

HOMEWORK 1 : EXERCISE FOR MASTERING SQL (Khayima Arnisti)

1. Retrieve the information from cd.facilities

Query Editor

Query History

Scratch Pad

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1

-- 1

2

SELECT *

3

FROM cd.facilities

Data Output

Explain

Messages

Notifications

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

2. List of facilities name and cost

5	-- 2	
6	SELECT	
7	name,	
8	membercost	
9	FROM cd.facilities -- to generate facilities from cd	

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		

3. List of facilities that have a fee charge to members

```
11 -- 3
12 SELECT *
13 FROM cd.facilities
14 WHERE membercost>0 -- Filtering function to search
15
```

	facid	name	membercost	guestcost	initialoutlay	monthlymaintenance
	[PK] integer	character varying (100)	numeric	numeric	numeric	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. List facilities that have a fee charge and fee less than 1/50 of monthly maintenance

```
16 -- 4
17 SELECT
18     facid,
19     name,
20     membercost,
21     monthlymaintenance
22 FROM cd.facilities
23 WHERE membercost>0 AND membercost < (0.02 * monthlymaintenance) -- To filter list that have a fee charge and
24
25
```

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

5. Displays of list all facilities with the word 'Tennis'

```
25 --5
26 SELECT *
27 FROM cd.facilities
28 WHERE name LIKE '%Tennis%' -- This filter to display name that consist of 'Tennis' word
29 LIMIT 3 -- Expected row
30
31
```

	facid	name	membercost	guestcost	initialoutlay	monthlymaintenance
	[PK] integer	character varying (100)	numeric	numeric	numeric	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

6. Displays all of facilities columns that facid 1 and 5

```

31  --6
32  SELECT *
33  FROM cd.facilities
34  WHERE facid IN (1,5) -- To select that have facid value in 1 and 5 without OR function
35

```

	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

7. Displays list of members who joined after the start of September 2012 (2012-09-01)

```

36  -- 7
37  SELECT
38      memid,
39      surname,
40      firstname,
41      joindate
42  FROM cd.members
43  WHERE joindate > '2012-09-01' -- To filter the member with joindate start from September 2012 (2012-09-01)
44
45

```

	memid [PK] integer	surname character varying (200)	firstname character varying (200)	joindate timestamp without time zone
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. Displays an ordered list of the first 10 surnames in the members table? The list must not contain duplicates

```

45 --8
46 SELECT
47     DISTINCT surname -- DISTINCT to ensure the object selected haven't duplicate
48 FROM cd.members
49 ORDER BY surname ASC -- ASC to display value from A-Z
50 LIMIT 10 -- Display limitation

```

	surname
1	Wander
2	Boothe
3	Butters
4	Coplin
5	Crumpet
6	Dare
7	Farrell
8	Genting
9	GUEST
10	

9. To get the signup date of your last member with the result expectation '2012-09-26 18:08:45 '

```

52 -- 9
53 SELECT
54     joindate
55 FROM cd.members
56 ORDER BY memid DESC -- To display memid from last
57 LIMIT 1 -- To display one row

```

	joindate
1	2012-09-26 18:08:45

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

```

59 -- 10
60 SELECT
61     COUNT(guestcost) -- Counting elemen/row values of guestcost with some conditions
62 FROM cd.facilities
63 WHERE guestcost >= 10 -- To filter cost value of guestcost, before counting

```

	count
1	6

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.

```
65 -- 11
66 SELECT
67     facid,
68     SUM(slots) AS Total_Slots -- Display total of slots booked
69 FROM cd.bookings
70 WHERE starttime BETWEEN '2012-09-01' AND '2012-10-01' -- sort slot booked on September 2012
71 GROUP BY facid
72 ORDER BY Total_Slots ASC -- To display order value in ascending values
73
74
```

	facid integer	total_slots bigint
1	3	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

```
75 -- 12
76 SELECT
77     f.facid,
78     SUM(slots) AS Total_Slots
79 FROM cd.facilities f
80 RIGHT JOIN cd.bookings b -- RIGHT JOIN to take a column of facilities table and combain with all of columns
81 ON f.facid = b.facid
82 GROUP BY f.facid
83 HAVING SUM(slots) > 1000
84 ORDER BY f.facid
85
```

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

```

86 -- In another way
87
88 SELECT
89     facid,
90     SUM(slots) AS Total_Slots
91 FROM cd.bookings
92 GROUP BY facid
93 HAVING SUM(slots) > 1000
94 ORDER BY facid

```

Data Output Explain Messages Notifications

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

13. Produce a list of the start times for bookings for tennis courts, for the date '2012-09-21' and return a list of start time and facility name pairings, ordered by the time

```

96 -- 13
97 SELECT
98     starttime,
99     name
100 FROM cd.bookings b
101 FULL OUTER JOIN cd.facilities f --To combine all of columns from bookings table and facilities table
102 ON b.facid = f.facid
103 WHERE name LIKE '%Tennis Court%' -- To select all of name that have 'Tennis Court'
104 AND starttime BETWEEN DATE('2012-09-21') AND DATE('2012-09-22') -- Time filter
105 ORDER BY starttime ASC -- Time sortir ascending

```

Data Output Explain Messages Notifications

	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 15:00:00	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. Produce a list of the start times for bookings by members named 'David Farrell'

```

107 -- 14
108 SELECT
109     starttime
110 FROM cd.bookings b
111 FULL OUTER JOIN cd.members m --To combain all of columes from bookings table and members table
112 ON b.memid = m.memid
113 WHERE firstname LIKE '%David%' AND surname LIKE '%Farrell%' -- To select all of name that have firstname =
114 ORDER BY starttime

```

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	

Data Output Explain Messages Notifications

	starttime	
	timestamp without time zone	
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	2012-09-23 08:30:00	
16	2012-09-23 17:30:00	
17	2012-09-23 18:00:00	

18	2012-09-24 08:00:00	
19	2012-09-24 12:30:00	
20	2012-09-24 16:30:00	
21	2012-09-25 15:30:00	
22	2012-09-25 17:00:00	
23	2012-09-26 13:00:00	
24	2012-09-26 17:00:00	
25	2012-09-27 08:00:00	
26	2012-09-28 09:30:00	

	starttime	
	timestamp without time zone	
26	2012-09-28 09:30:00	
27	2012-09-28 11:30:00	
28	2012-09-28 13:00:00	
29	2012-09-29 10:30:00	
30	2012-09-29 13:30:00	
31	2012-09-29 14:30:00	
32	2012-09-29 16:00:00	
33	2012-09-29 17:30:00	
34	2012-09-30 14:30:00	