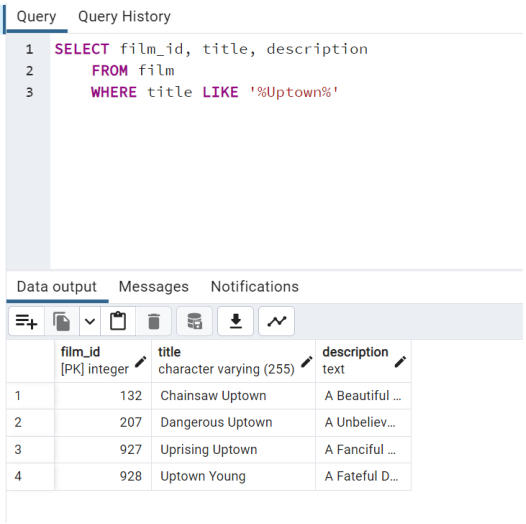
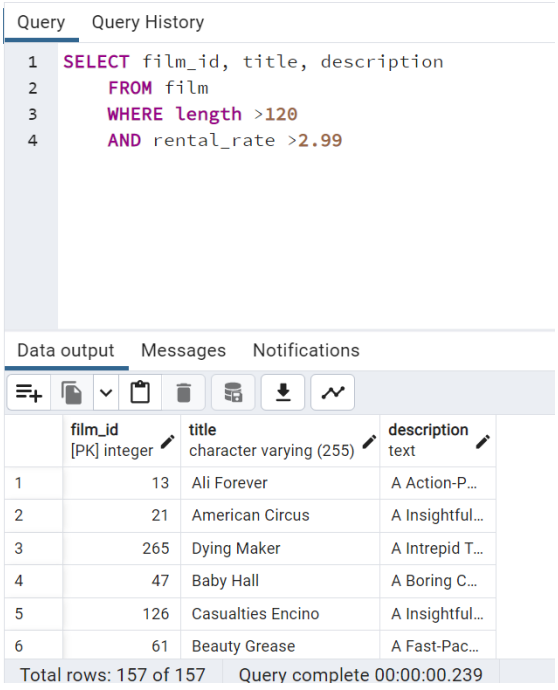
3.5: Filtering Data

1. Write some SQL queries to return a lists of films that meet the following conditions. Your results tables should include the columns "film_ID," "title," and "description". Download your SQL queries outputs as CSV files using the pgadmin inbuilt functionality. Merge them into one Excel file (.xlsx) and create a separate sheet for each query (label them 1a, 1b, 1c, etc.). You'll use this file for all further questions in this Task too.
Hint: These queries are not building upon each other, they are separate! Hence, when running the query for 1b. you don't need to take into account 1a, for example. That refers to all the substeps here.

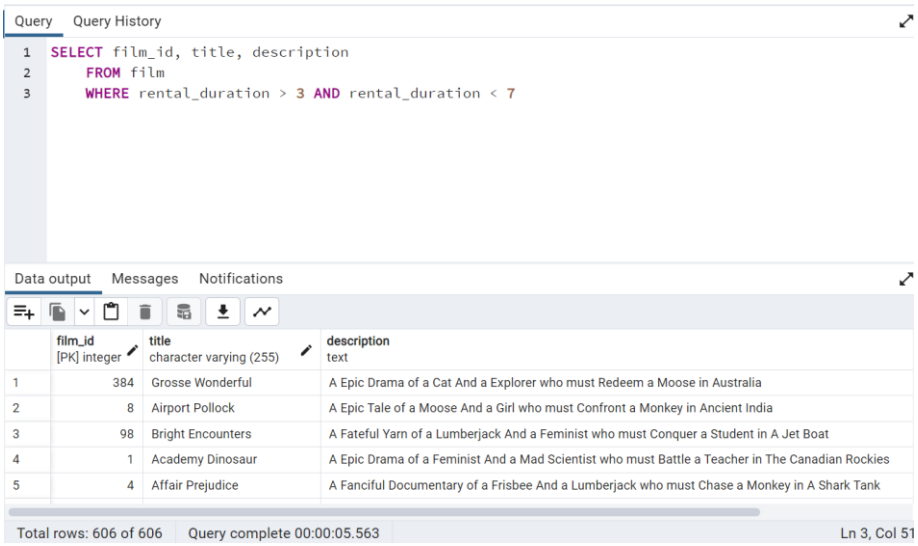
a. Film title contains the word Uptown in any position



b. Film length is more than 120 minutes and rental rate is more than 2.99



c. Rental duration is between 3 and 7 days (where 3 and 7 aren't inclusive)



Query | Query History

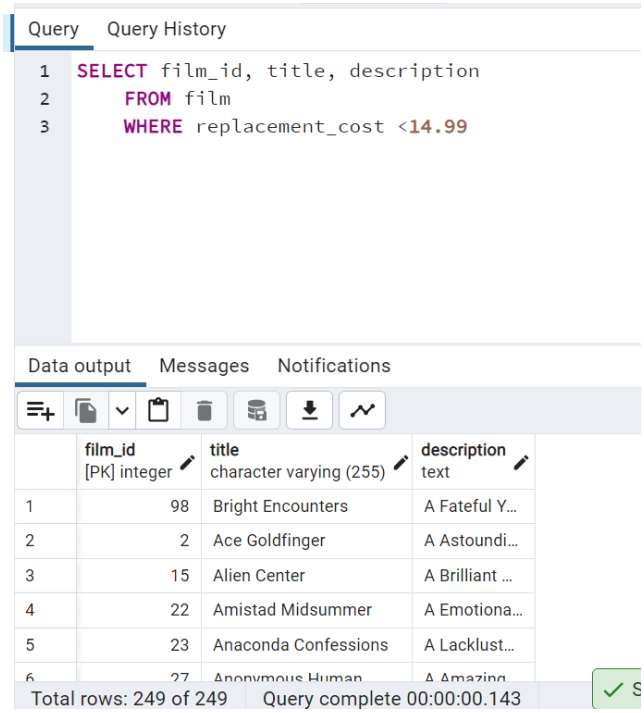
```
1  SELECT film_id, title, description
2      FROM film
3      WHERE rental_duration > 3 AND rental_duration < 7
```

Data output | Messages | Notifications

	film_id [PK] integer	title character varying (255)	description text
1	384	Grosse Wonderful	A Epic Drama of a Cat And a Explorer who must Redeem a Moose in Australia
2	8	Airport Pollock	A Epic Tale of a Moose And a Girl who must Confront a Monkey in Ancient India
3	98	Bright Encounters	A Fateful Yarn of a Lumberjack And a Feminist who must Conquer a Student in A Jet Boat
4	1	Academy Dinosaur	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in The Canadian Rockies
5	4	Affair Prejudice	A Fanciful Documentary of a Frisbee And a Lumberjack who must Chase a Monkey in A Shark Tank

Total rows: 606 of 606 | Query complete 00:00:05.563 | Ln 3, Col 51

d. Film replacement cost is less than 14.99



Query | Query History

```
1  SELECT film_id, title, description
2      FROM film
3      WHERE replacement_cost <14.99
```

Data output | Messages | Notifications

	film_id [PK] integer	title character varying (255)	description text
1	98	Bright Encounters	A Fateful Y...
2	2	Ace Goldfinger	A Astoundi...
3	15	Alien Center	A Brilliant ...
4	22	Amistad Midsummer	A Emotiona...
5	23	Anaconda Confessions	A Lacklust...
6	27	Anonymous Human	A Amazing

Total rows: 249 of 249 | Query complete 00:00:00.143

e. Film rating is either PG or G

```
SELECT film_id, title, description
    FROM film
    WHERE rating IN ('PG','G')
```

Data output | Messages | Notifications

	film_id [PK] integer	title character varying (255)	description text
1	1	Academy Dinosaur	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in The Canadian Rockies
2	2	Ace Goldfinger	A Astounding Epistle of a Database Administrator And a Explorer who must Find a Car in Ancient China
3	4	Affair Prejudice	A Fanciful Documentary of a Frisbee And a Lumberjack who must Chase a Monkey in A Shark Tank
4	5	African Egg	A Fast-Paced Documentary of a Pastry Chef And a Dentist who must Pursue a Forensic Psychologist in The
5	6	Agent Truman	A Intrepid Panorama of a Robot And a Boy who must Escape a Sumo Wrestler in Ancient China

Total rows: 372 of 372 | Query complete 00:00:05.627 | Ln 3, Col 26

2. The query you wrote in step 1e returned a list of movies that meet certain criteria (film rating is either PG or G). The inventory team has asked for the following information about this list:

- Count of the movies
- Average rental rate
- Maximum rental duration and minimum rental duration

- Hint: Run the query and transfer the result into your Excel file on a new sheet. Copy and paste the SQL code you used in there as well.

```
SELECT rating,
COUNT(title),
AVG(rental_rate),
MAX(rental_duration),
MIN(rental_duration)
FROM film
WHERE rating IN ('PG','G')
GROUP BY rating
```

rating

Data output | Messages | Notifications

	rating mpaa_rating	count bigint	avg numeric	max smallint	min smallint
1	G	178	2.888876404	7	3
2	PG	194	3.051855670	7	3

3. To make the output easier for your coworkers to understand, give your aggregate columns the following aliases: "count of movies," "average movie rental rate," "maximum rental duration", and "minimum rental duration". Run the query and transfer the result into your Excel file on a new sheet as well as the code you used to get there.

Query | Query History

```
1  SELECT rating,
2  COUNT(title) AS count_of_movies,
3  AVG(rental_rate) AS average_movie_rental_rate,
4  MAX(rental_duration) AS maximum_rental_duration,
5  MIN(rental_duration) AS minimum_rental_duration
6  FROM film
7  WHERE rating IN ('PG','G')
8  GROUP BY rating
9
```

Data output | Messages | Notifications

	rating mpaa_rating	count_of_movies bigint	average_movie_rental_rate numeric	maximum_rental_duration smallint	minimum_rental_duration smallint
1	G	178	2.888876404494382	7	3
2	PG	194	3.0518556701030928	7	3

4. The customer team would like to see the fields you calculated in step 3 grouped by rating. The totals in your results table should look the same as in step 3, but broken down by the rating column. Copy-paste your query and its output in your answers on a new sheet..

I think it´s already done in exercise 3, right?

5. Save all of your answers in the Excel file you created in step 1 and upload it here for your tutor to review.