MovieFlix SQL Data Analysis Project

Uncovering Business Insights from Rental Data

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Business Introduction – What is MovieFlix?

- MovieFlix is a DVD rental service with a vast library of movies.
- Tracks customer, rental, and payment data.
- Allows online booking and local delivery.
- Objective: Data-driven insights to improve operations.

Project Overview

- Understand MovieFlix’s business through its database

- Extract key metrics using SQL

- Identify patterns in customer spending and rentals

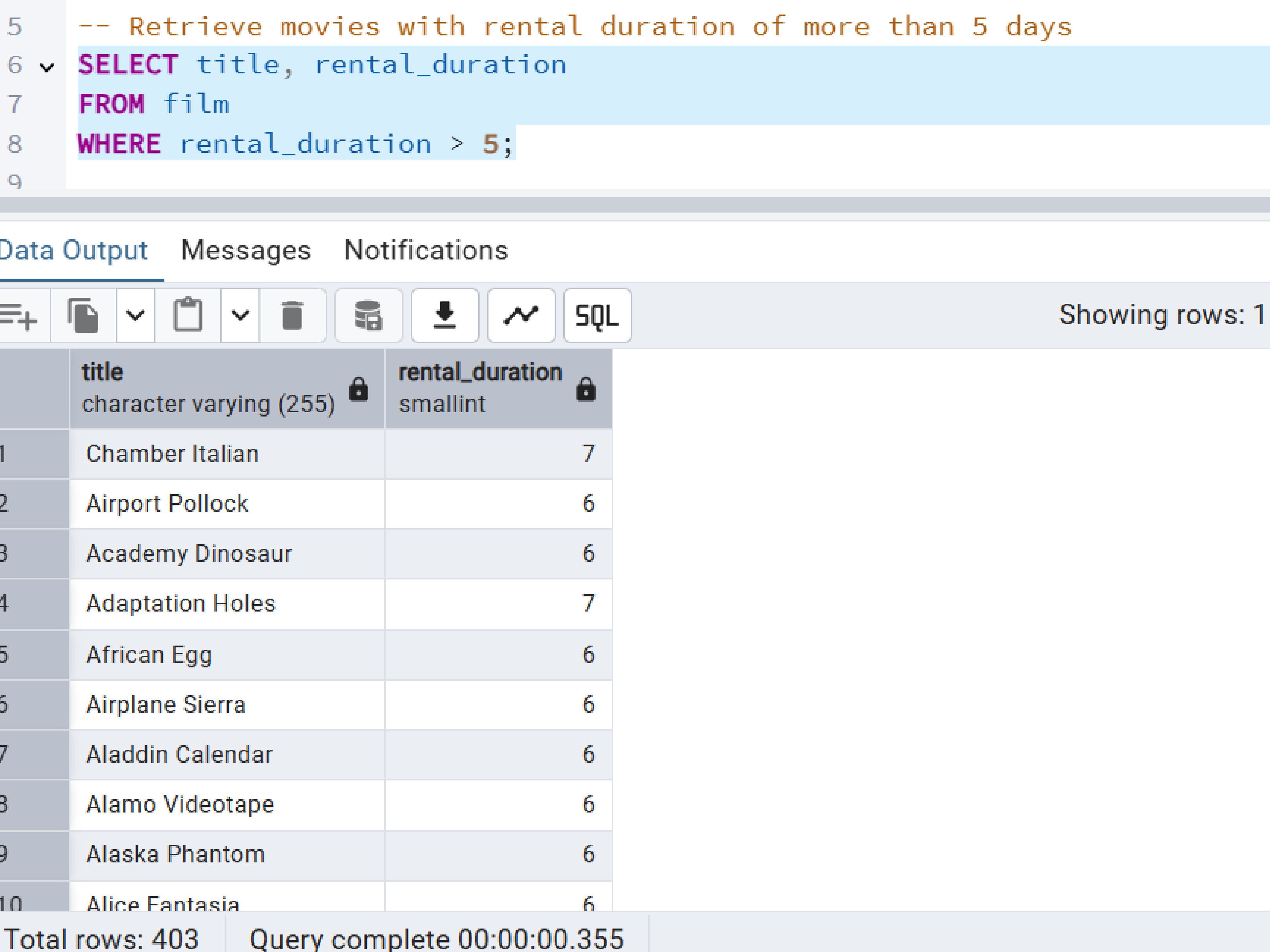
- Guide business decisions with data insights

Core Tables in the Database

- film – Movie catalog
- customer – Customer records
- rental – Rental activity
- payment – Revenue data
- inventory – Stock info
- staff – Employees handling transactions

SQL Query Objectives

- List movies and rental durations
- Analyze revenue by staff and store
- Identify top rented movies
- Categorize customer spending tiers
- Detect anomalies (payments with no rentals)

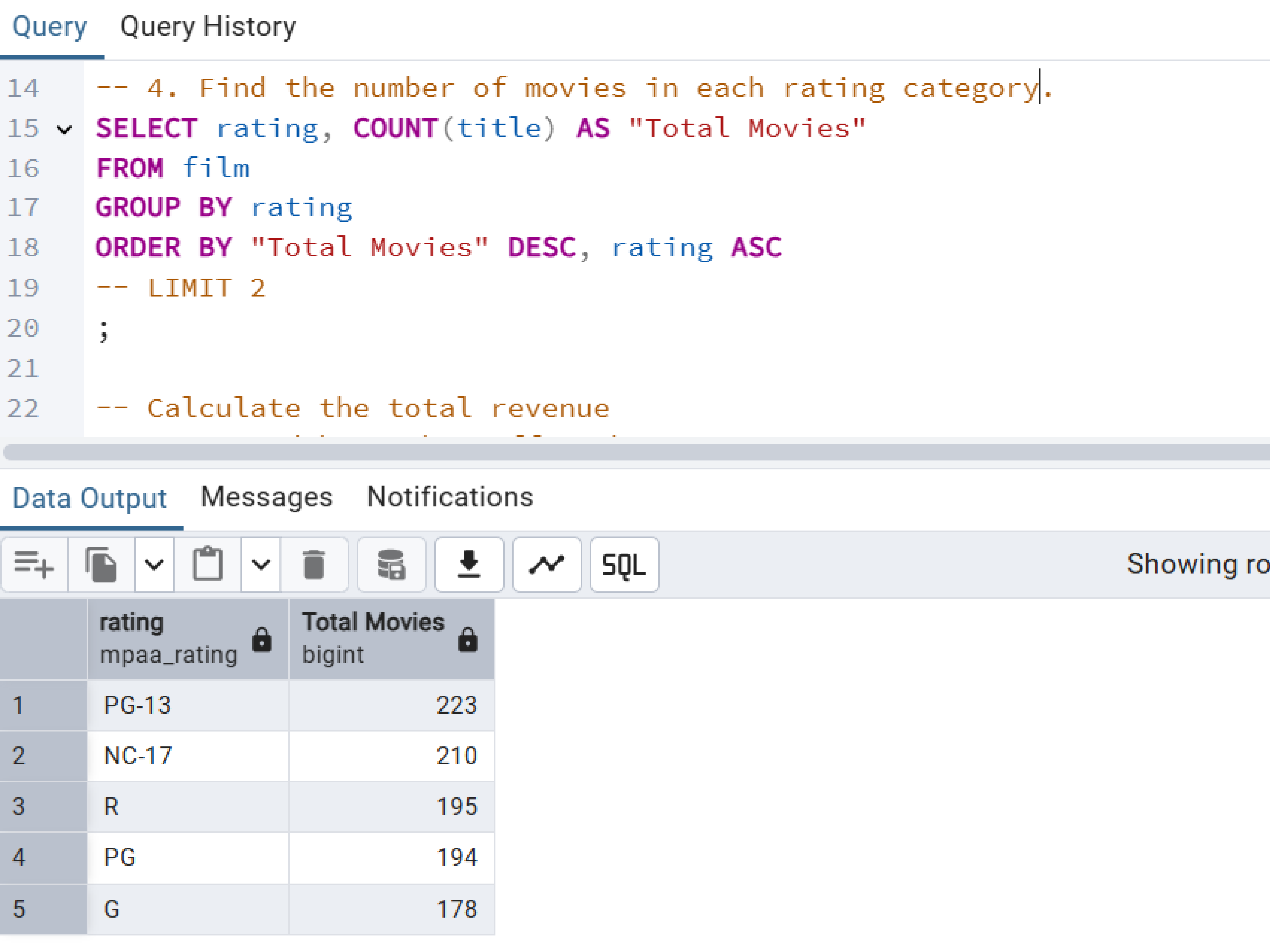


```sql
-- Retrieve movies with rental duration of more than 5 days
SELECT title, rental_duration
FROM film
WHERE rental_duration > 5;

```

	title character varying (255)	rental_duration smallint
1	Chamber Italian	7
2	Airport Pollock	6
3	Academy Dinosaur	6
4	Adaptation Holes	7
5	African Egg	6
6	Airplane Sierra	6
7	Aladdin Calendar	6
8	Alamo Videotape	6
9	Alaska Phantom	6
10	Alice Fantasia	6

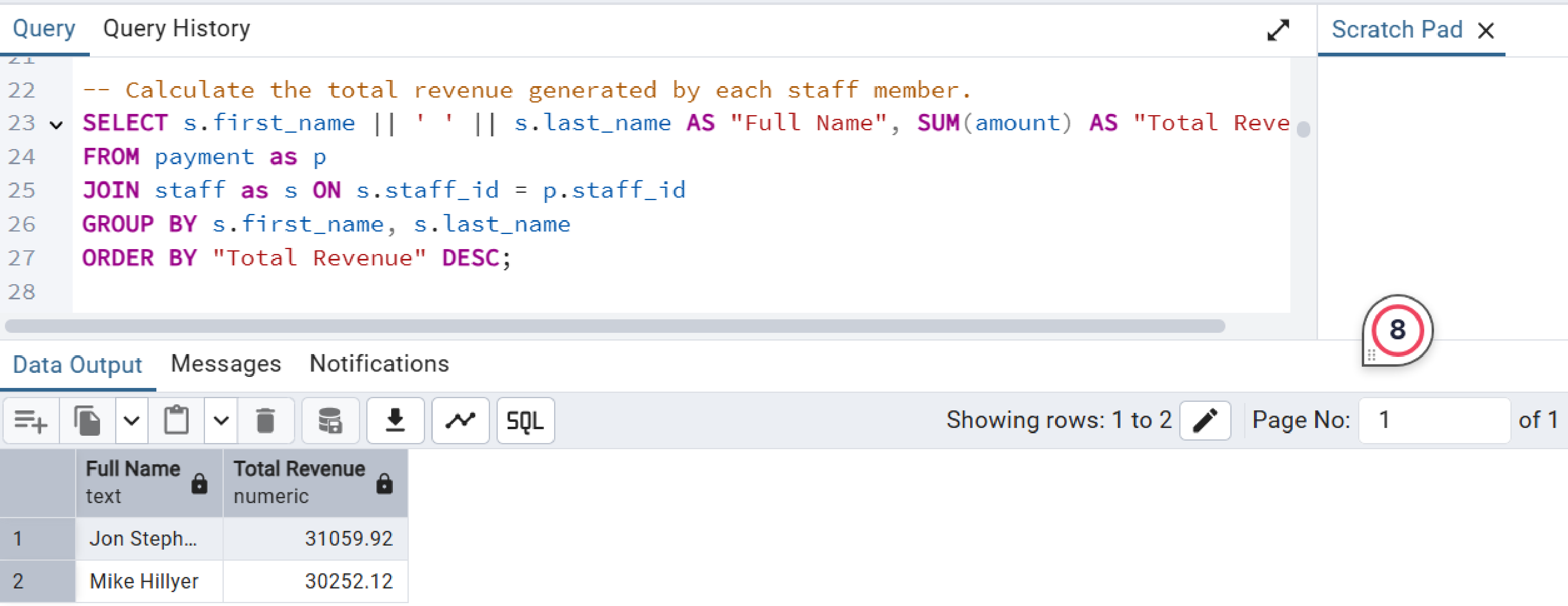
Total rows: 403   Query complete 00:00:00.355



```sql
-- 4. Find the number of movies in each rating category.
SELECT rating, COUNT(title) AS "Total Movies"
FROM film
GROUP BY rating
ORDER BY "Total Movies" DESC, rating ASC
-- LIMIT 2
;

-- Calculate the total revenue
```

	rating mpaa_rating	Total Movies bigint
1	PG-13	223
2	NC-17	210
3	R	195
4	PG	194
5	G	178

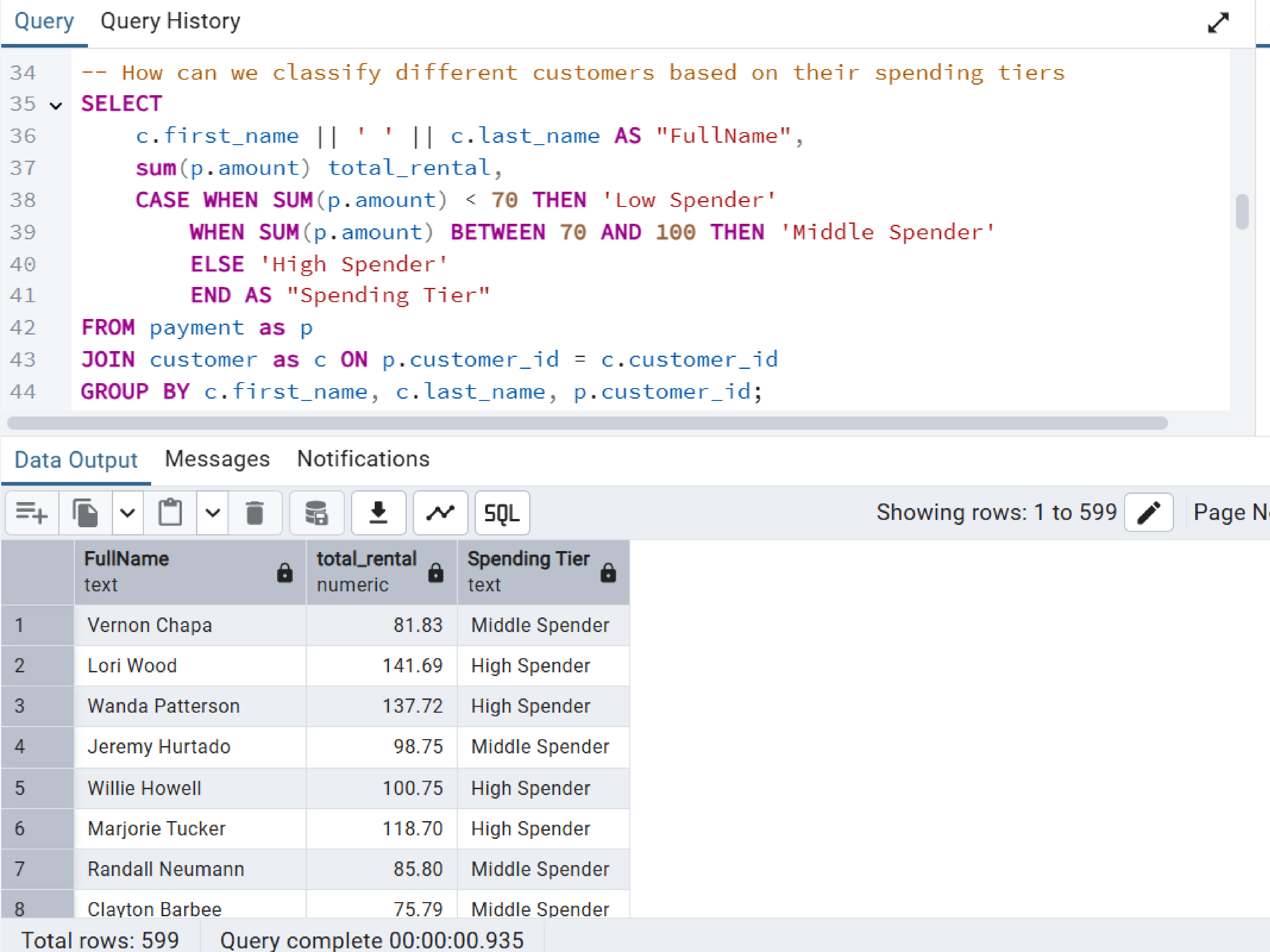


```sql
-- Calculate the total revenue generated by each staff member.
SELECT s.first_name || ' ' || s.last_name AS "Full Name", SUM(amount) AS "Total Reve
FROM payment as p
JOIN staff as s ON s.staff_id = p.staff_id
GROUP BY s.first_name, s.last_name
ORDER BY "Total Revenue" DESC;
```

	Full Name text	Total Revenue numeric
1	Jon Steph...	31059.92
2	Mike Hillyer	30252.12

Customer Spending Classification

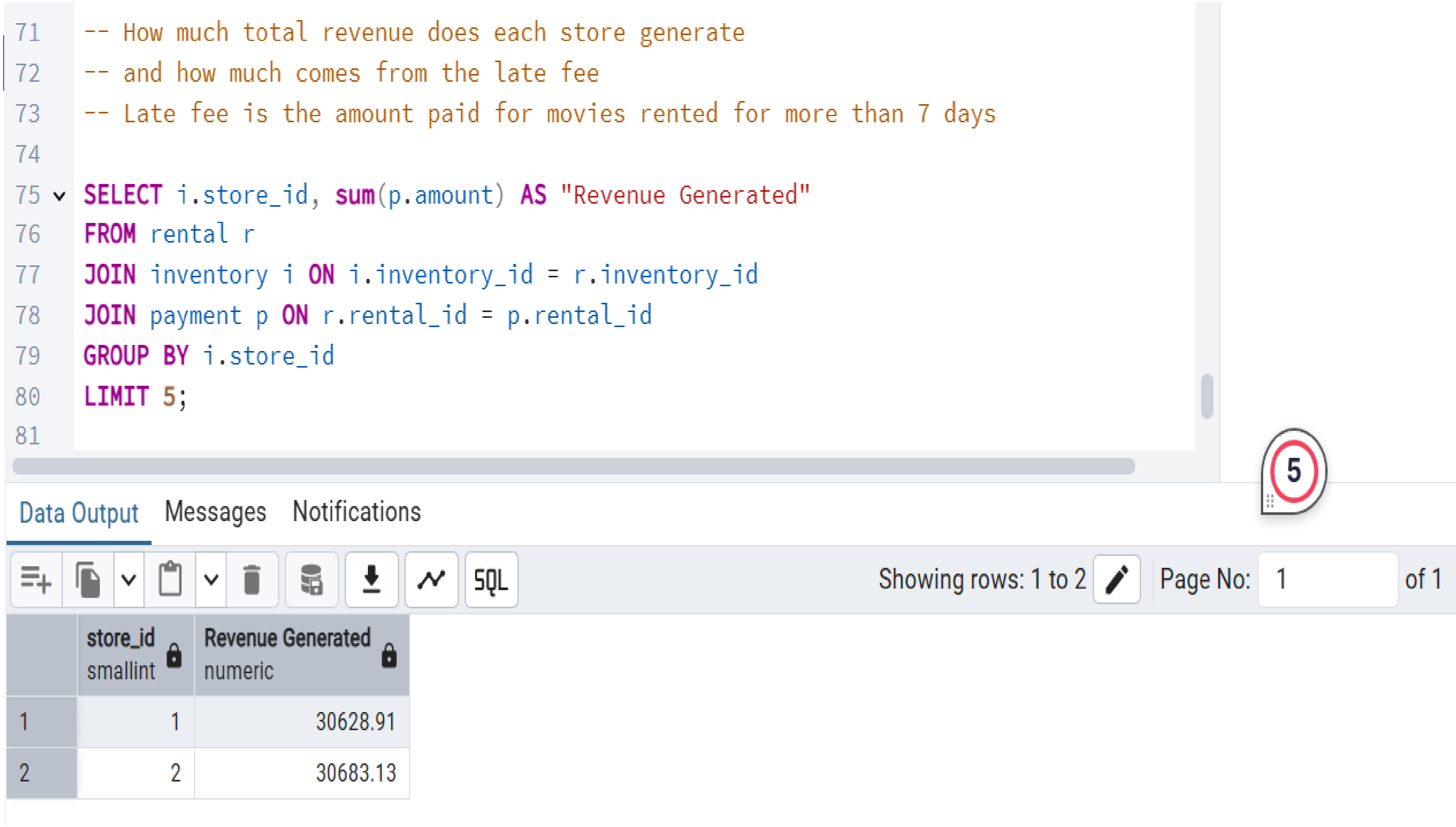
- • Low Spender: < $70
- • Middle Spender: $70–$100
- • High Spender: > $100
- Used CASE statements to classify customers
- Helps identify premium customers and upsell potential



```sql
-- How can we classify different customers based on their spending tiers
SELECT
    c.first_name || ' ' || c.last_name AS "FullName",
    sum(p.amount) total_rental,
    CASE WHEN SUM(p.amount) < 70 THEN 'Low Spender'
        WHEN SUM(p.amount) BETWEEN 70 AND 100 THEN 'Middle Spender'
        ELSE 'High Spender'
        END AS "Spending Tier"
FROM payment as p
JOIN customer as c ON p.customer_id = c.customer_id
GROUP BY c.first_name, c.last_name, p.customer_id;
```

	FullName	total_rental	Spending Tier
	text	numeric	text
1	Vernon Chapa	81.83	Middle Spender
2	Lori Wood	141.69	High Spender
3	Wanda Patterson	137.72	High Spender
4	Jeremy Hurtado	98.75	Middle Spender
5	Willie Howell	100.75	High Spender
6	Marjorie Tucker	118.70	High Spender
7	Randall Neumann	85.80	Middle Spender
8	Clayton Barbee	75.79	Middle Spender

Total rows: 599   Query complete 00:00:00.935



```sql
-- How much total revenue does each store generate
-- and how much comes from the late fee
-- Late fee is the amount paid for movies rented for more than 7 days

SELECT i.store_id, sum(p.amount) AS "Revenue Generated"
FROM rental r
JOIN inventory i ON i.inventory_id = r.inventory_id
JOIN payment p ON r.rental_id = p.rental_id
GROUP BY i.store_id
LIMIT 5;
```

	store_id smallint	Revenue Generated numeric
1	1	30628.91
2	2	30683.13

Recommendations

- Promote best-selling movies to similar demographics
- Train underperforming staff using top staff as benchmark
- Investigate non-rental payments
- Use customer tiering for targeted offers

Conclusion & Future Steps

- SQL enables powerful business insights

- MovieFlix can optimize operations with data

- Future: integrate with BI tools (Power BI/Tableau)

- Automate regular reports for stakeholders