Date:01-16-23
Lesson: Assessment test 2
Course: Jose Portilla's SQL Zero to Hero

Question:

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

Query:
SELECT * FROM cd.facilities

Result:

	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

Question:

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?

Query:
SELECT name,membercost FROM cd.facilities

Result:

	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

Question:

3. How can you produce a list of facilities that charge a fee to members? Expected Results should have just 5 rows:

Query:

```
SELECT * FROM cd.facilities
WHERE membercost>0;
```

Result:

	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

Question:

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.

- Result is just two rows:

Query:

```
SELECT facid, name, monthlymaintenance, membercost  FROM cd.facilities
WHERE membercost > 0 AND membercost < monthlymaintenance*1/50;
```

Result:

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

Question:

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

Query:

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

Result:

	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	3	Table Tennis	0	5	320	10

Question:

6. How can you retrieve the details of facilities with ID 1 and 5? Try to do it without using the OR operator.

- **Expected Result is 2 rows**

Query:

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

Result:

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

Question:

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.

- **Expected Result is 10 rows (not all are shown below)**

Query:

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

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

Result:

	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

Question:

8. How can you produce an ordered list of the first 10 surnames in the members table? The list must not contain duplicates.

- **Expected Result should be 10 rows if you include GUEST as a last name**

Query:
SELECT DISTINCT(surname) FROM cd.members
ORDER BY SURNAME
LIMIT 10;

Result:

	surname character varying (200)
1	Bader
2	Baker
3	Boothe
4	Butters
5	Coplin
6	Crumpet
7	Dare
8	Farrell
9	Genting
10	GUEST

Question:

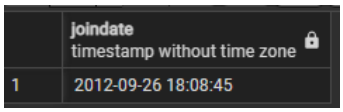
9. You'd like to get the signup date of your last member. How can you retrieve this information?

- **Expected Result**

Query:

```
SELECT joindate FROM cd.members
ORDER BY joindate desc
LIMIT 1;
```

Result:



	joindate timestamp without time zone
1	2012-09-26 18:08:45

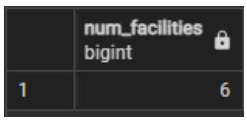
Question:

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

Query:

```
SELECT COUNT(*) AS num_facilities FROM cd.facilities
WHERE guestcost>=10;
```

Result:



	num_facilities bigint
1	6

Question:

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.

- **Expected Result is 9 rows**

Query:

```
SELECT facid, SUM(slots) AS num_facilities FROM cd.bookings
WHERE starttime>='2012-09-01'
AND starttime<= '2012-10-01'
```

```
GROUP BY facid
ORDER BY SUM(slots);
```

Result:

	facid integer	num_facilities 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

Question:

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.

- **Expected Result is 5 rows**

Query:

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

Result:

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

Question:

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.

- **Expected Result is 12 rows**

Query:

```
SELECT cd.bookings.starttime, cd.facilities.name AS facilityname
from cd.bookings
INNER JOIN cd.facilities
ON cd.bookings.facid=cd.facilities.facid
WHERE cd.facilities.facid IN (0,1)
AND cd.bookings.starttime >=  '2012-09-21'
AND  cd.bookings.starttime <  '2012-09-22'
ORDER BY cd.bookings.starttime;
```

Result:

	starttime timestamp without time zone	facilityname 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

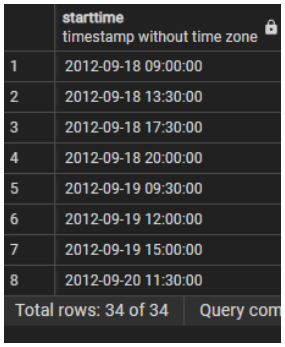
Question:

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

Query:

```
SELECT starttime from cd.bookings
INNER JOIN cd.members
ON bookings.memid=members.memid
WHERE firstname='David'AND surname= 'Farrell';
```

Result:



	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

Total rows: 34 of 34 | Query com