Problem 2346: Compute the Rank as a Percentage

Problem Information

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

Problem Description

Table:

Students

+---------------+------+ | Column Name | Type | +---------------+------+ | student_id | int | | department_id | int | | mark | int | +---------------+------+ student_id contains unique values. Each row of this table indicates a student's ID, the ID of the department in which the student enrolled, and their mark in the exam.

Write a solution to report the rank of each student in their department as a percentage, where the rank as a percentage is computed using the following formula:

(student_rank_in_the_department - 1) * 100 / (the_number_of_students_in_the_department - 1)

. The

percentage

should be

rounded to 2 decimal places

.

student_rank_in_the_department

is determined by

descending

mark

, such that the student with the highest

mark

is

rank 1

. If two students get the same mark, they also get the same rank.

Return the result table in

any order

.

The result format is in the following example.

Example 1:

Input:

Students table: +------------+---------------+------+ | student_id | department_id | mark | +------------+---------------+------+ | 2 | 2 | 650 | | 8 | 2 | 650 | | 7 | 1 | 920 | | 1 | 1 | 610 | | 3 | 1 | 530 | +------------+---------------+------+

Output:

+------------+---------------+------------+ | student_id | department_id | percentage | +------------+---------------+------------+ | 7 | 1 | 0.0 | | 1 | 1 | 50.0 | | 3 | 1 | 100.0 | | 2 | 2 | 0.0 | | 8 | 2 | 0.0 | +------------+---------------+------------+

Explanation:

For Department 1: - Student 7: percentage = (1 - 1) * 100 / (3 - 1) = 0.0 - Student 1: percentage = (2 - 1) * 100 / (3 - 1) = 50.0 - Student 3: percentage = (3 - 1) * 100 / (3 - 1) = 100.0 For Department 2: - Student 2: percentage = (1 - 1) * 100 / (2 - 1) = 0.0 - Student 8: percentage = (1 - 1) * 100 / (2 - 1) = 0.0

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 compute_rating(students: pd.DataFrame) -> pd.DataFrame:
```

Solutions

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