Problem 2720: Popularity Percentage

Problem Information

Difficulty: Hard
Acceptance Rate: 0.00%
Paid Only: No

Problem Description

Table:

Friends

+-------------+------+ | Column Name | Type | +-------------+------+ | user1 | int | | user2 | int | +-------------+------+ (user1, user2) is the primary key (combination of unique values) of this table. Each row contains information about friendship where user1 and user2 are friends.

Write a solution to find the popularity percentage for each user on Meta/Facebook. The popularity percentage is defined as the total number of friends the user has divided by the total number of users on the platform, then converted into a percentage by multiplying by 100,

rounded to 2 decimal places

.

Return

the result table ordered by

user1

in

ascending

order.

The result format is in the following example.

Example 1:

Input:

Friends table: +-------+-------+ | user1 | user2 | +-------+-------+ | 2 | 1 | | 1 | 3 | | 4 | 1 | | 1 | 5 | | 1 | 6 | | 2 | 6 | | 7 | 2 | | 8 | 3 | | 3 | 9 | +-------+-------+

Output:

+-------+----------------------+ | user1 | percentage_popularity | +-------+----------------------+ | 1 | 55.56 | | 2 | 33.33 | | 3 | 33.33 | | 4 | 11.11 | | 5 | 11.11 | | 6 | 22.22 | | 7 | 11.11 | | 8 | 11.11 | | 9 | 11.11 | +-------+----------------------+

Explanation:

There are total 9 users on the platform. - User "1" has friendships with 2, 3, 4, 5 and 6. Therefore, the percentage popularity for user 1 would be calculated as (5/9) * 100 = 55.56. - User "2" has friendships with 1, 6 and 7. Therefore, the percentage popularity for user 2 would be calculated as (3/9) * 100 = 33.33. - User "3" has friendships with 1, 8 and 9. Therefore, the percentage popularity for user 3 would be calculated as (3/9) * 100 = 33.33. - User "4" has friendships with 1. Therefore, the percentage popularity for user 4 would be calculated as (1/9) * 100 = 11.11. - User "5" has friendships with 1. Therefore, the percentage popularity for user 5 would be calculated as (1/9) * 100 = 11.11. - User "6" has friendships with 1 and 2. Therefore, the percentage popularity for user 6 would be calculated as (2/9) * 100 = 22.22. - User "7" has friendships with 2. Therefore, the percentage popularity for user 7 would be calculated as (1/9) * 100 = 11.11. - User "8" has friendships with 3. Therefore, the percentage popularity for user 8 would be calculated as (1/9) * 100 = 11.11. - User "9" has friendships with 3. Therefore, the percentage popularity for user 9 would be calculated as (1/9) * 100 = 11.11. user1 is sorted in ascending order.

Code Snippets

MySQL:

```
# Write your MySQL query statement below
```

MS SQL Server:

```
/* Write your T-SQL query statement below */
```

PostgreSQL:

```
-- Write your PostgreSQL query statement below
```

Oracle:

```
/* Write your PL/SQL query statement below */
```

Pandas:

```
import pandas as pd

def popularity_percentage(friends: pd.DataFrame) -> pd.DataFrame:
```

Solutions

MySQL Solution:

```
# Write your MySQL query statement below
```

MS SQL Server Solution:

```
/* Write your T-SQL query statement below */
```

PostgreSQL Solution:

```
-- Write your PostgreSQL query statement below
```

Oracle Solution:

```
/* Write your PL/SQL query statement below */
```

Pandas Solution:

```
import pandas as pd
```

```
def popularity_percentage(friends: pd.DataFrame) -> pd.DataFrame:
```