Task 3.5 Filtering Data

By Lee Heng Chuah

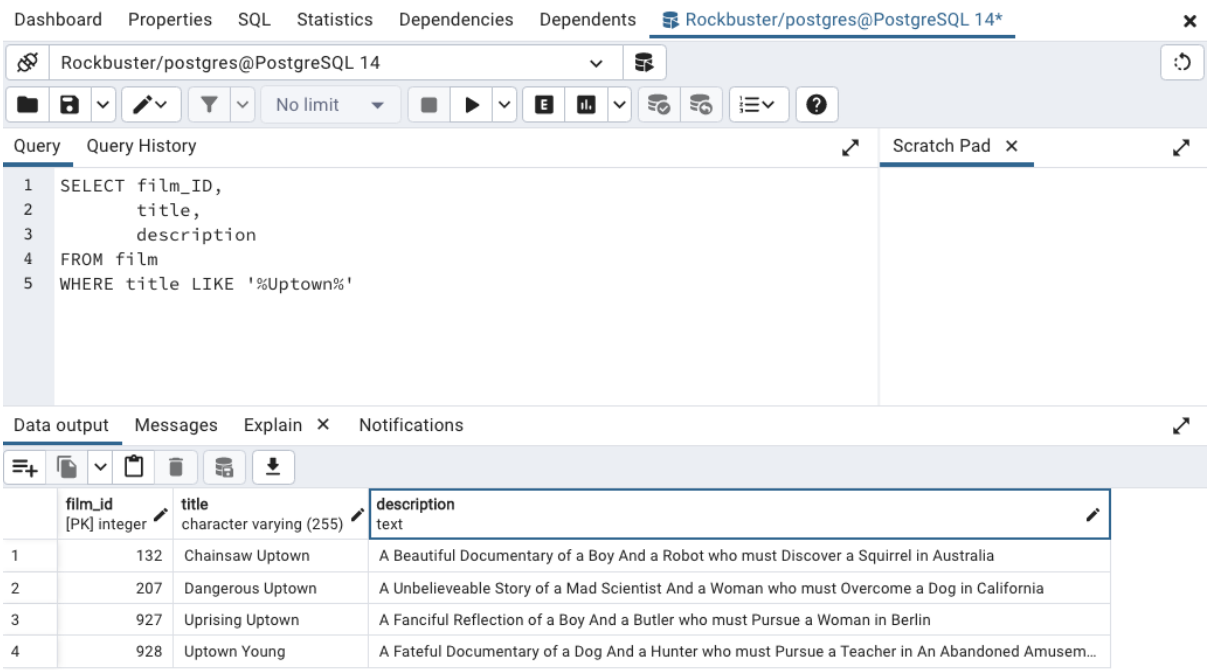
Now that you know how to filter data using the WHERE and HAVING clauses, the customer team, the inventory team and the management board have sent you a list of questions and they want answers ASAP.

Directions:

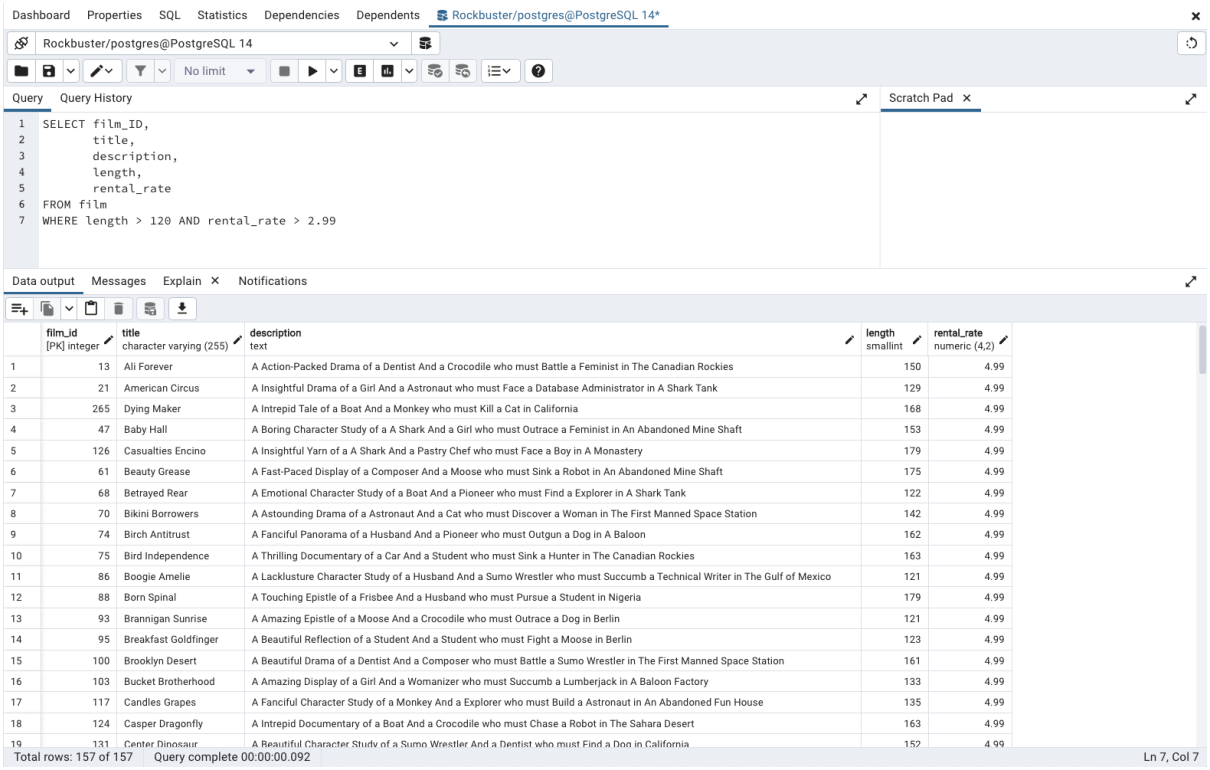
1. Write some SQL Queries to return a list of films that meet the following conditions. Your results tables should include the columns “film_ID”, “title” and “description”. Download your SQL queries outputs as CSV files using the PgAdmin inbuilt functionality. Merge them into one Excel file (.xlsx) and create a separate sheet for each query (label them 1a, 1b, 1c etc). You will use this file for all further questions in this Task too.

   Hint: These queries are not building upon each other, there 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 sub-steps here.

   - Film title contains the word Uptown in any position



- Film length is more than 120 minutes and rental rate is more than 2.99

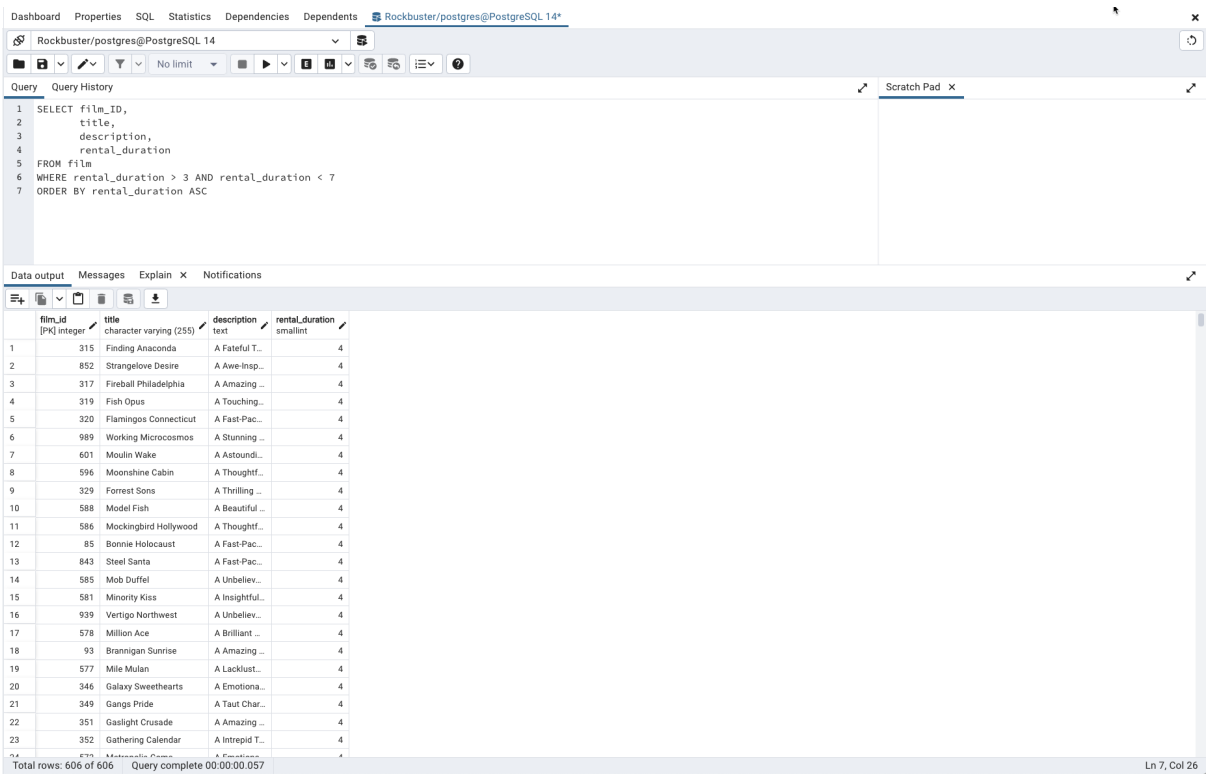


```
SELECT film_ID,
       title,
       description,
       length,
       rental_rate
FROM film
WHERE length > 120 AND rental_rate > 2.99
```

	film_id [PK] integer	title character varying (255)	description text	length smallint	rental_rate numeric (4,2)
1	13	Ali Forever	A Action-Packed Drama of a Dentist And a Crocodile who must Battle a Feminist in The Canadian Rockies	150	4.99
2	21	American Circus	A Insightful Drama of a Girl And a Astronaut who must Face a Database Administrator in A Shark Tank	129	4.99
3	265	Dying Maker	A Intrepid Tale of a Boat And a Monkey who must Kill a Cat in California	168	4.99
4	47	Baby Hall	A Boring Character Study of a A Shark And a Girl who must Outrace a Feminist in An Abandoned Mine Shaft	153	4.99
5	126	Casualties Encino	A Insightful Yarn of a A Shark And a Pastry Chef who must Face a Boy in A Monastery	179	4.99
6	61	Beauty Grease	A Fast-Paced Display of a Composer And a Moose who must Sink a Robot in An Abandoned Mine Shaft	175	4.99
7	68	Betrayed Rear	A Emotional Character Study of a Boat And a Pioneer who must Find a Explorer in A Shark Tank	122	4.99
8	70	Bikini Borrowers	A Astounding Drama of a Astronaut And a Cat who must Discover a Woman in The First Manned Space Station	142	4.99
9	74	Birch Antitrust	A Fanciful Panorama of a Husband And a Pioneer who must Outgun a Dog in A Baloon	162	4.99
10	75	Bird Independence	A Thrilling Documentary of a Car And a Student who must Sink a Hunter in The Canadian Rockies	163	4.99
11	86	Boogie Amelie	A Lacklusture Character Study of a Husband And a Sumo Wrestler who must Succumb a Technical Writer in The Gulf of Mexico	121	4.99
12	88	Born Spinal	A Touching Epistle of a Frisbee And a Husband who must Pursue a Student in Nigeria	179	4.99
13	93	Brannigan Sunrise	A Amazing Epistle of a Moose And a Crocodile who must Outrace a Dog in Berlin	121	4.99
14	95	Breakfast Goldfinger	A Beautiful Reflection of a Student And a Student who must Fight a Moose in Berlin	123	4.99
15	100	Brooklyn Desert	A Beautiful Drama of a Dentist And a Composer who must Battle a Sumo Wrestler in The First Manned Space Station	161	4.99
16	103	Bucket Brotherhood	A Amazing Display of a Girl And a Womanizer who must Succumb a Lumberjack in A Baloon Factory	133	4.99
17	117	Candles Grapes	A Fanciful Character Study of a Monkey And a Explorer who must Build a Astronaut in An Abandoned Fun House	135	4.99
18	124	Casper Dragonfly	A Intrepid Documentary of a Boat And a Crocodile who must Chase a Robot in The Sahara Desert	163	4.99
19	131	Center Dinosaur	A Beautiful Character Study of a Sumo Wrestler And a Dentist who must Find a Dog in California	152	4.99

Total rows: 157 of 157 | Query complete 00:00:00.092 | Ln 7, Col 7

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

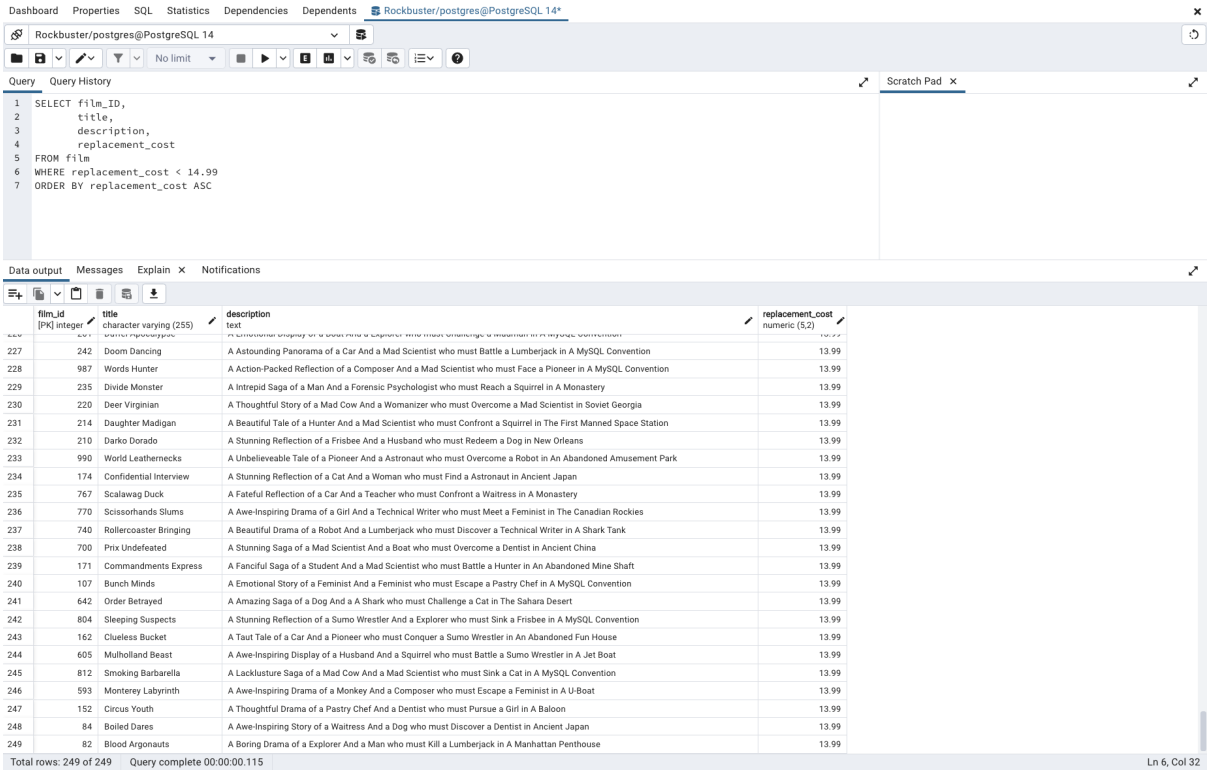


```
SELECT film_ID,
       title,
       description,
       rental_duration
FROM film
WHERE rental_duration > 3 AND rental_duration < 7
ORDER BY rental_duration ASC
```

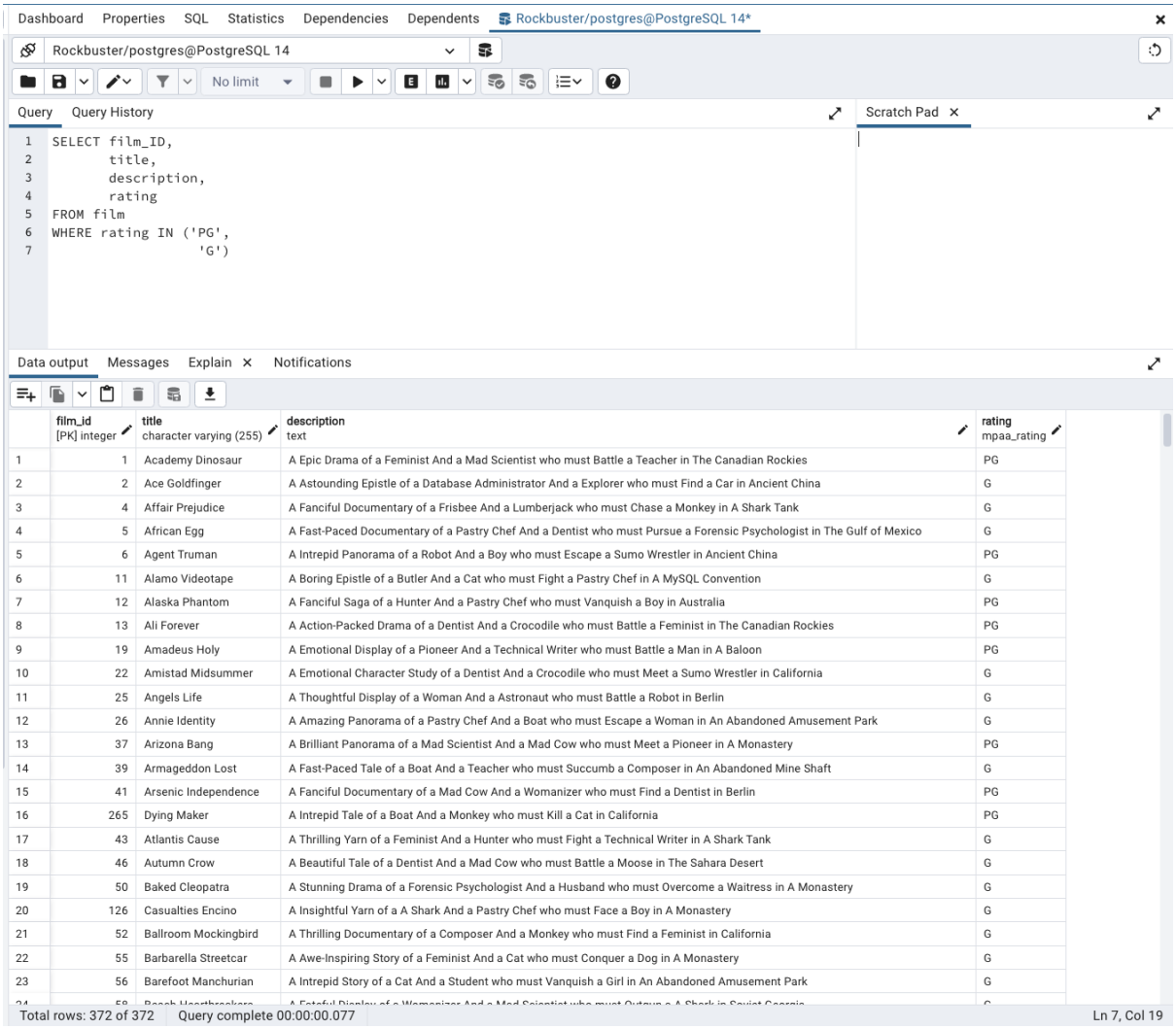
	film_id [PK] integer	title character varying (255)	description text	rental_duration smallint
1	315	Finding Anaconda	A Fateful T...	4
2	852	Strangelove Desire	A Awe-Insp...	4
3	317	Fireball Philadelphia	A Amazing ...	4
4	319	Fish Opus	A Touching...	4
5	320	Flamingos Connecticut	A Fast-Pac...	4
6	989	Working Microcosmos	A Stunning ...	4
7	601	Moulin Wake	A Astoundi...	4
8	596	Moonshine Cabin	A Thoughtf...	4
9	329	Forrest Sons	A Thrilling ...	4
10	588	Model Fish	A Beautiful ...	4
11	586	Mockingbird Hollywood	A Thoughtf...	4
12	85	Bonnie Holocaust	A Fast-Pac...	4
13	843	Steel Santa	A Fast-Pac...	4
14	585	Mob Duffel	A Unbeliev...	4
15	581	Minority Kiss	A Insightful...	4
16	939	Vertigo Northwest	A Unbeliev...	4
17	578	Million Ace	A Brilliant ...	4
18	93	Brannigan Sunrise	A Amazing ...	4
19	577	Mile Mulan	A Lacklust...	4
20	346	Galaxy Sweethearts	A Emotiona...	4
21	349	Gangs Pride	A Taut Char...	4
22	351	Gaslight Crusade	A Amazing ...	4
23	352	Gathering Calendar	A Intrepid T...	4

Total rows: 606 of 606 | Query complete 00:00:00.057 | Ln 7, Col 26

- Film replacement cost is less than 14.99



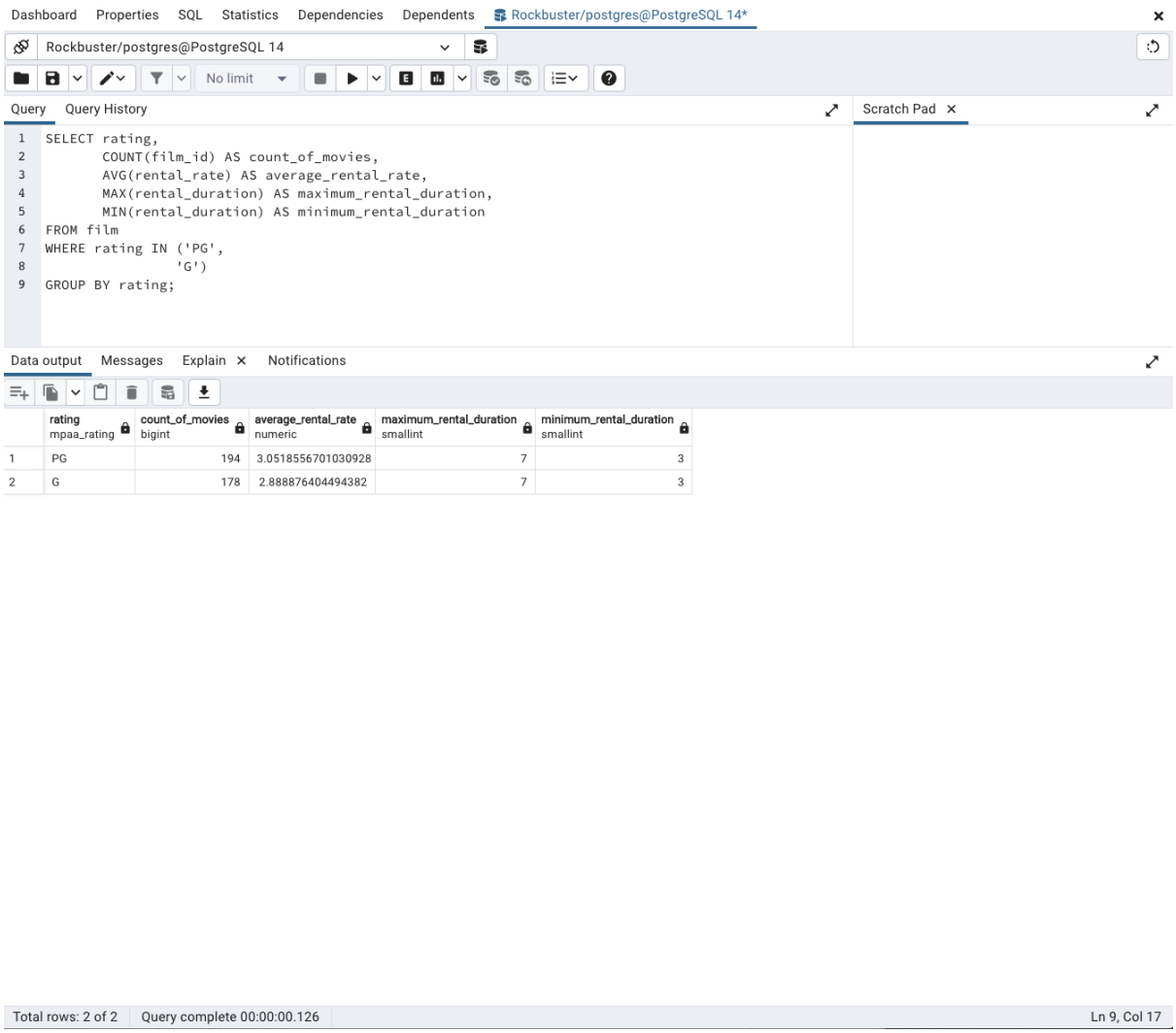
- Film rating is either PG or G



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

- Count 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.



3. To make the output easier for your co-workers 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. – see above. Excel file generated.
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. . – see above. Excel file generated.
5. Save all your answers in the Excel file you created in step 1 and upload it here for your tutor for review.