

1917. Leetcodify Friends Recommendations

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SQL Schema >

Table: Listens

Column Name	Type
user_id	int
song_id	int
day	date

There is no primary key for this table. It may contain duplicates. Each row of this table indicates that the user user\_id listened to the song song\_id on the day day.

Table: Friendship

Column Name	Type
user1_id	int
user2_id	int

(user1\_id, user2\_id) is the primary key for this table. Each row of this table indicates that the users user1\_id and user2\_id are friends. Note that user1\_id < user2\_id.

Write an SQL query to recommend friends to Leetcodify users. We recommend user  $x$  to user  $y$  if:

- Users  $x$  and  $y$  are not friends, and
- Users  $x$  and  $y$  listened to the same three or more different songs **on the same day**.

Note that friend recommendations are **unidirectional**, meaning if user  $x$  and user  $y$  should be recommended to each other, the result table should have both user  $x$  recommended to user  $y$  and user  $y$  recommended to user  $x$ . Also, note that the result table should not contain duplicates (i.e., user  $y$  should not be recommended to user  $x$  multiple times.).

Return the result table in **any order**.

The query result format is in the following example.

Example 1:

Input:

Listens table:

user_id	song_id	day
1	10	2021-03-15
1	11	2021-03-15
1	12	2021-03-15
2	10	2021-03-15
2	11	2021-03-15
2	12	2021-03-15
3	10	2021-03-15
3	11	2021-03-15
3	12	2021-03-15
4	10	2021-03-15
4	11	2021-03-15
4	13	2021-03-15
5	10	2021-03-16
5	11	2021-03-16
5	12	2021-03-16

Friendship table:

user1_id	user2_id
1	2

Output:

user_id	recommended_id
1	3
2	3
3	1
3	2

Explanation:

Users 1 and 2 listened to songs 10, 11, and 12 on the same day, but they are already friends.

Users 1 and 3 listened to songs 10, 11, and 12 on the same day. Since they are not friends, we recommend them to each other.

Users 1 and 4 did not listen to the same three songs.

Users 1 and 5 listened to songs 10, 11, and 12, but on different days.

Similarly, we can see that users 2 and 3 listened to songs 10, 11, and 12 on the same day and are not friends, so we recommend them to each other.

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