–We can get this query working strictly with window functions. I find it to be fairly difficult to think of how to get it working this way though:

SELECT distinct avg(amount) OVER (PARTITION BY EXTRACT(MONTH FROM payment\_date), customer\_id) as cu\_average, customer\_id,

avg(amount) OVER (PARTITION BY EXTRACT(MONTH FROM payment\_date)) as month\_average, EXTRACT(month FROM payment\_date) as month

FROM payment

--group by customer\_id, month

ORDER BY customer\_id, month asc;

–In contrast we can get the same thing working with CTE’s and I find it to be much more straightforward figuring out how the whole thing will work:

With customer\_month\_avg AS

(SELECT avg(amount) cust\_month\_avg, customer\_id, EXTRACT(month FROM payment\_date) as month

FROM payment

GROUP BY customer\_id, month

ORDER BY customer\_id, month),

month\_avg AS (SELECT avg(amount) as month\_avg, EXTRACT(month FROM payment\_date) as month

FROM payment

GROUP BY EXTRACT(month FROM payment\_date)

ORDER by month asc)

SELECT c.cust\_month\_avg, c.customer\_id, c.month, m.month\_avg

FROM customer\_month\_avg c

JOIN month\_avg m ON m.month = c.month