Join Exercises with Solutions

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

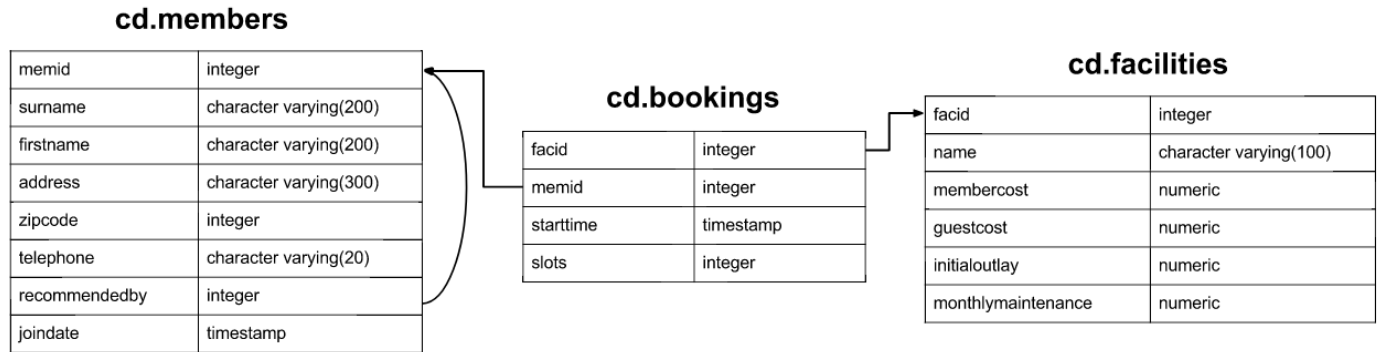| facid	integer
name	character varying(100)
membercost	numeric
guestcost	numeric
initialoutlay	numeric
monthlymaintenance	numeric

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

> *SELECT starttime*
>   *FROM cd.bookings b INNER JOIN cd.members m ON b.memid = m.memid*
>   *WHERE m.firstname='David' AND m.surname='Farrell'*

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 starttime as start, name*
>   *FROM cd.bookings b INNER JOIN cd.facilities f ON b.facid = f.facid*
>   *WHERE starttime >= '2012-09-21' AND starttime < '2012-09-22'*
>   *AND name LIKE'Tennis Court%'*

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 n.firstname, n.surname*
>   *FROM cd.members m INNER JOIN cd.members n ON*
>   *m.recommendedby = n.memid*

ORDER BY surname, firstname

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 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 m.recommendedby = r.memid
   ORDER BY m.surname, m.firstname

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.

SELECT DISTINCT CONCAT(firstname, ' ', surname) AS member, name
   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 name LIKE'Tennis Court%'

6- 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 CONCAT(m.firstname, ' ', m.surname) AS member, (
      SELECT CONCAT(r.firstname, ' ', r.surname) AS recommender
      FROM cd.members r

WHERE m.recommendedby = r.memid
)

FROM cd.members m
ORDER BY member