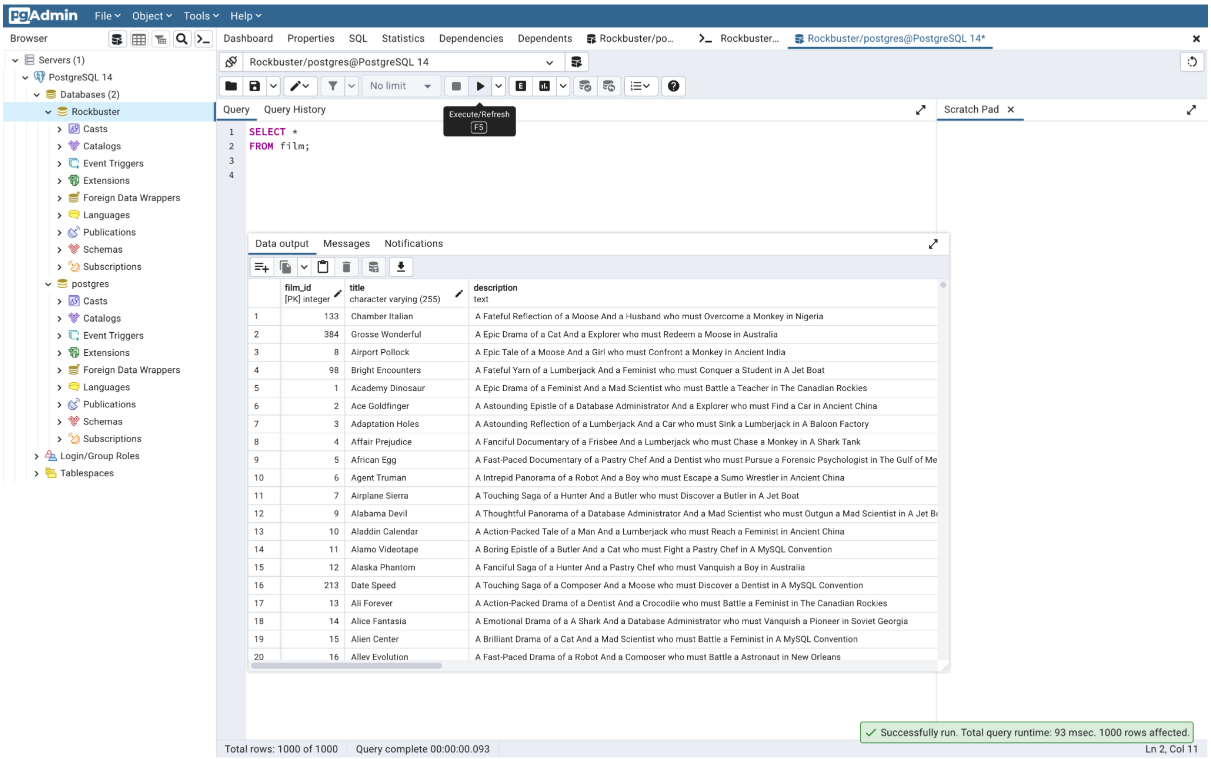
Answers 3.4

1

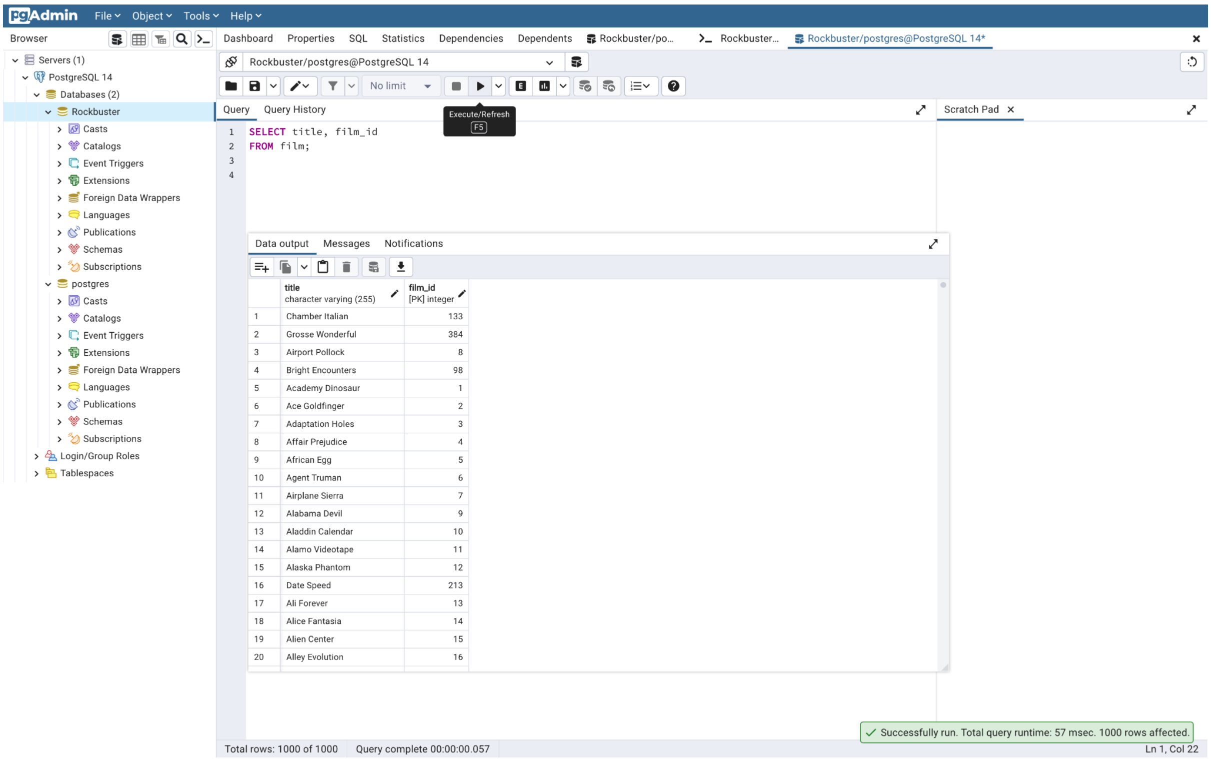


```
SELECT *
FROM film;
```

	film_id [PK] integer	title character varying (255)	description text
1	133	Chamber Italian	A Fateful Reflection of a Moose And a Husband who must Overcome a Monkey in Nigeria
2	384	Grosse Wonderful	A Epic Drama of a Cat And a Explorer who must Redeem a Moose in Australia
3	8	Airport Pollock	A Epic Tale of a Moose And a Girl who must Confront a Monkey in Ancient India
4	98	Bright Encounters	A Fateful Yarn of a Lumberjack And a Feminist who must Conquer a Student in A Jet Boat
5	1	Academy Dinosaur	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in The Canadian Rockies
6	2	Ace Goldfinger	A Astounding Epistle of a Database Administrator And a Explorer who must Find a Car in Ancient China
7	3	Adaptation Holes	A Astounding Reflection of a Lumberjack And a Car who must Sink a Lumberjack in A Baloon Factory
8	4	Affair Prejudice	A Fanciful Documentary of a Frisbee And a Lumberjack who must Chase a Monkey in A Shark Tank
9	5	African Egg	A Fast-Paced Documentary of a Pastry Chef And a Dentist who must Pursue a Forensic Psychologist in The Gulf of Me
10	6	Agent Truman	A Intrepid Panorama of a Robot And a Boy who must Escape a Sumo Wrestler in Ancient China
11	7	Airplane Sierra	A Touching Saga of a Hunter And a Butler who must Discover a Butler in A Jet Boat
12	9	Alabama Devil	A Thoughtful Panorama of a Database Administrator And a Mad Scientist who must Outgun a Mad Scientist in A Jet Bo
13	10	Aladdin Calendar	A Action-Packed Tale of a Man And a Lumberjack who must Reach a Feminist in Ancient China
14	11	Alamo Videotape	A Boring Epistle of a Butler And a Cat who must Fight a Pastry Chef in A MySQL Convention
15	12	Alaska Phantom	A Fanciful Saga of a Hunter And a Pastry Chef who must Vanquish a Boy in Australia
16	213	Date Speed	A Touching Saga of a Composer And a Moose who must Discover a Dentist in A MySQL Convention
17	13	Ali Forever	A Action-Packed Drama of a Dentist And a Crocodile who must Battle a Feminist in The Canadian Rockies
18	14	Alice Fantasia	A Emotional Drama of a A Shark And a Database Administrator who must Vanquish a Pioneer in Soviet Georgia
19	15	Alien Center	A Brilliant Drama of a Cat And a Mad Scientist who must Battle a Feminist in A MySQL Convention
20	16	Alley Evolution	A Fast-Paced Drama of a Robot And a Composer who must Battle a Astronaut in New Orleans

✓ Successfully run. Total query runtime: 93 msec. 1000 rows affected.

Total rows: 1000 of 1000 Query complete 00:00:00.093 Ln 2, Col 11



```
SELECT title, film_id
FROM film;
```

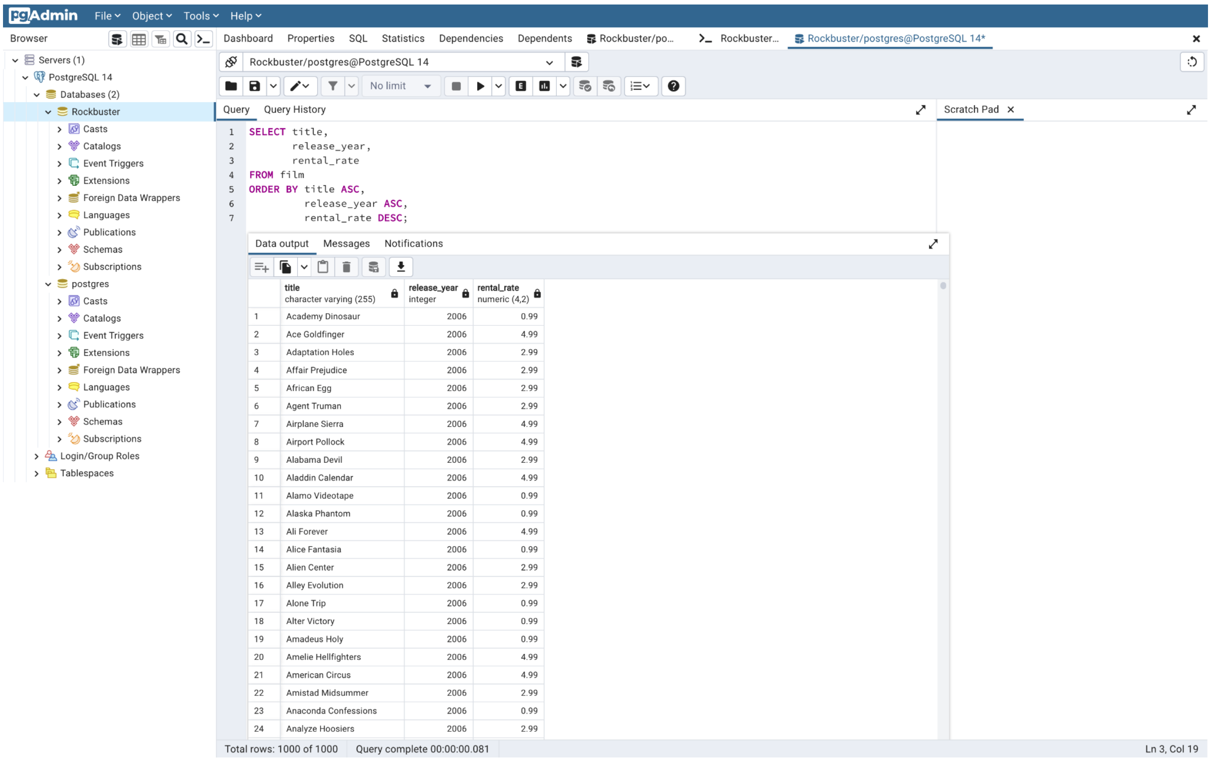
	title character varying (255)	film_id [PK] integer
1	Chamber Italian	133
2	Grosse Wonderful	384
3	Airport Pollock	8
4	Bright Encounters	98
5	Academy Dinosaur	1
6	Ace Goldfinger	2
7	Adaptation Holes	3
8	Affair Prejudice	4
9	African Egg	5
10	Agent Truman	6
11	Airplane Sierra	7
12	Alabama Devil	9
13	Aladdin Calendar	10
14	Alamo Videotape	11
15	Alaska Phantom	12
16	Date Speed	213
17	Ali Forever	13
18	Alice Fantasia	14
19	Alien Center	15
20	Alley Evolution	16

✓ Successfully run. Total query runtime: 57 msec. 1000 rows affected.

Total rows: 1000 of 1000 Query complete 00:00:00.057 Ln 1, Col 22

The first and the second queries show the same cost of 0.00-64.00. When I do the first query, it took 93msec. And the second query took 57msec. In terms of efficiency, the second query show me the columns that I needed and it was even a bit faster than the first query.

2



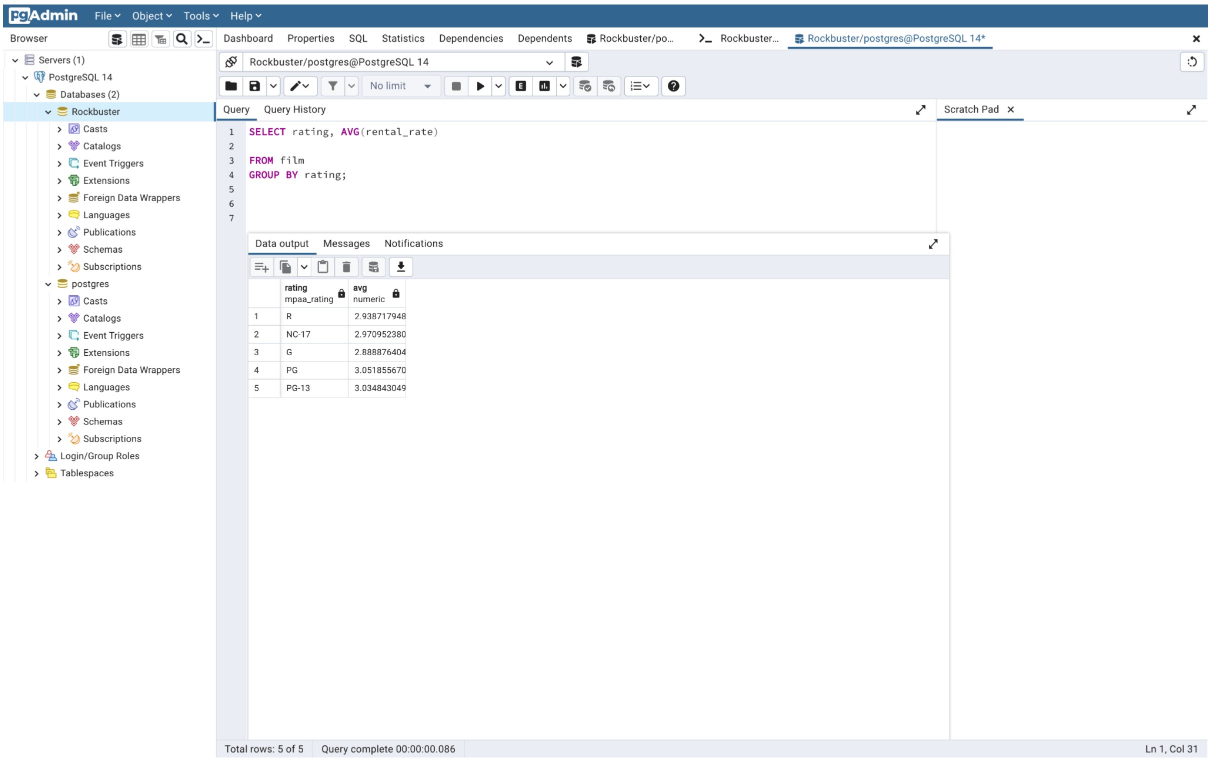
```sql
SELECT title,
       release_year,
       rental_rate
FROM film
ORDER BY title ASC,
         release_year ASC,
         rental_rate DESC;
```

	title character varying (255)	release_year integer	rental_rate numeric (4,2)
1	Academy Dinosaur	2006	0.99
2	Ace Goldfinger	2006	4.99
3	Adaptation Holes	2006	2.99
4	Affair Prejudice	2006	2.99
5	African Egg	2006	2.99
6	Agent Truman	2006	2.99
7	Airplane Sierra	2006	4.99
8	Airport Pollock	2006	4.99
9	Alabama Devil	2006	2.99
10	Aladdin Calendar	2006	4.99
11	Alamo Videotape	2006	0.99
12	Alaska Phantom	2006	0.99
13	Ali Forever	2006	4.99
14	Alice Fantasia	2006	0.99
15	Alien Center	2006	2.99
16	Alley Evolution	2006	2.99
17	Alone Trip	2006	0.99
18	Alter Victory	2006	0.99
19	Amadeus Holy	2006	0.99
20	Amelie Hellfighters	2006	4.99
21	American Circus	2006	4.99
22	Amistad Midsummer	2006	2.99
23	Anaconda Confessions	2006	0.99
24	Analyze Hoosiers	2006	2.99

Total rows: 1000 of 1000   Query complete 00:00:00.081   Ln 3, Col 19

CSV File :
https://docs.google.com/spreadsheets/d/1SDmDOEr7dQJ_WVs7nTXeEtmtnDID90iAwg5GV6VfyRI/edit#gid=322743095

3

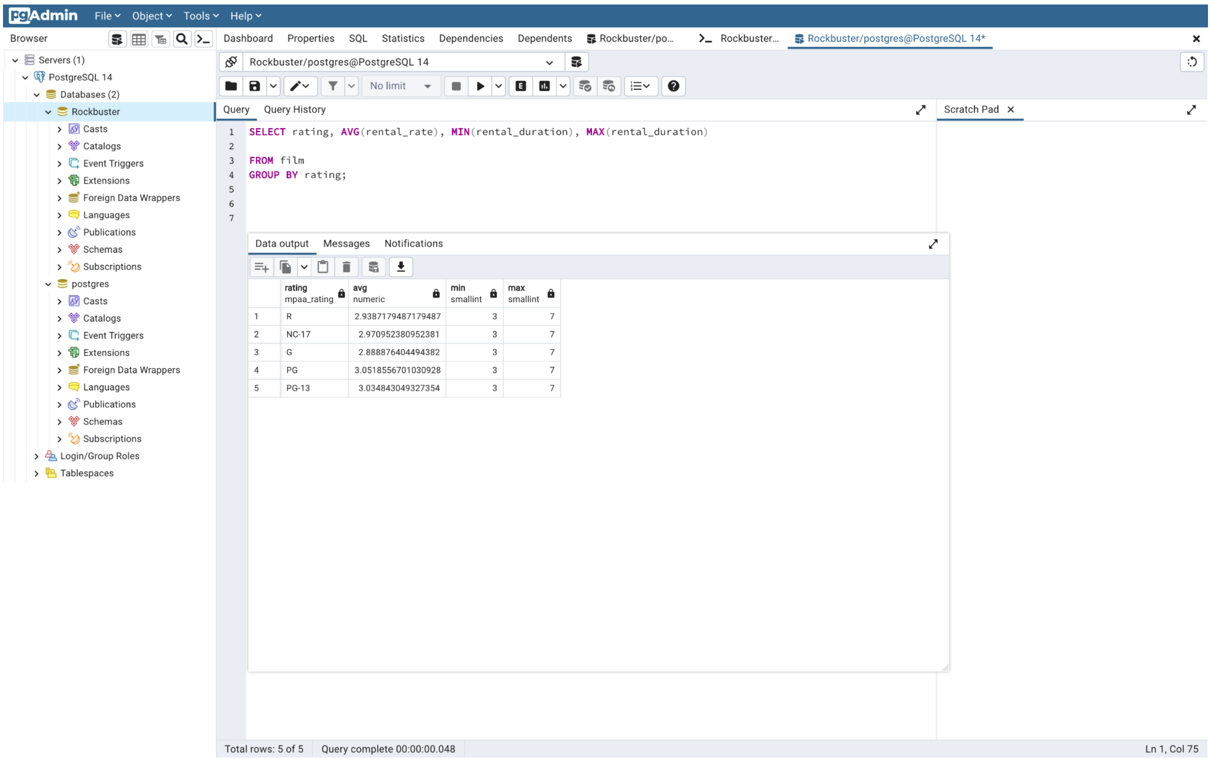


```sql
SELECT rating, AVG(rental_rate)

FROM film
GROUP BY rating;
```

	rating mpaa_rating	avg numeric
1	R	2.938717948
2	NC-17	2.970952380
3	G	2.888876404
4	PG	3.051855670
5	PG-13	3.034843049

Total rows: 5 of 5   Query complete 00:00:00.086   Ln 1, Col 31



```sql
SELECT rating, AVG(rental_rate), MIN(rental_duration), MAX(rental_duration)

FROM film
GROUP BY rating;
```

	rating mpaa_rating	avg numeric	min smallint	max smallint
1	R	2.9387179487179487	3	7
2	NC-17	2.970952380952381	3	7
3	G	2.888876404494382	3	7
4	PG	3.0518556701030928	3	7
5	PG-13	3.034843049327354	3	7

Total rows: 5 of 5 Query complete 00:00:00.048 Ln 1, Col 75

CSV File :
https://docs.google.com/spreadsheets/d/1EjHg4ddW_KmR2Ni82aV3HpHjKeLujQZN3asuRQp1kDw/edit#gid=1298819693

4

To migrate the app data into the warehouse of Rockbuster, the whole migrating process should follow the ETL process. First of all, the app data will be extracted. Second, the extracted data will be transformed into a format that fits with warehouse structure. Third, the app data finished formatting process will be loaded to the warehouse.

If we do not do optimizing the data format, the app data will show us a bunch of null data so that we cannot get information or insight as much as we want.