

Problem 1384: Total Sales Amount by Year

Problem Information

Difficulty: Hard

Acceptance Rate: 61.11%

Paid Only: Yes

Tags: Database

Problem Description

Table: `Product`

+-----+-----+ | Column Name | Type | +-----+-----+ | product_id | int ||
product_name | varchar | +-----+-----+ product_id is the primary key (column with
unique values) for this table. product_name is the name of the product.

Table: `Sales`

+-----+-----+ | Column Name | Type | +-----+-----+ | product_id |
int | | period_start | date | | period_end | date | | average_daily_sales | int |
+-----+-----+ product_id is the primary key (column with unique values) for this
table. period_start and period_end indicate the start and end date for the sales period, and
both dates are inclusive. The average_daily_sales column holds the average daily sales
amount of the items for the period. The dates of the sales years are between 2018 to 2020.

Write a solution to report the total sales amount of each item for each year, with
corresponding `product_name`, `product_id`, `report_year`, and `total_amount`.

Return the result table **ordered** by `product_id` and `report_year`.

The result format is in the following example.

Example 1:

Input: Product table: +-----+-----+ | product_id | product_name |
+-----+-----+ | 1 | LC Phone | | 2 | LC T-Shirt | | 3 | LC Keychain |

```
+-----+ Sales table: +-----+-----+-----+
product_id | period_start | period_end | average_daily_sales |
+-----+-----+-----+ | 1 | 2019-01-25 | 2019-02-28 | 100 || 2 |
2018-12-01 | 2020-01-01 | 10 || 3 | 2019-12-01 | 2020-01-31 | 1 |
+-----+-----+-----+ **Output:**+
+-----+-----+-----+ | product_id | product_name | report_year |
total_amount | +-----+-----+-----+ | 1 | LC Phone | 2019 | 3500 || 2 |
LC T-Shirt | 2018 | 310 || 2 | LC T-Shirt | 2019 | 3650 || 2 | LC T-Shirt | 2020 | 10 || 3 | LC
Keychain | 2019 | 31 || 3 | LC Keychain | 2020 | 31 |
+-----+-----+-----+ **Explanation:** LC Phone was sold for the
period of 2019-01-25 to 2019-02-28, and there are 35 days for this period. Total amount
35*100 = 3500. LC T-shirt was sold for the period of 2018-12-01 to 2020-01-01, and there are
31, 365, 1 days for years 2018, 2019 and 2020 respectively. LC Keychain was sold for the
period of 2019-12-01 to 2020-01-31, and there are 31, 31 days for years 2019 and 2020
respectively.
```

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
```