

Medium

Table: Friendship

Column Name	Type
user1_id	int
user2_id	int

(user1_id, user2_id) is the primary key (combination of columns with unique values) for this table. Each row of this table indicates that there is a friendship relation between user1_id and user2_id.

Table: Likes

Column Name	Type
user_id	int
page_id	int

(user_id, page_id) is the primary key (combination of columns with unique values) for this table. Each row of this table indicates that user_id likes page_id.

Write a solution to recommend pages to the user with user_id = 1 using the pages that your friends liked. It should not recommend pages you already liked.

Return result table in **any order** without duplicates.

The result format is in the following example.

Example 1:

Input:

Friendship table:

user1_id	user2_id
1	2
1	3
1	4
2	3
2	4
2	5
6	1

Likes table:

user_id	page_id
1	88
2	23
3	24
4	56
5	11
6	33

2	77
3	77
6	88

Output:

recommended_page
23
24
56
33
77

Explanation:

User one is friend with users 2, 3, 4 and 6.

Suggested pages are 23 from user 2, 24 from user 3, 56 from user 3 and 33 from user 6.

Page 77 is suggested from both user 2 and user 3.

Page 88 is not suggested because user 1 already likes it.

Write your MySQL query statement below

```
WITH CTE AS (
    SELECT *
    FROM Friendship
    WHERE user1_id=1 OR user2_id=1)

SELECT DISTINCT page_id AS recommended_page
FROM CTE c
JOIN Likes l ON c.user2_id=l.user_id OR c.user1_id=l.user_id
WHERE l.user_id!=1 AND page_id NOT IN (
    SELECT page_id
    FROM Likes
    WHERE user_id=1)

-- SELECT DISTINCT page_id AS recommended_page
-- FROM Likes
-- WHERE user_id IN (
--     SELECT *
--     FROM CTE
-- )
-- AND page_id NOT IN (
--     SELECT page_id
--     FROM Likes
--     WHERE user_id=1
-- )

-- WITH CTE AS (SELECT user2_id
--     FROM Friendship
--     WHERE user1_id=1
--     UNION
--     SELECT user1_id AS user2_id
--     FROM Friendship
--     WHERE user2_id=1)

-- SELECT DISTINCT page_id AS recommended_page
-- FROM Likes
-- WHERE user_id IN (
--     SELECT *
```

```
--      FROM CTE
--    )
--    AND page_id NOT IN (
--      SELECT page_id
--      FROM Likes
--      WHERE user_id=1
```