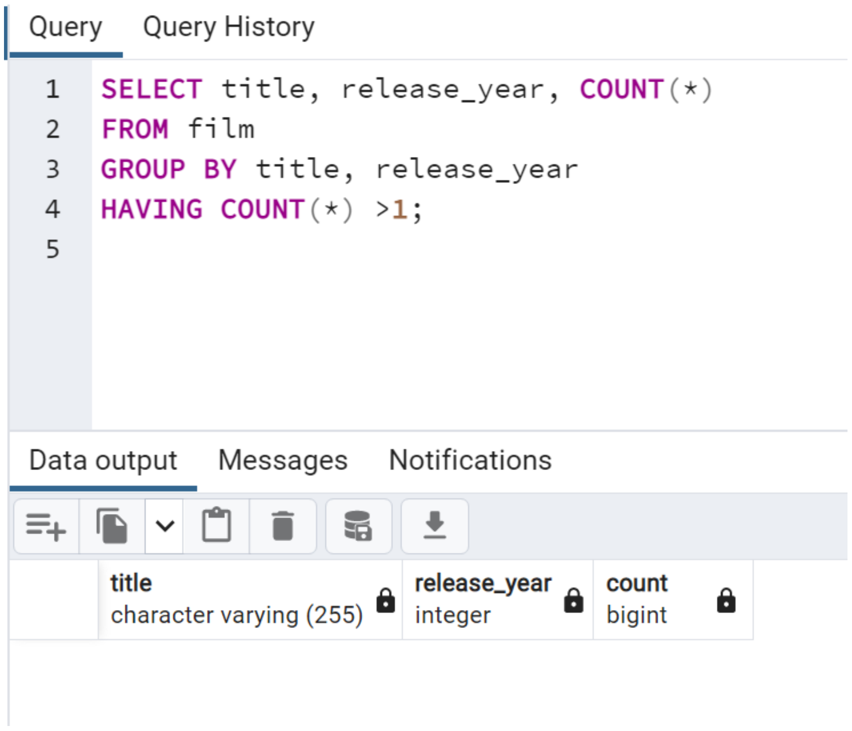
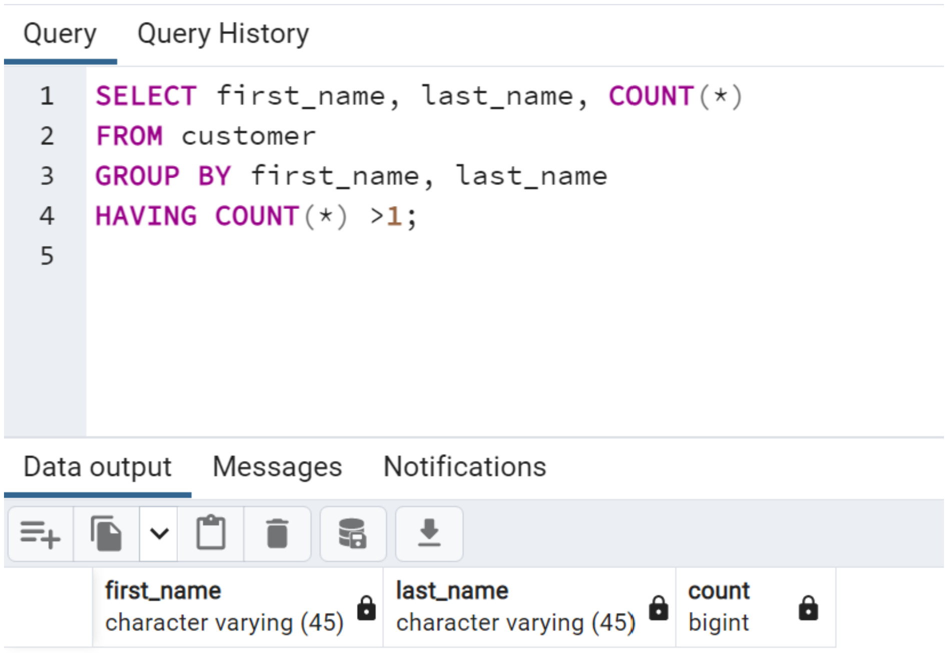
Step 1

To find duplicates:



```
SELECT title, release_year, COUNT(*)
FROM film
GROUP BY title, release_year
HAVING COUNT(*) >1;
```

title character varying (255)	release_year integer	count bigint

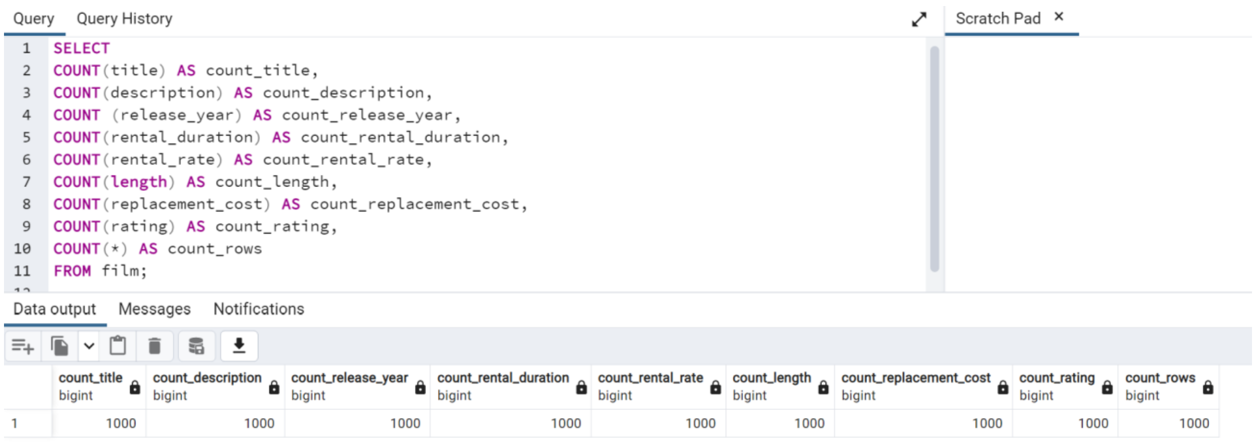


```
SELECT first_name, last_name, COUNT(*)
FROM customer
GROUP BY first_name, last_name
HAVING COUNT(*) >1;
```

first_name character varying (45)	last_name character varying (45)	count bigint

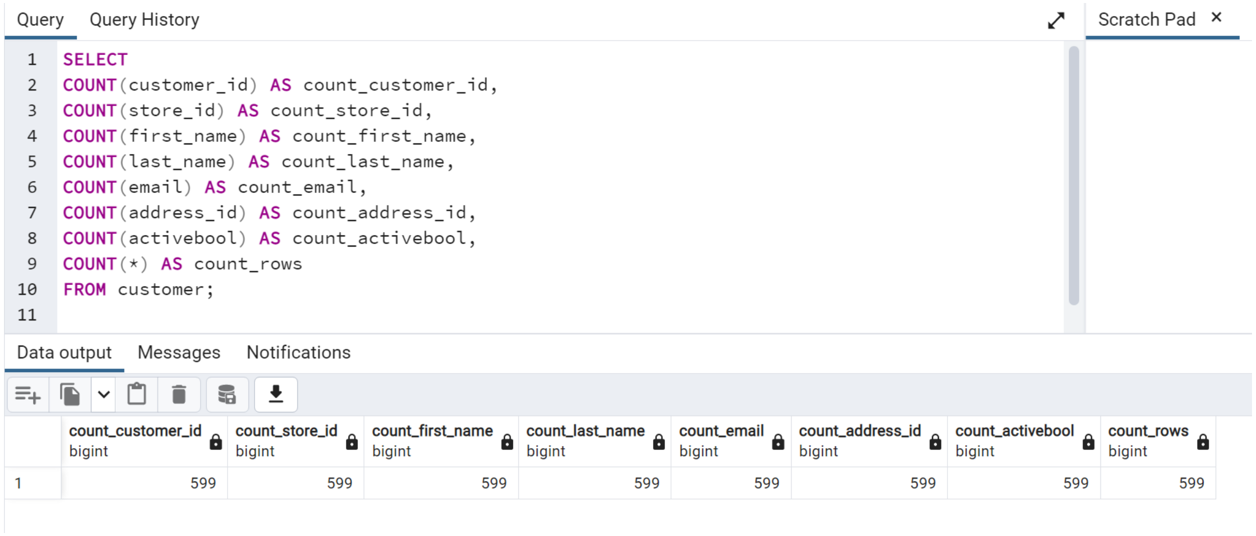
No duplicates were found in either table, but if there were, I could either delete the duplicates or create a view with unique records.

To find missing values:



```
SELECT
COUNT(title) AS count_title,
COUNT(description) AS count_description,
COUNT (release_year) AS count_release_year,
COUNT(rental_duration) AS count_rental_duration,
COUNT(rental_rate) AS count_rental_rate,
COUNT(length) AS count_length,
COUNT(replacement_cost) AS count_replacement_cost,
COUNT(rating) AS count_rating,
COUNT(*) AS count_rows
FROM film;
```

	count_title bigint	count_description bigint	count_release_year bigint	count_rental_duration bigint	count_rental_rate bigint	count_length bigint	count_replacement_cost bigint	count_rating bigint	count_rows bigint
1	1000	1000	1000	1000	1000	1000	1000	1000	1000



```
SELECT
COUNT(customer_id) AS count_customer_id,
COUNT(store_id) AS count_store_id,
COUNT(first_name) AS count_first_name,
COUNT(last_name) AS count_last_name,
COUNT(email) AS count_email,
COUNT(address_id) AS count_address_id,
COUNT(activebool) AS count_activebool,
COUNT(*) AS count_rows
FROM customer;
```

	count_customer_id bigint	count_store_id bigint	count_first_name bigint	count_last_name bigint	count_email bigint	count_address_id bigint	count_activebool bigint	count_rows bigint
1	599	599	599	599	599	599	599	599

No missing values were found in either table. If there were a few missing values, I could fill them in with an average, and if there are a lot of missing values, I could ignore the column.

Step 2

Films Table:

SELECT MIN(rental_rate) AS min_rental_rate,

MAX(rental_rate) AS max_rental_rate,

AVG(rental_rate) AS avg_rental_rate,

MIN(rental_duration) AS min_rental_duration,

MAX(rental_duration) AS max_rental_duration,

AVG(rental_duration) AS avg_rental_duration,

MIN(film_id) AS min_film_id,

```
MAX(film_id) AS max_film_id,

AVG(film_id) AS avg_film_id,

MIN(language_id) AS min_language_id,

MAX(language_id) AS max_language_id,

AVG(language_id) AS avg_language_id,

MIN(length) AS min_length,

MAX(length) AS max_length,

AVG(length) AS avg_length,

MIN(replacement_cost) AS min_replacement_cost,

MAX(replacement_cost) AS max_replacement_cost,

AVG(replacement_cost) AS avg_replacement_cost,

mode() WITHIN GROUP (ORDER BY rating) AS rating_value,

mode() WITHIN GROUP (ORDER BY special_features) AS feature_value,

mode() WITHIN GROUP (ORDER BY release_year) AS year_value

FROM film
```

"min_rental_rate"	"max_rental_rate"	"avg_rental_rate"	"min_rental_duration"	"max_rental_duration"
0.99	4.99	2.9800000000000000	3	7

"avg_rental_duration"	"min_film_id"	"max_film_id"	"avg_film_id"	"min_language_id"
4.9850000000000000	1	1000	500.5000000000000000	1

"max_language_id"	"avg_language_id"	"min_length"	"max_length"	"avg_length"
1	1.00000000000000000000	46	185	115.2720000000000000

"min_replacement_cost"	"max_replacement_cost"	"avg_replacement_cost"	"rating_value"	"feature_value"	"year_value"
9.99	29.99	19.9840000000000000	"PG-13"	"{Trailers,Commentaries,""Behind the Scenes""}"	2006

Customer Table:

```
SELECT MIN(active) AS min_active,
MAX(active) AS max_active,
AVG(active) AS avg_active,
MIN(address_id) AS min_address_id,
MAX(address_id) AS max_address_id,
AVG(address_id) AS avg_address_id,
MIN(customer_id) AS min_customer_id,
MAX(customer_id) AS max_customer_id,
AVG(customer_id) AS avg_customer_id,
MIN(store_id) AS min_store_id,
MAX(store_id) AS max_store_id,
AVG(store_id) AS avg_store_id,
mode() WITHIN GROUP (ORDER BY first_name) AS first_name_value,
mode() WITHIN GROUP (ORDER BY last_name) AS last_name_value,
mode() WITHIN GROUP (ORDER BY email) AS email_value
FROM customer;
```

"min_active"	"max_active"	"avg_active"	"min_address_id"	"max_address_id"
0	1	0.97495826377295492487	5	605

"avg_address_id"	"min_customer_id"	"max_customer_id"	"avg_customer_id"	"min_store_id"
304.7245409015025042	1	599	300.0000000000000000	1

"max_store_id"	"avg_store_id"	"first_name_value"	"last_name_value"	"email_value"
2	1.4557595993322204	"Jamie"	"Abney"	"aaron.selby@sakilacustomer.org"

Step 3

I think that data profiling in SQL is much easier and faster because there is much less repetitive typing involved. This is especially true when working with large datasets. Excel would not be an efficient choice in this situation.