3.5: Filtering Data

1. Write some SQL queries to return a lists of films that meet the following conditions. (**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.) Your results tables should include the columns "film_ID," "title," and "description".

a) Film title contains the word *Uptown* in any position

```
SELECT title, film_id, description
FROM film
WHERE title LIKE '%Uptown%'
```

Data Output | Messages | Notifications

	title character varying (255)	film_id [PK] integer	description text
1	Chainsaw Uptown	132	A Beautiful Documentary of a Boy And a Robot who must Discover a Squirrel in Australia
2	Dangerous Uptown	207	A Unbelieveable Story of a Mad Scientist And a Woman who must Overcome a Dog in California
3	Uprising Uptown	927	A Fanciful Reflection of a Boy And a Butler who must Pursue a Woman in Berlin
4	Uptown Young	928	A Fateful Documentary of a Dog And a Hunter who must Pursue a Teacher in An Abandoned Am

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

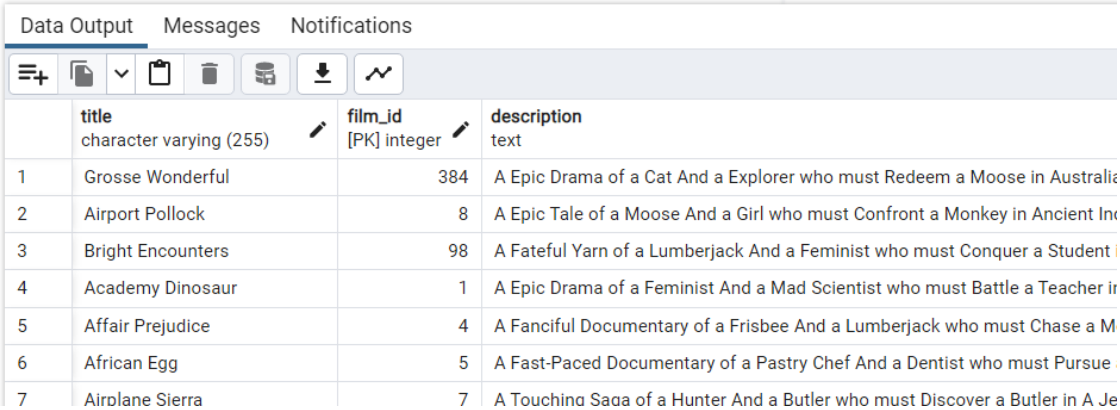
```
SELECT title, film_id, description
FROM film
WHERE length > 120 AND rental_rate > 2.99
```

Data Output | Messages | Notifications

	title character varying (255)	film_id [PK] integer	description text
1	Ali Forever	13	A Action-Packed Drama of a Dentist And a Crocodile who must Battle a Feminis
2	American Circus	21	A Insightful Drama of a Girl And a Astronaut who must Face a Database Admin
3	Dying Maker	265	A Intrepid Tale of a Boat And a Monkey who must Kill a Cat in California

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

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

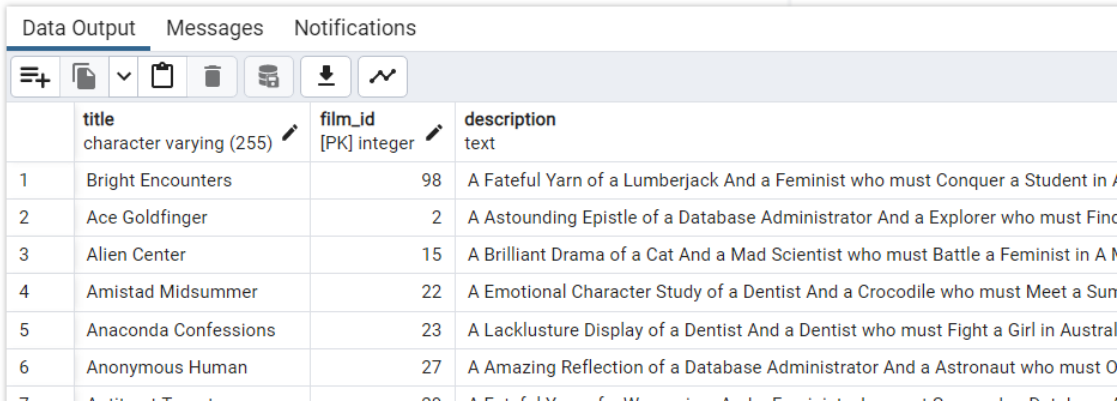


Data Output | Messages | Notifications

	title character varying (255)	film_id [PK] integer	description text
1	Grosse Wonderful	384	A Epic Drama of a Cat And a Explorer who must Redeem a Moose in Australia
2	Airport Pollock	8	A Epic Tale of a Moose And a Girl who must Confront a Monkey in Ancient In
3	Bright Encounters	98	A Fateful Yarn of a Lumberjack And a Feminist who must Conquer a Student
4	Academy Dinosaur	1	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in
5	Affair Prejudice	4	A Fanciful Documentary of a Frisbee And a Lumberjack who must Chase a M
6	African Egg	5	A Fast-Paced Documentary of a Pastry Chef And a Dentist who must Pursue
7	Airplane Sierra	7	A Touching Saga of a Hunter And a Butler who must Discover a Butler in A Je

d) Film replacement cost is less than 14.99

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



Data Output | Messages | Notifications

	title character varying (255)	film_id [PK] integer	description text
1	Bright Encounters	98	A Fateful Yarn of a Lumberjack And a Feminist who must Conquer a Student in A
2	Ace Goldfinger	2	A Astounding Epistle of a Database Administrator And a Explorer who must Finc
3	Alien Center	15	A Brilliant Drama of a Cat And a Mad Scientist who must Battle a Feminist in A M
4	Amistad Midsummer	22	A Emotional Character Study of a Dentist And a Crocodile who must Meet a Sun
5	Anaconda Confessions	23	A Lacklusture Display of a Dentist And a Dentist who must Fight a Girl in Austral
6	Anonymous Human	27	A Amazing Reflection of a Database Administrator And a Astronaut who must O

e) Film rating is either PG or G

```
SELECT title, film_id, description
FROM film
WHERE rating = 'PG' OR rating = 'G'
```

Data Output | Messages | Notifications

	title character varying (255)	film_id [PK] integer	description text
1	Academy Dinosaur	1	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in Th
2	Ace Goldfinger	2	A Astounding Epistle of a Database Administrator And a Explorer who must Find
3	Affair Prejudice	4	A Fanciful Documentary of a Frisbee And a Lumberjack who must Chase a Monk
4	African Egg	5	A Fast-Paced Documentary of a Pastry Chef And a Dentist who must Pursue a F
5	Agent Truman	6	A Intrepid Panorama of a Robot And a Boy who must Escape a Sumo Wrestler in
6	Alamo Videotape	11	A Boring Epistle of a Butler And a Cat who must Fight a Pastry Chef in A MySQL
7	Alaska Phantom	12	A Fanciful Saga of a Hunter And a Pastry Chef who must Vanquish a Boy in Aust
8	Ali Forever	13	A Action-Packed Drama of a Dentist And a Crocodile who must Battle a Feminist

2. Please find the document in the other attachment.

3. 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.

1. Count of the movies → 372
2. Average rental rate → 2,9734
3. Maximum rental duration and minimum rental duration → 7,3

```
SELECT COUNT(film_id), AVG (rental_rate), MAX(rental_duration), MIN(rental_duration)
FROM film
WHERE rating = 'PG' OR rating = 'G'
```

Data Output | Messages | Notifications

	count bigint	avg numeric	max smallint	min smallint
1	372	2.9738709677419357	7	3

4) 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.

```
SELECT COUNT(film_id) AS count_of_movies,
AVG (rental_rate) AS average_movie_rental_rate,
MAX(rental_duration) AS maximum_rental_duration,
MIN(rental_duration) AS maximum_rental_duration
FROM film
WHERE rating = 'PG' OR rating = 'G'
```

Data Output | Messages | Notifications

	count_of_movies bigint	average_movie_rental_rate numeric	maximum_rental_duration smallint	maximum_rental_duration smallint
1	372	2.9738709677419357	7	3

5) 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 4 but broken down by the rating column. Copy-paste your query and its output into your answers on a new sheet.

```
SELECT rating, COUNT(film_id) AS count_of_movies,
AVG (rental_rate) AS average_movie_rental_rate,
MAX(rental_duration) AS maximum_rental_duration,
MIN(rental_duration) AS minimum_rental_duration
FROM film
WHERE rating IN ('PG','G')
GROUP BY rating
```

Data Output | Messages | Notifications

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