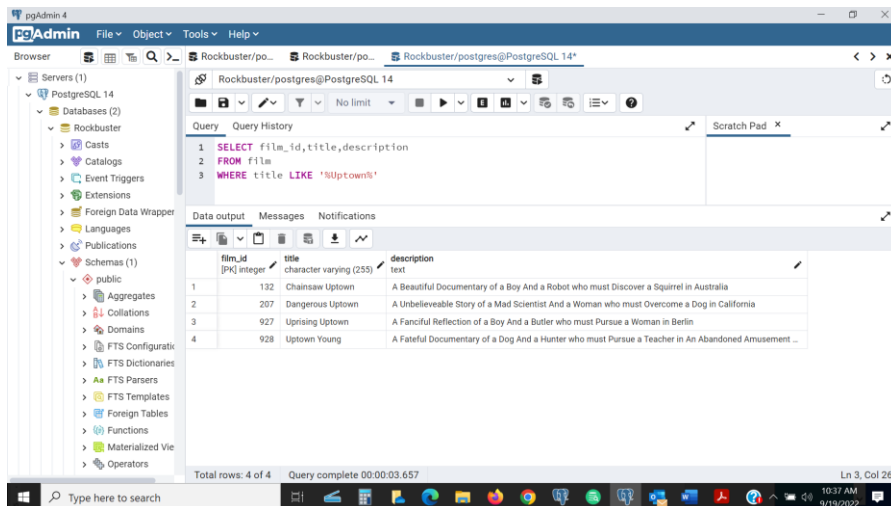


3.5 Filtering Data Directions

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”.

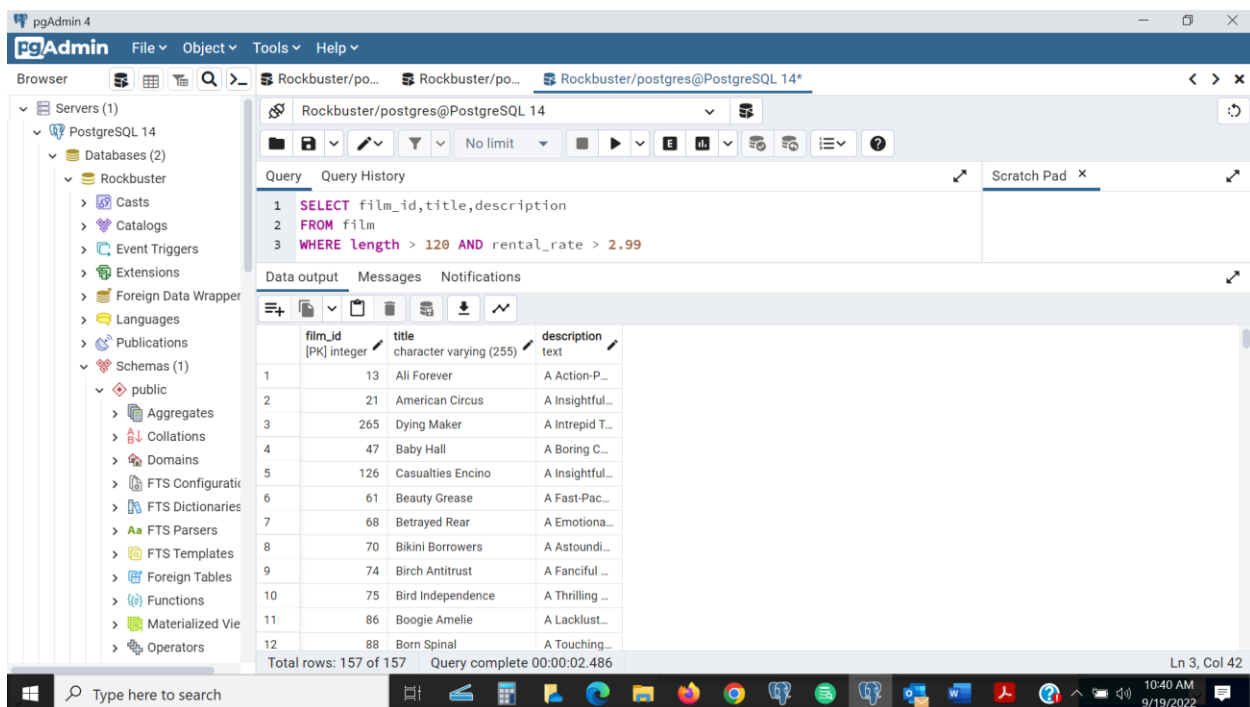
- Download your SQL queries outputs as CSV files using the pgadmin inbuilt functionality. Merge them into one Excel file (.xlsx) and create a separate sheet for each query (label them 1a, 1b, 1c, etc.). You’ll use this file for all further questions in this Task too.

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



film_id	title	description
132	Chainsaw Uptown	A Beautiful Documentary of a Boy And a Robot who must Discover a Squirrel in Australia
207	Dangerous Uptown	A Unbelievable Story of a Mad Scientist And a Woman who must Overcome a Dog in California
927	Uprising Uptown	A Fanciful Reflection of a Boy And a Butler who must Pursue a Woman in Berlin
928	Uptown Young	A Fateful Documentary of a Dog And a Hunter who must Pursue a Teacher in An Abandoned Amusement ...

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



film_id	title	description
13	Ali Forever	A Action-P...
21	American Circus	A Insightful...
265	Dying Maker	A Intrepid T...
47	Baby Hall	A Boring C...
126	Casualties Encino	A Insightful...
61	Beauty Grease	A Fast-Pac...
68	Betrayed Rear	A Emotiona...
70	Bikini Borrowers	A Astoundi...
74	Birch Antitrust	A Fanciful ...
75	Bird Independence	A Thrilling ...
86	Boogie Amelie	A Lacklust...
88	Born Spinal	A Touching...

Query 1c - Rental duration is between 3 and 7 days (where 3 and 7 aren't inclusive)

The screenshot shows the pgAdmin 4 interface with a query executed. The query is:

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

The results are displayed in a table with 12 rows. The status bar indicates 'Total rows: 606 of 606' and 'Query complete 00:00:00.121'.

	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
6	5	African Egg	A Fast-Paced Documentary of a Pastry Chef And a Dentist who must Pursue a Forensic Psychologist in The Gulf of Mexico
7	7	Airplane Sierra	A Touching Saga of a Hunter And a Butler who must Discover a Butler in A Jet Boat
8	10	Aladdin Calendar	A Action-Packed Tale of a Man And a Lumberjack who must Reach a Feminist in Ancient China
9	11	Alamo Videotape	A Boring Epistle of a Butler And a Cat who must Fight a Pastry Chef in A MySQL Convention
10	12	Alaska Phantom	A Fanciful Saga of a Hunter And a Pastry Chef who must Vanquish a Boy in Australia
11	213	Date Speed	A Touching Saga of a Composer And a Moose who must Discover a Dentist in A MySQL Convention
12	13	Ali Forever	A Action-Packed Drama of a Dentist And a Crocodile who must Battle a Feminist in The Canadian Rockies

Query 1d - Film replacement cost is less than 14.99

The screenshot shows the pgAdmin 4 interface with a query executed. The query is:

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

The results are displayed in a table with 11 rows. The status bar indicates 'Total rows: 249 of 249' and 'Query complete 00:00:10.583'. A green message box at the bottom right states: 'Successfully run. Total query runtime: 10 secs 583 msec. 249 rows affected.'

	film_id [PK] integer	title character varying (255)	description text
1	98	Bright Encounters	A Fateful Yarn of a Lumberjack And a Feminist who must Conquer a Student in A Jet Boat
2	2	Ace Goldfinger	A Astounding Epistle of a Database Administrator And a Explorer who must Find a Car in Ancient China
3	15	Alien Center	A Brilliant Drama of a Cat And a Mad Scientist who must Battle a Feminist in A MySQL Convention
4	22	Amistad Midsummer	A Emotional Character Study of a Dentist And a Crocodile who must Meet a Sumo Wrestler in California
5	23	Anaconda Confessions	A Lackluster Display of a Dentist And a Dentist who must Fight a Girl in Australia
6	27	Anonymous Human	A Amazing Reflection of a Database Administrator And a Astronaut who must Outrace a Database Administrator in A Shark Tan
7	29	Antitrust Tomatoes	A Fateful Yarn of a Womanizer And a Feminist who must Succumb a Database Administrator in Ancient India
8	32	Apocalypse Flamingos	A Astounding Story of a Dog And a Squirrel who must Defeat a Woman in An Abandoned Amusement Park
9	36	Argonauts Town	A Emotional Epistle of a Forensic Psychologist And a Butler who must Challenge a Waitress in An Abandoned Mine Shaft
10	39	Armageddon Lost	A Fast-Paced Tale of a Boat And a Teacher who must Succumb a Composer in An Abandoned Mine Shaft
11	42	Artist Coldblooded	A Stunning Reflection of a Robot And a Moose who must Challenge a Woman in California

Query 1e - Film rating is either PG or G

The screenshot shows the pgAdmin 4 interface. The left sidebar displays the database structure for 'PostgreSQL 14', including 'Databases (2)', 'Rockbuster', 'Casts', 'Catalogs', 'Event Triggers', 'Extensions', 'Foreign Data Wrapper', 'Languages', 'Publications', and 'Schemas (1)'. The 'public' schema is expanded, showing various objects like 'Aggregates', 'Collations', 'Domains', 'FTS Configuratio...', 'FTS Dictionaries', 'FTS Parsers', 'FTS Templates', 'Foreign Tables', 'Functions', 'Materialized Vie...', and 'Operators'.

The main pane shows a SQL query in the 'Query' tab:

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

The 'Data output' tab shows the results of the query. The table has three columns: 'film_id' (integer), 'title' (character varying (255)), and 'description' (text). The results are as follows:

film_id	title	description
1	Academy Dinosaur	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in The Canadian Rockies
2	Ace Goldfinger	A Astounding Epistle of a Database Administrator And a Explorer who must Find a Car in Ancient China
3	Affair Prejudice	A Fanciful Documentary of a Frisbee And a Lumberjack who must Chase a Monkey in A Shark Tank
4	African Egg	A Fast-Paced Documentary of a Pastry Chef And a Dentist who must Pursue a Forensic Psychologist in The Gulf of Mexico
5	Agent Truman	A Intrepid Panorama of a Robot And a Boy who must Escape a Sumo Wrestler in Ancient China
6	Alamo Videotape	A Boring Epistle of a Butler And a Cat who must Fight a Pastry Chef in A MySQL Convention
7	Alaska Phantom	A Fanciful Saga of a Hunter And a Pastry Chef who must Vanquish a Boy in Australia
8	Ali Forever	A Action-Packed Drama of a Dentist And a Crocodile who must Battle a Feminist in The Canadian Rockies
9	Amadeus Holy	A Emotional Display of a Pioneer And a Technical Writer who must Battle a Man in A Baloon
10	Amistad Midsummer	A Emotional Character Study of a Dentist And a Crocodile who must Meet a Sumo Wrestler in California
11	Angels Life	A Thoughtful Display of a Woman And a Astronaut who must Battle a Robot in Berlin

The status bar at the bottom indicates 'Total rows: 372 of 372' and 'Query complete 00:00:00.103'. The taskbar at the bottom shows the Windows search bar and various application icons.

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.

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.

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..

Results for q2,q3,& q4

The screenshot shows the pgAdmin 4 interface. On the left, the 'Servers' tree is expanded to show the 'public' schema. The main pane displays a SQL query in the 'Query' tab:

```
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
```

Below the query, the 'Data output' tab shows the results of the query. The results are displayed in a table with 5 columns: rating, count_of_movies, average_movie_rental_rate, maximum_rental_duration, and minimum_rental_duration. The table contains 2 rows of data.

rating	count_of_movies	average_movie_rental_rate	maximum_rental_duration	minimum_rental_duration
G	178	2.888876404494382	7	3
PG	194	3.0518556701030928	7	3

The status bar at the bottom indicates 'Total rows: 2 of 2' and 'Query complete 00:00:00.114'. The bottom of the screen shows the Windows taskbar with the time 11:11 AM on 9/19/2022.

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