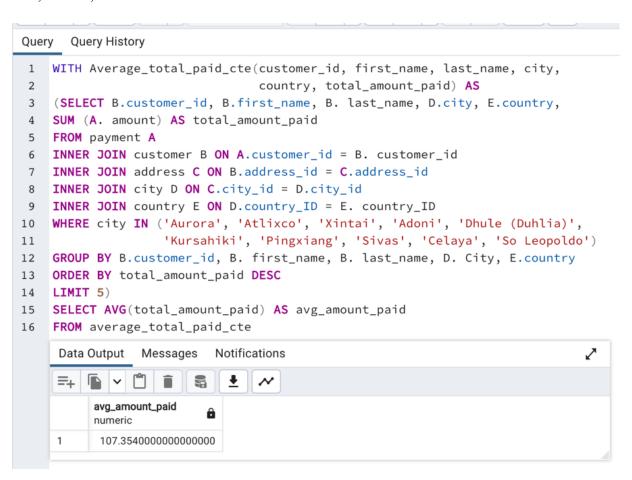
3.9: Common Table Expressions

Directions

Create a new text document and call it "Answers 3.9." You'll save your queries, outputs, and written answers in this document.

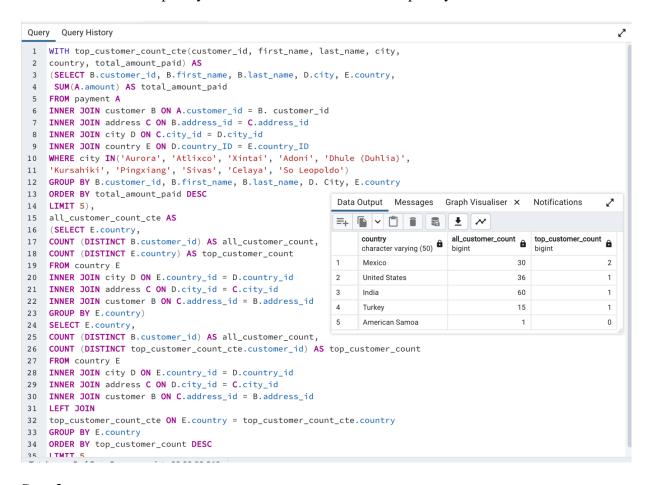
Step 1: Answer the business questions from step 1 and 2 of task 3.8 using **CTEs** (**Task 3.8 Step 1:** Find the average amount paid by the top 5 customers and Step 2: Find out how many of the top 5 customers are based within each country).

- 1. Rewrite your queries from steps 1 and 2 of task 3.8 as CTEs.
- 2. Copy-paste your CTEs and their outputs into your answers document.
- 3. Write 2 to 3 sentences explaining how you approached this step, for example, what you did first, second, and so on.



Step 2: Compare the performance of your CTEs and subqueries.

- 1. Which approach do you think will perform better and why?
- 2. Compare the costs of all the queries by creating query plans for each one.
- 3. The EXPLAIN command gives you an *estimated* cost. To find out the actual speed of your queries, run them in pgAdmin 4. After each query has been run, a pop-up window will display its speed in milliseconds.
- 4. Did the results surprise you? Write a few sentences to explain your answer.



Step 3:

Write 1 to 2 paragraphs on the challenges you faced when replacing your subqueries with CTEs.

Both subqueries and CTE performed similarly, what differed from them was the running time. Both had the same Limit cost of 169.6...169.62 rows =5 and width = 25. The CTE performed a little bit slower by having a time of 64 msec and the subquery 54 msec.

Step 4:

Save your "Answers 3.9" document as a PDF and upload it here for your tutor to review.