

# CSE 2003

DATABASE MANAGEMENT SYSTEM



## Cyclesheet – 2

L11+L12 | SJT419

FALL SEMESTER 2020–21

by

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## PART A

### DDL Statements (ALTER, CONSTRAINT, etc.)

#1. Modify Hospital\_Bill by adding an attribute consulting\_physician and add foreign key constraint for that attribute. Use constraint name for foreign key constraint.

```
alter table hospital_bill
add consulting_physician char(5) check(consulting_physician like 'D%' and
length(consulting_physician) = 5);
alter table hospital_bill
add constraint FK_doctor
foreign key (consulting_physician) references doctor(doc_id);
```

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SQL Worksheet

Clear Find Actions Save Run

```
1 alter table hospital_bill
2 add consulting_physician char(5) check(consulting_physician like 'D%' and length(consulting_physician) = 5);
3 alter table hospital_bill
4 add constraint FK_doctor
5 foreign key (consulting_physician) references doctor(doc_id);
```

Table altered.

Table altered.

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

```
alter table patient drop column address;
alter table patient add (street varchar2(50) null, city varchar2(50) null, pincode
number(6) null);
```

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SQL Worksheet

Clear Find Actions Save Run

```
1 alter table patient drop column address;
2 alter table patient add (street varchar2(50) null, city varchar2(50) null, pincode number(6) null);
```

Table altered.

Table altered.

#3. Add an attribute Test\_Time which can accept only two values “Before food” and “After food” with proper constraint name.

```
alter table patient
add test_time varchar2(30);
alter table patient
add constraint time_change check (test_time in ('before food', 'after food'));
```

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SQL Worksheet Clear Find Actions Save Run

```
1 alter table patient
2 add test_time varchar2(30);
3 alter table patient
4 add constraint time_change check (test_time in ('before food', 'after food'));
```

Table altered.  
Table altered.

#### #4. Remove the constraint only from test\_time attribute.

```
alter table patient
drop constraint time_change;
```

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SQL Worksheet Clear Find Actions Save Run

```
1 alter table patient
2 drop constraint time_change;
```

Table altered.

#### #5. Drop address attribute from staff table and add attributes door\_no, street, city, and pincode.

```
alter table staff
drop column address;
alter table staff add(door_no number(5), street varchar2(50), city varchar2(50),
pincode number(6));
```

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SQL Worksheet Clear Find Actions Save Run

```
1 alter table staff
2 drop column address;
3 alter table staff add(door_no number(5), street varchar2(50), city varchar2(50), pincode number(6));
```

Table altered.  
Table altered.

#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.

```
create table medicines(  
    med_name varchar2(50) not null,  
    brand varchar2(20) not null,  
    dosage varchar2(40) not null,  
    manu_date date not null,  
    exp_date date not null,  
    constraint CHK check (manu_date < exp_date)  
)  
insert into medicines  
with names as (  
    select 'Aspirin', 'dabur', '3 times a day', '01NOV20', '14JAN22' from dual union  
all  
    select 'Combiflame', 'cipla', '2 times a day', '01NOV18', '01FEB20' from dual  
union all  
    select 'SHA256', 'sun pharma', '1 time a day', '01NOV17', '21JAN18' from dual  
union all  
    select 'SHA128', 'dr reddy lab', '2 times a day', '01APR14', '11NOV14' from dual  
union all  
    select 'crocin', 'dr reddy lab', '3 times a day', '01APR15', '11MAR20' from dual  
union all  
    select 'SHA1', 'divi lab', '3 times a day', '01NOV18', '01AUG19' from dual  
)  
select * from names;
```

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SQL Worksheet

Clear Find Actions Save Run

```
1 create table medicines(  
2     med_name varchar2(50) primary key,  
3     brand varchar2(20) not null,  
4     dosage varchar2(40) not null,  
5     manu_date date not null,  
6     exp_date date not null,  
7     constraint CHK check (manu_date < exp_date)  
8 );  
9 insert into medicines  
10 with names as (  
11     select 'Aspirin', 'dabur', '3 times a day', '01NOV20', '14JAN22' from dual union all  
12     select 'Combiflame', 'cipla', '2 times a day', '01NOV18', '01FEB20' from dual union all  
13     select 'SHA256', 'sun pharma', '1 time a day', '01NOV17', '21JAN18' from dual union all  
14     select 'SHA128', 'dr reddy lab', '2 times a day', '01APR14', '11NOV14' from dual union all  
15     select 'crocin', 'dr reddy lab', '3 times a day', '01APR15', '11MAR20' from dual union all  
16     select 'SHA1', 'divi lab', '3 times a day', '01NOV18', '01AUG19' from dual  
17 )  
18 select * from names;  
19
```

Table created.

6 row(s) inserted.

#7. Remove the attributes dosage and brand from Prescribed\_Medicines and alter the medicine\_name attribute as a foreign key referencing the new table Medicines.

```
alter table prescribed_medicines drop (dosage, brand)  
alter table prescribed_medicines  
add constraint FK_medicine  
foreign key (medicine_name) references medicines(med_name);
```

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SQL Worksheet

Clear Find Actions Save Run

```
1 alter table prescribed_medicines drop (dosage, brand)  
2 alter table prescribed_medicines  
3 add constraint FK_medicine  
4 foreign key (medicine_name) references medicines(med_name);  
5  
6  
7  
8
```

Table altered.

Table altered.

#8. Create a view for doctors who are specialized in 'Cardiology' from Doctor table with attributes doc\_id, doc\_name and gender.

```
create view doctors_view as
select doc_id, doc_name, gender
from doctor
where specialist = 'Cardiology';
```

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SQL Worksheet Clear Find Actions Save Run

```
1 create view doctors_view as
2 select doc_id, doc_name, gender
3 from doctor
4 where specialist = 'Cardiology';
5
```

View created.

#9. Add an attribute No\_of\_staff in Department table and create a constraint with constraint name to make sure the number is >0.

```
alter table department
add no_of_staff number(5);
alter table department
add constraint cns_staff check (no_of_staff > 0);
```

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SQL Worksheet Clear Find Actions Save Run

```
1 alter table department
2 add no_of_staff number(5);
3 alter table department
4 add constraint cns_staff check (no_of_staff > 0);
5
```

Table altered.

Table altered.

#10. Add an attribute with In\_Patient\_prescription to store the Room\_Type which can store the values "AC" and "Non-AC".

```
alter table in_patient_prescription
add room_type varchar2(30);
alter table in_patient_prescription
add constraint cks_room check (room_type in ('AC', 'NON-AC'));
```

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SQL Worksheet Clear Find Actions Save Run

```
1 alter table in_patient_prescription
2 add room_type varchar2(30);
3 alter table in_patient_prescription
4 add constraint cks_room check (room_type in ('AC', 'NON-AC'));
```

Table altered.

Table altered.

## PART B

### SQL Queries with JOIN Operation

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

```
select hod, doc_name
from doctor, department
where doctor.dept_no=department.dept_no and doc_name='Raghavan';
```

The screenshot shows an SQL Worksheet interface. At the top, there are links for Feedback, Help, and a user profile. Below the header, the SQL code is entered in a text area. The result is displayed in a table below the code.

```
1 select hod, doc_name
2 from doctor, department
3 where doctor.dept_no=department.dept_no and doc_name='Raghavan';
```

HOD	DOC_NAME
D0003	Raghavan

Download CSV

#2. Find the list of all patients who were admitted in bed number '1010'.

```
select In_patient.pat_id, pat_name, bed_no
from patient, in_patient
where In_patient.pat_id=patient.pat_id and bed_no=1010;
```

The screenshot shows an SQL Worksheet interface. At the top, there are links for Feedback, Help, and a user profile. Below the header, the SQL code is entered in a text area. The result is displayed in a table below the code.

```
1 select In_patient.pat_id, pat_name, bed_no
2 from patient, in_patient
3 where In_patient.pat_id=patient.pat_id and bed_no=1010;
```

PAT_ID	PAT_NAME	BED_NO
P0001	Sam	1010

Download CSV

#3. Display all the prescribed medicines of patient with Pat\_ID 'P0001'.

```
select medicine_name from prescribed_medicines
inner join in_patient_prescription
on
in_patient_prescription.pres_id = prescribed_medicines.pres_id
inner join patient
on
patient.pat_id = in_patient_prescription.pat_id and patient.pat_id = 'P0001';
```

The screenshot shows an SQL Worksheet interface. At the top, there are links for Feedback, Help, and a user profile. Below the header, the SQL code is entered in a text area. The result is displayed in a table below the code.

```
1 select medicine_name from prescribed_medicines
2 inner join in_patient_prescription
3 on
4 in_patient_prescription.pres_id = prescribed_medicines.pres_id
5 inner join patient
6 on
7 patient.pat_id = in_patient_prescription.pat_id and patient.pat_id = 'P0001';
8
```

MEDICINE_NAME
crocin

Download CSV

#### #4. Display the test results of patient 'Kevin'.

```
select test_results.results
from patient
inner join lab_tests
on
patient.pat_id = lab_tests.pat_id and pat_name = 'Kevin'
inner join test_results
on
lab_tests.test_id = test_results.test_id;
```

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##### SQL Worksheet

Clear Find Actions Save Run

```
1 select test_results.results
2 from patient
3 inner join lab_tests
4 on
5 patient.pat_id = lab_tests.pat_id and pat_name = 'Kevin'
6 inner join test_results
7 on
```

##### RESULT

Negative

Download CSV

#### #5. Display all bills of bill amount more than 10000 rupees and paid by the patient 'Mary'.

```
select * from hospital_bill
inner join patient
on
hospital_bill.pat_id = patient.pat_id and pat_name = 'Mary' and bill_amount > 10000;
```

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##### SQL Worksheet

Clear Find Actions Save Run

```
1 select * from hospital_bill
2 inner join patient
3 on
4 hospital_bill.pat_id = patient.pat_id and pat_name = 'Mary' and bill_amount > 10000;
```

INV_NO	INV_DATE	PAT_ID	BILL_AMOUNT	PAYMENT_TYPE	DISCOUNT	CONSULTING_PHYSICIAN	PAT_ID	PAT_NAME	DOB	GENDER	CONTACT	STREET	CITY	PINCODE	TEST_TIME
4873	02-OCT-20	P0002	200000	credit card	10	-	P0002	Mary	02-OCT-00	F	8529759257	-	-	-	-

Download CSV

#### #6. Find the category and address of the nurse who attended the patient with pat\_no 'P0003'.

```
select staff_category, door_no, street, city, pincode from staff
inner join appointment
on
staff.staff_id = appointment.nurse_id and pat_id = 'P0003'
```

SQL Worksheet

```

1 select staff_category, door_no, street, city, pincode from staff
2 inner join appointment
3 on
4 staff.staff_id = appointment.nurse_id and pat_id = 'P0003';

```

STAFF_CATEGORY	DOOR_NO	STREET	CITY	PINCODE
nurse	5	baker street	London	100001

[Download CSV](#)

#7. Find the list of doctors who worked in the department which is started on or after '31-December-2010'.

```

select * from doctor
inner join department
on
doctor.dept_no = department.dept_no and estd_date > '31DEC10';

```

SQL Worksheet

```

1 select * from doctor
2 inner join department
3 on
4 doctor.dept_no = department.dept_no and estd_date > '31DEC10';

```

DOC_ID	DOC_NAME	GENDER	DOB	SPECIALIST	QUALIFICATION	CONTACT	ADDRESS	DEPT_NO	DEPT_NO	DEPT_NAME	ROOM_NO	FLOOR	HOD	ESTD_DATE	NO_OF_STAFF
D0003	Rajeev Sharma	M	03-JAN-83	Cardiology	MBBS	8340613648	Vellore	DP003	DP003	Neurology	1003	3	D0003	01-APR-13	-
D0004	Medha Sharma	F	10-FEB-84	General medicine	MD	8529759228	Borivali West	DP004	DP004	Oncology	1004	4	D0004	11-JAN-12	-
D0005	Arjun Singh	M	20-JAN-93	Neurology	MBBS	8526759229	Worli	DP005	DP005	Diabetes	1005	5	D0005	01-JAN-11	-
D0006	Raghavan	M	11-NOV-89	Neurology	MD	8976453467	Andheri	DP003	DP003	Neurology	1003	3	D0003	01-APR-13	-

[Download CSV](#)  
4 rows selected.

#8. Get the name of technicians who tests blood glucose level (urine test).

```

select staff_name from staff
inner join test_types
on
staff.staff_id = test_types.technician where Description='Urine test';

```

SQL Worksheet

```

1 select staff_name from staff
2 inner join test_types
3 on
4 staff.staff_id = test_types.technician and description='Urine test';

```

STAFF_NAME
Joe
Joe
Joe

[Download CSV](#)  
3 rows selected.

#9. Display the details of all patients who were hospitalized between '07-May-2020' and '01-Nov-2020'.

```

select * from patient
inner join in_patient
on
patient.pat_id = in_patient.pat_id and date_of_admission > '07MAY20' and
date_of_admission < '01NOV20';

```



SQL Worksheet

```

1 select * from patient
2 inner join in_patient
3 on
4 patient.pat_id = in_patient.pat_id and date_of_admission > '07MAY20' and date_of_admission < '01NOV20'

```

PAT_ID	PAT_NAME	DOB	GENDER	CONTACT	STREET	CITY	PINCODE	TEST_TIME	PAT_ID	DATE_OF_ADMISSION	BED_NO	START_TIME	END_TIME
P0002	Mary	02-OCT-00	F	8529759257	-	-	-	-	P0002	02-OCT-20	1012	04-OCT-20 09:34:01.000000 AM	04-OCT-20 11:34:01.000000 AM
P0004	Jay	01-JUN-02	M	8529659228	-	-	-	-	P0004	01-JUN-20	1014	20-JUN-20 11:55:01.000000 AM	20-JUN-20 01:55:01.000000 PM

Download CSV  
2 rows selected.

#10. Display the in-patient prescription of the patient whose name is 'Sam'.

```

select * from in_patient_prescription
inner join patient
on
patient.pat_id = in_patient_prescription.pat_id and pat_name = 'Sam';

```

SQL Worksheet

```

1 select * from in_patient_prescription
2 inner join patient
3 on
4 patient.pat_id = in_patient_prescription.pat_id and pat_name = 'Sam';

```

PAT_ID	PRES_ID	ROOM_TYPE	PAT_ID	PAT_NAME	DOB	GENDER	CONTACT	STREET	CITY	PINCODE	TEST_TIME
P0001	PR001	NON-AC	P0001	Sam	01-NOV-00	M	8529759249	-	-	-	-

Download CSV

## PART C

### SQL Queries with AGGREGATE and CHAR functions

#1. Find the number of doctors who are working in the department 'DP001'.

```
select count(*) from doctor where dept_no = 'DP001';
```

The screenshot shows an SQL Worksheet interface. At the top, there is a dark header bar with links for Feedback, Help, and a user profile. Below the header, the worksheet title is "SQL Worksheet". The query editor contains the following SQL query: `1 select count(*) from doctor where dept_no = 'DP001';`. The results pane below the query shows a table with one column, "COUNT(\*)", and one row with the value "1". There is a "Download CSV" link below the results.

#2. Count the number of male patients who are treated by the doctor with doctor id 'D0001'.

```
select count(*) from patient
inner join appointment
on
patient.pat_id = appointment.pat_id and patient.gender = 'M' and appointment.doc_id =
'D0001';
```

The screenshot shows an SQL Worksheet interface. At the top, there is a dark header bar with links for Feedback, Help, and a user profile. Below the header, the worksheet title is "SQL Worksheet". The query editor contains the following SQL query: `1 select count(*) from patient
2 inner join appointment
3 on
4 patient.pat_id = appointment.pat_id and patient.gender = 'M' and appointment.doc_id = 'D0001';`. The results pane below the query shows a table with one column, "COUNT(\*)", and one row with the value "1". There is a "Download CSV" link below the results.

#3. Find the total bill paid by the patient 'Jay'.

```
select bill_amount from Hospital_bill
inner join Patient
on
patient.pat_id = Hospital_bill.pat_id and pat_name='Jay';
```

SQL Worksheet

```

1 select bill_amount from Hospital_bill
2 inner join Patient
3 on
4 patient.pat_id = Hospital_bill.pat_id and pat_name='Jay';

```

BILL_AMOUNT
3000

[Download CSV](#)

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

```

select pat_name, street, city, pincode from patient
inner join hospital_bill
on
patient.pat_id = hospital_bill.pat_id
and
bill_amt = (select max(bill_amt) from hospital_bill);

```

SQL Worksheet

```

1 select pat_name, street, city, pincode from patient
2 inner join hospital_bill
3 on
4 patient.pat_id = hospital_bill.pat_id
5 and
6 bill_amount = (select max(bill_amount) from hospital_bill);

```

PAT_NAME	STREET	CITY	PINCODE
Mary	Marine Drive	Mumbai	645342

[Download CSV](#)

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

```

select specialist, doc_name from doctor where doc_name like 'M%';

```

SQL Worksheet

```

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

```

SPECIALIST	DOC_NAME
General medicine	Medha Sharma

[Download CSV](#)

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

```

select * from patient where length(pat_name)=5;

```

SQL Worksheet

```

1 select * from patient where length(pat_name)=5;
2

```

PAT_ID	PAT_NAME	DOB	GENDER	CONTACT	STREET	CITY	PINCODE	TEST_TIME
P0003	Kevin	03-APR-01	M	8340613668	-	-	-	-
P0005	Nancy	01-MAY-03	F	8526759234	-	-	-	-

Download CSV  
2 rows selected.

### #7. Display the department names in ascending order.

```
select Dept_name from department order by Dept_name;
```

Feedback

Help

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SQL Worksheet

Clear

Find

Actions

Save

Run

1

2

```
select Dept_name from department order by Dept_name;
```

DEPT_NAME
Cardiology
Diabetes
Intensive Care Unit
Neurology
Oncology

Download CSV

5 rows selected.

### #8. Get the gender wise count of patients.

```
select count(*),gender from patient group by gender;
```

Feedback Help sharadindu.adhikari2019@vitstudent.ac.in							
SQL Worksheet	Clear Find Actions Save Run						
<pre>1 select count(*),gender from patient group by gender ;</pre>							
<table> <thead> <tr> <th>COUNT(*)</th><th>GENDER</th></tr> </thead> <tbody> <tr><td>3</td><td>M</td></tr> <tr><td>2</td><td>F</td></tr> </tbody> </table> <p>Download CSV 2 rows selected.</p>		COUNT(*)	GENDER	3	M	2	F
COUNT(*)	GENDER						
3	M						
2	F						

### #9. Get the count of doctors for each specialization.

```
select count(*),specialist from doctor group by specialist;
```

Feedback Help sharadindu.adhikari2019@vitstudent.ac.in													
SQL Worksheet	Clear Find Actions Save Run												
<pre>1 select count(*),specialist from doctor group by specialist ;</pre>													
<table> <thead> <tr> <th>COUNT(*)</th><th>SPECIALIST</th></tr> </thead> <tbody> <tr><td>1</td><td>Ophthalmology</td></tr> <tr><td>1</td><td>Diabetes</td></tr> <tr><td>1</td><td>Cardiology</td></tr> <tr><td>1</td><td>General medicine</td></tr> <tr><td>2</td><td>Neurology</td></tr> </tbody> </table> <p>Download CSV 5 rows selected.</p>		COUNT(*)	SPECIALIST	1	Ophthalmology	1	Diabetes	1	Cardiology	1	General medicine	2	Neurology
COUNT(*)	SPECIALIST												
1	Ophthalmology												
1	Diabetes												
1	Cardiology												
1	General medicine												
2	Neurology												

#10. Get the total number tests conducted in any particular date.

```
select count(*),date_ from Lab_tests group by date_ ;
```

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SQL Worksheet

Clear

Find

Actions

Save

Run

```
1 select count(*),date_ from Lab_tests group by date_ ;
2
```

COUNT(*)	DATE_
1	01-NOV-20
1	01-JUN-20
1	01-MAY-20
1	03-APR-20
1	02-OCT-20

Download CSV  
5 rows selected.

## PART D

### SQL Queries – Nested Subqueries

#1. All of the queries in “SQL queries with JOIN operation” section can be tried with subqueries concept.

#1.1. Find the HOD of doctor ‘Raghavan’.

```
select doc_name from doctor
where
doc_id = (select hod from department where dept_no = (select dept_no from doctor
where doc_name = 'Raghavan'));
```

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SQL Worksheet [Clear](#) [Find](#) [Actions](#) [Save](#) [Run](#)

```
1 select doc_name from doctor
2 where
3 doc_id = (select hod from department where dept_no = (select dept_no from doctor where doc_name = 'Raghavan'));
```

DOC_NAME
Raghu Sharma

[Download CSV](#)

#1.2. Find the list of all patients who were admitted in bed number ‘1011’.

```
select * from patient
where
pat_id in (select pat_id from in_patient where Bed_no=1010)
```

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SQL Worksheet [Clear](#) [Find](#) [Actions](#) [Save](#) [Run](#)

```
1 select * from patient
2 where
3 pat_id in (select pat_id from in_patient where Bed_no=1010)
```

PAT_ID	PAT_NAME	DOB	GENDER	CONTACT	STREET	CITY	PINCODE	TEST_TIME
P0001	San	01 NOV-00	M	8529759249	-	-	-	-

[Download CSV](#)

#1.3. Display all the prescribed medicines of patient with Pat\_ID ‘P0001’.

```
select * from prescribed_medicines
where
pres_id = (select pres_id from in_patient_prescription where pat_id = 'P0001');
```

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SQL Worksheet [Clear](#) [Find](#) [Actions](#) [Save](#) [Run](#)

```
1 select * from prescribed_medicines
2 where
3 pres_id = (select pres_id from in_patient_prescription where pat_id = 'P0001');
```

PRES_ID	MEDICINE_NAME
PR001	crocini

Download CSV

#### #1.4. Display the test results of patient 'Kevin'.

```
select result from test_results
where
test_id = (select test_id from lab_tests where pat_id = (select pat_id from patient
where pat_name = 'Kevin'));
```

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SQL Worksheet Clear Find Actions Save Run

```
1 select result from test_results
2 where
3 test_id = (select test_id from lab_tests where pat_id = (select pat_id from patient
where pat_name = 'Kevin'));
```

RESULT

Negative
----------

Download CSV

#### #1.5. Display all bills of bill amount more than 10000 rupees and paid by the patient 'Mary'.

```
select * from hospital_bill
where
bill_amt > 10000 and pat_id = (select pat_id from patient where pat_name = 'Mary')
```

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SQL Worksheet Clear Find Actions Save Run

```
1 select * from hospital_bill
2 where
3 bill_amount > 10000 and pat_id = (select pat_id from patient where pat_name = 'Mary');
```

INV_NO	INV_DATE	PAT_ID	BILL_AMOUNT	PAYMENT_TYPE	DISCOUNT	CONSULTING_PHYSICIAN
4873	02-OCT-20	P0002	200000	credit card	10	-

Download CSV

#### #1.6. Find the category and address of the nurse who attended the patient with pat\_no 'P0002'.

```
select staff_category, door_no, street, city, pincode from staff
where
staff_id = (select nurse_id from appointment where pat_id = 'P0002');
```

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SQL Worksheet Clear Find Actions Save Run

```
1 select staff_category, door_no, street, city, pincode from staff
2 where
3 staff_id = (select nurse_id from appointment where pat_id = 'P0002');
```

STAFF_CATEGORY	DOOR_NO	STREET	CITY	PINCODE
nurse	5	baker street	London	100001

Download CSV

#1.7. Find the list of doctors who worked in the department which is started on or after '31-December-2010'.

```
select * from doctor
where
dept_no in (select dept_no from department where estd_date > '31DEC10')
```

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```
1 select * from doctor
2 where
3 dept_no in (select dept_no from department where estd_date > '31DEC10')
```

DOC_ID	DOC_NAME	GENDER	DOB	SPECIALIST	QUALIFICATION	CONTACT	ADDRESS	DEPT_NO
D0003	Rajeev Sharma	M	03-JAN-83	Cardiology	MBBS	8340613648	Vellore	DP003
D0004	Medha Sharma	F	10-FEB-84	General medicine	MD	8529759228	Borivali West	DP004
D0005	Arjun Singh	M	20-JAN-93	Neurology	MBBS	8526759229	Worli	DP005
D0006	Raghavan	M	11-NOV-89	Neurology	MD	8976453467	Andheri	DP003

Download CSV  
4 rows selected.

#1.8. Get the name of technicians who tests blood glucose level (urine test).

```
select staff_name from staff
where
staff_id in (select technician from test_types where description = 'Urine test')
```

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```
1 select staff_name from staff
2 where
3 staff_id in (select technician from test_types where description = 'Urine test')
```

STAFF_NAME
Joe

Download CSV

#1.9. Display the details of all patients who were hospitalized between '07-May-2020' and '01-Nov-2020'.

```
select * from patient
where
pat_id in (select pat_id from in_patient where date_of_admission > '07MAY20' and
date_of_admission < '01NOV20')
```

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```
1 select * from patient
2 where
3 pat_id in (select pat_id from in_patient where date_of_admission > '07MAY20' and date_of_admission < '01NOV20')
```

PAT_ID	PAT_NAME	DOB	GENDER	CONTACT	STREET	CITY	PINCODE	TEST_TIME
P0002	Mary	02-OCT-00	F	8529759257	Marine Drive	Mumbai	645342	-
P0004	Jay	01-JUN-02	M	8529659228	-	-	-	-

Download CSV  
2 rows selected.



#1.10. Display the in-patient prescription of the patient whose name is 'Sam'.

```
select * from in_patient_prescription
where
pat_id=(select pat_id from patient where pat_name='Sam')
```

SQL Worksheet

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```
1 select * from in_patient_prescription
2 where
3 pat_id=(select pat_id from patient where pat_name='Sam')
```

PAT_ID	PRES_ID	ROOM_TYPE
P0001	PR001	NON-AC

Download CSV

#2. Display the list of doctors who are working in the department with more number of doctors using sub-query and IN operator.

```
select * from doctor
where
dept_no in (select dept_no from department where dept_name = 'Cardiology');

select * from doctor
where
dept_no in (select dept_no from department where dept_name = 'Intensive Care Unit');

select * from doctor
where
dept_no in (select dept_no from department where dept_name = 'Neurology');

select * from doctor
where
dept_no in (select dept_no from department where dept_name = 'Oncology');

select * from doctor
where
dept_no in (select dept_no from department where dept_name = 'Diabetes');
```

SQL Worksheet

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Clear Find Actions Save Run

```
1 select * from doctor
2 where
3 dept_no in (select dept_no from department where dept_name = 'Cardiology');
4
5 select * from doctor
6 where
7 dept_no in (select dept_no from department where dept_name = 'Intensive Care Unit');
8
9 select * from doctor
10 where
11 dept_no in (select dept_no from department where dept_name = 'Neurology');
12
13 select * from doctor
14 where
15 dept_no in (select dept_no from department where dept_name = 'Oncology');
16
17 select * from doctor
18 where
19 dept_no in (select dept_no from department where dept_name = 'Diabetes');
```

DOC_ID	DOC_NAME	GENDER	DOB	SPECIALIST	QUALIFICATION	CONTACT	ADDRESS	DEPT_NO
D0001	Abhishek Sharma	M	01-JAN-90	Diabetes	MBBS	8529759229	Borivali West	DP001

Download CSV

DOC_ID	DOC_NAME	GENDER	DOB	SPECIALIST	QUALIFICATION	CONTACT	ADDRESS	DEPT_NO
D0002	Akshat Sharma	M	02-FEB-91	Ophthalmology	MD	8529759227	Borivali East	DP002

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DOC_ID	DOC_NAME	GENDER	DOB	SPECIALIST	QUALIFICATION	CONTACT	ADDRESS	DEPT_NO
D0003	Rajeev Sharma	M	03-JAN-83	Cardiology	MBBS	8340613648	Vellore	DP003
D0006	Raghavan	M	11-NOV-89	Neurology	MD	8976453467	Andheri	DP003

Download CSV

2 rows selected.

DOC_ID	DOC_NAME	GENDER	DOB	SPECIALIST	QUALIFICATION	CONTACT	ADDRESS	DEPT_NO
D0004	Hedha Sharma	F	10-FEB-84	General medicine	MD	8529759228	Borivali West	DP004

Download CSV

DOC_ID	DOC_NAME	GENDER	DOB	SPECIALIST	QUALIFICATION	CONTACT	ADDRESS	DEPT_NO
D0005	Arjun Singh	M	20-JAN-93	Neurology	MBBS	8526759229	Worli	DP005

Download CSV

**#3. 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.**

```
insert into patient(pat_id, pat_name, dob, gender, contact, street, city, pincode)
values ('P0006', 'Julian', '21MAY80', 'M', 8523259234, 'Nariman Point', 'Mumbai',
'763552');
select pat_id, pat_name, dob from patient
where
dob < all ( select dob from doctor where specialist = 'Cardiology' )
```

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## SQL Worksheet

Clear Find Actions Save Run

```
1 insert into patient(pat_id, pat_name, dob, gender, contact, street, city, pincode) values ('P0006', 'Julian', '21MAY80', 'M', 8523259234, 'Nariman Point', 'Mumbai', '763552');
2
3 select pat_id, pat_name, dob from patient
4 where
5 dob < all ( select dob from doctor where specialist = 'Cardiology' )
```

1 row(s) inserted.

PAT_ID	PAT_NAME	DOB
P0006	Julian	21-MAY-80

Download CSV

**#4. Find the prescription ids of all prescription that included a medicine from the brand 'Dr. Reddy Lab' using nested subqueries.**

```
select pres_id from prescribed_medicines
where
medicine_name in (select med_name from medicines where med_brand = 'dr reddy lab')
```

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## SQL Worksheet

Clear Find Actions Save Run

```
1 select pres_id from prescribed_medicines
2 where
3 medicine_name in (select medicine_name from medicines where brand = 'dr reddy lab')
```

PRES\_ID

PR001
PR002
PR003
PR012
PR005

Download CSV

5 rows selected.

**#5. Find the list of patients who paid their bill through either 'credit card' or 'debit card' using subquery.**

```
select * from patient
where
pat_id in (select pat_id from hospital_bill where payment_type = 'credit card' or
payment_type = 'debit card')
```

## SQL Worksheet

Clear Find Actions Save Run

```
1 select * from patient
2 where
3 pat_id in (select pat_id from hospital_bill where payment_type = 'credit card' or payment_type = 'debit card')
```

PAT_ID	PAT_NAME	DOB	GENDER	CONTACT	STREET	CITY	PINCODE	TEST_TIME
P0002	Mary	02-OCT-00	F	8529759257	Marine Drive	Mumbai	645342	-
P0003	Kevin	03-APR-01	M	8340613668	-	-	-	-
P0005	Nancy	01-MAY-03	F	8526759234	-	-	-	-

Download CSV

3 rows selected.

## SCHEMA:

## Live SQL

## Schema

Upload Script Actions Create Database Object

Search Database Object

Schema  
My SchemaSort By  
NameOptions  
☒ Primary Objects  
☐ Primary and Subordinate

Reset Search

## APPOINTMENT

Table  
Status: Valid  
Created 2 minutes ago

## DOCTORS\_VIEW

View  
Status: Valid  
Created 98 seconds ago

## IN\_PATIENT\_PRESCRIPTION

Table  
Status: Valid  
Created 2 minutes ago

## PATIENT

Table  
Status: Valid  
Created 2 minutes ago

## STAFF

Table  
Status: Valid  
Created 3 minutes ago

## DEPARTMENT

Table  
Status: Valid  
Created 3 minutes ago

## HOSPITAL\_BILL

Table  
Status: Valid  
Created 2 minutes ago

## LAB\_TESTS

Table  
Status: Valid  
Created 2 minutes ago

## PRESCRIBED\_MEDICINES

Table  
Status: Valid  
Created 2 minutes ago

## TEST\_RESULTS

Table  
Status: Valid  
Created 2 minutes ago

## DOCTOR

Table  
Status: Valid  
Created 3 minutes ago

## IN\_PATIENT

Table  
Status: Valid  
Created 3 minutes ago

## MEDICINES

Table  
Status: Valid  
Created 101 seconds ago

## PRESCRIPTION

Table  
Status: Valid  
Created 2 minutes ago

## TEST\_TYPES

Table  
Status: Valid  
Created 2 minutes ago

## PART E

### SQL Queries using other functions

#### #1. DATE functions:

```
select add_months(date_of_admission, 2) from in_patient where pat_id = 'P0003';
```

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SQL Worksheet [Clear](#) [Find](#) [Actions](#) [Save](#) [Run](#)

1 `select add_months(date_of_admission, 2) from in_patient where pat_id = 'P0003';`

ADD_MONTHS(DATE_OF_ADMISSION,2)
03-JUN-20
03-JUN-20

[Download CSV](#)  
2 rows selected.

```
select next_day(date_of_admission, 2) from in_patient where pat_id = 'P0003';
```

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SQL Worksheet [Clear](#) [Find](#) [Actions](#) [Save](#) [Run](#)

1 `select next_day(date_of_admission, 2) from in_patient where pat_id = 'P0003';`

NEXT_DAY(DATE_OF_ADMISSION,2)
06-APR-20
06-APR-20

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2 rows selected.

#### #2. CHAR functions:

```
SELECT lower(staff_Name) FROM staff;
```

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SQL Worksheet [Clear](#) [Find](#) [Actions](#) [Save](#) [Run](#)

1 `SELECT lower(staff_Name) FROM staff;`

LOWER(STAFF_NAME)
san
matt
ryan
joe
nancy

[Download CSV](#)  
5 rows selected.

```
SELECT UPPER(pat_Name) FROM patient;
```

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```
1 SELECT UPPER(pat_Name) FROM patient;
```

UPPER(PAT_NAME)
SAH
MARY
KEVIN
JAY
NANCY
JULIAN

Download CSV  
6 rows selected.

### #3. NUMERIC functions:

```
select * from hospital_bill where bill_amt > (select exp(11) from dual)
```

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SQL Worksheet Clear Find Actions Save Run

```
1 select * from hospital_bill where bill_amt > (select exp(11) from dual)
```

INV_NO	INV_DATE	PAT_ID	BILL_AMOUNT	PAYMENT_TYPE	DISCOUNT	CONSULTING_PHYSICIAN
4872	01-NOV-20	P0001	150000	cash	5	-
4873	02-OCT-20	P0002	200000	credit card	10	-

Download CSV  
2 rows selected.

```
select sqrt(bill_amt) from hospital_bill;
```

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SQL Worksheet Clear Find Actions Save Run

```
1 select sqrt(bill_amount) from hospital_bill;
```

SQRT(BILL_AMOUNT)
387.298334620741688517926539978239961083
447.213595499957939281834733746255247888
200
54.772255750516611345696978280080021339527
70.71067811865475244008443621848408392848

Download CSV  
5 rows selected.

**END**