

# Problem 2362: Generate the Invoice

## Problem Information

**Difficulty:** Hard

**Acceptance Rate:** 0.00%

**Paid Only:** No

## Problem Description

Table:

Products

+-----+-----+ | Column Name | Type | +-----+-----+ | product\_id | int | | price | int |  
+-----+-----+ product\_id contains unique values. Each row in this table shows the ID of a product and the price of one unit.

Table:

Purchases

+-----+-----+ | Column Name | Type | +-----+-----+ | invoice\_id | int | | product\_id | int | | quantity | int | +-----+-----+ (invoice\_id, product\_id) is the primary key (combination of columns with unique values) for this table. Each row in this table shows the quantity ordered from one product in an invoice.

Write a solution to show the details of the invoice with the highest price. If two or more invoices have the same price, return the details of the one with the smallest

invoice\_id

.

Return the result table in

any order

The result format is shown in the following example.

Example 1:

Input:

```
Products table: +-----+-----+ | product_id | price | +-----+-----+ | 1 | 100 | | 2 | 200 |
+-----+-----+ Purchases table: +-----+-----+-----+ | invoice_id | product_id |
quantity | +-----+-----+-----+ | 1 | 1 | 2 | | 3 | 2 | 1 | | 2 | 2 | 3 | | 2 | 1 | 4 | | 4 | 1 | 10 |
+-----+-----+-----+
```

Output:

```
+-----+-----+-----+ | product_id | quantity | price | +-----+-----+-----+ | 2 | 3 |
600 | | 1 | 4 | 400 | +-----+-----+-----+
```

Explanation:

Invoice 1: price = (2 \* 100) = \$200 Invoice 2: price = (4 \* 100) + (3 \* 200) = \$1000 Invoice 3:  
price = (1 \* 200) = \$200 Invoice 4: price = (10 \* 100) = \$1000

The highest price is \$1000, and the invoices with the highest prices are 2 and 4. We return the details of the one with the smallest ID, which is invoice 2.

## 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 generate_the_invoice(products: pd.DataFrame, purchases: pd.DataFrame) ->
pd.DataFrame:
```

## Solutions

**MySQL Solution:**

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