Joins and subqueries

1. Find the upward recommendation chain for member ID 27

Query: with recursive recommenders(recommender) as (select recommendedby from cd.members where memid = 27 union all select mems.recommendedby from recommenders recs inner join cd.members mems on mems.memid = recs.recommender) select recs.recommender, mems.firstname, mems.surname from recommenders recs inner join cd.members mems on recs.recommender = mems.memid order by memid desc

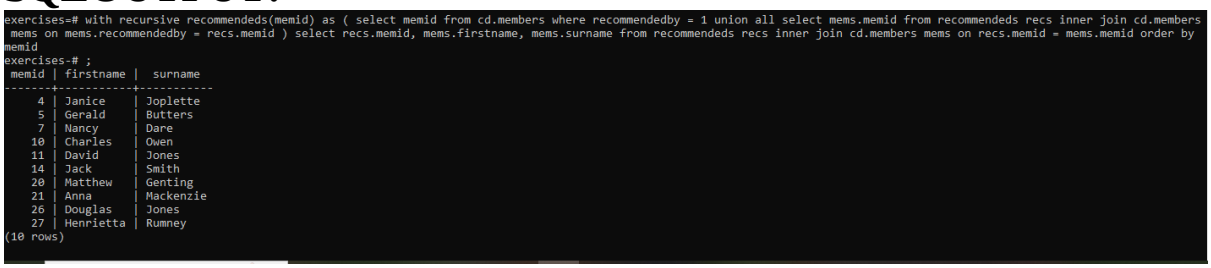
SQLOUTPUT:

```
exercises=# with recursive recommenders(recommender) as (
exercises(# select recommendedby from cd.members where memid = 27
exercises(# union all
exercises(# select mems.recommendedby
exercises(# from recommenders recs
exercises(# inner join cd.members mems
exercises(# on mems.memid = recs.recommender
exercises(# )
exercises-# select recs.recommender, mems.firstname, mems.surname
exercises-# from recommenders recs
exercises-# inner join cd.members mems
exercises-# on recs.recommender = mems.memid
exercises-# order by memid desc
exercises-# ;
 recommender | firstname | surname
-------------+-----------+---------
          20 | Matthew   | Genting
           5 | Gerald    | Butters
           1 | Darren    | Smith
(3 rows)
```

2. Find the downward recommendation chain for member ID

Query: with recursive recommendeds(memid) as (select memid from cd.members where recommendedby = 1 union all select mems.memid from recommendeds recs inner join cd.members mems on mems.recommendedby = recs.memid) select recs.memid, mems.firstname, mems.surname from recommendeds recs inner join cd.members mems on recs.memid = mems.memid order by memid

SQLOUTPUT:

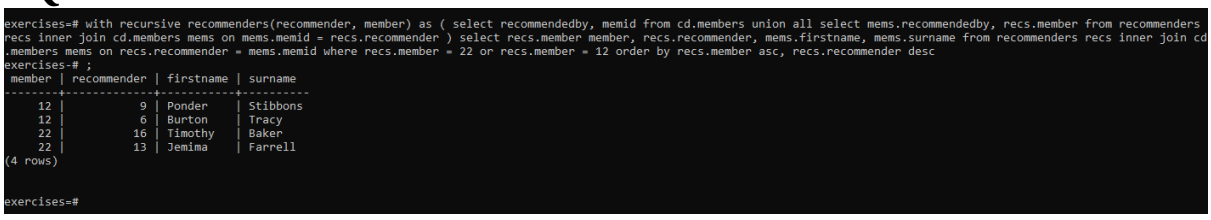


```
exercises=# with recursive recommendeds(memid) as ( select memid from cd.members where recommendedby = 1 union all select mems.memid from recommendeds recs inner join cd.members
 mems on mems.recommendedby = recs.memid ) select recs.memid, mems.firstname, mems.surname from recommendeds recs inner join cd.members mems on recs.memid = mems.memid order by
memid
exercises-# ;
 memid | firstname |  surname
-------+-----------+----------
     4 | Janice    | Joplette
     5 | Gerald    | Butters
     7 | Nancy     | Dare
    10 | Charles   | Owen
    11 | David     | Jones
    14 | Jack      | Smith
    20 | Matthew   | Genting
    21 | Anna      | Mackenzie
    26 | Douglas   | Jones
    27 | Henrietta | Rumney
(10 rows)
```

3. Produce a CTE that can return the upward recommendation chain for any member

Query: with recursive recommenders(recommender, member) as (select recommendedby, memid from cd.members union all select mems.recommendedby, recs.member from recommenders recs inner join cd.members mems on mems.memid = recs.recommender) select recs.member member, recs.recommender, mems.firstname, mems.surname from recommenders recs inner join cd.members mems on recs.recommender = mems.memid where recs.member = 22 or recs.member = 12 order by recs.member asc, recs.recommender desc

SQLOUTPUT:



```
exercises=# with recursive recommenders(recommender, member) as ( select recommendedby, memid from cd.members union all select mems.recommendedby, recs.member from recommenders
recs inner join cd.members mems on mems.memid = recs.recommender ) select recs.member member, recs.recommender, mems.firstname, mems.surname from recommenders recs inner join cd
.members mems on recs.recommender = mems.memid where recs.member = 22 or recs.member = 12 order by recs.member asc, recs.recommender desc
exercises-# ;
 member | recommender | firstname | surname
--------+-------------+-----------+---------
     12 |           9 | Ponder    | Stibbons
     12 |           6 | Burton    | Tracy
     22 |          16 | Timothy   | Baker
     22 |          13 | Jemima    | Farrell
(4 rows)


exercises=#
```