

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

```
SELECT film_id,  
       title,  
       description  
FROM film  
WHERE title LIKE '%Uptown%';
```

	film_id [PK] integer	title character varying (255)	description text
1	132	Chainsaw Uptown	A Beautiful Documentary of a Boy And a Robot who must Discover a Squirr...
2	207	Dangerous Uptown	An Unbelievable Story of a Mad Scientist And a Woman who must Overco...
3	927	Uprising Uptown	A Fanciful Reflection of a Boy And a Butler who must Pursue a Woman in B...
4	928	Uptown Young	A Fateful Documentary of a Dog And a Hunter who must Pursue a Teacher ...

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

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

	film_id [PK] integer	title character varying (255)	description text
1	13	Ali Forever	A Action-Packed Drama of a Dentist And a Crocodile who must Battle a Feminist in
2	21	American Circus	A Insightful Drama of a Girl And a Astronaut who must Face a Database Administra
3	265	Dying Maker	A Intrepid Tale of a Boat And a Monkey who must Kill a Cat in California
4	47	Baby Hall	A Boring Character Study of a A Shark And a Girl who must Outrace a Feminist in A
5	126	Casualties Encino	A Insightful Yarn of a A Shark And a Pastry Chef who must Face a Boy in A Monasti
6	61	Beauty Grease	A Fast-Paced Display of a Composer And a Moose who must Sink a Robot in An Ab
7	68	Betrayed Rear	A Emotional Character Study of a Boat And a Pioneer who must Find a Explorer in A
8	70	Bikini Borrowers	A Astounding Drama of a Astronaut And a Cat who must Discover a Woman in The
9	74	Birch Antitrust	A Fanciful Panorama of a Husband And a Pioneer who must Outgun a Dog in A Bak
10	75	Bird Independence	A Thrilling Documentary of a Car And a Student who must Sink a Hunter in The Can
11	86	Boogie Amalie	A Locksture Character Study of a Husband And a Sumo Wrestler who must Succ

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

```
SELECT film_id,
       title,
       description
FROM film
WHERE rental_duration BETWEEN 4 and 6
ORDER BY rental_duration ASC;
```

OR:

```
SELECT film_id,
       title,
       description
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
1	315	Finding Anaconda	A Fateful Tale of a Database Administrator And a Girl who must Battle a ...
2	852	Strangelove Desire	A Awe-Inspiring Panorama of a Lumberjack And a Waitress who must De...
3	317	Fireball Philadelphia	A Amazing Yarn of a Dentist And a A Shark who must Vanquish a Madm...
4	319	Fish Opus	A Touching Display of a Feminist And a Girl who must Confront a Astron...
5	320	Flamingos Connecticut	A Fast-Paced Reflection of a Composer And a Composer who must Meet...
6	989	Working Microcosmos	A Stunning Epistle of a Dentist And a Dog who must Kill a Madman in An...
7	601	Moulin Wake	A Astounding Story of a Forensic Psychologist And a Cat who must Battl...
8	596	Moonshine Cabin	A Thoughtful Display of a Astronaut And a Feminist who must Chase a Fr...
9	329	Forrest Sons	A Thrilling Documentary of a Forensic Psychologist And a Butler who mu...
10	588	Model Fish	A Beautiful Panorama of a Boat And a Crocodile who must Outrace a Do...
11	586	Mockingbird Hollywood	A Thoughtful Panorama of a Man And a Car who must Sink a Composer i

1d Film replacement cost is less than 14.99

```
SELECT film_id,
       title,
       description
FROM film
WHERE replacement_cost<14.99
ORDER BY replacement_cost ASC
```

	film_id [PK] integer	title character varying (255)	description text
1	203	Daisy Menagerie	A Fast-Paced Saga of a Pastry Chef And a Monkey who must Sink a Composer in Anc
2	627	North Tequila	A Beautiful Character Study of a Mad Cow And a Robot who must Reach a Womanize
3	880	Telemark Heartbreakers	A Action-Packed Panorama of a Technical Writer And a Man who must Build a Foren
4	931	Valentine Vanishing	A Thrilling Display of a Husband And a Butler who must Reach a Pastry Chef in Calif
5	221	Deliverance Mulholland	A Astounding Saga of a Monkey And a Moose who must Conquer a Butler in A Shark
6	551	Maiden Home	A Lacklusture Saga of a Moose And a Teacher who must Kill a Forensic Psychologist
7	389	Gunfighter Mussolini	A Touching Saga of a Robot And a Boy who must Kill a Man in Ancient Japan
8	845	Stepmom Dream	A Touching Epistle of a Crocodile And a Teacher who must Build a Forensic Psycholo
9	629	Notorious Reunion	A Amazing Epistle of a Woman And a Squirrel who must Fight a Hunter in A Baloon
10	996	Young Language	A Unbelievable Yarn of a Boat And a Database Administrator who must Meet a Boy i
11	886	Theory Mermaid	A Fateful Yarn of a Composer And a Monkey who must Vanquish a Womanizer in The

1e Film rating is either PG or G

```
SELECT film_id,
       title,
       description
FROM film
WHERE rating='PG' OR rating= 'G'
```

OR:

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

	film_id [PK] integer	title character varying (255)	description text
1	1	Academy Dinosaur	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in The Ca
2	2	Ace Goldfinger	A Astounding Epistle of a Database Administrator And a Explorer who must Find a Ce
3	4	Affair Prejudice	A Fanciful Documentary of a Frisbee And a Lumberjack who must Chase a Monkey in
4	5	African Egg	A Fast-Paced Documentary of a Pastry Chef And a Dentist who must Pursue a Forens
5	6	Agent Truman	A Intrepid Panorama of a Robot And a Boy who must Escape a Sumo Wrestler in Anc
6	11	Alamo Videotape	A Boring Epistle of a Butler And a Cat who must Fight a Pastry Chef in A MySQL Conv
7	12	Alaska Phantom	A Fanciful Saga of a Hunter And a Pastry Chef who must Vanquish a Boy in Australia
8	13	Ali Forever	A Action-Packed Drama of a Dentist And a Crocodile who must Battle a Feminist in T
9	19	Amadeus Holy	A Emotional Display of a Pioneer And a Technical Writer who must Battle a Man in A
10	22	Amistad Midsummer	A Emotional Character Study of a Dentist And a Crocodile who must Meet a Sumo Wr
11	25	Angele Life	A Thoughtful Display of a Woman And a Astronaut who must Battle a Robot in Berlin

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.

```
SELECT rating,
       COUNT (film_id) AS count_of_movies,
       AVG (rental_rate) AS average_rental_rate,
       MAX (rental_duration) AS maximum_rental_duration,
       MIN (rental_duration) AS minimum_rental_duration
FROM film
WHERE rating='PG' OR rating= 'G'
GROUP BY rating
```

	rating mpaa_rating	count_of_movies bigint	average_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

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.

Done 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.

Done in Step 2.

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

[Task 3.5 Filtering Data.xlsx](#)