

## Task 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.

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

The screenshot shows the pgAdmin 4 interface. The left sidebar displays the database structure, with the 'film' table selected under the 'Tables (20)' category. The central pane shows a SQL query in the Query Editor:

```
1 SELECT film_id,  
2 title,  
3 description  
4 FROM film  
5 WHERE title LIKE '%Uptown%'  
6
```

The 'Data Output' tab at the bottom displays the results of the query in a table format:

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 Park

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

The screenshot shows the pgAdmin 4 interface. The left sidebar displays the database structure, with the 'film' table selected under the 'Tables (20)' category. The central pane shows a SQL query in the Query Editor:

```
1 SELECT film_id,  
2 title,  
3 description  
4 FROM film  
5 WHERE length > 120 AND rental_rate > 2.99  
6  
7
```

The 'Data Output' tab at the bottom displays the results of the query in a table format:

film_id	title	description
13	Ali Forever	A Action-Packed Drama of a Dentist And a Crocodile who must Battle a Feminist in The Canadian Rockies
21	American Circus	A Insightful Drama of a Girl And a Astronaut who must Face a Database Administrator in A Shark Tank
265	Dying Maker	A Intrepid Tale of a Boat And a Monkey who must Kill a Cat in California
47	Baby Hall	A Boring Character Study of a Shark And a Girl who must Outrace a Feminist in An Abandoned Mine Shaft
126	Casualties Encino	A Insightful Yarn of a Shark And a Pastry Chef who must Face a Boy in A Monastery
61	Beauty Grease	A Fast-Paced Display of a Composer And a Moose who must Sink a Robot in An Abandoned Mine Shaft
68	Betrayed Rear	A Emotional Character Study of a Boat And a Pioneer who must Find a Explorer in A Shark Tank
70	Bikini Borrowers	A Astounding Drama of a Astronaut And a Cat who must Discover a Woman in The First Manned Space Station
74	Birch Antitrust	A Fanciful Panorama of a Husband And a Pioneer who must Outgun a Dog in A Baloon
75	Bird Independence	A Thrilling Documentary of a Car And a Student who must Sink a Hunter in The Canadian Rockies
86	Boogie Amelie	A Lackluster Character Study of a Husband And a Sumo Wrestler who must Succumb a Technical Writer in The Gulf of Mexico
88	Born Spinal	A Touching Epistle of a Frisbee And a Husband who must Pursue a Student in Nigeria

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

The screenshot shows the pgAdmin 4 interface. The left sidebar displays the database structure, with the 'film' table selected under the 'Rockbuster/postgres@PostgreSQL 14' database. The central pane shows a SQL query in the 'Query Editor' tab:

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

The 'Data Output' tab at the bottom displays the results of the query as a table with three columns: 'film\_id', 'title', and 'description'. The results are as follows:

film_id	title	description
315	Finding Anaconda	A Fateful Tale of a Database Administrator And a Girl who must Battle a Squirrel in New Orleans
852	Strangelove Desire	A Awe-Inspiring Panorama of a Lumberjack And a Waitress who must Defeat a Crocodile in An Abandoned Amusement Park
317	Fireball Philadelphia	A Amazing Yam of a Dentist And a A Shark who must Vanquish a Madman in An Abandoned Mine Shaft
319	Fish Opus	A Touching Display of a Feminist And a Girl who must Confront a Astronaut in Australia
320	Flamingos Connecticut	A Fast-Paced Reflection of a Composer And a Composer who must Meet a Cat in The Sahara Desert
989	Working Microcosmos	A Stunning Epistle of a Dentist And a Dog who must Kill a Madman in Ancient China
601	Moulin Wake	A Astounding Story of a Forensic Psychologist And a Cat who must Battle a Teacher in An Abandoned Mine Shaft
596	Moonshine Cabin	A Thoughtful Display of a Astronaut And a Feminist who must Chase a Frisbee in A Jet Boat
329	Forrest Sons	A Thrilling Documentary of a Forensic Psychologist And a Butler who must Defeat a Explorer in A Jet Boat
588	Model Fish	A Beautiful Panorama of a Boat And a Crocodile who must Outrace a Dog in Australia
586	Mockingbird Hollywood	A Thoughtful Panorama of a Man And a Car who must Sink a Composer in Berlin
85	Bonnie Holocaust	A Fast-Paced Story of a Crocodile And a Robot who must Find a Moose in Ancient Japan

d) Film replacement cost is less than 14.99

The screenshot shows the pgAdmin 4 interface. The left sidebar displays the database structure, with the 'film' table selected under the 'Rockbuster/postgres@PostgreSQL 14' database. The central pane shows a SQL query in the 'Query Editor' tab:

```
1 SELECT film_id,  
2 title,  
3 description  
4 FROM film  
5 WHERE replacement_cost < 14.99  
6  
7
```

The 'Data Output' tab at the bottom displays the results of the query as a table with three columns: 'film\_id', 'title', and 'description'. The results are as follows:

film_id	title	description
98	Bright Encounters	A Fateful Yam of a Lumberjack And a Feminist who must Conquer a Student in A Jet Boat
2	Ace Goldfinger	A Astounding Epistle of a Database Administrator And a Explorer who must Find a Car in Ancient China
15	Alien Center	A Brilliant Drama of a Cat And a Mad Scientist who must Battle a Feminist in A MySQL Convention
22	Amistad Midsummer	A Emotional Character Study of a Dentist And a Crocodile who must Meet a Sumo Wrestler in California
23	Anaconda Confessions	A Lackluster Display of a Dentist And a Dentist who must Fight a Girl in Australia
27	Anonymous Human	A Amazing Reflection of a Database Administrator And a Astronaut who must Outrace a Database Administrator in A Shark Tank
29	Antitrust Tomatoes	A Fateful Yam of a Womanizer And a Feminist who must Succumb a Database Administrator in Ancient India
32	Apocalypse Flamingos	A Astounding Story of a Dog And a Squirrel who must Defeat a Woman in An Abandoned Amusement Park
36	Argonauts Lost	A Emotional Epistle of a Forensic Psychologist And a Butler who must Challenge a Waitress in An Abandoned Mine Shaft
39	Armageddon Town	A Fast-Paced Tale of a Boat And a Teacher who must Succumb a Composer in An Abandoned Mine Shaft
41	Artist Coldblooded	A Stunning Reflection of a Robot And a Moose who must Challenge a Woman in California
46	Autumn Crow	A Beautiful Tale of a Dentist And a Mad Cow who must Battle a Moose in The Sahara Desert

e) Film rating is either PG or G

The screenshot shows the pgAdmin 4 interface. On the left, the 'Tables (20)' folder is expanded, showing the 'film' table. The 'Query Editor' is active, displaying the following SQL query:

```
1 SELECT film_id,  
2 title,  
3 description  
4 FROM film  
5 WHERE rating = 'PG' OR rating = 'G'  
6  
7
```

The 'Data Output' tab shows the results of the query as a table with 12 rows and 3 columns: film\_id, title, and description.

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
12	Annie Identity	A Amazing Panorama of a Pastry Chef And a Boat who must Escape a Woman in An Abandoned Amusement Park

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

The screenshot shows the pgAdmin 4 interface. On the left, the 'Tables (20)' folder is expanded, showing the 'film' table. The 'Query Editor' is active, displaying the following SQL query:

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

The 'Data Output' tab shows the results of the query as a table with 2 rows and 5 columns: rating, count\_of\_movies, average\_rental\_rate, min\_rental\_duration, and max\_rental\_duration.

rating	count_of_movies	average_rental_rate	min_rental_duration	max_rental_duration
G	178	2.888876404494382	3	7
PG	194	3.0518556701030928	3	7

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.

*It was made in step 2*

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.

*It was made in step 2*