

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

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

The screenshot shows the pgAdmin interface. At the top, the connection is 'Rockbuster/postgres@posgre'. Below the connection bar is a toolbar with icons for file operations, a filter icon, and a 'No limit' dropdown. The main area is divided into 'Query' and 'Query History' tabs. The 'Query' tab is active, showing the following SQL query:

```
1 SELECT film_ID, title, description
2 FROM film
3 WHERE title LIKE '%Uptown%'
```

Below the query editor are tabs for 'Data output', 'Messages', and 'Notifications'. The 'Data output' tab is active, showing a table with 4 rows and 4 columns. The columns are 'film_id' (integer), 'title' (character varying (255)), and 'description' (text). The data is as follows:

	film_id [PK] integer	title character varying (255)	description text
1	132	Chainsaw Uptown	A Beautiful ...
2	207	Dangerous Uptown	A Unbeliev...
3	927	Uprising Uptown	A Fanciful ...
4	928	Uptown Young	A Fateful D...

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

Rockbuster/postgres@posgre

No limit

Query Query History

```

1 SELECT film_ID, title, description
2 FROM film
3 WHERE length > 120 AND rental_rate > 2.99

```

Data output Messages Notifications

	film_id [PK] integer	title character varying (255)	description text
1	13	Ali Forever	A Action-P...
2	21	American Circus	A Insightful...
3	265	Dying Maker	A Intrepid T...
4	47	Baby Hall	A Boring C...
5	126	Casualties Encino	A Insightful...
6	61	Beauty Grease	A Fast-Pac...
7	68	Betrayed Rear	A Emotiona...
8	70	Bikini Borrowers	A Astoundi...
9	74	Birch Antitrust	A Fanciful ...
10	75	Bird Independence	A Thrilling ...
11	86	Boogie Amelie	A Lacklust...

Total rows: 157 of 157 Query complete 00:00:00.048

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

Query

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

Data output

	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 Bo
4	1	Academy Dinosaur	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in The Cana
5	4	Affair Prejudice	A Fanciful Documentary of a Frisbee And a Lumberjack who must Chase a Monkey in A
6	5	African Egg	A Fast-Paced Documentary of a Pastry Chef And a Dentist who must Pursue a Forensic
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 Ancien
9	11	Alamo Videotape	A Boring Epistle of a Butler And a Cat who must Fight a Pastry Chef in A MySQL Conven
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

Total rows: 606 of 606 Query complete 00:00:01.118 Ln 3, Col 50

1d - Film replacement cost is less than 14.99

Rockbuster/postgres@posgre

Query

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

Data output

	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
2	2	Ace Goldfinger	A Astounding Epistle of a Database Administrator And a Explorer who must Find a C
3	15	Alien Center	A Brilliant Drama of a Cat And a Mad Scientist who must Battle a Feminist in A MyS
4	22	Amistad Midsummer	A Emotional Character Study of a Dentist And a Crocodile who must Meet a Sumo W
5	23	Anaconda Confessions	A Lacklustre 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 Outra
7	29	Antitrust Tomatoes	A Fateful Yarn of a Womanizer And a Feminist who must Succumb a Database Admi
8	32	Apocalypse Flamingos	A Astounding Story of a Dog And a Squirrel who must Defeat a Woman in An Aband
9	36	Argonauts Town	A Emotional Epistle of a Forensic Psychologist And a Butler who must Challenge a V
10	39	Armageddon Lost	A Fast-Paced Tale of a Boat And a Teacher who must Succumb a Composer in An Al
11	42	Artist Coldblooded	A Stunning Reflection of a Robot And a Moose who must Challenge a Woman in Cal

Total rows: 249 of 249 Query complete 00:00:00.430 Ln 3, Col

1e - Film rating is either PG or G

The screenshot shows a PostgreSQL query editor interface. At the top, the connection is 'Rockbuster/postgres@posgre'. Below the connection bar is a toolbar with various icons. The 'Query' tab is active, showing the following SQL query:

```
1 SELECT film_ID, title, description
2 FROM film
3 WHERE rating IN ('PG', 'G')
4
```

Below the query editor is the 'Data output' tab, which displays the results of the query in a table. The table has three columns: 'film_id' (integer, PK), 'title' (character varying (255)), and 'description' (text). The results show 11 rows of data:

film_id	title	description
1	Academy Dinosaur	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in The Cana
2	Ace Goldfinger	A Astounding Epistle of a Database Administrator And a Explorer who must Find a Car ir
3	Affair Prejudice	A Fanciful Documentary of a Frisbee And a Lumberjack who must Chase a Monkey in A
4	African Egg	A Fast-Paced Documentary of a Pastry Chef And a Dentist who must Pursue a Forensic
5	Agent Truman	A Intrepid Panorama of a Robot And a Boy who must Escape a Sumo Wrestler in Ancien
6	Alamo Videotape	A Boring Epistle of a Butler And a Cat who must Fight a Pastry Chef in A MySQL Conven
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
9	Amadeus Holy	A Emotional Display of a Pioneer And a Technical Writer who must Battle a Man in A Bal
10	Amistad Midsummer	A Emotional Character Study of a Dentist And a Crocodile who must Meet a Sumo Wresl
11	Angels Life	A Thoughtful Display of a Woman And a Astronaut who must Battle a Robot in Berlin

At the bottom of the interface, it shows 'Total rows: 372 of 372' and 'Query complete 00:00:04.484'. The status bar indicates 'Ln 4, Col 1'.

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

```
SELECT rating,
COUNT(title) AS number_of_film,
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;
```

Rockbuster/postgres@posgre

No limit

Query Query History

```

1 SELECT rating,
2 COUNT(title) AS number_of_film,
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;
    
```

Data output Messages Notifications

	rating mpaa_rating	number_of_film bigint	average_movie_rental_rate numeric	maximum_rental_duration smallint	minimum_rental_duration smallint
1	G	178	2.888876404494382	7	3
2	PG	194	3.0518556701030928	7	3

