

1867. Orders With Maximum Quantity Above Average Premium

Medium  Topics

[SQL Schema](#) > [Pandas Schema](#) >

Table: `OrdersDetails`

Column Name	Type
order_id	int
product_id	int
quantity	int

(order_id, product_id) is the primary key (combination of columns with unique values) for this table.
A single order is represented as multiple rows, one row for each product in the order.
Each row of this table contains the quantity ordered of the product product_id in the order order_id.

You are running an e-commerce site that is looking for **imbalanced orders**. An **imbalanced order** is one whose **maximum** quantity is **strictly greater** than the **average** quantity of **every order (including itself)**.

The **average** quantity of an order is calculated as $(\text{total quantity of all products in the order}) / (\text{number of different products in the order})$. The **maximum** quantity of an order is the highest `quantity` of any single product in the order.

Write a solution to find the `order_id` of all **imbalanced orders**.

Return the result table in **any order**.

The result format is in the following example.

Example 1:

Input:
OrdersDetails table:

order_id	product_id	quantity
1	1	12
1	2	10
1	3	15
2	1	8
2	4	4
2	5	6
3	3	5
3	4	18
4	5	2
4	6	8
5	7	9
5	8	9
3	9	20
2	9	4

Output:

order_id
1
3

Explanation:
The average quantity of each order is:
– order_id=1: $(12+10+15)/3 = 12.3333333$
– order_id=2: $(8+4+6+4)/4 = 5.5$
– order_id=3: $(5+18+20)/3 = 14.3333333$
– order_id=4: $(2+8)/2 = 5$
– order_id=5: $(9+9)/2 = 9$

The maximum quantity of each order is:

– order_id=1:	$\max(12, 10, 15) = 15$
– order_id=2:	$\max(8, 4, 6, 4) = 8$
– order_id=3:	$\max(5, 18, 20) = 20$
– order_id=4:	$\max(2, 8) = 8$
– order_id=5:	$\max(9, 9) = 9$

Orders 1 and 3 are imbalanced because they have a maximum quantity that exceeds the average quantity of every order.


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

Yes No

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