







## SQL Project 1 Part 1

Q1. How can you retrieve all the information from the cd.facilities table?

**Answer:**




**SELECT \* FROM cd.facilities;**

 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
2	Badminton Court	0	15.5	4000	50
3	Table Tennis	0	5	320	10
4	Massage Room 1	35	80	4000	3000
5	Massage Room 2	35	80	4000	3000
6	Squash Court	3.5	17.5	5000	80
7	Snooker Table	0	5	450	15
8	Pool Table	0	5	400	15

Q2. 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?

**Answer:**

**SELECT name, membercost FROM cd.facilities;**

	 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

Q3. How can you produce a list of facilities that charge a fee to members?

**Answer:**

**SELECT \* FROM cd.facilities**

**WHERE membercost > 0;**

	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

**Q4.** 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.

**Answer:**

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

**WHERE membercost > 0 AND membercost < monthlymaintenance \* 1/50;**

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

**Q5.** How can you produce a list of all facilities with the word 'Tennis' in their name?

**Answer:**

**SELECT \* FROM cd.facilities**

**WHERE name LIKE '%Tennis%';**

	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

**Q6** How can you retrieve the details of facilities with ID 1 and 5? Try to do it without using the OR operator.

**Answer:**

**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	1	Tennis Court 2	5	25	8000	200
2	5	Massage Room 2	35	80	4000	3000

**Q7.** 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.

**Answer:**

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

**WHERE joindate > '2012-09-01 00:00:00'**

	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

**Q8.** How can you produce an ordered list of the first 10 surnames in the members table? The list must not contain duplicates.

**Answer :**

**SELECT DISTINCT surname FROM cd.members**

**ORDER BY surname ASC**

**LIMIT 10;**

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

Q9. You'd like to get the signup date of your last member. How can you retrieve this information?

**Answer:**

**SELECT joindate FROM cd.members**

**ORDER BY joindate DESC**

**LIMIT 1;**

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

Q10. Produce a count of the number of facilities that have a cost to guests of 10 or more.

**Answer:**

**SELECT COUNT(facid) FROM cd.facilities**

**WHERE guestcost >= 10;**

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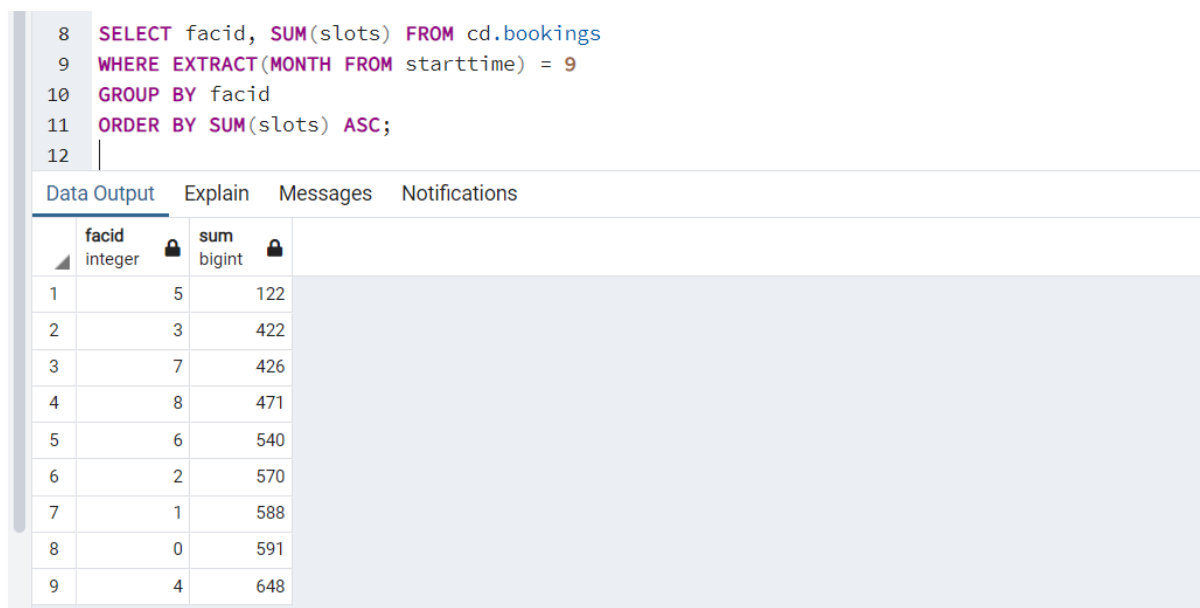
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7	
8	<b>SELECT COUNT(facid) FROM cd.facilities</b>
9	<b>WHERE guestcost &gt;= 10;</b>
10	
11	
Data Output Explain Messages Notifications	
	count
	bigint
1	6

Q11. 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.

**Answer:**

```
SELECT facid, SUM(slots) FROM cd.bookings
WHERE EXTRACT(MONTH FROM starttime) = 9
GROUP BY facid
ORDER BY SUM(slots) ASC;
```



The screenshot shows a SQL query editor with the following query:

```
8 SELECT facid, SUM(slots) FROM cd.bookings
9 WHERE EXTRACT(MONTH FROM starttime) = 9
10 GROUP BY facid
11 ORDER BY SUM(slots) ASC;
12
```

Below the query, there is a tabbed interface with 'Data Output' selected. The results are displayed in a table with the following columns: 'facid' (integer) and 'sum' (bigint). The table contains 9 rows of data, sorted by the sum of slots in ascending order.

	facid integer	sum 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

Q12. 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.

**Answer:**

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

5

|

SELECT facid, SUM(slots) AS Total\_Slots FROM cd.bookings

6

GROUP BY facid

7

HAVING SUM(slots) > 1000

8

ORDER BY facid ASC;

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

Q13. 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.

**Answer:**

**SELECT starttime AS start,cd.facilities.name FROM cd.bookings**

**INNER JOIN cd.facilities**

**ON cd.facilities.facid = cd.bookings.facid**

**WHERE DATE(starttime) = '2012-09-21' AND name ILIKE '%tennis court%'**

**ORDER BY starttime ASC;**

5 SELECT starttime AS start,cd.facilities.name FROM cd.bookings

6 INNER JOIN cd.facilities

7 ON cd.facilities.facid = cd.bookings.facid

8 WHERE DATE(starttime) = '2012-09-21' AND name ILIKE '%tennis court%'

9 ORDER BY starttime ASC;

10 |

Data Output

Explain

Messages

Notifications

	start 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

Q14. How can you produce a list of the start times for bookings by members named 'David Farrell'?

**Answer:**

**SELECT cd.bookings.starttime FROM cd.bookings**

**INNER JOIN cd.members**

**ON cd.members.memid = cd.bookings.memid**

**WHERE firstname = 'David' AND surname = 'Farrell';**

```
5 SELECT cd.bookings.starttime FROM cd.bookings
6 INNER JOIN cd.members
7 ON cd.members.memid = cd.bookings.memid
8 WHERE firstname = 'David' AND surname = 'Farrell';
9
```

Data Output Explain Messages Notifications

	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	
12	2012-09-21 14:00:00	
13	2012-09-22 08:30:00	
14	2012-09-22 17:00:00	
15	2012-09-22 17:00:00	