SQL PROJECT

Name:Krithika Jagannath

1)How can you retrieve all the information from the cd.facilities table?

SELECT * FROM cd.facilities;

Query Editor | Query History | Scratch Pad

```
1  SELECT * FROM cd.facilities;
```

Data Output | Explain | Messages | Notifications

	facid [PK] integer	name character varying (100)	membercost numeric	guestcost numeric	initialoutlay numeric	monthlymaintenance numeric
1	0	Tennis Court 1	5	25	10000	200
2	1	Tennis Court 2	5	25	8000	200
3	2	Badminton Court	0	15.5	4000	50
4	3	Table Tennis	0	5	320	10
5	4	Massage Room 1	35	80	4000	3000
6	5	Massage Room 2	35	80	4000	3000
7	6	Squash Court	3.5	17.5	5000	80
8	7	Snooker Table	0	5	450	15
9	8	Pool Table	0	5	400	15

2)You want to print out a list of all of the facilities and their cost to members. How would you retrieve a list of only facility names and costs?

SELECT name, membercost FROM cd.facilities;

Query Editor | Query History

```
1  SELECT name, membercost FROM cd.facilities;
```

Data Output | Explain | Messages | Notifications

	name character varying (100)	membercost numeric
1	Tennis Court 1	5
2	Tennis Court 2	5
3	Badminton Court	0
4	Table Tennis	0
5	Massage Room 1	35
6	Massage Room 2	35
7	Squash Court	3.5
8	Snooker Table	0
9	Pool Table	0

3.How can you produce a list of facilities that charge a fee to members?

SELECT * FROM cd.facilities

WHERE membercost > 0;

Query Editor | Query History | Scratch Pa

```
1  SELECT * FROM cd.facilities
2  where membercost>0;
```

Data Output | Explain | Messages | Notifications

	facid [PK] integer	name character varying (100)	membercost numeric	guestcost numeric	initialoutlay numeric	monthlymaintenance numeric
1	0	Tennis Court 1	5	25	10000	200
2	1	Tennis Court 2	5	25	8000	200
3	4	Massage Room 1	35	80	4000	3000
4	5	Massage Room 2	35	80	4000	3000
5	6	Squash Court	3.5	17.5	5000	80

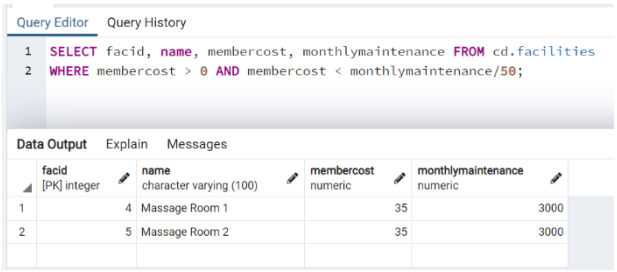
4.How can you produce a list of facilities that charge a fee to members,

and that fee is less than 1/50th of the monthly maintenance cost?

Return the facid, facility name, member cost, and monthly maintenance of the facilities in question.

SELECT facid, name, membercost, monthlymaintenance FROM cd.facilities

WHERE membercost > 0 AND membercost < monthlymaintenance/50;



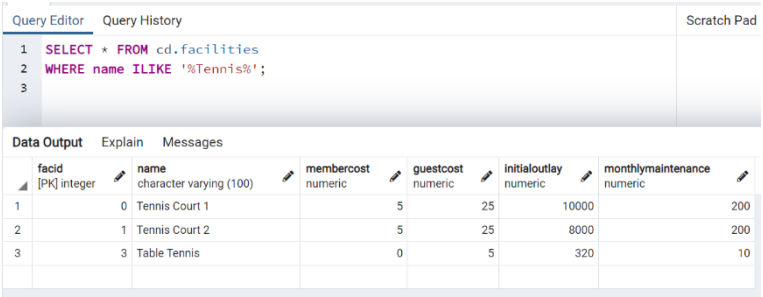
```
SELECT facid, name, membercost, monthlymaintenance FROM cd.facilities
WHERE membercost > 0 AND membercost < monthlymaintenance/50;
```

facid [PK] integer	name character varying (100)	membercost numeric	monthlymaintenance numeric
4	Massage Room 1	35	3000
5	Massage Room 2	35	3000

5)How can you produce a list of all facilities with the word 'Tennis' in their name?

SELECT * FROM cd.facilities

WHERE name ILIKE '%Tennis%';



```
SELECT * FROM cd.facilities
WHERE name ILIKE '%Tennis%';
```

facid [PK] integer	name character varying (100)	membercost numeric	guestcost numeric	initialoutlay numeric	monthlymaintenance numeric
0	Tennis Court 1	5	25	10000	200
1	Tennis Court 2	5	25	8000	200
3	Table Tennis	0	5	320	10

6)How can you retrieve the details of facilities with ID 1 and 5?

Try to do it without using the OR operator.

SELECT * FROM cd.facilities

WHERE facid IN (1,5);

```
SELECT * FROM cd.facilities
WHERE facid IN (1,5);
```

facid [PK] integer	name character varying (100)	membercost numeric	guestcost numeric	initialoutlay numeric	monthlymaintenance numeric
1	Tennis Court 2	5	25	8000	200
5	Massage Room 2	35	80	4000	3000

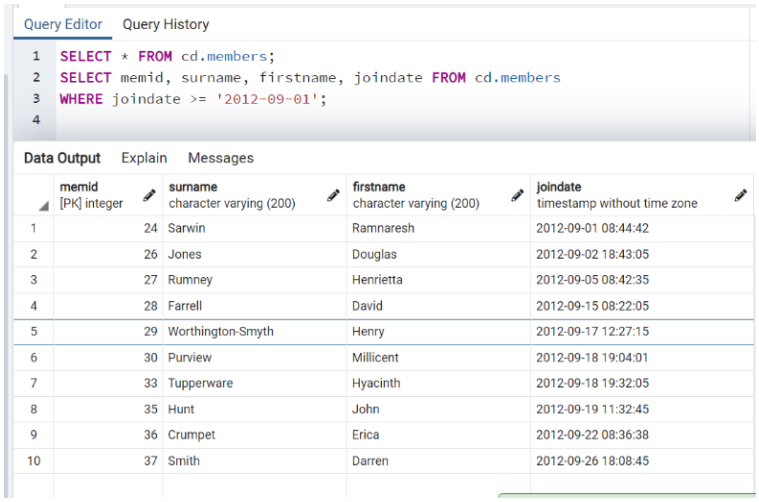
7)How can you produce a list of members who joined after the start of September 2012?

Return the memid, surname, firstname, and joindate of the members in question.

SELECT * FROM cd.members;

SELECT memid, surname, firstname, joindate FROM cd.members

WHERE joindate >= '2012-09-01';



Query Editor | Query History

```
1  SELECT * FROM cd.members;
2  SELECT memid, surname, firstname, joindate FROM cd.members
3  WHERE joindate >= '2012-09-01';
4
```

Data Output | Explain | Messages

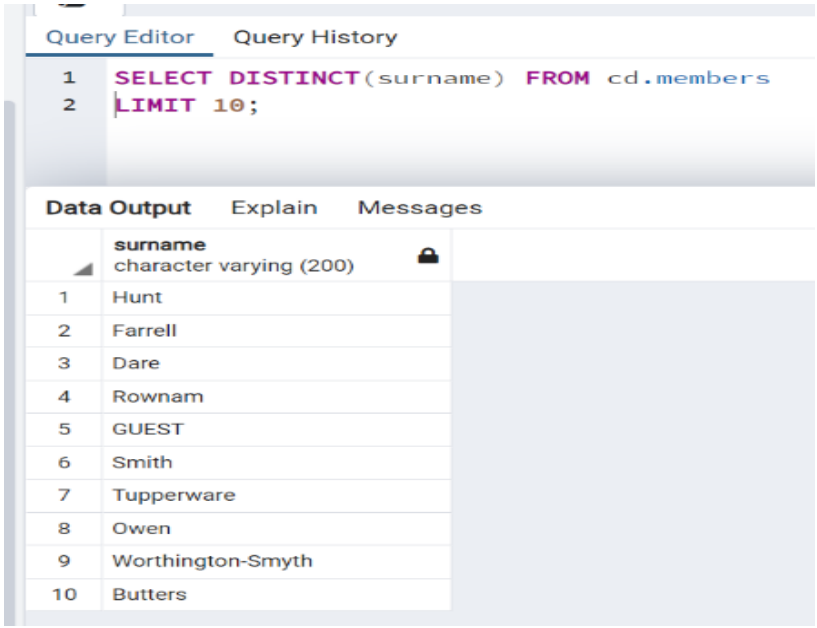
	memid [PK] integer	surname character varying (200)	firstname character varying (200)	joindate timestamp without time zone
1	24	Sarwin	Ramnaresh	2012-09-01 08:44:42
2	26	Jones	Douglas	2012-09-02 18:43:05
3	27	Rumney	Henrietta	2012-09-05 08:42:35
4	28	Farrell	David	2012-09-15 08:22:05
5	29	Worthington-Smyth	Henry	2012-09-17 12:27:15
6	30	Purview	Millicent	2012-09-18 19:04:01
7	33	Tupperware	Hyacinth	2012-09-18 19:32:05
8	35	Hunt	John	2012-09-19 11:32:45
9	36	Crumpet	Erica	2012-09-22 08:36:38
10	37	Smith	Darren	2012-09-26 18:08:45

8)How can you produce an ordered list of the first 10 surnames in the members table?

The list must not contain duplicates.

SELECT DISTINCT(surname) FROM cd.members

LIMIT 10;



Query Editor | Query History

```
1  SELECT DISTINCT(surname) FROM cd.members
2  LIMIT 10;
```

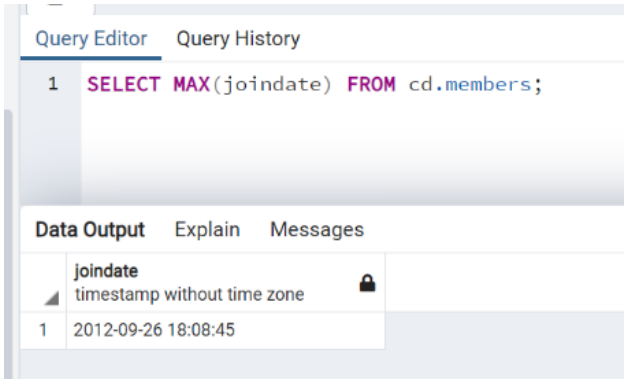
Data Output | Explain | Messages

	surname character varying (200)
1	Hunt
2	Farrell
3	Dare
4	Rownam
5	GUEST
6	Smith
7	Tupperware
8	Owen
9	Worthington-Smyth
10	Butters

9.You'd like to get the signup date of your last member.

How can you retrieve this information?

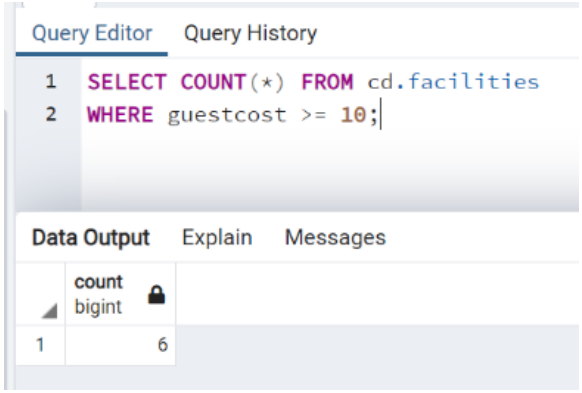
SELECT MAX(joindate) FROM cd.members;



10.Produce a count of the number of facilities that have a cost to guests of 10 or more?

SELECT COUNT(*) FROM cd.facilities

WHERE guestcost >= 10;



11.Produce a list of the total number of slots booked per facility in the month of September 2012.Produce an output table consisting of facility id and slots, sorted by the number of slots.

SELECT facid, SUM(slots) AS “Total Slots”

FROM cd.bookings

WHERE starttime >= '2012-09-01'

AND starttime< '2012-10-01'

GROUP by facid

ORDER BY SUM(slots);

Query Editor Query History

```
select facid, sum(slots) as "Total Slots"
    from cd.bookings
    where
        starttime >= '2012-09-01'
        and starttime < '2012-10-01'
    group by facid
order by sum(slots);
```

Data Output Explain Messages

	facid integer	Total Slots bigint
1	5	122
2	3	422
3	7	426
4	8	471
5	6	540
6	2	570
7	1	588
8	0	591
9	4	648

12.Produce a list of facilities with more than 1000 slots booked.

Produce an output table consisting of facility id and total slots, sorted by facility id.

SELECT facid, SUM(slots) AS Total_Number_of_Slots

FROM cd.bookings

GROUP BY facid

HAVING SUM(slots) > 1000

ORDER BY facid;

Query Editor Query History

```
SELECT facid, SUM(slots) AS Total_Number_of_Slots
FROM cd.bookings
GROUP BY facid
HAVING SUM(slots) > 1000
ORDER BY facid;
```

Data Output Explain Messages

	facid integer	total_number_of_slots bigint
1	0	1320
2	1	1278
3	2	1209
4	4	1404
5	6	1104

13.How can you produce a list of the start times for bookings for tennis courts, for the date '2012-09-21'?

Return a list of start time and facility name pairings, ordered by the time.

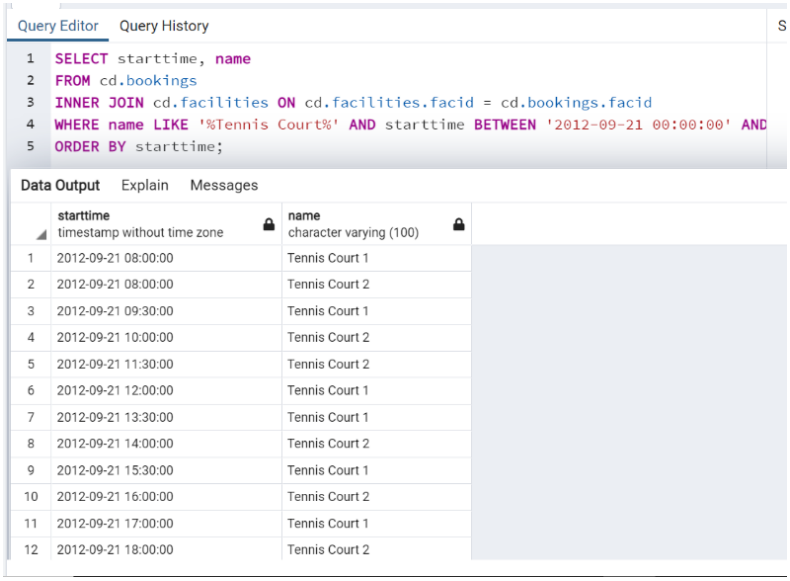
SELECT starttime, name

FROM cd.bookings

INNER JOIN cd.facilities ON cd.facilities.facid = cd.bookings.facid

WHERE name LIKE '%Tennis Court%' AND starttime BETWEEN '2012-09-21 00:00:00' AND '2012-09-21 23:59:59'

ORDER BY starttime;



Query Editor | Query History

```
SELECT starttime, name
FROM cd.bookings
INNER JOIN cd.facilities ON cd.facilities.facid = cd.bookings.facid
WHERE name LIKE '%Tennis Court%' AND starttime BETWEEN '2012-09-21 00:00:00' AND
ORDER BY starttime;
```

Data Output | Explain | Messages

	starttime timestamp without time zone	name character varying (100)
1	2012-09-21 08:00:00	Tennis Court 1
2	2012-09-21 08:00:00	Tennis Court 2
3	2012-09-21 09:30:00	Tennis Court 1
4	2012-09-21 10:00:00	Tennis Court 2
5	2012-09-21 11:30:00	Tennis Court 2
6	2012-09-21 12:00:00	Tennis Court 1
7	2012-09-21 13:30:00	Tennis Court 1
8	2012-09-21 14:00:00	Tennis Court 2
9	2012-09-21 15:30:00	Tennis Court 1
10	2012-09-21 16:00:00	Tennis Court 2
11	2012-09-21 17:00:00	Tennis Court 1
12	2012-09-21 18:00:00	Tennis Court 2

14.How can you produce a list of the start times for bookings by members named 'David Farrell'?

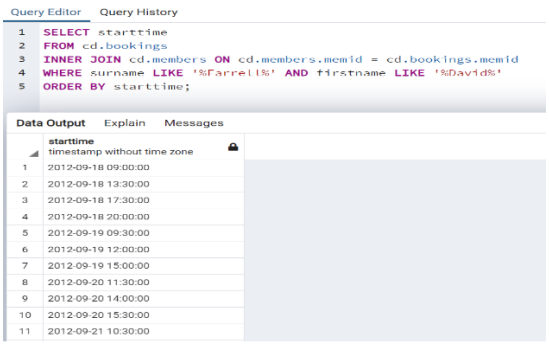
SELECT starttime

FROM cd.bookings

INNER JOIN cd.members ON cd.members.memid = cd.bookings.memid

WHERE surname LIKE '%Farrell%' AND firstname LIKE '%David%'

ORDER BY starttime;



Query Editor | Query History

```
SELECT starttime
FROM cd.bookings
INNER JOIN cd.members ON cd.members.memid = cd.bookings.memid
WHERE surname LIKE '%Farrell%' AND firstname LIKE '%David%'
ORDER BY starttime;
```

Data Output | Explain | Messages

	starttime timestamp without time zone
1	2012-09-18 09:00:00
2	2012-09-18 13:30:00
3	2012-09-18 17:30:00
4	2012-09-18 20:00:00
5	2012-09-19 09:30:00
6	2012-09-19 12:00:00
7	2012-09-19 15:00:00
8	2012-09-20 11:30:00
9	2012-09-20 14:00:00
10	2012-09-20 15:30:00
11	2012-09-21 10:30:00

2)Create a new database called "School" this database should have two tables: teachers and students.

The students table should have columns for student_id, first_name,last_name, homeroom_number, phone,email, and graduation year.

The teachers table should have columns for teacher_id, first_name, last_name, homeroom_number, department, email, and phone.

The constraints are mostly up to you, but your table constraints do have to consider the following:

We must have a phone number to contact students in case of an emergency.

We must have ids as the primary key of the tables

Phone numbers and emails must be unique to the individual.

Once you've made the tables, insert a student named Mark Watney (student_id=1) who has a phone number of 777-555-1234 and doesn't have an email. He graduates in 2035 and has 5 as a homeroom number.

Then insert a teacher names Jonas Salk (teacher_id = 1) who as a homeroom number of 5 and is from the Biology department. His contact info is: jsalk@school.org and a phone number of 777-555-4321.

Keep in mind that these insert tasks may effect your constraints!

ANSWER:

```
CREATE TABLE students(
student_id serial PRIMARY KEY,
first_name VARCHAR(50) NOT NULL,
last_name VARCHAR(50) NOT NULL,
homeroom_number integer,
phone VARCHAR(255) NOT NULL UNIQUE,
email VARCHAR(50) UNIQUE,
grad_year integer
);


CREATE TABLE teachers(
teacher_id serial PRIMARY KEY,
first_name VARCHAR(50) NOT NULL,
last_name VARCHAR(50) NOT NULL,
```

```
homeroom_number integer,
department VARCHAR(50),
phone VARCHAR(255) UNIQUE,
email VARCHAR(50) UNIQUE
);

INSERT INTO students (student_id, first_name, last_name, homeroom_number,
phone, grad_year)
VALUES (1, 'Mark', 'Watney', 5, '777-555-1234', 2035);

INSERT INTO teachers (teacher_id, first_name, last_name, homeroom_number,
department, phone,  email)
VALUES (1, 'Jonas', 'Salk', 5, 'Biology',  '777-555-4321', 'jsalk@school.org');
```