Task 7 Join tables

Answers 3.7

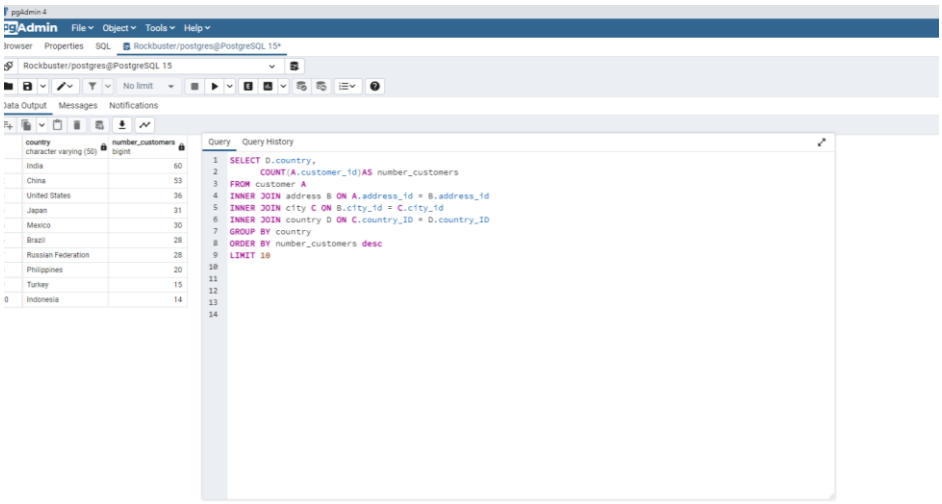
Contents

1. Write a query to find the top 10 countries for Rockbuster in terms of customer numbers.

- Copy-paste your query and its output into your answers document.

Query:

```
SELECT D.country,
    COUNT(A.customer_id)AS number_customers
FROM customer A
INNER JOIN address B ON A.address_id = B.address_id
INNER JOIN city C ON B.city_id = C.city_id
INNER JOIN country D ON C.country_ID = D.country_ID
GROUP BY country
ORDER BY number_customers desc
LIMIT 10
```



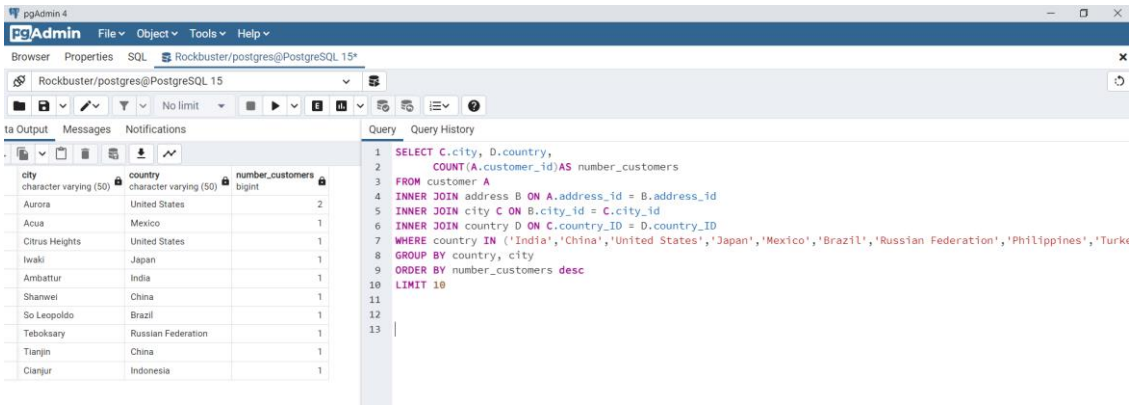
- Write a few sentences on how you approached this query and why.

To approach this query, I first looked into the ERD to see which tables had the information required. I find that the customer table has the data on the customers, it has also a foreign key to the address table (i.e., address_id) which is linked to the city table, which is linked to the country table, (through the city_id and country_id respectively). So, I did a multiple JOIN query to joining data from these four tables. The JOIN statement used was the INNER join, because I aim to learn how which countries have the highest number of customers and every customer has an id which has an address and country, so I don't need another type of JOIN statement. To have the data grouped by countries I used GROUP BY. To order the results in relation to the countries with more customers, I used the ORDER BY statement to order the results of the COUNT (number of customer) in descending order. To obtain the top 10 countries with more customers, I used the LIMIT statement.

2. **Write a query to find the top 10 cities within the top 10 countries identified in step 1.**
    - Copy-paste your query and its output into your answers document.

Query:

```
SELECT C.city, D.country,
    COUNT(A.customer_id)AS number_customers
FROM customer A
INNER JOIN address B ON A.address_id = B.address_id
INNER JOIN city C ON B.city_id = C.city_id
INNER JOIN country D ON C.country_ID = D.country_ID
WHERE country IN ('India','China','United States','Japan','Mexico','Brazil','Russian
Federation','Philippines','Turkey','Indonesia')
GROUP BY country, city
ORDER BY number_customers desc
LIMIT 10
```



- Write a short explanation of how you approached this query and why.

To approach this query, I used a similar query than the previous. However, instead of selecting as just the country, I also selected the city. I did a multiple JOIN query that enables joining data from four tables, to deliver the top 10 cities in terms of number of

customers and used WHERE with the operator IN to identify the countries from which the query should retrieve the cities.

To have the data grouped by city and country, I used GROUP BY, and the ORDER BY of the number of customers in descending order, which gives me the top 10 cities with more customers, (also using the LIMIT statement).

3. **Write a query to find the top 5 customers in the top 10 cities who have paid the highest total amounts to Rockbuster.**
    - Tip: After the join syntax, you'll need to use the WHERE clause with an operator, followed by GROUP BY and ORDER BY. Your output should include the following columns: Customer ID, Customer First Name and Last Name, Country, City, Total Amount Paid.
    - Copy-paste your query and its output into your answers document.

Query:

```
SELECT B.customer_id,
      B.first_name,
    B.last_name,
    D.city,
    E.country,
    SUM (amount)AS total_amount_paid
FROM payment A
INNER JOIN customer B ON A.customer_id=B.customer_id
INNER JOIN address C ON B.address_id=C.address_id
INNER JOIN city D ON C.city_id=D.city_id
INNER JOIN country E ON D.country_id=E.country_id
WHERE city IN ('Aurora','Acua','Citrus Heights','Iwaki','Ambattur','Shanwei','So
Leopoldo','Teboksary','Tianjin','Cianjur')
GROUP BY B. customer_id, B.first_name, B.last_name, D.city, E.country
ORDER BY total_amount_paid DESC
LIMIT 5
```