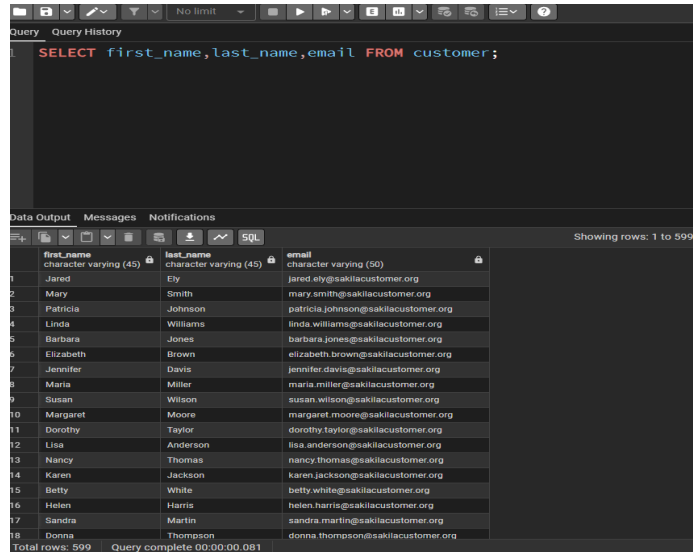


SQL

Challenge: We want to send out a promotional email to existing customers

Use SELECT statement for first and last name of every customer

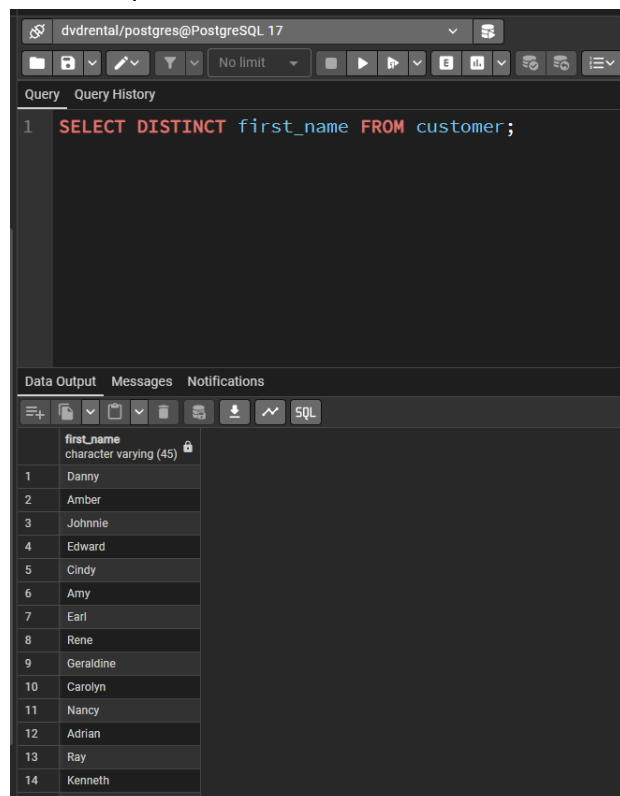
Solution: SELECT first_name,last_name,email FROM customer;



first_name	last_name	email
Jared	Ely	jared.ely@sakilacustomer.org
Mary	Smith	mary.smith@sakilacustomer.org
Patricia	Johnson	patricia.johnson@sakilacustomer.org
Linda	Williams	linda.williams@sakilacustomer.org
Barbara	Jones	barbara.jones@sakilacustomer.org
Elizabeth	Brown	elizabeth.brown@sakilacustomer.org
Jennifer	Davis	jennifer.davis@sakilacustomer.org
Maria	Miller	maria.miller@sakilacustomer.org
Susan	Wilson	susan.wilson@sakilacustomer.org
Margaret	Moore	margaret.moore@sakilacustomer.org
Dorothy	Taylor	dorothy.taylor@sakilacustomer.org
Lisa	Anderson	lisa.anderson@sakilacustomer.org
Nancy	Thomas	nancy.thomas@sakilacustomer.org
Karen	Jackson	karen.jackson@sakilacustomer.org
Betty	White	betty.white@sakilacustomer.org
Helen	Harris	helen.harris@sakilacustomer.org
Sandra	Martin	sandra.martin@sakilacustomer.org
Donna	Thompson	donna.thompson@sakilacustomer.org

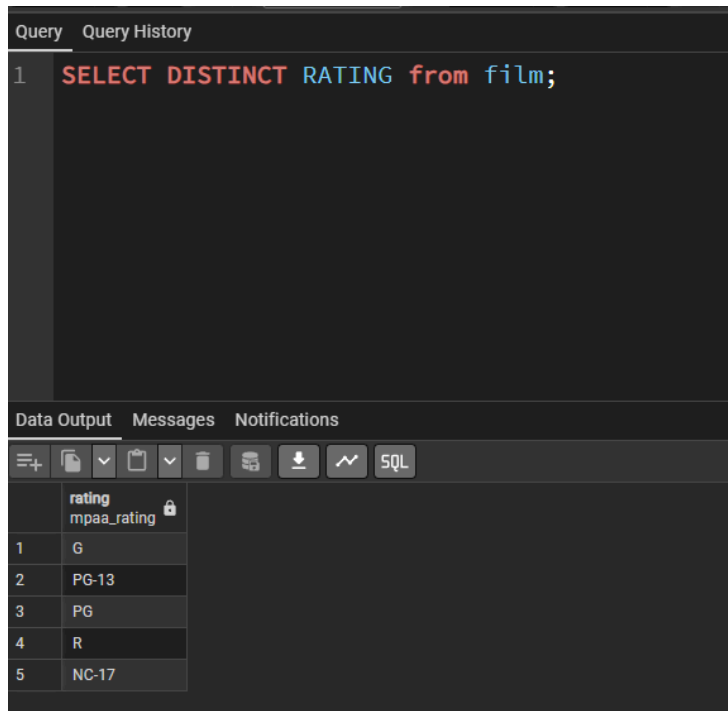
Challenge 2: SELECT DISTINCT

What unique first names are there in the tables? No duplicate names



first_name
Danny
Amber
Johnnie
Edward
Cindy
Amy
Earl
Rene
Geraldine
Carolyn
Nancy
Adrian
Ray
Kenneth

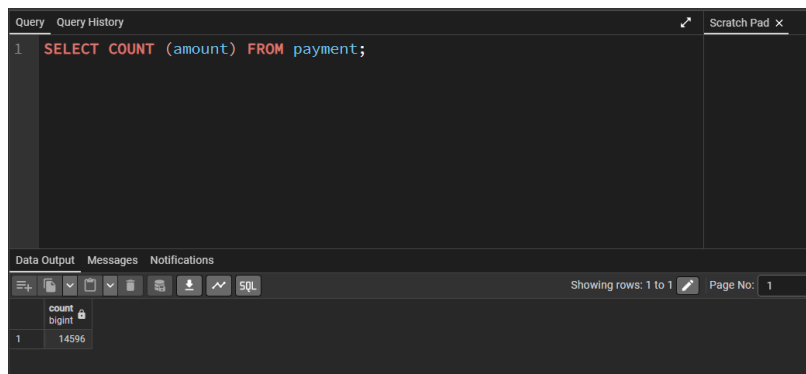
Challenge :3 An Australian visitor isn't familiar with MPAA movie ratings (e.g. PG, PG-13, R, etc.). What are the types of ratings are in the databases? What ratings do we have available?
Solution: `SELECT DISTINCT RATING from film;`



The screenshot shows a SQL IDE interface. The top bar has 'Query' and 'Query History' tabs. The main editor area contains the query: `1 SELECT DISTINCT RATING from film;`. Below the editor, there are tabs for 'Data Output', 'Messages', and 'Notifications'. The 'Data Output' tab is active, showing a table with two columns: 'rating' and 'mpaa_rating'. The table contains five rows of data.

	rating	mpaa_rating
1	G	
2	PG-13	
3	PG	
4	R	
5	NC-17	

Counting the amount columns of payments



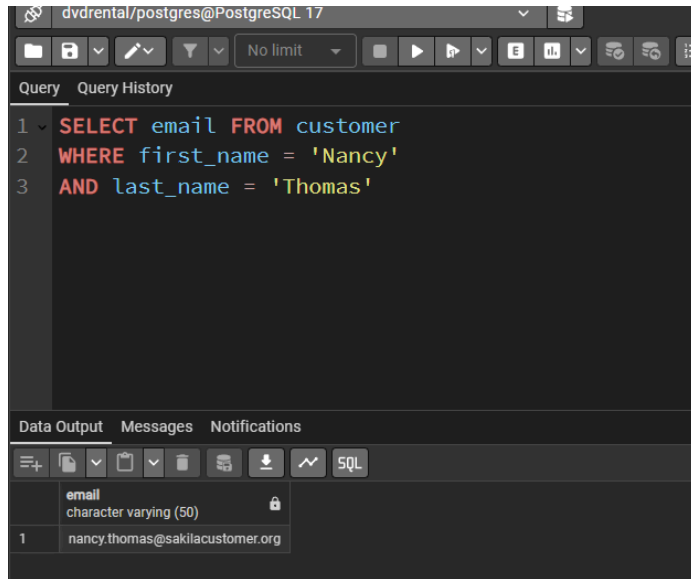
The screenshot shows a SQL IDE interface. The top bar has 'Query' and 'Query History' tabs. The main editor area contains the query: `1 SELECT COUNT (amount) FROM payment;`. Below the editor, there are tabs for 'Data Output', 'Messages', and 'Notifications'. The 'Data Output' tab is active, showing a table with two columns: 'count' and 'bigint'. The table contains one row of data. The status bar at the bottom indicates 'Showing rows: 1 to 1' and 'Page No: 1'.

	count	bigint
1	14596	

WHERE Challenge

Note: We now know enough to answer more realistic business questions and tasks instead of directly asking for specific SQL tasks. From now on we will focus more on directly asking the business related questions, to more realistically model a typical task.

Challenge: A customer forgot their wallet at a store. We need to track down their email to inform them. What is the email for the customer with the name Nancy Thomas?



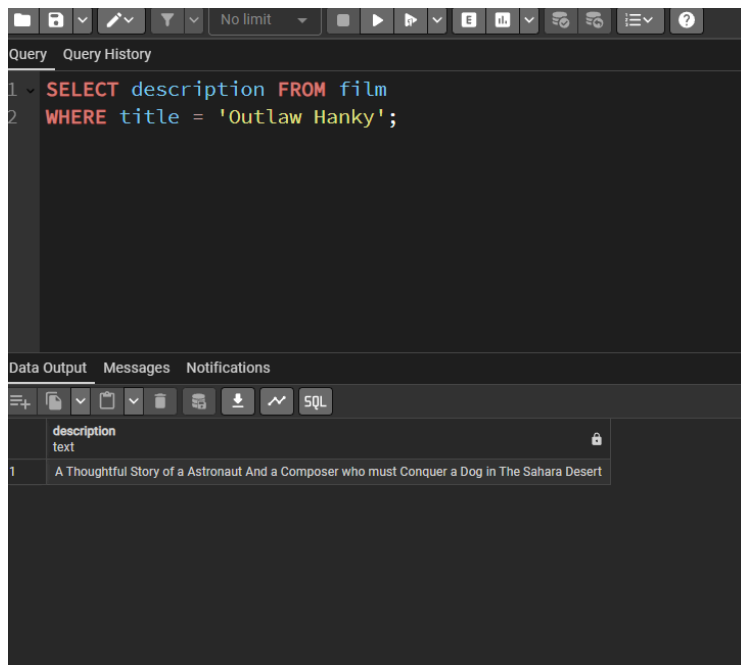
The screenshot shows a PostgreSQL query editor interface. The title bar indicates the user is 'dvdrental/postgres@PostgreSQL 17'. The 'Query' tab is active, displaying the following SQL query:

```
1 SELECT email FROM customer
2 WHERE first_name = 'Nancy'
3 AND last_name = 'Thomas'
```

Below the query editor, the 'Data Output' tab is active, showing the results of the query. The results are displayed in a table with the following structure:

	email
1	nancy.thomas@sakilacustomer.org

Challenge 2: A customer wants to know what the movie “Outlaw Hanky” is about. Could you give them the description of the movie “Outlaw Hanky”?



The screenshot shows a PostgreSQL query editor interface. The title bar indicates the user is 'dvdrental/postgres@PostgreSQL 17'. The 'Query' tab is active, displaying the following SQL query:

```
1 SELECT description FROM film
2 WHERE title = 'Outlaw Hanky';
```

Below the query editor, the 'Data Output' tab is active, showing the results of the query. The results are displayed in a table with the following structure:

	description
1	A Thoughtful Story of a Astronaut And a Composer who must Conquer a Dog in The Sahara Desert

Challenge 3: A customer is late on their movie return, and we’ve mailed them a letter to their address at ‘259 Ipoh Drive’. We should also call them on the phone to let them know. Can you get the phone number for the customer who lives at ‘259 Ipoh Drive’?

```
1 SELECT phone FROM address
2 WHERE address = '259 Ipoh Drive';
```

Data Output Messages Notifications

	phone character varying (20)
1	419009857119

ORDER BY Challenge

Challenge #1: We want to reward our first 10 paying customers. What are the customer ids of the first 10 customers who created a payment?

Query Query History

```
1 SELECT customer_id FROM payment
2 ORDER BY payment_date ASC
3 LIMIT 10;
```

Data Output Messages Notifications

	customer_id smallint
1	416
2	516
3	239
4	592
5	49
6	264
7	46
8	481
9	139
10	595

Challenge #2- A customer wants to quickly rent a video to watch over their short lunch break. What are the titles of the 5 shortest (in length of runtime) in movies?

Query		Query History
1	SELECT title, length	FROM film
2	ORDER BY length ASC	
3	LIMIT 5;	

Data Output		Messages	Notifications
title	length		
character varying (255)	smallint		
1	Labyrinth League	46	
2	Alien Center	46	
3	Iron Moon	46	
4	Kwai Homeward	46	
5	Ridgemont Submarine	46	

Question: If the previous customer can watch any movie that is 50 minutes or less in run time, how many options do they have?

Timestamps and Extracts

Challenge: During which months did payments occur? Format your answer to return back the full month name

```
1 SELECT
2 DISTINCT(TO_CHAR(payment_date, 'MONTH'))
3 FROM payment
```

Data Output Messages Notifications

	to_char text
1	MARCH ...
2	MAY
3	FEBRUA...
4	APRIL

Challenge: How many payments occurred on a Monday?

```
1 SELECT COUNT (*)
2 FROM payment
3 WHERE EXTRACT(dow FROM payment_date) = 1
```

Data Output Messages Notifications

	count bigint
1	2948

SQL JOINS

Challenge: California sales tax laws have changed and we need to alert our customers to this through email. What are the emails of the customers who live in California?

```
1 SELECT district,email FROM address
2 INNER JOIN customer ON
3 address.address_id = customer.address_id
4 WHERE district = 'California'
5
```

Data Output Messages Notifications

	district character varying (20)	email character varying (50)
1	California	patricia.johnson@sakilacustomer.org
2	California	betty.white@sakilacustomer.org
3	California	alice.stewart@sakilacustomer.org
4	California	rosa.reynolds@sakilacustomer.org
5	California	renee.lane@sakilacustomer.org
6	California	kristin.johnston@sakilacustomer.org
7	California	cassandra.walters@sakilacustomer.org
8	California	jacob.lance@sakilacustomer.org
9	California	rene.mcalister@sakilacustomer.org

Challenge: A customer walks in and is a huge fan of the actor "Nick Wahlberg" and wants to know which movies he is in. Get a list of all the movies "Nick Wahlberg" has been in.

```
1 SELECT title,first_name,last_name
2 FROM film_actor INNER JOIN actor
3 ON film_actor.actor_id = actor.actor_id
4 INNER JOIN film
5 ON film_actor.film_id = film.film_id
6 WHERE first_name = 'Nick'
7 AND last_name = 'Wahlberg'
```

Data Output Messages Notifications

	title character varying (255)	first_name character varying (45)	last_name character varying (45)
1	Adaptation Holes	Nick	Wahlberg
2	Apache Divine	Nick	Wahlberg
3	Baby Hall	Nick	Wahlberg
4	Bull Shawshank	Nick	Wahlberg
5	Chainsaw Uptown	Nick	Wahlberg
6	Chisum Behavior	Nick	Wahlberg
7	Destiny Saturday	Nick	Wahlberg
8	Dracula Crystal	Nick	Wahlberg
9	Fight Jawbreaker	Nick	Wahlberg
10	Flash Wars	Nick	Wahlberg
11	Gilbert Pelican	Nick	Wahlberg
12	Goodfellas Salute	Nick	Wahlberg
13	Happiness United	Nick	Wahlberg
14	Indian Love	Nick	Wahlberg
15	Jekyll Frogmen	Nick	Wahlberg
16	Jersey Sassy	Nick	Wahlberg
17	Liaisons Sweet	Nick	Wahlberg
18	Lucky Flying	Nick	Wahlberg