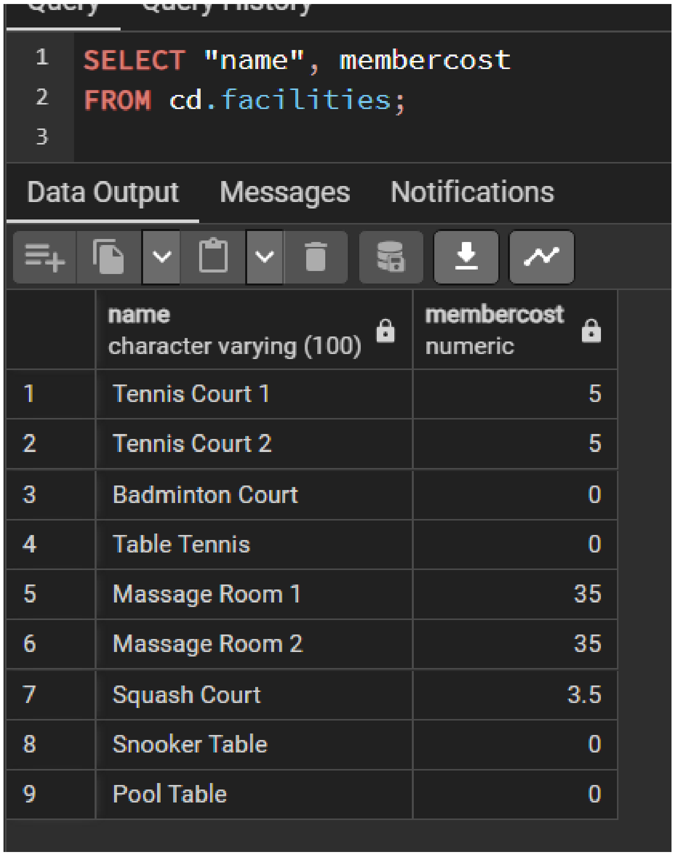
Challenge-6_Advanced_SQL

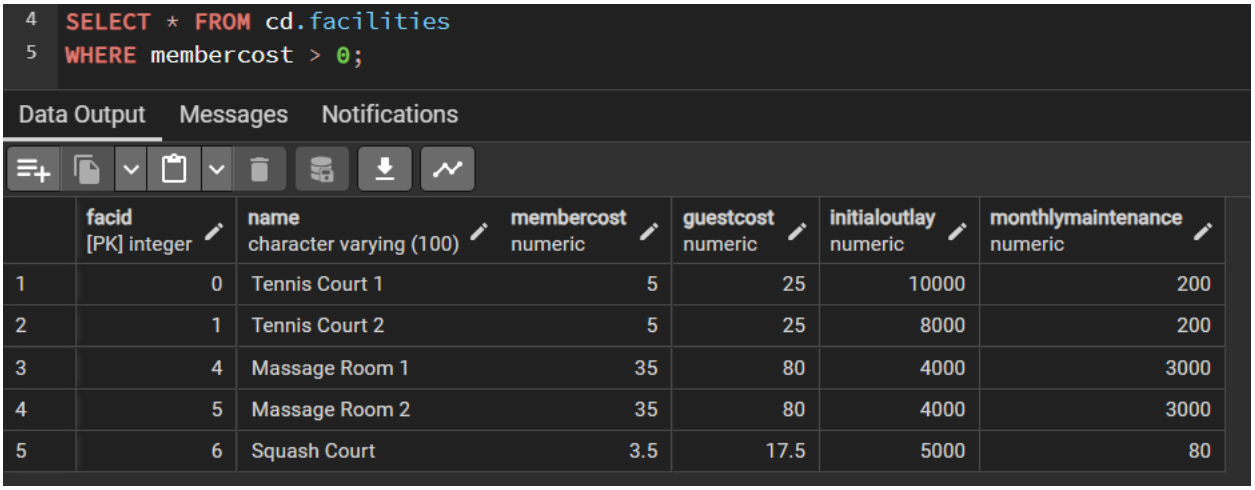
1. Retrieve a list of the facility names and costs.



```sql
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

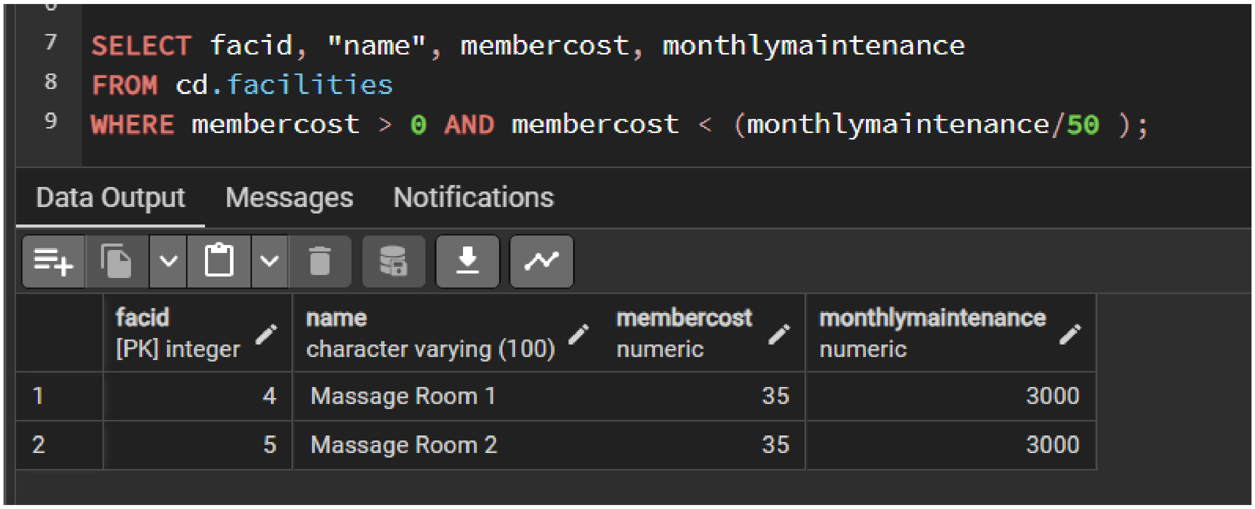
2. Produce a list of facilities that charge a fee to members.



```sql
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

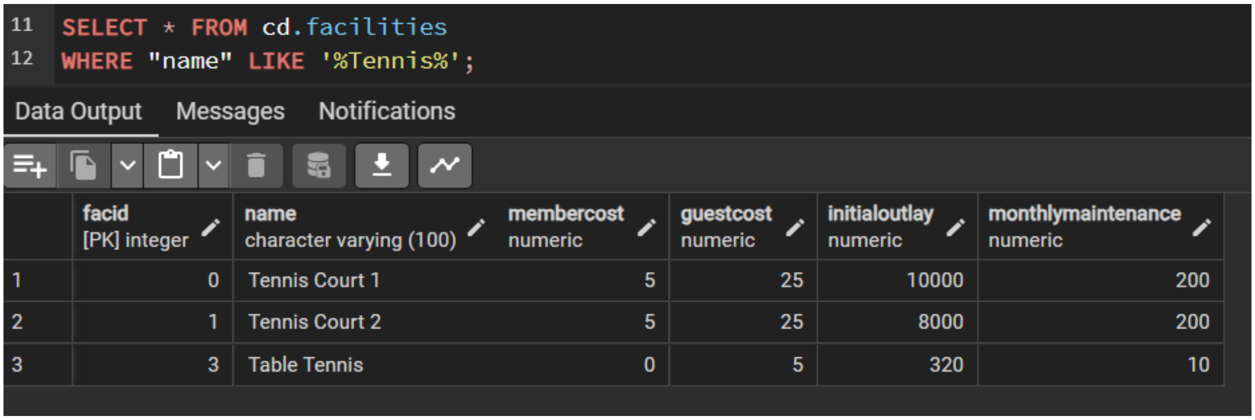
3. Produce a list of facilities that charge a fee to members, and that fee is less that 1/50th of the monthly maintenance cost. Only return facid, facility name , member cost, and monthly maintenance.



```sql
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
1	4	Massage Room 1	35	3000
2	5	Massage Room 2	35	3000

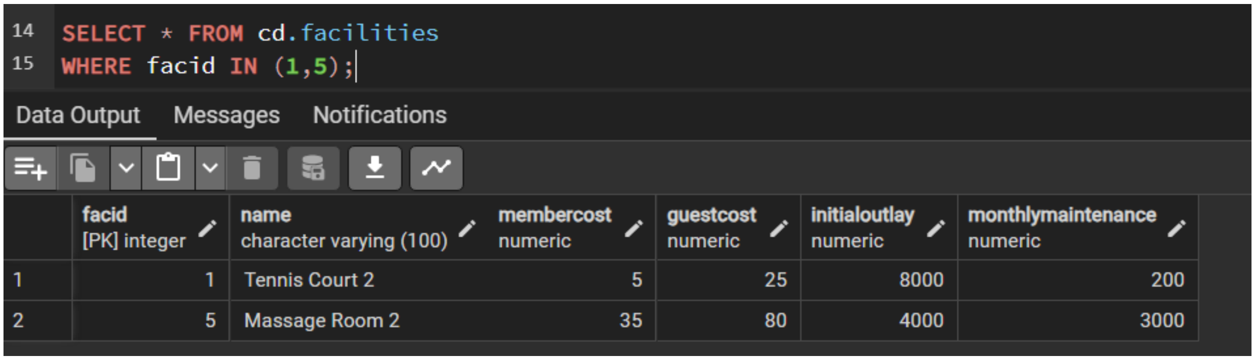
4. Produce a list of facilities with the word “Tennis” in their name.



```sql
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

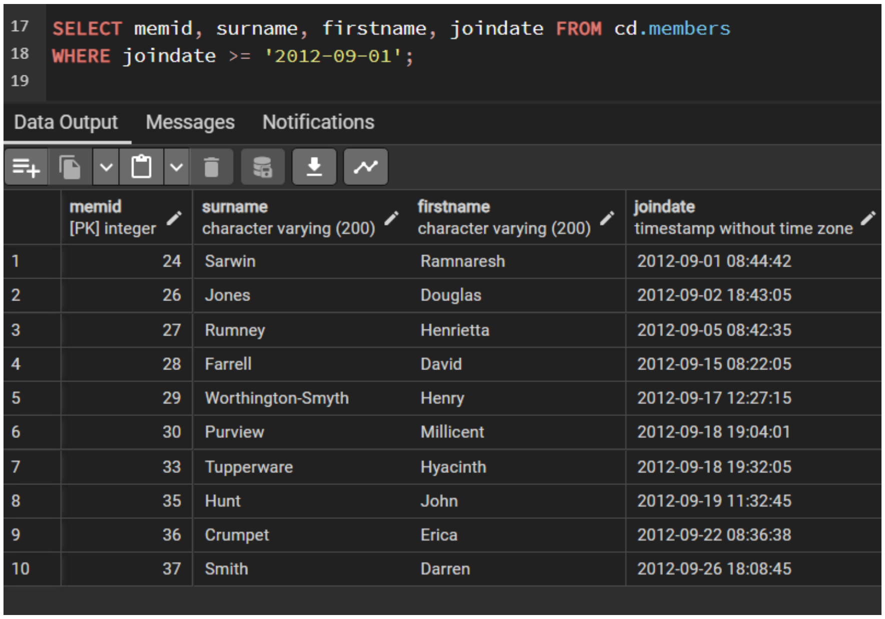
5. Retrieve the details of facilities with ID 1 and 5. Do not use OR



```sql
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

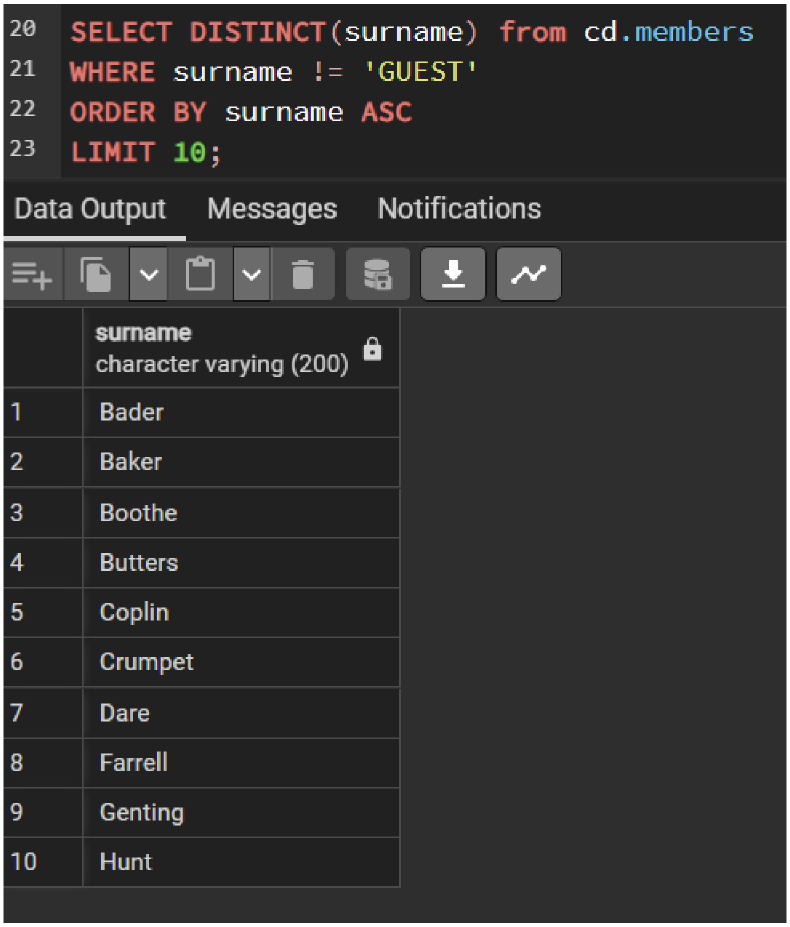
6. Produce a list of members who joined after the start of September 2012. Return memid, surname, firstname, joindate.



```sql
SELECT memid, surname, firstname, joindate FROM cd.members
WHERE joindate >= '2012-09-01';
```

	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

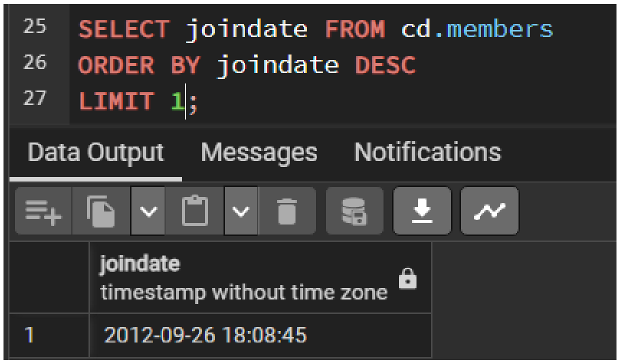
7. Produce an alphabetic ordered list of the first 10 surnames in the members table. No duplicates.



```sql
SELECT DISTINCT(surname) from cd.members
WHERE surname != 'GUEST'
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	Hunt

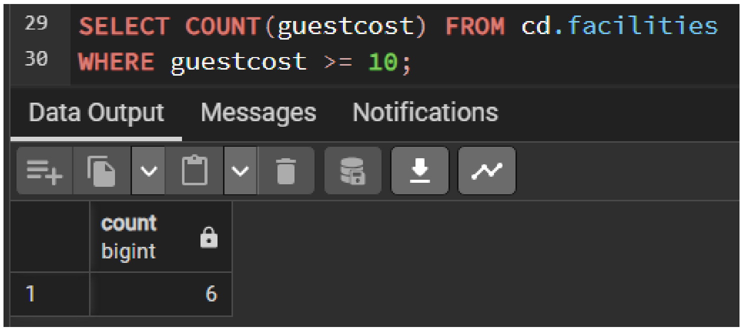
8. Get the signup date of your last member (most recent).



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

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

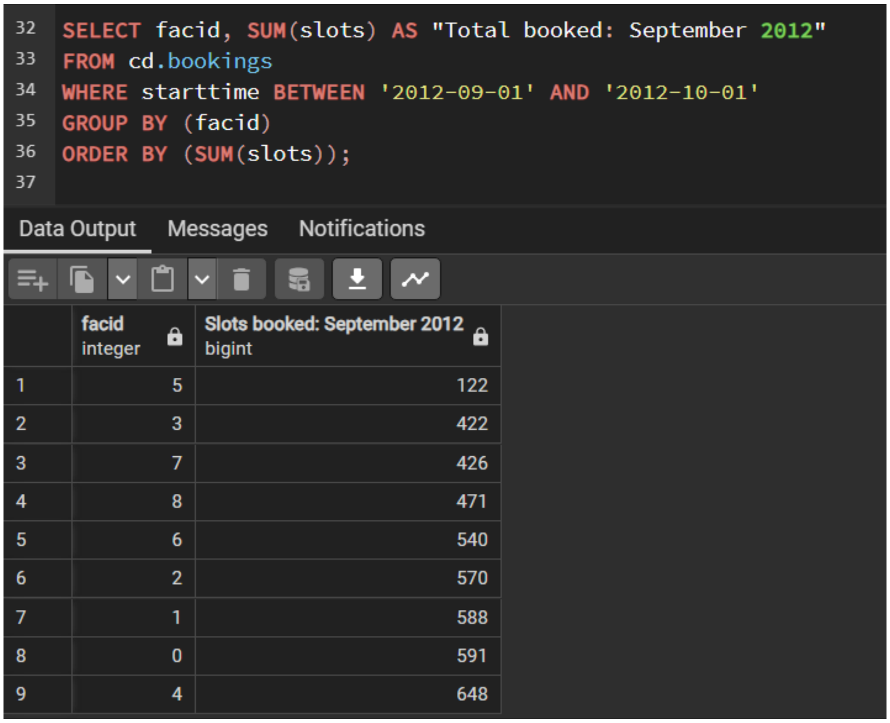
9. Produce a count of the number of facilities that have a cost to guests of 10 or more.



```sql
SELECT COUNT(guestcost) FROM cd.facilities
WHERE guestcost >= 10;
```

	count bigint
1	6

10. Produce a list of the total number of slots booked per facility in the month of September 2012. The output should consist of facility id and slots, sorted by the number of slots.

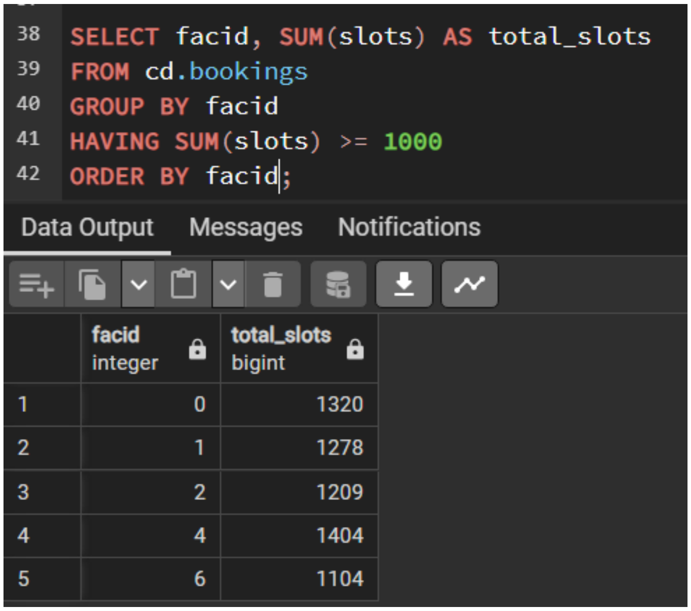


```sql
SELECT facid, SUM(slots) AS "Total booked: September 2012"
FROM cd.bookings
WHERE starttime BETWEEN '2012-09-01' AND '2012-10-01'
GROUP BY (facid)
ORDER BY (SUM(slots));

```

	facid integer	Slots booked: September 2012 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

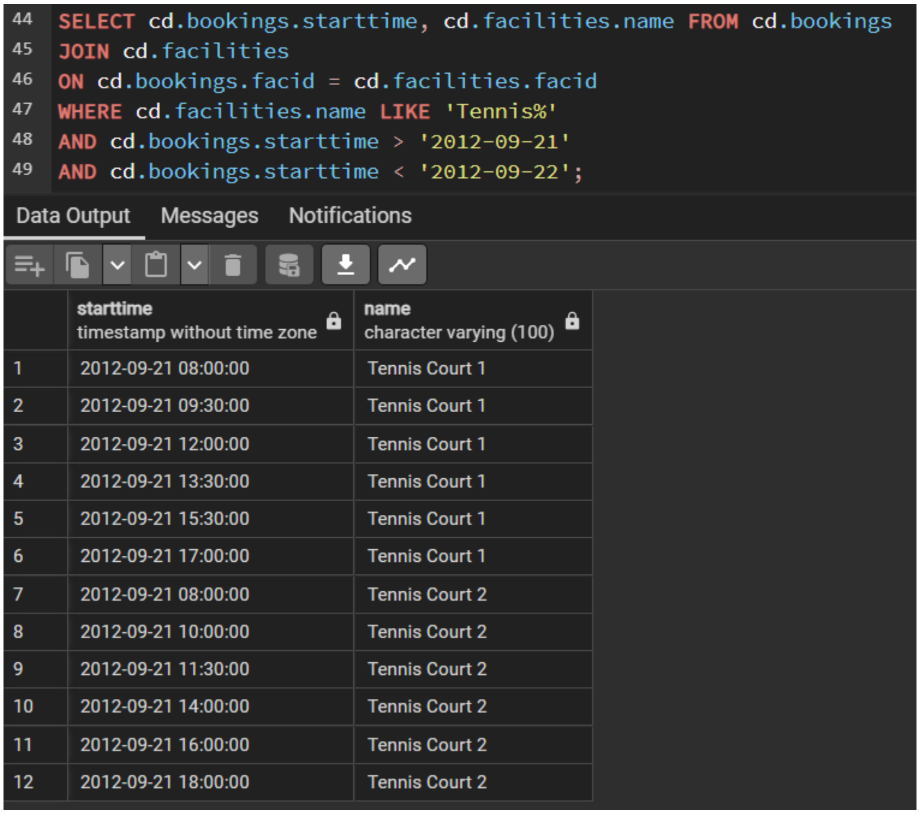
11. Produce a list of facilities with more than 1000 slots booked, produce an output table consisting of facility id and total slots sorted by facility id.



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

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

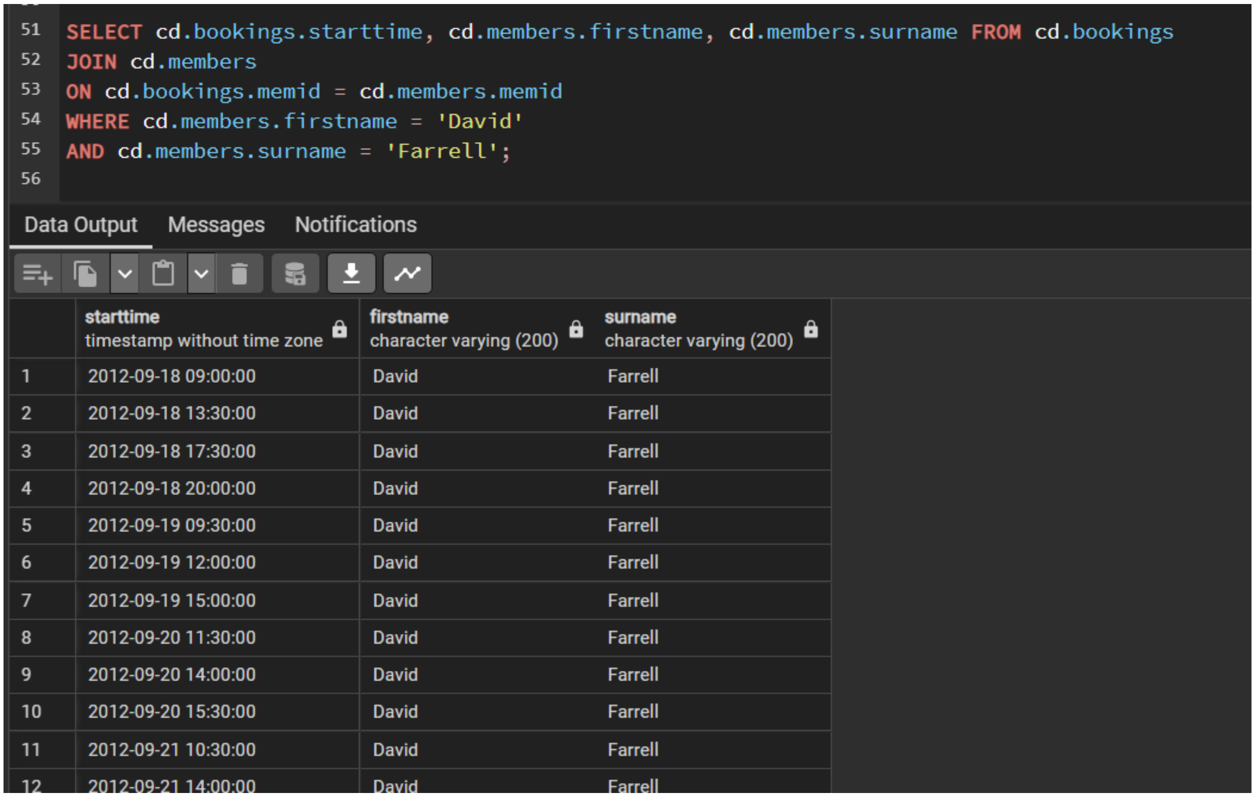
12. Produce a list of the start times for bookings for tennis courts, for the data '2012-09-21'. Return a list of start times and facility name pairings, ordered by time.



```sql
SELECT cd.bookings.starttime, cd.facilities.name FROM cd.bookings
JOIN cd.facilities
ON cd.bookings.facid = cd.facilities.facid
WHERE cd.facilities.name LIKE 'Tennis%'
AND cd.bookings.starttime > '2012-09-21'
AND cd.bookings.starttime < '2012-09-22';
```

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

13. Produce a list of the start times for bookings by members named ‘David Farrell’



```sql
SELECT cd.bookings.starttime, cd.members.firstname, cd.members.surname FROM cd.bookings
JOIN cd.members
ON cd.bookings.memid = cd.members.memid
WHERE cd.members.firstname = 'David'
AND cd.members.surname = 'Farrell';

```

	starttime timestamp without time zone	firstname character varying (200)	surname character varying (200)
1	2012-09-18 09:00:00	David	Farrell
2	2012-09-18 13:30:00	David	Farrell
3	2012-09-18 17:30:00	David	Farrell
4	2012-09-18 20:00:00	David	Farrell
5	2012-09-19 09:30:00	David	Farrell
6	2012-09-19 12:00:00	David	Farrell
7	2012-09-19 15:00:00	David	Farrell
8	2012-09-20 11:30:00	David	Farrell
9	2012-09-20 14:00:00	David	Farrell
10	2012-09-20 15:30:00	David	Farrell
11	2012-09-21 10:30:00	David	Farrell
12	2012-09-21 14:00:00	David	Farrell