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pgexercises.com/questions/joins/simplejoin.html

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Retrieve the start times of members' bookings

Question

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

Schema reminder

cd.members

memid	integer
surname	character varying(200)
firstname	character varying(200)
address	character varying(300)
zipcode	integer
telephone	character varying(20)
recommendedby	integer
joindate	timestamp

cd.bookings

facid	integer
memid	integer
starttime	timestamp
slots	integer

cd.facilities

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

Expected Results

starttime
2012-09-18 09:00:00
2012-09-18 17:30:00
2012-09-18 13:30:00
2012-09-18 20:00:00
2012-09-19 09:30:00
2012-09-19 15:00:00

Your Answer

Hint | Help | Save | Run Query

```
select starttime from cd.bookings where memid in
(select memid from cd.members where firstname='David' and surname='Farrell')
```

starttime
2012-09-18 09:00:00
2012-09-18 13:30:00

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Work out the start times of bookings for tennis courts

Question

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.

Schema reminder

cd.members

memid	integer
surname	character varying(200)
firstname	character varying(200)
address	character varying(300)
zipcode	integer
telephone	character varying(20)
recommendedby	integer
joindate	timestamp

cd.bookings

facid	integer
memid	integer
starttime	timestamp
slots	integer

cd.facilities

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

Expected Results

start	name
2012-09-21 08:00:00	Tennis Court 1
2012-09-21 08:00:00	Tennis Court 2
2012-09-21 09:30:00	Tennis Court 1
2012-09-21 10:00:00	Tennis Court 2
2012-09-21 11:30:00	Tennis Court 2

Your Answer

Hint | Help | Save | Run Query

```
select b.starttime as start, f.name from cd.bookings b join cd.facilities f on
b.facid=f.facid where b.starttime between '2012-09-21 00:00:00' and '2012-09-22 00:00:00' and
f.name like '%Tennis Court%' order by b.starttime
```

start	name
2012-09-21 08:00:00	Tennis Court 1

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Produce a list of all members who have recommended another member

Question

How can you output a list of all members who have recommended another member? Ensure that there are no duplicates in the list, and that results are ordered by (surname, firstname).

Schema reminder

cd.members

memid	integer
surname	character varying(200)
firstname	character varying(200)
address	character varying(300)
zipcode	integer
telephone	character varying(20)
recommendedby	integer
joindate	timestamp

cd.bookings

facid	integer
memid	integer
starttime	timestamp
slots	integer

cd.facilities

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

Expected Results

firstname	surname
Florence	Bader
Timothy	Baker
Gerald	Butters
Jemima	Farrell
Matthew	Genting

Your Answer

Hint | Help | Save | Run Query

```
select distinct r.firstname,r.surname from cd.members m join cd.members r
on r.memid = m.recommendedby order by surname, firstname;
```

firstname	surname

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Produce a list of all members, along with their recommender

Question

How can you output a list of all members, including the individual who recommended them (if any)? Ensure that results are ordered by (surname, firstname).

Schema reminder

cd.members

memid	integer
surname	character varying(200)
firstname	character varying(200)
address	character varying(300)
zipcode	integer
telephone	character varying(20)
recommendedby	integer
joindate	timestamp

cd.bookings

facid	integer
memid	integer
starttime	timestamp
slots	integer

cd.facilities

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

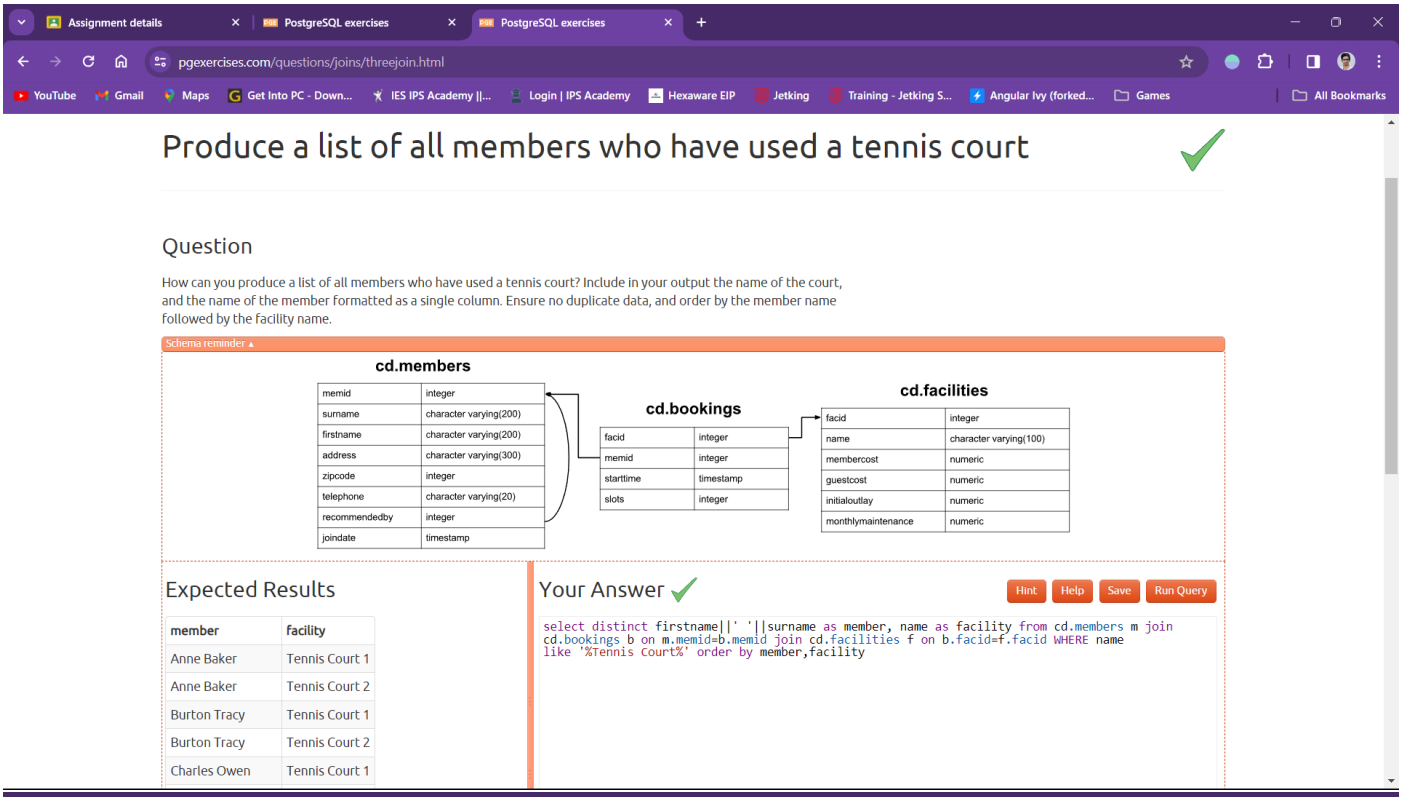
Millicent	Purview	Tracy	Smith
Tim	Rownam		
Henrietta	Rumney	Matthew	Genting
Ramnaresh	Sarwin	Florence	Bader
Darren	Smith		
Darren	Smith		
Jack	Smith	Darren	Smith
Tracy	Smith		

Your Answer

Hint | Help | Save | Run Query

```
select m.firstname as memfname,m.surname as memsname, r.firstname as recfname,
r.surname as recsname
from cd.members m left outer join cd.members r
on r.memid = m.recommendedby order by m.surname, m.firstname;
```

memfname	memsname	recfname	recsname



Produce a list of all members who have used a tennis court

Question

How can you produce a list of all members who have used a tennis court? Include in your output the name of the court, and the name of the member formatted as a single column. Ensure no duplicate data, and order by the member name followed by the facility name.

Schema reminder

cd.members

memid	integer
surname	character varying(200)
firstname	character varying(200)
address	character varying(300)
zipcode	integer
telephone	character varying(20)
recommendedby	integer
joindate	timestamp

cd.bookings

facid	integer
memid	integer
starttime	timestamp
slots	integer

cd.facilities

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

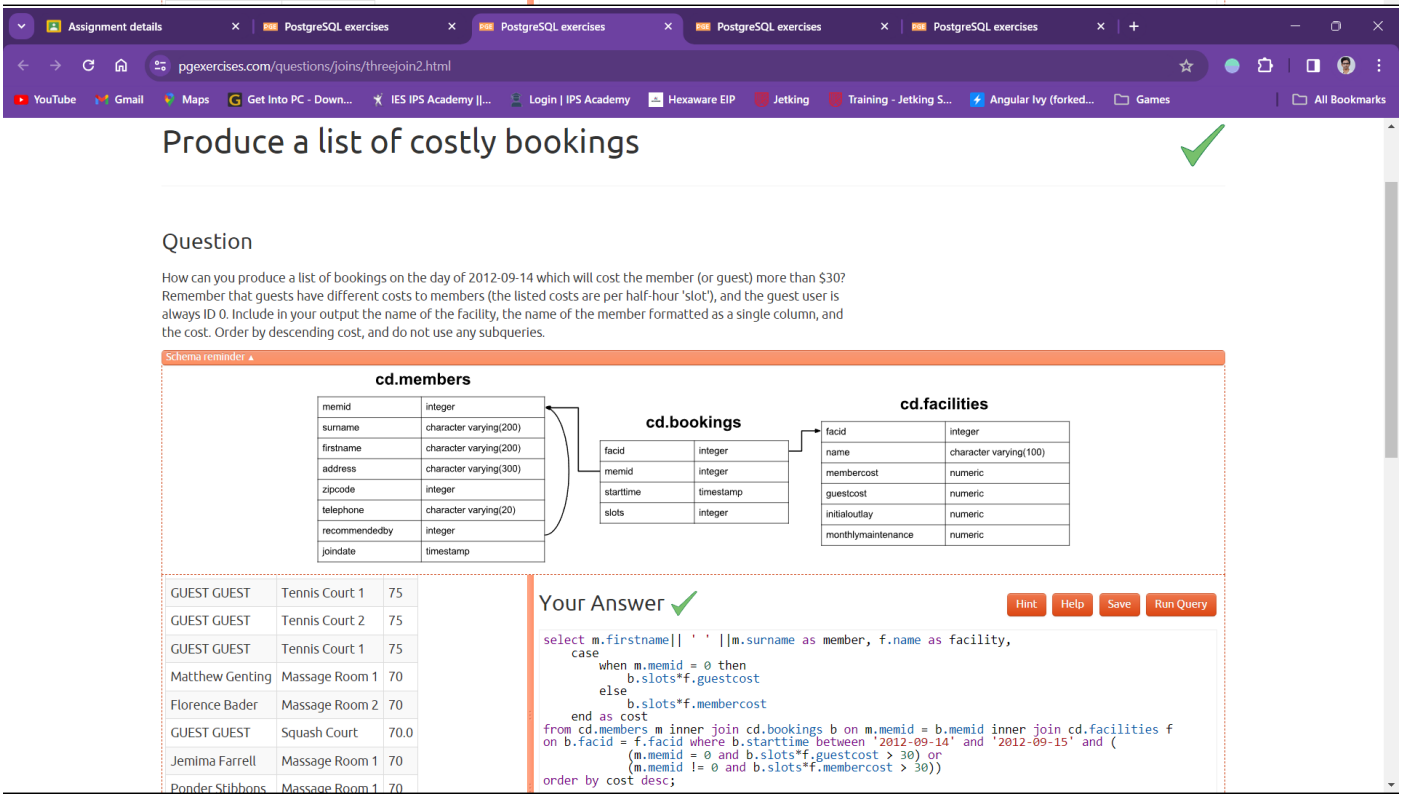
Expected Results

member	facility
Anne Baker	Tennis Court 1
Anne Baker	Tennis Court 2
Burton Tracy	Tennis Court 1
Burton Tracy	Tennis Court 2
Charles Owen	Tennis Court 1

Your Answer

Hint Help Save Run Query

```
select distinct firstname||' '||surname as member, name as facility from cd.members m join
cd.bookings b on m.memid=b.memid join cd.facilities f on b.facid=f.facid WHERE name
like '%Tennis Court%' order by member,facility
```



Produce a list of costly bookings

Question

How can you produce a list of bookings on the day of 2012-09-14 which will cost the member (or guest) more than $30? Remember that guests have different costs to members (the listed costs are per half-hour 'slot'), and the guest user is always ID 0. Include in your output the name of the facility, the name of the member formatted as a single column, and the cost. Order by descending cost, and do not use any subqueries.

Schema reminder

cd.members

memid	integer
surname	character varying(200)
firstname	character varying(200)
address	character varying(300)
zipcode	integer
telephone	character varying(20)
recommendedby	integer
joindate	timestamp

cd.bookings

facid	integer
memid	integer
starttime	timestamp
slots	integer

cd.facilities

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

GUEST GUEST	Tennis Court 1	75
GUEST GUEST	Tennis Court 2	75
GUEST GUEST	Tennis Court 1	75
Matthew Genting	Massage Room 1	70
Florence Bader	Massage Room 2	70
GUEST GUEST	Squash Court	70.0
Jemima Farrell	Massage Room 1	70
Ponder Stibbons	Massage Room 1	70

Your Answer

Hint Help Save Run Query

```
select m.firstname|| ' ' ||m.surname as member, f.name as facility,
    case
        when m.memid = 0 then
            b.slots*f.guestcost
        else
            b.slots*f.membercost
    end as cost
from cd.members m inner join cd.bookings b on m.memid = b.memid inner join cd.facilities f
on b.facid = f.facid where b.starttime between '2012-09-14' and '2012-09-15' and (
            (m.memid = 0 and b.slots*f.guestcost > 30) or
            (m.memid != 0 and b.slots*f.membercost > 30))
order by cost desc;
```

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Produce a list of all members, along with their recommender, using no joins.

Question

How can you output a list of all members, including the individual who recommended them (if any), without using any joins? Ensure that there are no duplicates in the list, and that each firstname + surname pairing is formatted as a column and ordered.

Schema reminder

cd.members

memid	integer
surname	character varying(200)
firstname	character varying(200)
address	character varying(300)
zipcode	integer
telephone	character varying(20)
recommendedby	integer
joindate	timestamp

cd.bookings

facid	integer
memid	integer
starttime	timestamp
slots	integer

cd.facilities

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

Expected Results

member	recommender
Anna Mackenzie	Darren Smith
Anne Baker	Ponder Stibbons

Your Answer

Hint | Help | Save | Run Query

```
select distinct m.firstname || ' ' ||  m.surname as member,
(select r.firstname || ' ' || r.surname as recommender from cd.members r
where r.memid = m.recommendedby)from cd.members m order by member;
```

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Produce a list of costly bookings, using a subquery

Question

The Produce a list of costly bookings exercise contained some messy logic: we had to calculate the booking cost in both the `WHERE` clause and the `CASE` statement. Try to simplify this calculation using subqueries. For reference, the question was:

How can you produce a list of bookings on the day of 2012-09-14 which will cost the member (or guest) more than $30? Remember that guests have different costs to members (the listed costs are per half-hour 'slot'), and the guest user is always ID 0. Include in your output the name of the facility, the name of the member formatted as a single column, and the cost. Order by descending cost.

Schema reminder

cd.members

memid	integer
surname	character varying(200)
firstname	character varying(200)
address	character varying(300)
zipcode	integer
telephone	character varying(20)
recommendedby	integer
joindate	timestamp

cd.bookings

facid	integer
memid	integer
starttime	timestamp
slots	integer

cd.facilities

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

Expected Results

member	facility	cost
GUEST GUEST	Massage Room 2	320

Your Answer

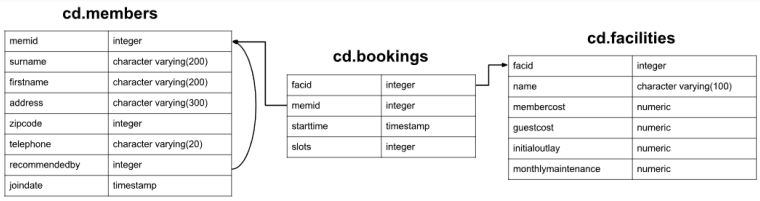
Hint | Help | Save | Run Query

```
select member, facility, cost from
(select m.firstname || ' ' ||m.surname as member,f.name as facility,
        case
            when m.memid = 0 then
                b.slots*f.guestcost
```

The Produce a list of costly bookings exercise contained some messy logic: we had to calculate the booking cost in both the `WHERE` clause and the `CASE` statement. Try to simplify this calculation using subqueries. For reference, the question was:

How can you produce a list of bookings on the day of 2012-09-14 which will cost the member (or guest) more than $30? Remember that guests have different costs to members (the listed costs are per half-hour 'slot'), and the guest user is always ID 0. Include in your output the name of the facility, the name of the member formatted as a single column, and the cost. Order by descending cost.

Schema reminder



Expected Results

member	facility	cost
GUEST GUEST	Massage Room 2	320
GUEST GUEST	Massage Room 1	160
GUEST GUEST	Massage Room 1	160
GUEST GUEST	Massage Room 1	160
GUEST GUEST	Tennis Court 2	150
Jemima Farrell	Massage Room 1	140
GUEST GUEST	Tennis Court 1	75
GUEST GUEST	Tennis Court 2	75

Your Answer

Hint Help Save Run Query

```
select member, facility, cost from
(select m.firstname || ' ' ||m.surname as member,f.name as facility,
        case
            when m.memid = 0 then
                b.slots*f.guestcost
            else
                b.slots*f.membercost
        end as cost
from cd.members m inner join cd.bookings b on m.memid = b.memid inner join cd.facilities f
on b.facid = f.facid where b.starttime between '2012-09-14' and '2012-09-15') as bookings
where cost > 30 order by cost desc;
```