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NamasteSQL

100 Coding Problems

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🤔Problem Statement:

20 - TRENDING PRODUCTS

Amazon wants to find out the trending products for each month. Trending products are those for which any given month sales are more than the sum of previous 2 months sales for that product.
Please note that for first 2 months of operations this metrics does not make sense. So output should start from 3rd month only. Assume that each product has at least 1 sale each month, display order month and product id. Sort by order month.

🚩 Difficult Level : HARD

Step - 2 : Identifying The Input Data And Expected

INPUT

ORDER_MONTH	PRODUCT_ID	SALES
202301	p1	100
202301	p2	500
202302	p1	700
202302	p2	300
202303	p1	900
202303	p2	700
202304	p1	2000
202304	p2	1100
202305	p1	1500
202305	p2	1300
202306	p1	1700
202306	p2	1200
202307	p1	1900
202307	p2	1400
202308	p1	2100
202308	p2	1600
202309	p1	2300
202309	p2	1800
202310	p1	5000
202310	p2	2000

OUTPUT

ORDER_MONTH	PRODUCT_ID
202303	p1
202304	p2
202304	p1
202310	p1

Step - 3 : Writing the sql query to solve the

```
1
2 WITH CTE
3 AS (
4     SELECT *
5         ,lag(sales, 1) OVER (
6             PARTITION BY product_id ORDER BY order_month
7             ) + lag(sales, 2) OVER (
8             PARTITION BY product_id ORDER BY order_month
9             ) AS last_two_month_sales
10     FROM orders
11     )
12 SELECT order_month
13     ,product_id
14 FROM CTE
15 WHERE sales > last_two_month_sales
16 ORDER BY order_month
17
```