3.9 Answers

**Step 1: Answer the business questions from step 1 and 2 of task 3.8 using CTEs**

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.

Graphical user interface, text, application

Description automatically generated

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.

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First I checked the ERD. Second I wrote a query to get the top 5 countries for payment. Third I named the CTE and fourth I wrote the main query in order to answer the task question. I did the same thing for step two, the only difference was the CTE name used.

I suspect the CTE queries will perform better because they appear easier to read.

3.8

|  |  |
| --- | --- |
| Step 1 | Cost=66.09..66.10 rows=1 width=32 |
| Step 1 | Runtime= 42 msecs 22 rows affected |
| Step 2 | Cost=168.49..168.50 rows=5 width=25 |
| Step 2 | Runtime= 44 msec 45 rows affected |

3.9

|  |  |
| --- | --- |
| Step 1 | Cost=66.09..66.10 rows=1 width=32 |
| Step 1 | Runtime= 41 msec 22 rows affected |
| Step 2 | Cost=168.49..168.50 rows=5 width=25 |
| Step 2 | Runtime= 33 msecs 45 rows affected |

It was surprising that step 2 of 3.9 was faster than step 1 of 3.9 even though step 2 is larger. However, step 2 of 3.9 does cost more as predicted. Step 1 of both 3.8 and 3.9 cost the same amount with step 1 of 3.9 being 1 msec faster. The cost of step 2 of 3.8 and 3.9 were the same, but step 2 of 3.9 was 11 msec faster than 3.8.