id, doc_name, d_gender from Doctor where specialist = 'Cardiology';
```

```
View created.
```

Q9. Add an attribute No_of_staff in Department table and create a constraint with constraint name to make sure the number is >0.

A9.

```
alter table Department add No_of_staff int;
alter table Department add constraint ck_no_of_staff check(No_of_staff > 0);
```

```
1  alter table Department add No_of_staff int;
2  alter table Department add constraint ck_no_of_staff check(No_of_staff > 0);
```

```
Table altered.


Table altered.
```

Q10. Add an attribute with In_Patient_prescription to store the Room_Type which can store the values “AC” and “Non-AC”.

A10.

```
alter table In_Patient_Prescription add Room_Type varchar(8);
alter table In_Patient_Prescription add constraint ck_Room_Type check(Room_Type = 'AC' or
Room_Type = 'Non-AC');
```

```
1  alter table In_Patient_Prescription add Room_Type varchar(8);
2  alter table In_Patient_Prescription add constraint ck_Room_Type check(Room_Type = 'AC' or Room_Type = 'Non-AC');
```

```
Table altered.


Table altered.
```

SQL queries with JOIN operation

(Practice these queries with Cartesian product, inner join, natural join etc.)

Q1. Find the HOD of doctor 'Raghavan' (Hint: you need to join the tables DOCTOR and DEPARTMENT)

A1.

Using cartesian Product:

```
select hod from Department, Doctor where Department.dept_no = Doctor.d_dept_no and doc_name = 'Raghavan';
```

```
1  select hod from Department, Doctor where Department.dept_no = Doctor.d_dept_no and doc_name = 'Raghavan';
```

HOD
D108

Download CSV

Using Inner Join:

```
select h.hod from Department h inner join Doctor d on d.d_dept_no = h.dept_no where d.doc_name = 'Raghavan';
```

```
1  select h.hod from Department h inner join Doctor d on d.d_dept_no = h.dept_no where d.doc_name = 'Raghavan';
```

HOD
D108

Download CSV

Q2. Find the list of all patients who were admitted in bed number 'B101'.

A2.

Using Cartesian Product:

```
select pat_name from Patient,In_Patient where Patient.pat_id = In_Patient.ip_id and bed_no = 'B101';
```

```
1  select pat_name from Patient,In_Patient where Patient.pat_id = In_Patient.ip_id and bed_no = 'B101';
```

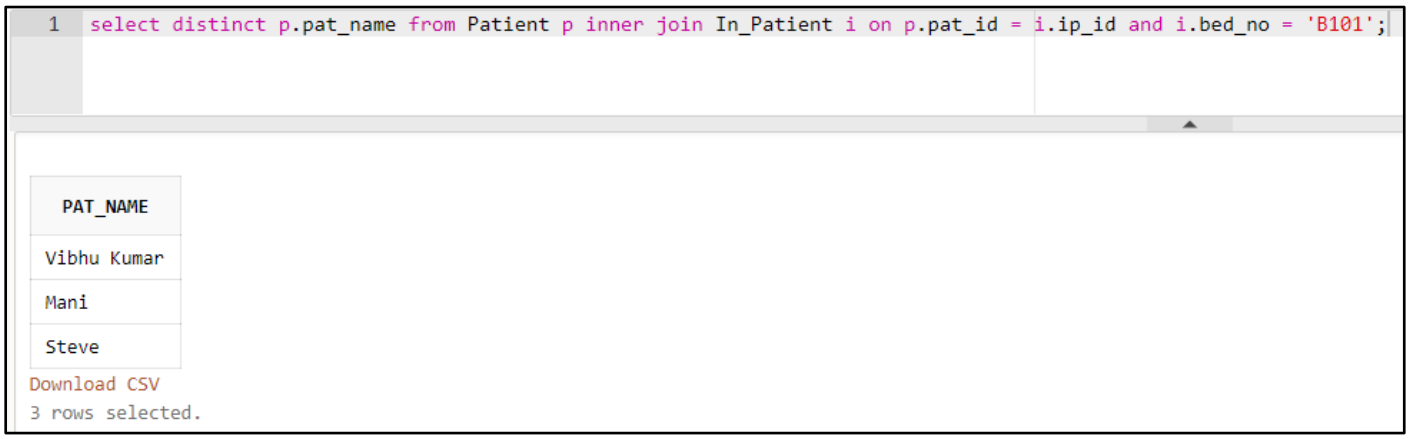
PAT_NAME
Vibhu Kumar
Mani
Steve

Download CSV

3 rows selected.

Using Inner Join:

```
select distinct p.pat_name from Patient p inner join In_Patient i on p.pat_id = i.ip_id and
i.bed_no = 'B101';
```



```
1  select distinct p.pat_name from Patient p inner join In_Patient i on p.pat_id = i.ip_id and i.bed_no = 'B101';
```

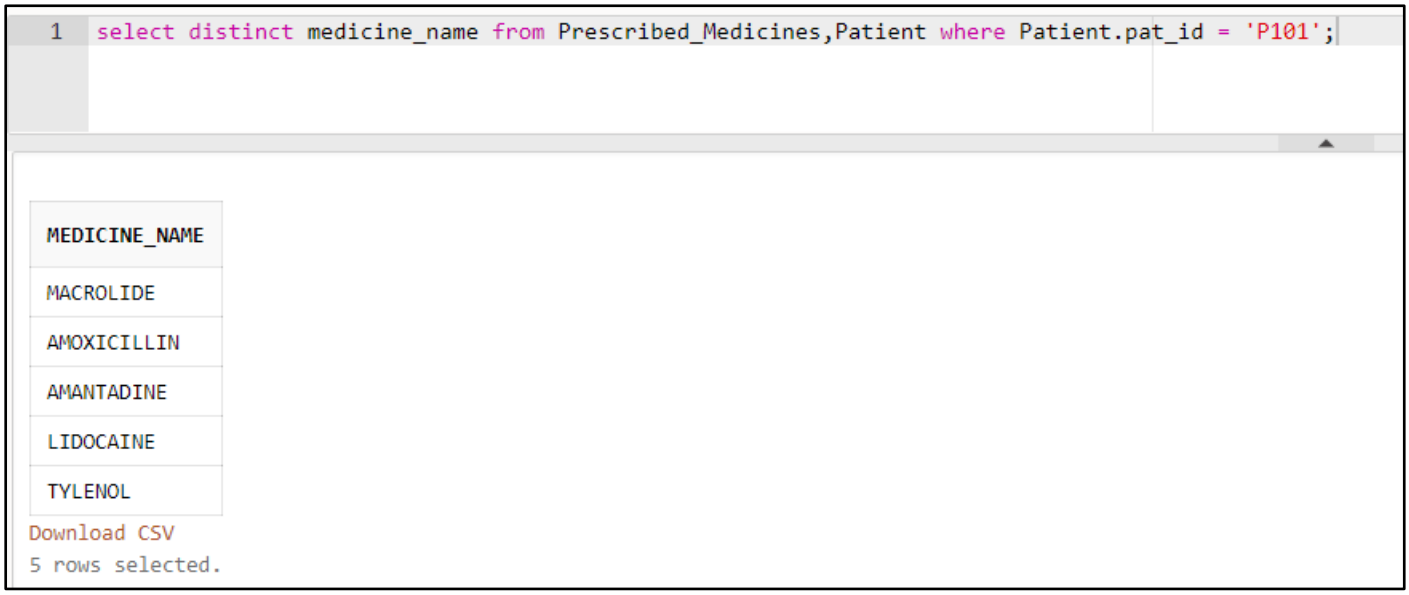
PAT_NAME
Vibhu Kumar
Mani
Steve

Download CSV
3 rows selected.

Q3. Display all the prescribed medicines of patient with Pat_ID ‘P101’.

A3.

```
select distinct medicine_name from Prescribed_Medicines,Patient where Patient.pat_id = 'P101';
```



```
1  select distinct medicine_name from Prescribed_Medicines,Patient where Patient.pat_id = 'P101';
```

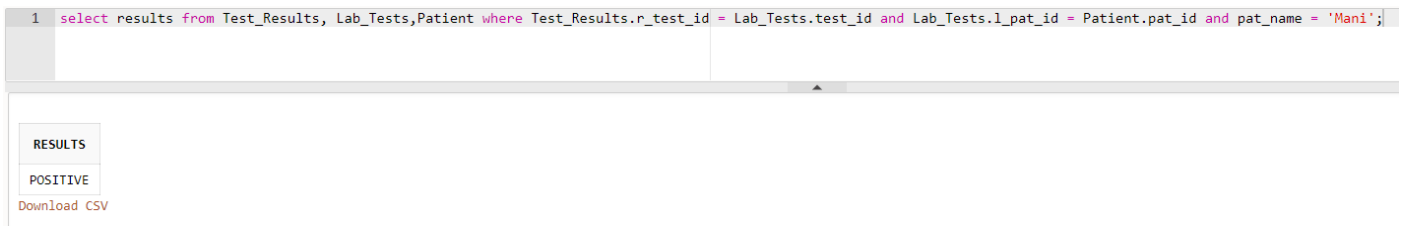
MEDICINE_NAME
MACROLIDE
AMOXICILLIN
AMANTADINE
LIDOCAINE
TYLENOL

Download CSV
5 rows selected.

Q4. Display the test results of patient ‘Mani’.

A4.

```
select results from Test_Results, Lab_Tests,Patient where Test_Results.r_test_id =
Lab_Tests.test_id and Lab_Tests.l_pat_id = Patient.pat_id and pat_name = 'Mani';
```



```
1  select results from Test_Results, Lab_Tests,Patient where Test_Results.r_test_id = Lab_Tests.test_id and Lab_Tests.l_pat_id = Patient.pat_id and pat_name = 'Mani';
```

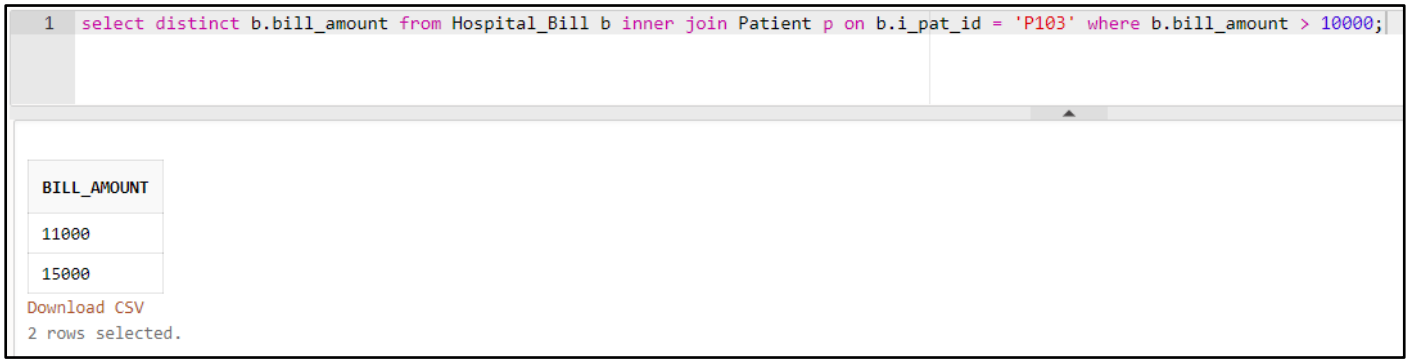
RESULTS
POSITIVE

Download CSV

Q5. Display all bills of bill amount more than 10000 rupees and paid by the patient ‘Steve’.

A5.

```
select distinct b.bill_amount from Hospital_Bill b inner join Patient p on b.i_pat_id = 'P103'
where b.bill_amount > 10000;
```

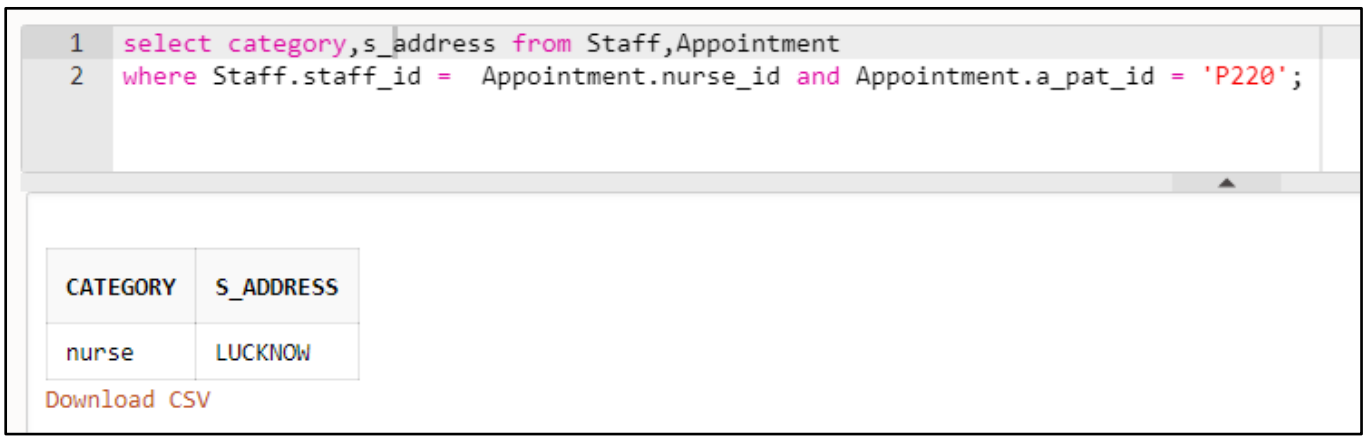


Q6. Find the category and address of the nurse who attended the patient with pat_no ‘P220’.

A6.

Using Cartesian Product:

```
select category,s_address from Staff,Appointment
where Staff.staff_id = Appointment.nurse_id and Appointment.a_pat_id = 'P220';
```



Using Inner Join:

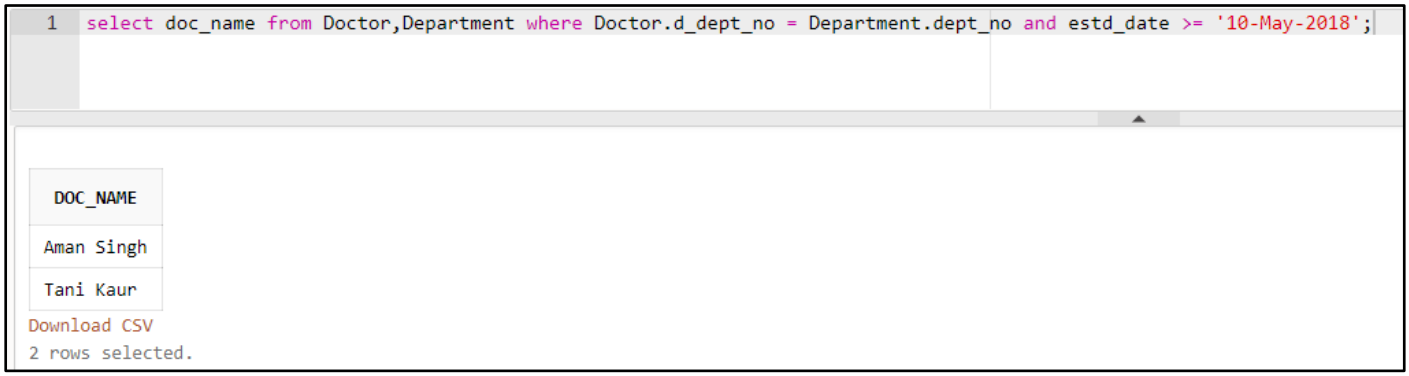
```
select s.category, s.s_address from Staff s inner join Appointment a on s.staff_id = a.nurse_id
where a.a_pat_id = 'P220';
```

Q7. Find the list of doctors who worked in the department which is started on or after ’10-May-2018’.

A7.

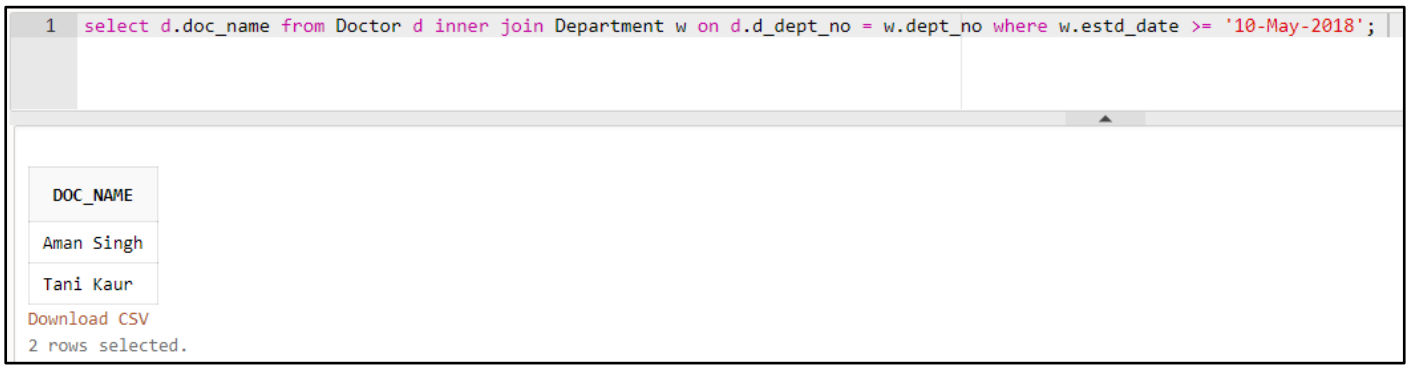
Using Cartesian Product:

```
select doc_name from Doctor,Department where Doctor.d_dept_no = Department.dept_no and estd_date
>= '10-May-2018';
```



Using Inner Join:

```
select d.doc_name from Doctor d inner join Department w on d.d_dept_no = w.dept_no where
w.estd_date >= '10-May-2018';
```

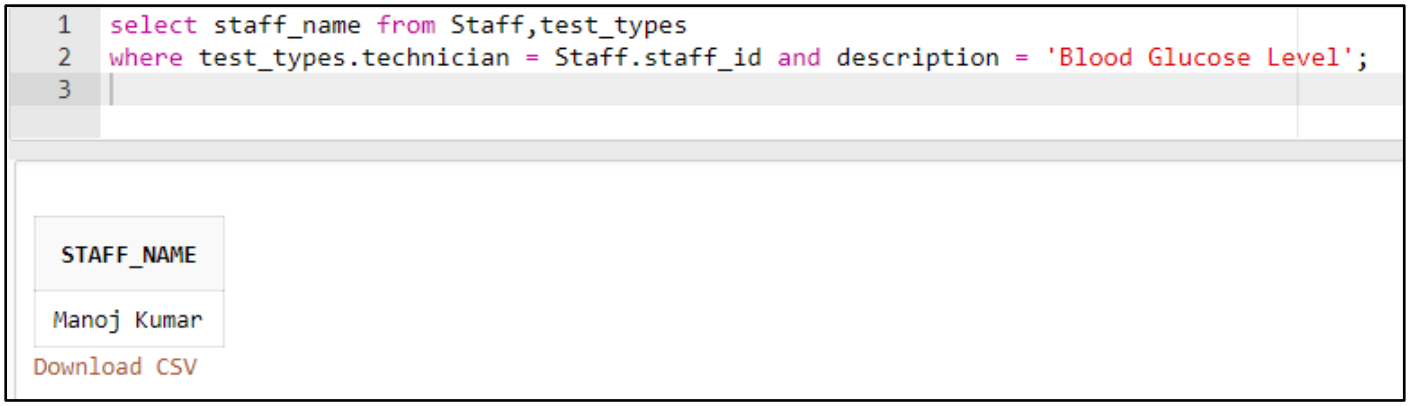


Q8. Get the name of technicians who tests blood glucose level.

A8.

Using Cartesian Product:

```
select staff_name from Staff,test_types
where test_types.technician = Staff.staff_id and description = 'Blood Glucose Level';
```



Using Inner Join:

```
select n.staff_name from Staff n inner join test_types t on t.technician = n.staff_id where
t.description = 'Blood Glucose Level';
```

```
select n.staff_name from Staff n inner join test_types t on t.technician = n.staff_id where t.description = 'Blood Glucose Level';
```

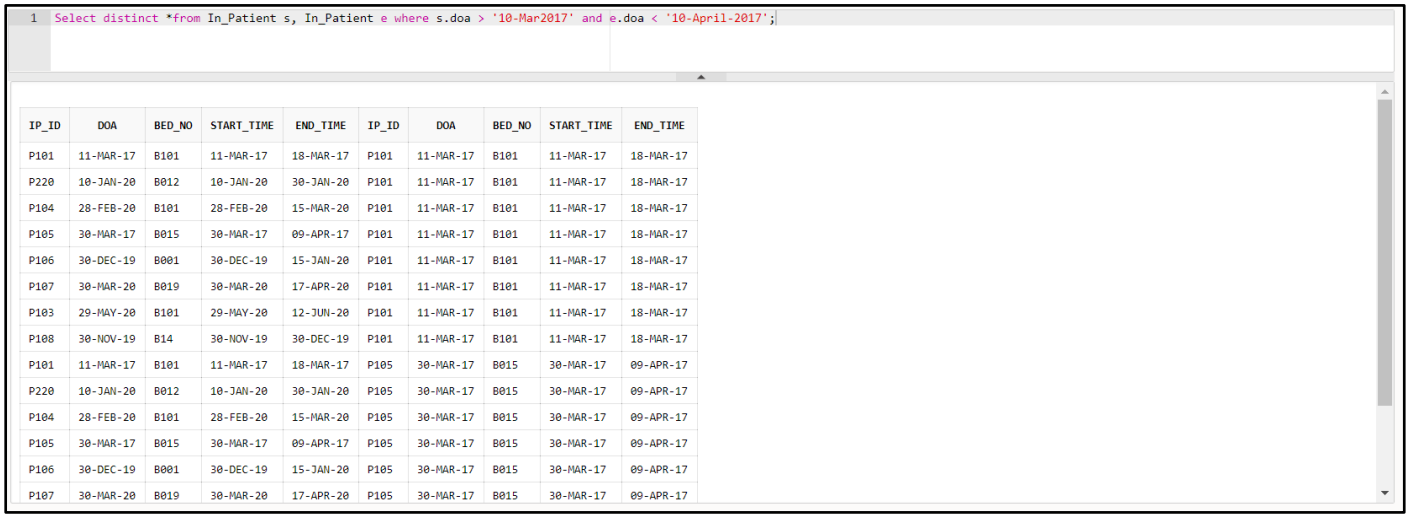
STAFF_NAME
Manoj Kumar

Download CSV

Q9. Display the details of all patients who were hospitalized between ’10-Mar-2017’ and ’10-Apr-2017’.

A9.

```
Select distinct *from In_Patient s, In_Patient e where s.doa > '10-Mar2017' and e.doa < '10-April-2017';
```



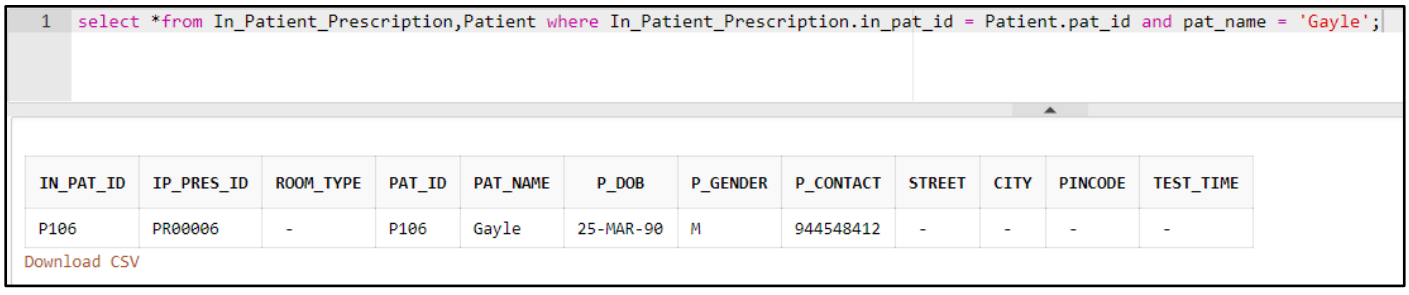
IP_ID	DOA	BED_NO	START_TIME	END_TIME	IP_ID	DOA	BED_NO	START_TIME	END_TIME
P101	11-MAR-17	B101	11-MAR-17	18-MAR-17	P101	11-MAR-17	B101	11-MAR-17	18-MAR-17
P220	10-JAN-20	B012	10-JAN-20	30-JAN-20	P101	11-MAR-17	B101	11-MAR-17	18-MAR-17
P104	28-FEB-20	B101	28-FEB-20	15-MAR-20	P101	11-MAR-17	B101	11-MAR-17	18-MAR-17
P105	30-MAR-17	B015	30-MAR-17	09-APR-17	P101	11-MAR-17	B101	11-MAR-17	18-MAR-17
P106	30-DEC-19	B001	30-DEC-19	15-JAN-20	P101	11-MAR-17	B101	11-MAR-17	18-MAR-17
P107	30-MAR-20	B019	30-MAR-20	17-APR-20	P101	11-MAR-17	B101	11-MAR-17	18-MAR-17
P103	29-MAY-20	B101	29-MAY-20	12-JUN-20	P101	11-MAR-17	B101	11-MAR-17	18-MAR-17
P108	30-NOV-19	B14	30-NOV-19	30-DEC-19	P101	11-MAR-17	B101	11-MAR-17	18-MAR-17
P101	11-MAR-17	B101	11-MAR-17	18-MAR-17	P105	30-MAR-17	B015	30-MAR-17	09-APR-17
P220	10-JAN-20	B012	10-JAN-20	30-JAN-20	P105	30-MAR-17	B015	30-MAR-17	09-APR-17
P104	28-FEB-20	B101	28-FEB-20	15-MAR-20	P105	30-MAR-17	B015	30-MAR-17	09-APR-17
P105	30-MAR-17	B015	30-MAR-17	09-APR-17	P105	30-MAR-17	B015	30-MAR-17	09-APR-17
P106	30-DEC-19	B001	30-DEC-19	15-JAN-20	P105	30-MAR-17	B015	30-MAR-17	09-APR-17
P107	30-MAR-20	B019	30-MAR-20	17-APR-20	P105	30-MAR-17	B015	30-MAR-17	09-APR-17

Q10. Display the in-patient prescription of the patient whose name is ‘Gayle’.

A10.

Using Cartesian Product:

```
select *from In_Patient_Prescription,Patient where In_Patient_Prescription.in_pat_id =
Patient.pat_id and pat_name = 'Gayle';
```



IN_PAT_ID	IP_PRES_ID	ROOM_TYPE	PAT_ID	PAT_NAME	P_DOB	P_GENDER	P_CONTACT	STREET	CITY	PINCODE	TEST_TIME
P106	PR00006	-	P106	Gayle	25-MAR-90	M	944548412	-	-	-	-

Download CSV

Using Inner Join

```
select *from In_Patient_Prescription i inner join Patient p on i.in_pat_id = p.pat_id where
p.pat_name = 'Gayle';
```

```
select *from In_Patient_Prescription i inner join Patient p on i.in_pat_id = p.pat_id where p.pat_name = 'Gayle';
```

IN_PAT_ID	IP_PRES_ID	ROOM_TYPE	PAT_ID	PAT_NAME	P_DOB	P_GENDER	P_CONTACT	STREET	CITY	PINCODE	TEST_TIME
P106	PR00006	-	P106	Gayle	25-MAR-90	M	944548412	-	-	-	-

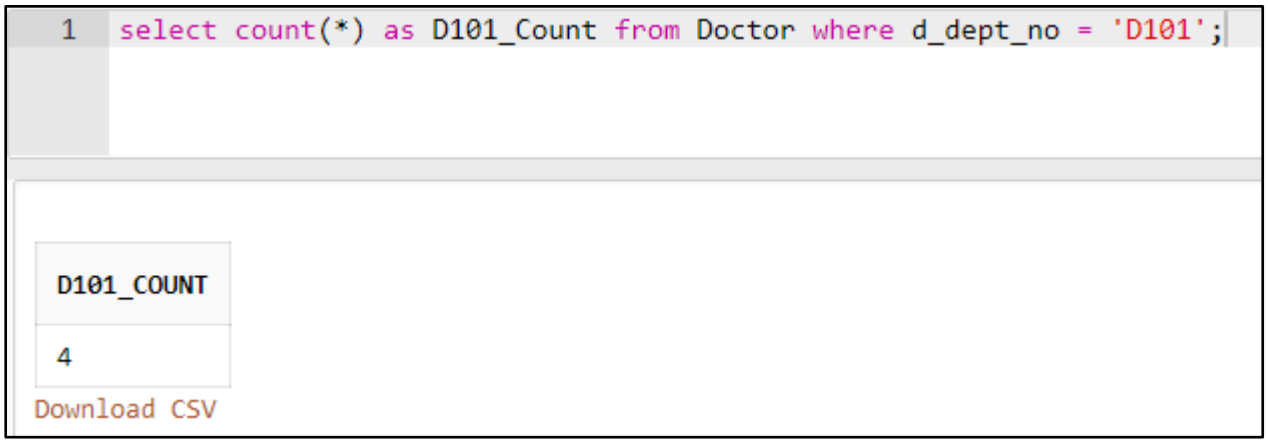
Download CSV

SQL queries with AGGREGATE and CHAR functions

Q1. Find the number of doctors who are working in the department 'D101'.

A1.

```
select count(*) as D101_Count from Doctor where d_dept_no = 'D101';
```



Q2. Count the number of male patients who are treated by the doctor with doctor id 'D101'.

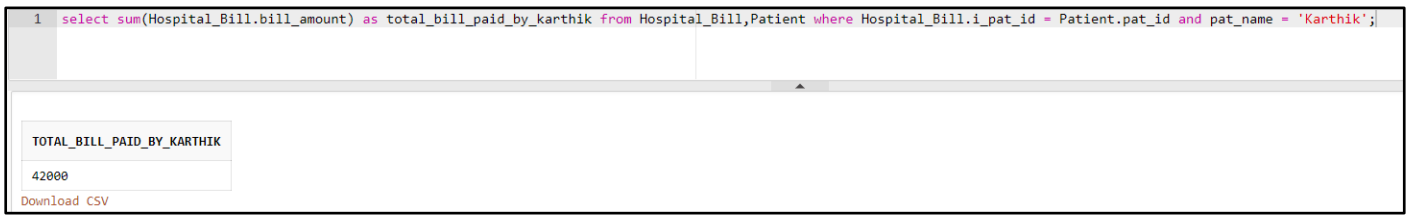
A2.

```
select count(p.p_gender) as male_patient_count from Patient,Appointment where Appointment.a_pat_id
= Patient.pat_id and Appointment.a_doc_id = 'D101';
```

Q3. Find the total bill paid by the patient 'Karthik'.

A3.

```
select sum(Hospital_Bill.bill_amount) as total_bill_paid_by_karthik from Hospital_Bill,Patient
where Hospital_Bill.i_pat_id = Patient.pat_id and pat_name = 'Karthik';
```



Q4. Find the name and address of the patient who paid the highest bill of all patients.

A4.

```
select pat_name,p_address from Patient,Hospital_Bill where Patient.pat_id = Hospital_Bill.i_pat_id
and Hospital_Bill.bill_amount = (select max(bill_amount) from Hospital_Bill);
```

```
1  select pat_name,p_address from Patient,Hospital_Bill
2  where Patient.pat_id = Hospital_Bill.i_pat_id and Hospital_Bill.bill_amount = (select max(bill_amount) from Hospital_Bill);
```

PAT_NAME	P_ADDRESS
TANUJ	132,MUMBAI

Download CSV

Q5. Get the specialization of doctors whose name start with the letter 'M'.

A5.

```
select specialist,doc_name from Doctor where doc_name like 'M%';
```

```
1  select specialist,doc_name from Doctor where doc_name  like 'M%';
```

SPECIALIST	DOC_NAME
NEUROLOGIST	MAHENDRA GANGWAR
NEPHROLOGIST	MAHIPAL JOSHI

Download CSV

2 rows selected.

Q6. Find the all the patients details whose name is exactly 5 characters long.

A6.

```
select *from Patient where pat_name like '_____';
```

```
1  select *from Patient where pat_name like '_____';
```

PAT_ID	PAT_NAME	P_DOB	P_GENDER	P_CONTACT	STREET	CITY	PINCODE	TEST_TIME
P220	Tanuj	09-OCT-78	F	7841454511	-	-	-	-
P106	Gayle	25-MAR-90	M	944548412	-	-	-	-

Download CSV

2 rows selected.

Q7. Display the department names in ascending order.

A7.

```
select dept_name from Department order by dept_name asc;
```

```
1  select dept_name from Department order by dept_name asc;
```

DEPT_NAME
CARDIOLOGY
CARDIOLOGY
GM
NEUROLOGY
ONCOLOGY

Download CSV

5 rows selected.

Q8. Get the gender wise count of patients.

A8.

```
select count(p_gender ) as male_count from Patient where p_gender = 'M';
select count(p_gender) as female_count from Patient where p_gender = 'F';
select count(p_gender) as third_gender from Patient where p_gender = 'T';
```

```
1  select count(p_gender ) as male_count from Patient where p_gender = 'M';
2  select count(p_gender) as female_count from Patient where p_gender = 'F';
3  select count(p_gender) as third_gender from Patient where p_gender = 'T';
4
```

MALE_COUNT
5

Download CSV

FEMALE_COUNT
3

Download CSV

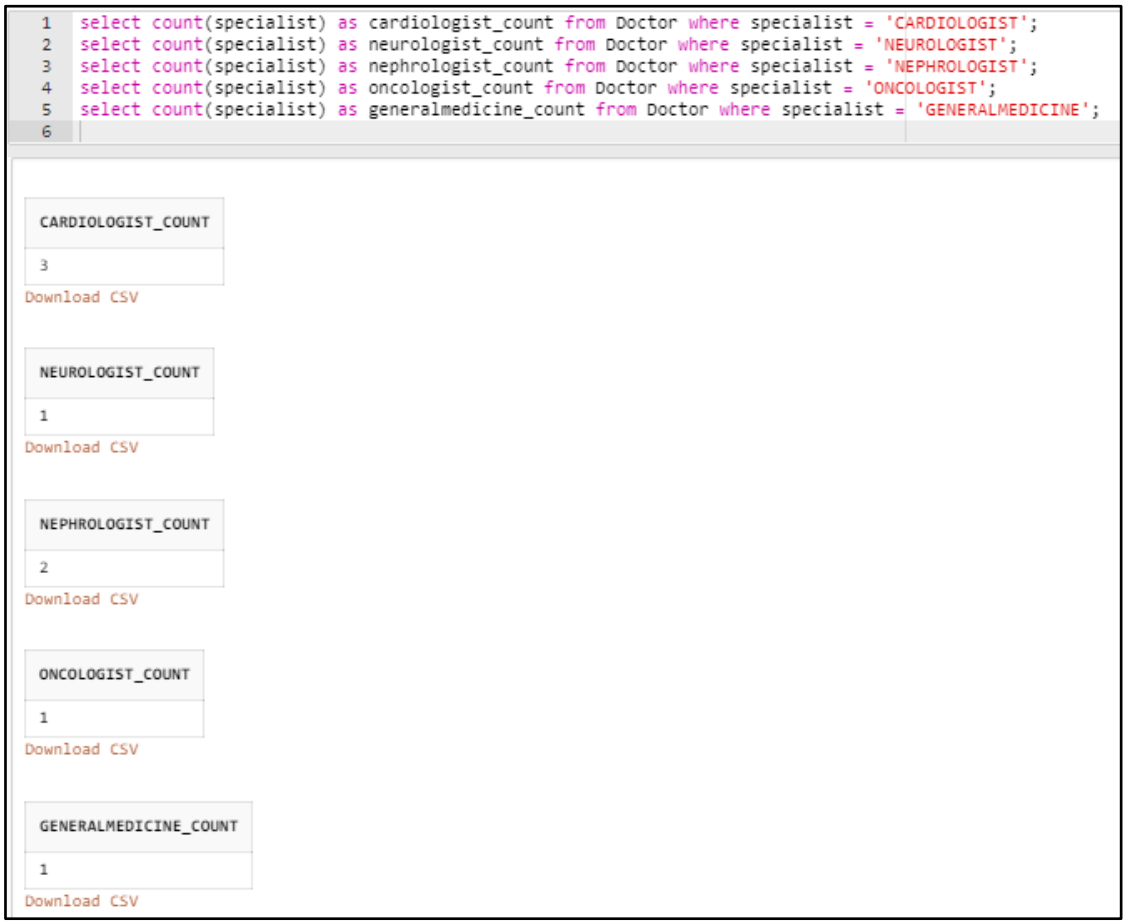
THIRD_GENDER
0

Download CSV

Q9. Get the count of doctors for each specialization.

A9.

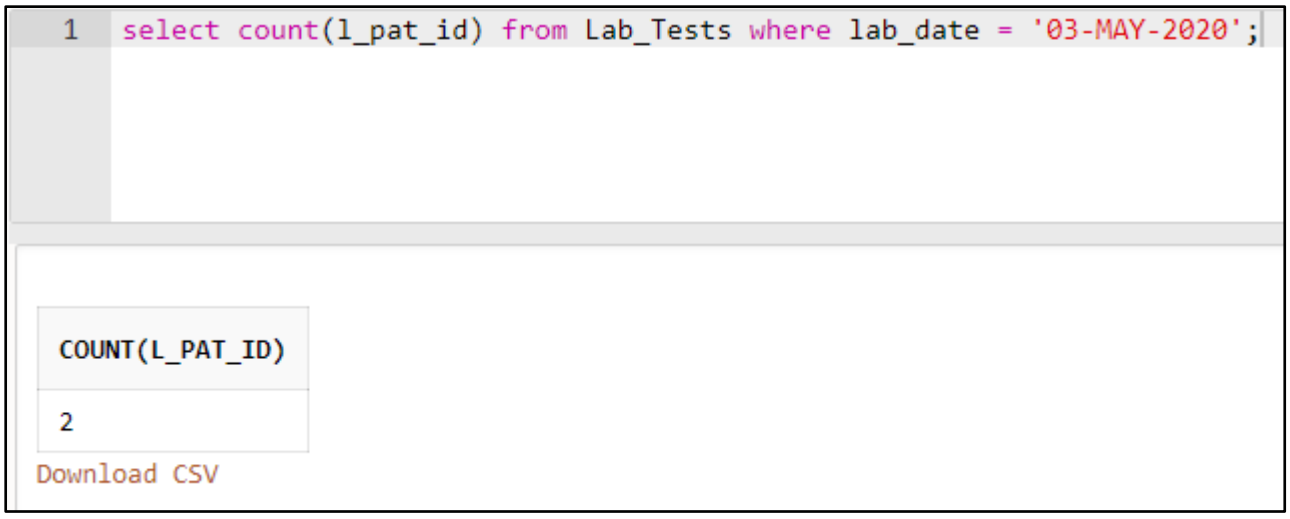
```
select count(specialist) as cardiologist_count from Doctor where specialist = 'CARDIOLOGIST';
select count(specialist) as neurologist_count from Doctor where specialist = 'NEUROLOGIST';
select count(specialist) as nephrologist_count from Doctor where specialist = 'NEPHROLOGIST';
select count(specialist) as oncologist_count from Doctor where specialist = 'ONCOLOGIST';
select count(specialist) as generalmedicine_count from Doctor where specialist =
'GENERALMEDICINE';
```



Q10. Get the total number tests conducted in any particular date.

A10.

```
select count(l_pat_id) from Lab_Tests where lab_date = '03-MAY-2020';
```



SQL queries - Nested subqueries

Q1. All of the queries in "SQL queries with JOIN operation" section can be tried with subqueries concept.

A1.

(a). Find the HOD of doctor 'Raghavan' (Hint: you need to join the tables DOCTOR and DEPARTMENT)

```
select hod from Department where dept_no = (select d_dept_no from Doctor where doc_name =
'Raghavan');
```

```
1  select hod from Department where dept_no = (select d_dept_no from Doctor where doc_name = 'Raghavan');
```

HOD
D108

Download CSV

(b). Find the list of all patients who were admitted in bed number 'B101'.

```
select pat_name from Patient where pat_id in (select ip_id from In_Patient where bed_no =
'B101');
```

```
1  select pat_name from Patient where pat_id in (select ip_id from In_Patient where bed_no = 'B101');
```

PAT_NAME
Vibhu Kumar
Steve
Mani

Download CSV

3 rows selected.

(c). Display all the prescribed medicines of patient with Pat_ID 'P101'.

```
select medicine_name from Prescribed_Medicines where m_pres_id in (select ip_pres_id from
In_Patient_Prescription where in_pat_id = 'P101');
```

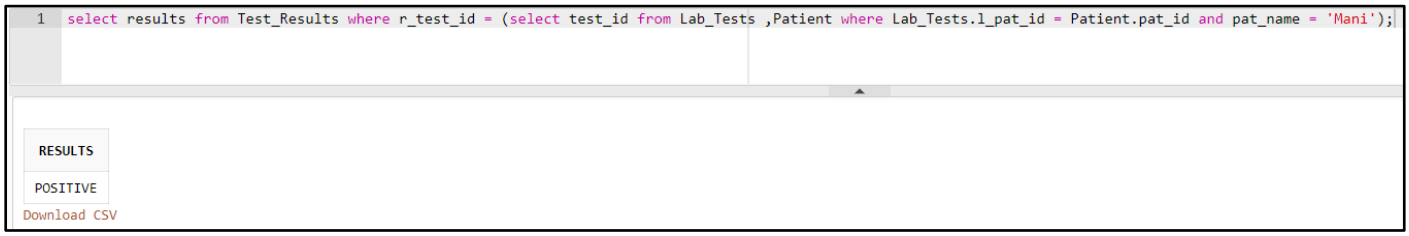
```
1  select medicine_name from Prescribed_Medicines where m_pres_id in (select ip_pres_id from In_Patient_Prescription where in_pat_id = 'P101');
```

MEDICINE_NAME
AMOXICILLIN

Download CSV

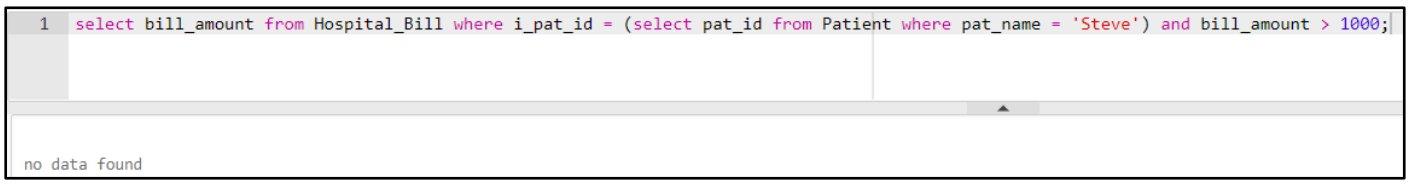
(d). Display the test results of patient ‘Mani’.

```
select results from Test_Results where r_test_id = (select test_id from Lab_Tests ,Patient
where Lab_Tests.l_pat_id = Patient.pat_id and pat_name = 'Mani');
```



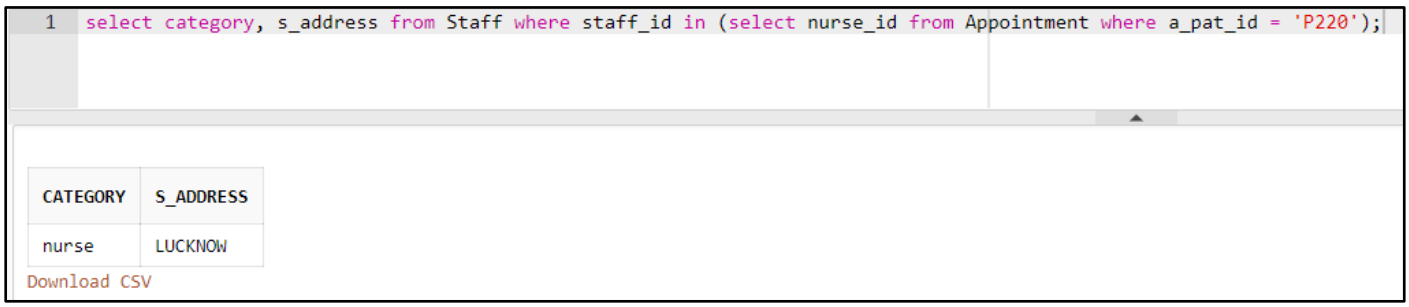
(e). Display all bills of bill amount more than 10000 rupees and paid by the patient ‘Steve’.

```
select bill_amount from Hospital_Bill where i_pat_id = (select pat_id from Patient where
pat_name = 'Steve') and bill_amount > 10000;
```



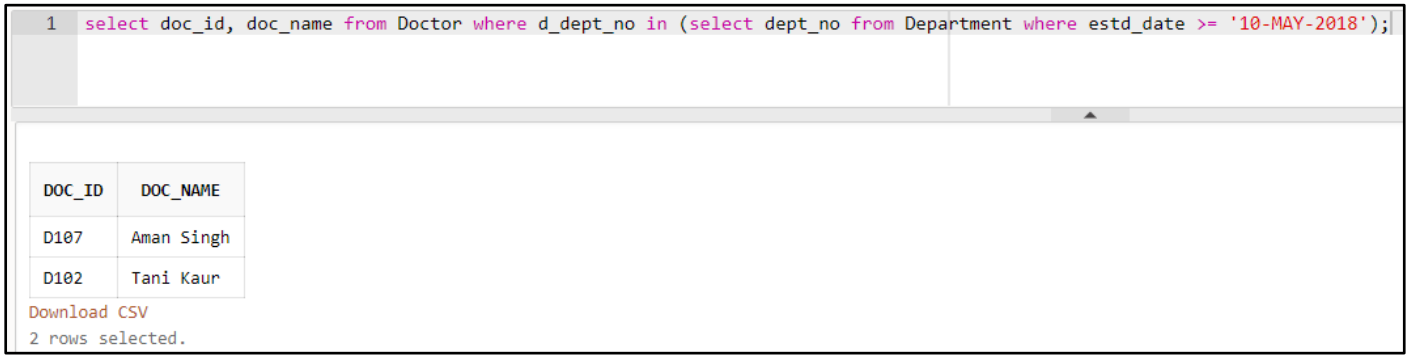
(f). Find the category and address of the nurse who attended the patient with pat_no ‘P220’.

```
select category, s_address from Staff where staff_id in (select nurse_id from Appointment
where a_pat_id = 'P220');
```



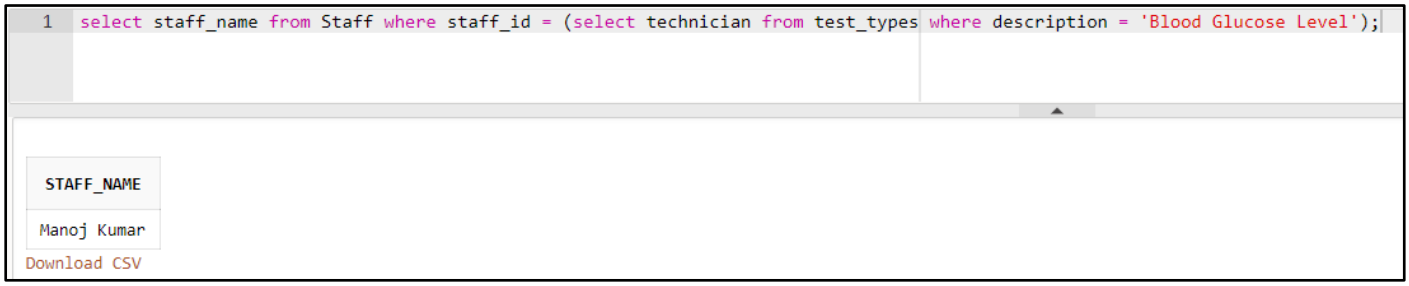
(g). Find the list of doctors who worked in the department which is started on or after ’10-May-2018’.

```
select doc_id, doc_name from Doctor where d_dept_no in (select dept_no from Department
where estd_date >= '10-MAY-2018');
```



(h). Get the name of technicians who tests blood glucose level.

```
select staff_name from Staff where staff_id = (select technician from test_types where
description = 'Blood Glucose Level');
```



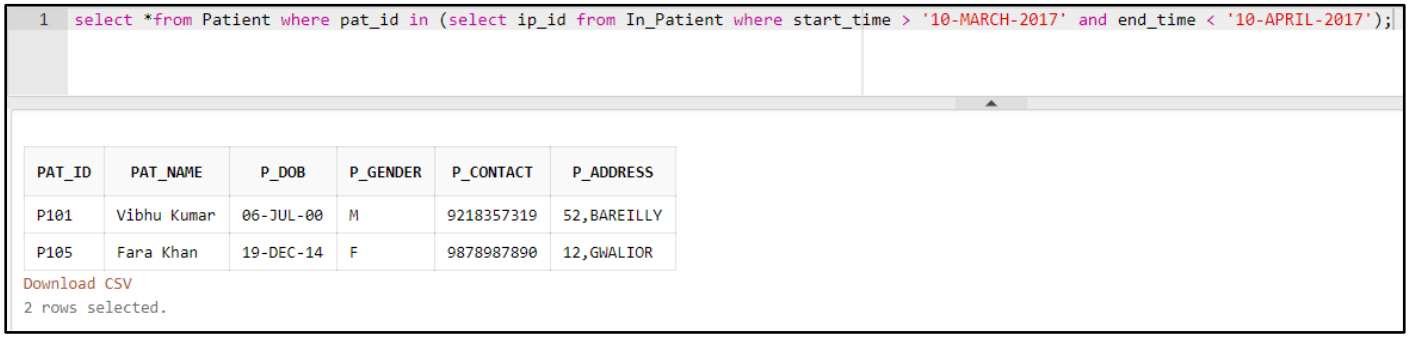
```
select staff_name from Staff where staff_id = (select technician from test_types where description = 'Blood Glucose Level');
```

STAFF_NAME
Manoj Kumar

Download CSV

(i). Display the details of all patients who were hospitalized between ’10-Mar2017’ and ’10-Apr-2017’

```
select *from Patient where pat_id in (select ip_id from In_Patient where start_time > '10-
MARCH-2017' and end_time < '10-APRIL-2017');
```



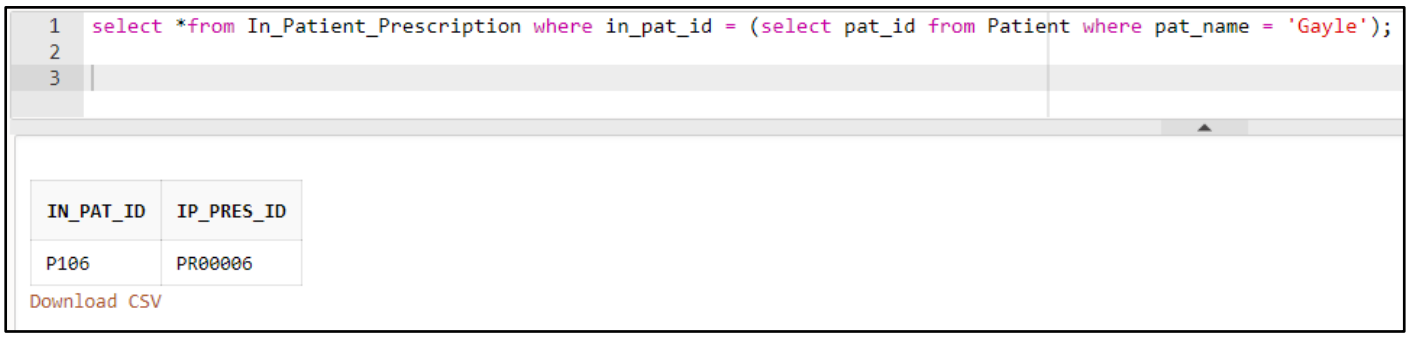
```
select *from Patient where pat_id in (select ip_id from In_Patient where start_time > '10-MARCH-2017' and end_time < '10-APRIL-2017');
```

PAT_ID	PAT_NAME	P_DOB	P_GENDER	P_CONTACT	P_ADDRESS
P101	Vibhu Kumar	06-JUL-00	M	9218357319	52,BAREILLY
P105	Fara Khan	19-DEC-14	F	9878987890	12,GWALIOR

Download CSV
2 rows selected.

(j). Display the in-patient prescription of the patient whose name is ‘Gayle’.

```
select *from In_Patient_Prescription where in_pat_id = (select pat_id from Patient where
pat_name = 'Gayle');
```



```
1  select *from In_Patient_Prescription where in_pat_id = (select pat_id from Patient where pat_name = 'Gayle');
2
3
```

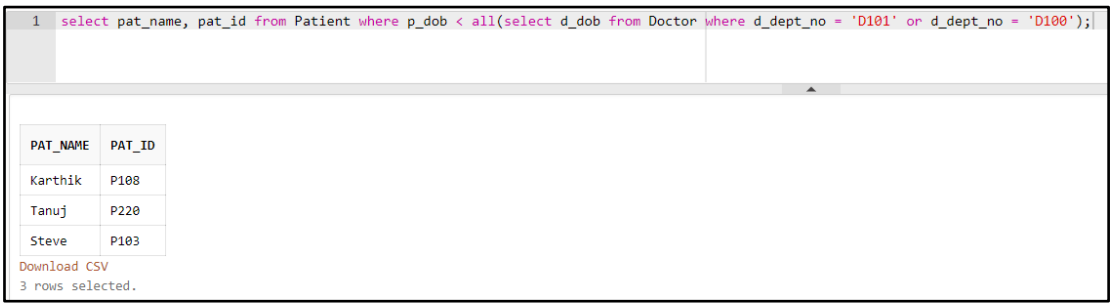
IN_PAT_ID	IP_PRES_ID
P106	PR00006

Download CSV

Q3. Find the name and id of all patients who are older than all the doctors in the entire ‘cardiology’ department. Use subqueries and ALL operator.

A3.

```
select pat_name, pat_id from Patient where p_dob < all(select d_dob from Doctor where d_dept_no =
'D101' or d_dept_no = 'D100');
```



```
1  select pat_name, pat_id from Patient where p_dob < all(select d_dob from Doctor where d_dept_no = 'D101' or d_dept_no = 'D100');
```

PAT_NAME	PAT_ID
Karthik	P108
Tanuj	P220
Steve	P103

Download CSV
3 rows selected.

Q4. Find the prescription ids of all prescription that included a medicine from the brand ‘Ranbaxy’ using nested subqueries.

A4.

```
select pres_id from Prescription where pres_id in (select m_pres_id from Prescribed_Medicines
where brand = 'Ranbaxy');
```

```
1  select pres_id from Prescription where pres_id in (select m_pres_id from Prescribed_Medicines where brand = 'Ranbaxy');
```

PRES_ID
PR00001
PR00003
PR00008

Download CSV

3 rows selected.

Q5. Find the list of patients who paid their bill through either ‘credit card’ or ‘debit card’ using subquery.

A5.

```
select pat_name from Patient where pat_id in (select i_pat_id from Hospital_Bill where
payment_type = 'CREDIT CARD' or payment_type = 'DEBIT CARD');
```

```
1  select pat_name from Patient where pat_id in (select i_pat_id from Hospital_Bill where payment_type = 'CREDIT CARD' or payment_type = 'DEBIT CARD');
```

PAT_NAME
Tanuj
Steve
Mani
Fara Khan
Karthik

Download CSV

5 rows selected.

SQL queries using other functions

Practice queries using DATE, NUMERIC, and CHARACTER functions. Refer DBMS_Lab_Reference_Material.pdf file. Try to upload at least two queries from each function category.

Q1. Using DATE function.
A1.

a) `select * from Department where estd_date='20-Mar-12';`

```
1  select * from Department where estd_date='20-Mar-12';
```

DEPT_NO	DEPT_NAME	ROOM_NO	FLOOR	HOD	ESTD_DATE
D101	CARDIOLOGY	A-111	7	D108	20-MAR-12

Download CSV

b) `select * from Doctor where d_dob>'25-JUN-90';`

```
1  Select * from Doctor where d_dob>'25-JUN-90';
```

DOC_ID	DOC_NAME	D_GENDER	D_DOB	SPECIALIST	QUALIFICATION	D_CONTACT	D_ADDRESS	D_DEPT_NO
D107	Aman Singh	M	01-JAN-92	ONCOLOGIST	MD	8449268172	95,AGRA	D190
D104	Paman Singh	M	21-DEC-91	GENERALMEDICINE	MD	8912678219	102,PUNE	D101
D106	Raghavan	M	03-FEB-94	NEPHROLOGIST	MDS	9897268266	17,MATHURA	D101

Download CSV
3 rows selected.

Q2. Using Numeric function.
A2.

a) Find the Square root of Bill Amount of Patient having Patient ID as 'P220'.

`select sqrt(bill_amount) from Hospital_Bill where i_pat_id='P220';`

```
1  select sqrt(bill_amount) from Hospital_Bill where i_pat_id='P220';
```

SQRT(BILL_AMOUNT)
447.21359549995793928183473374625524708 8

Download CSV

b) Find the tan of all Bill Amounts.

```
Select tan(bill_amount) from Hospital_Bill;
```

```
1  Select tan(bill_amount) from Hospital_Bill;
```

TAN(BILL_AMOUNT)
.320971134623814724608961624808763370177
-.071634990890478129662722423116193591271 1
3.392165357364370618802992815207850976 84
-1.988910261025630975327961145177361917 94
.715672630862054735051233413375066639 01
.588024977085959493105779100658231637991 6
.272224367780170555347882294017587381872 5
.047850628882113438816760509883544717586 3
-2.530998328093340910378658415088822496 2
-1.988910261025630975327961145177361917 94

Download CSV

10 rows selected.

Q3. Using character function.

A3)

a) Display the Patient Names in Lower Letters.

```
Select lower(pat_name) from Patient;
```

```
1  Select upper(doc_name) from Doctor;
```

UPPER(DOC_NAME)
VIBHU KUMAR
BHAVYA SINGH
SANJAY KUMAR
AMAN SINGH
PAMAN SINGH
TANI KAUR
RAGHAVAN
RIYA PATEL

Download CSV

8 rows selected.

b) Display the Doctor Names in Upper Letters.

```
1  Select lower(pat_name) from Patient;
```

LOWER(PAT_NAME)
vibhu kumar
tanuj
steve
mani
fara khan
gayle
mansi jaiswal
karthik

Download CSV

8 rows selected.