


# 14\_Card Launch Success Medium - Solution

Source -  nicksinghtech JPMorgan Chase SQL Interview Question | DataLemur running notes

- query - name of the credit card, and how many cards were issued in its launch month.
- launch month is the earliest record in the `monthly_cards_issued`
- output
  - name of the credit card
  - how many cards issued in launch month
  - Order the results starting from the biggest issued amount.

I started with this but i knew this was gonna give an error

```
SELECT card_name, issued_amount, MIN(issue_month) FROM monthly_cards_issued  
GROUP BY card_name;
```

The error occurs because the column `issued_amount` is not part of the `GROUP BY` clause and is not being used in an aggregate function like `SUM()`, `AVG()`, `MAX()`, etc.

With `GROUP BY`, all columns that are not part of the grouping must be aggregated.

```
WITH card_min_month AS (SELECT card_name, MIN(issue_month) as min_month FROM  
monthly_cards_issued GROUP BY card_name) SELECT  
main.card_name,main.issued_amount FROM monthly_cards_issued as main INNER  
JOIN card_min_month as cte ON main.issue_month = cte.min_month AND  
main.card_name = cte.card_name ORDER BY main.issued_amount desc
```

This query worked fine, no code error but ..... the output didnt match

oopsie

and i got the reason why it didnt match .... i just found out the min month but i had to take the minimum month and year

so now i know why a window function would've been a better choice here and here is the final query

```
WITH reference_table AS ( SELECT *, MIN(issue_month) OVER( PARTITION BY  
card_name,issue_year ) AS min_month, MIN(issue_year) OVER( PARTITION BY  
card_name ) AS min_issue_year FROM monthly_cards_issued ) SELECT  
card_name,issued_amount FROM reference_table WHERE issue_month = min_month  
AND issue_year = min_issue_year ORDER BY issued_amount DESC
```

- firstly i am using a CTE to write a query
  - the query has a window function ... why?
    - well i need to find the minimum issue month but
      - minimum issue month has to be for a specific card\_name ... so partition by card\_name
      - minimum issue month also has to be for the minimum year ... so partition by card\_name and issue\_year both
- and then the rest is well self explanatory

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