

## QUESTION

### Liker's Liker

Hard

10 Points

A dating website's schema is represented by a table of people that like other people. The table has three columns. One column is the `user_id`, another column is the `liker_id` which is the `user_id` of the user doing the liking, and the last column is the date time that the like occurred.

Write a query to count the number of liker's likers (the users that like the likers) if the liker has one.

#### Output Schema:

Column	Type
user	STRING
count	INT

## TABLE SCHEMA

```
1 CREATE TABLE likes (  
2   user_id VARCHAR(50),  
3   created_at DATETIME,  
4   liker_id VARCHAR(50)  
5 );  
6  
7 INSERT INTO likes (user_id, created_at, liker_id) VALUES  
8 ('A', '2024-01-01 10:00:00', 'B'),  
9 ('B', '2024-01-01 11:00:00', 'C'),  
10 ('B', '2024-01-01 12:00:00', 'D'),  
11 ('B', '2024-01-01 13:00:00', 'E'),  
12 ('C', '2024-01-02 10:00:00', 'A'),  
13 ('D', '2024-01-02 14:00:00', 'E'),  
14 ('E', '2024-01-02 15:00:00', 'F'),  
15 ('B', '2024-01-03 09:00:00', 'G'),  
16 ('H', '2024-01-03 10:00:00', 'A'),  
17 ('B', '2024-01-03 11:00:00', 'C'),  
18 ('I', '2024-01-03 12:00:00', 'I');
```

## SOLUTION

```
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WITH likers AS (
    SELECT DISTINCT user_id AS liker
    FROM likes
),
likers_list AS (
    SELECT
        l1.user_id AS user,
        COUNT(DISTINCT l2.liker_id) AS count
    FROM likes l1
    JOIN likes l2
        ON l1.liker_id = l2.user_id
    GROUP BY l1.user_id
)
SELECT
    user,
    count
FROM likers_list
ORDER BY user;
```

## OUTPUT

### ▼ Tables

user	count
A	4
B	3
C	1
D	1
H	1
I	1

### My Thought Process:

I broke the problem down using two steps one was to Identify all user\_id values that have been liked (likers). Then, join this with the same table again to find out how many people liked the liker. The trick was realizing we needed to join the table on `l1.liker_id = l2.user_id` and then group by the original liked user.

**Business Impact:**

Understanding "liker's likers" could help dating platforms identify influencers users or the cool kids who are not just liked, but whose likers are also popular which can boost visibility for engaging users