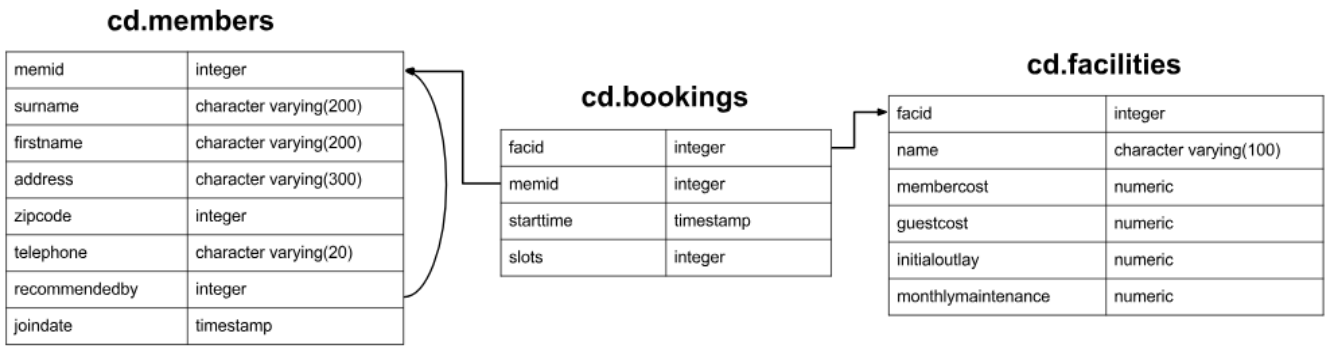

Queries

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

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

starttime
2012-09-18 09:00:00
2012-09-18 13:30:00
2012-09-18 17:30:00
2012-09-18 20:00:00
2012-09-19 09:30:00
2012-09-19 12:00:00

2. 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.

```
SELECT bookings.starttime AS StartTime, facilities.name AS FacilityName
FROM cd.facilities
INNER JOIN cd.bookings
        ON facilities.facid = bookings.facid
WHERE facilities.name LIKE '%Tennis Court%'
        AND bookings.starttime >= '2012-09-21' AND bookings.starttime < '2012-09-22'
ORDER BY bookings.starttime
```

starttime	facilityname
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
2012-09-21 12:00:00	Tennis Court 1
2012-09-21 13:30:00	Tennis Court 1
2012-09-21 14:00:00	Tennis Court 2
2012-09-21 15:30:00	Tennis Court 1

3. 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).

```
SELECT DISTINCT REC.firstname, REC.surname
FROM cd.members AS MEM
INNER JOIN cd.members AS REC
        ON REC.memid= MEM.recommendedby
ORDER BY surname ASC, firstname ASC
```

firstname	surname
Florence	Bader
Timothy	Baker
Gerald	Butters
Jemima	Farrell
Matthew	Genting
David	Jones
Janice	Joplette
Millicent	Purview
Tim	Rownam

4. 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).

```
SELECT MEMB.firstname AS MemberFirstName, MEMB.surname as MemberLastName, RECM.firstname
AS RecommenderFirstName, RECM.surname AS RecommenderLastName
FROM cd.members AS MEMB
LEFT OUTER JOIN cd.members AS RECM
        ON RECM.memid = MEMB.recommendedby
ORDER BY MemberLastName, MemberFirstName;
```

memberfirstname	memberlastname	recommenderfirstname	recommenderlastname
Florence	Bader	Ponder	Stibbons
Anne	Baker	Ponder	Stibbons
Timothy	Baker	Jemima	Farrell
Tim	Boothe	Tim	Rownam
Gerald	Butters	Darren	Smith
Joan	Coplin	Timothy	Baker
Erica	Crumpet	Tracy	Smith
Nancy	Dare	Janice	Joplette
David	Farrell		

5. 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.

```
SELECT DISTINCT MEMB.firstname || ' ' || MEMB.surname AS MemberName, FACL.name AS Facility
FROM cd.members MEMB
INNER JOIN cd.bookings BKNG
        ON MEMB.memid = BKNG.memid
INNER JOIN cd.facilities FACL
        ON BKNG.facid = FACL.facid
WHERE FACL.name LIKE '%Tennis Court%'
ORDER BY MemberName, Facility
```

membername	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
Charles Owen	Tennis Court 2
Darren Smith	Tennis Court 2
David Farrell	Tennis Court 1
David Farrell	Tennis Court 2

6. 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.

```
SELECT MEMB.firstname || ' ' || MEMB.surname AS MemberName, FACL.name AS Facility,
CASE
        WHEN MEMB.memid = 0 THEN
                BKNG.slots*FACL.guestcost
        ELSE
                BKNG.slots*FACL.membercost
        END AS BookingCost
FROM cd.members MEMB
INNER JOIN cd.bookings BKNG
        ON MEMB.memid = BKNG.memid
INNER JOIN cd.facilities FACL
  ON BKNG.facid = FACL.facid
WHERE
                BKNG.starttime >= '2012-09-14' AND
                BKNG.starttime < '2012-09-15' AND (
                        (MEMB.memid = 0 and BKNG.slots*FACL.guestcost > 30) or
                        (MEMB.memid != 0 and BKNG.slots*FACL.membercost > 30)
                )
ORDER BY MemberCost DESC
```

membername	facility	bookingcost
Jack Smith	Massage Room 1	70
GUEST GUEST	Massage Room 1	160
Florence Bader	Massage Room 2	70
GUEST GUEST	Massage Room 2	320
Ponder Stibbons	Massage Room 1	70
GUEST GUEST	Massage Room 1	160
Jemima Farrell	Massage Room 1	140
GUEST GUEST	Massage Room 1	160
Burton Tracy	Massage Room 1	70

7. 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.

```
SELECT DISTINCT
   MEMB.firstname || ' ' || MEMB.surname AS MemberName,
   (SELECT RECM.firstname || ' ' || RECM.surname
    FROM cd.members RECM
    WHERE RECM.memid = MEMB.recommendedby) AS RecommenderName
FROM
   cd.members MEMB
ORDER BY
   MemberName;
```

membername	recommendername
Anna Mackenzie	Darren Smith
Anne Baker	Ponder Stibbons
Burton Tracy	
Charles Owen	Darren Smith
Darren Smith	
David Farrell	
David Jones	Janice Joplette
David Pinker	Jemima Farrell
Douglas Jones	David Jones

8. 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.

```
SELECT MemberName, Facility, BookingCost
FROM (
  SELECT
    MEMB.firstname || ' ' || MEMB.surname AS MemberName,
    FACL.name AS Facility,
    CASE
      WHEN MEMB.memid = 0 THEN
        BKNG.slots * FACL.guestcost
      ELSE
        BKNG.slots * FACL.membercost
    END AS BookingCost
  FROM
    cd.members MEMB
    INNER JOIN cd.bookings BKNG
      ON MEMB.memid = BKNG.memid
    INNER JOIN cd.facilities FACL
      ON BKNG.facid = FACL.facid
  WHERE
    BKNG.starttime >= '2012-09-14' AND
    BKNG.starttime < '2012-09-15'
) AS bookings
WHERE BookingCost > 30
ORDER BY BookingCost DESC;
```

membername	facility	bookingcost
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
GUEST GUEST	Tennis Court 1	75