Problem List

Description | Accepted | Editorial | Solutions | Submissions

3293. Calculate Product Final Price

Premium

Solved

Medium | Topics

SQL Schema > Pandas Schema >

Table: `Products`

```
+-------------+---------+
| Column Name | Type    |
+-------------+---------+
| product_id  | int     |
| category    | varchar |
| price       | decimal |
+-------------+---------+
product_id is the unique key for this table.
Each row includes the product's ID, its category, and its
price.
```

Table: `Discounts`

```
+-------------+---------+
| Column Name | Type    |
+-------------+---------+
| category    | varchar |
| discount    | int     |
+-------------+---------+
category is the primary key for this table.
Each row contains a product category and the percentage
discount applied to that category (values range from 0 to
100).
```

Write a solution to find the **final price** of each product after applying the **category discount**. If a product's category has **no associated discount**, its price remains **unchanged**.

Return *the result table ordered by* `product_id` *in* ***ascending*** *order.*

The result format is in the following example.

Example:

Input:

`Products` table:

```
+-------------+-------------+-------+
| product_id  | category    | price |
+-------------+-------------+-------+
| 1           | Electronics | 1000  |
| 2           | Clothing    | 50    |
| 3           | Electronics | 1200  |
| 4           | Home        | 500   |
+-------------+-------------+-------+
```

`Discounts` table:

```
+-------------+----------+
| category    | discount |
+-------------+----------+
| Electronics | 10       |
| Clothing    | 20       |
+-------------+----------+
```

Output:

```
+-------------+-------------+-------------+
| product_id  | final_price | category    |
+-------------+-------------+-------------+
| 1           | 900         | Electronics |
| 2           | 40          | Clothing    |
| 3           | 1080        | Electronics |
| 4           | 500         | Home        |
+-------------+-------------+-------------+
```

Explanation:

- For product 1, it belongs to the Electronics category which has a 10% discount, so the final price is 1000 - (10% of 1000) = 900.
- For product 2, it belongs to the Clothing category which has a 20% discount, so the final price is 50 - (20% of 50) = 40.
- For product 3, it belongs to the Electronics category and receives a 10% discount, so the final price is 1200 - (10% of 1200) = 1080.
- For product 4, no discount is available for the Home category, so the final price remains 500.

Result table is ordered by product_id in ascending order.

Seen this question in a real interview before? 1/5

Yes | No

Accepted 2,521 /3.2K | Acceptance Rate 79.4%

Topics

Discussion (2)

Code

Pandas • Auto

```python
import pandas as pd

def calculate_final_prices(products: pd.DataFrame, discounts: pd.DataFrame) -> pd.DataFrame:

    df = pd.merge(products, discounts, on='category', how='left')

    df = df.fillna(0)

    df['final_price'] = df['price'] - (df['price'] * (df['discount']/100))

    return df[['product_id', 'final_price', 'category']]
```

Saved

Ln 11, Col 57

Testcase | Test Result

```
| Clothing    | 20       |
```

Output

```
| product_id | final_price | category    |
| ---------- | ----------- | ----------- |
| 1          | 900         | Electronics |
| 2          | 40          | Clothing    |
| 3          | 1080        | Electronics |
| 4          | 500         | Home        |
```

Expected

```
| product_id | final_price | category    |
| ---------- | ----------- | ----------- |
| 1          | 900         | Electronics |
```

10 | 2 | 0 Online