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.

1.a Film title contains the word *Uptown* in any position

Query | Query History | Scratch Pad

```
1  SELECT title,
2  film_ID, description
3  FROM film
4  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
2	Dangerous Uptown	207	A Unbelieveable Story of a Mad Scientist And a
3	Uprising Uptown	927	A Fanciful Reflection of a Boy And a Butler who
4	Uptown Young	928	A Fateful Documentary of a Dog And a Hunter

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

Query | Query History | Scratch Pad

```
1  SELECT title,
2  film_ID, description
3  FROM film
4  WHERE length > 120 AND rental_rate > 2.9
```

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 Cr
2	American Circus	21	A Insightful Drama of a Girl And a Astronaut
3	Dying Maker	265	A Intrepid Tale of a Boat And a Monkey who r

Total rows: 157 of 157 | Query complete 00:00:00.058

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

Query | Query History

```
1  SELECT title,
2  film_ID, description
3  FROM film
4  WHERE rental_duration > 3 AND rental_duration < 7
5  ORDER BY rental_duration ASC
```

Data Output | Messages | Notifications

	title character varying (255)	film_id [PK] integer	description text
1	Finding Anaconda	315	A Fateful Tale of a Database Administrator A
2	Strangelove Desire	852	A Awe-Inspiring Panorama of a Lumberjack A
3	Fireball Philadelphia	317	A Amazing Yarn of a Dentist And a A Shark w

Total rows: 606 of 606 | Query complete 00:00:00.130

1.D Film replacement cost is less than 14.99

Query | Query History

```
1  SELECT title,
2  film_ID, description
3  FROM film
4  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 Fer
2	Ace Goldfinger	2	A Astounding Epistle of a Database Admi
3	Alien Center	15	A Brilliant Drama of a Cat And a Mad Scie

Total rows: 249 of 249 | Query complete 00:00:00.061

1.e: Film rating is either PG or G

Query | Query History

```
1  SELECT title,
2  film_ID, description
3  FROM film
4  WHERE rating IN ('PG','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 Scien
2	Ace Goldfinger	2	A Astounding Epistle of a Database Administ
3	Affair Prejudice	4	A Fanciful Documentary of a Frisbee And a L

Total rows: 372 of 372 | Query complete 00:00:00.083

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

Query | Query History | Scrat

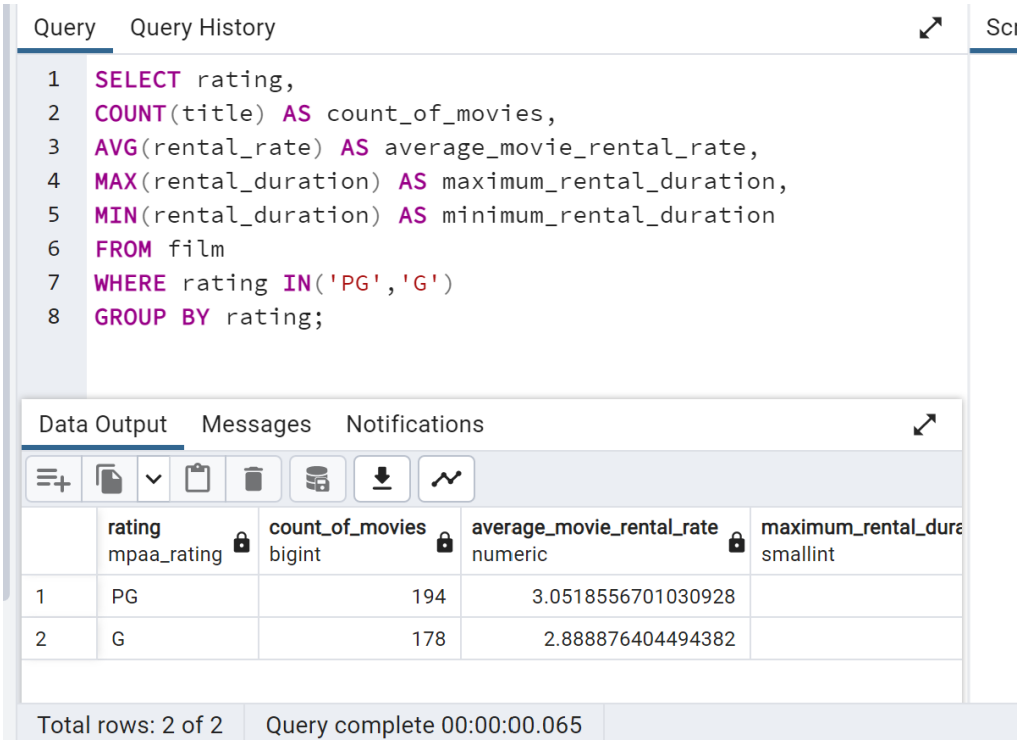
```
1  SELECT rating,
2  COUNT(title),
3  AVG(rental_rate),
4  MAX(rental_duration),
5  MIN(rental_duration)
6  FROM film
7  WHERE rating IN('PG','G')
8  GROUP BY rating;
```

Data Output | Messages | Notifications

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

Total rows: 2 of 2 | Query complete 00:00:00.059

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

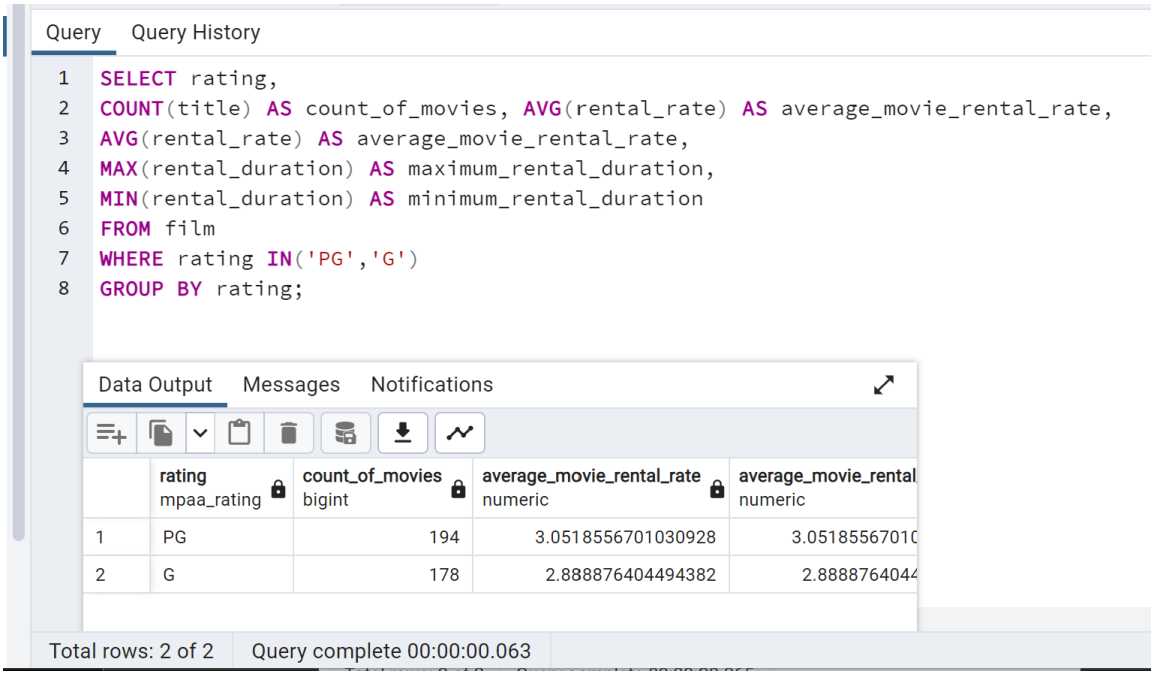
```
SELECT rating,
COUNT(title) AS count_of_movies,
AVG(rental_rate) AS average_movie_rental_rate,
MAX(rental_duration) AS maximum_rental_duration,
MIN(rental_duration) AS minimum_rental_duration
FROM film
WHERE rating IN('PG','G')
GROUP BY rating;
```

Data Output | Messages | Notifications

	rating mpaa_rating	count_of_movies bigint	average_movie_rental_rate numeric	maximum_rental_dura smallint
1	PG	194	3.0518556701030928	
2	G	178	2.888876404494382	

Total rows: 2 of 2 | Query complete 00:00:00.065

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..



Query | Query History

```
SELECT rating,
COUNT(title) AS count_of_movies, AVG(rental_rate) AS average_movie_rental_rate,
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	average_movie_rental numeric
1	PG	194	3.0518556701030928	3.05185567010
2	G	178	2.888876404494382	2.88887640

Total rows: 2 of 2 | Query complete 00:00:00.063