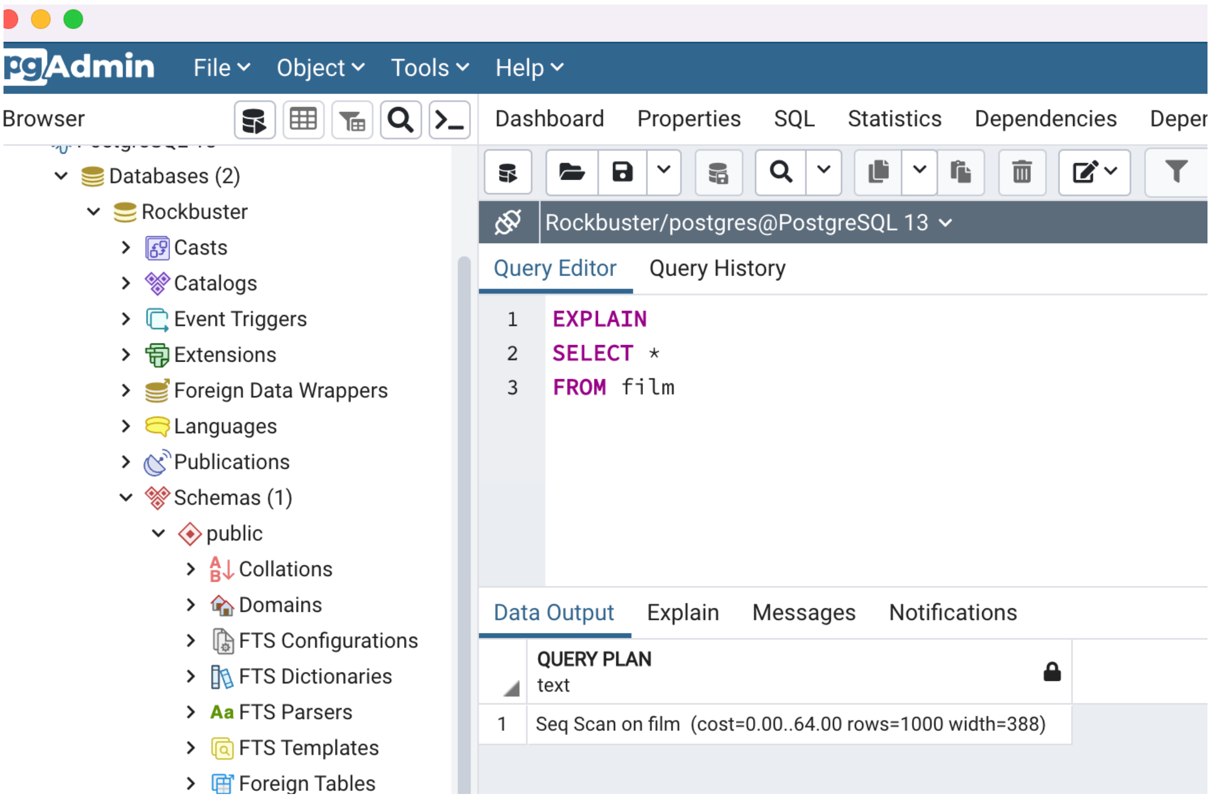
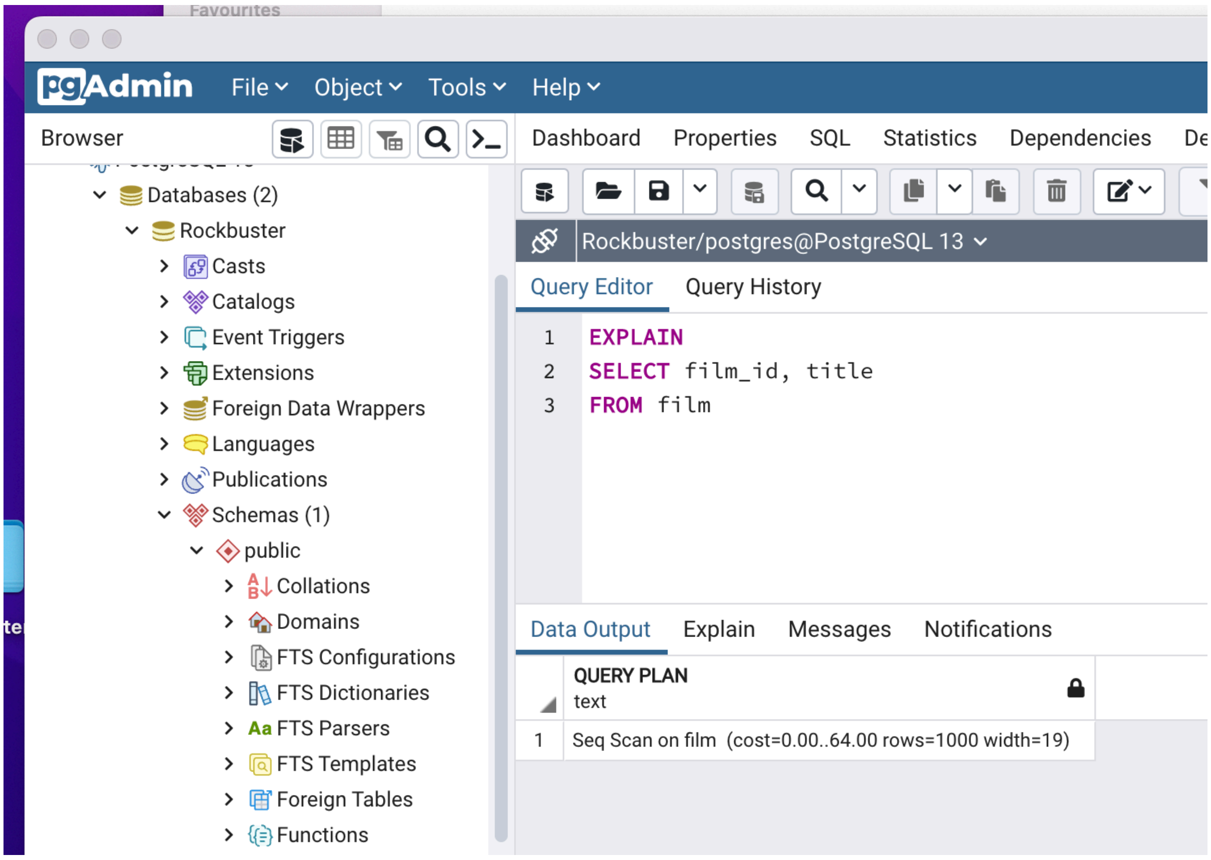
Task_4

1.



```
EXPLAIN
SELECT *
FROM film
```

```
QUERY PLAN
text
1   Seq Scan on film  (cost=0.00..64.00 rows=1000 width=388)
```

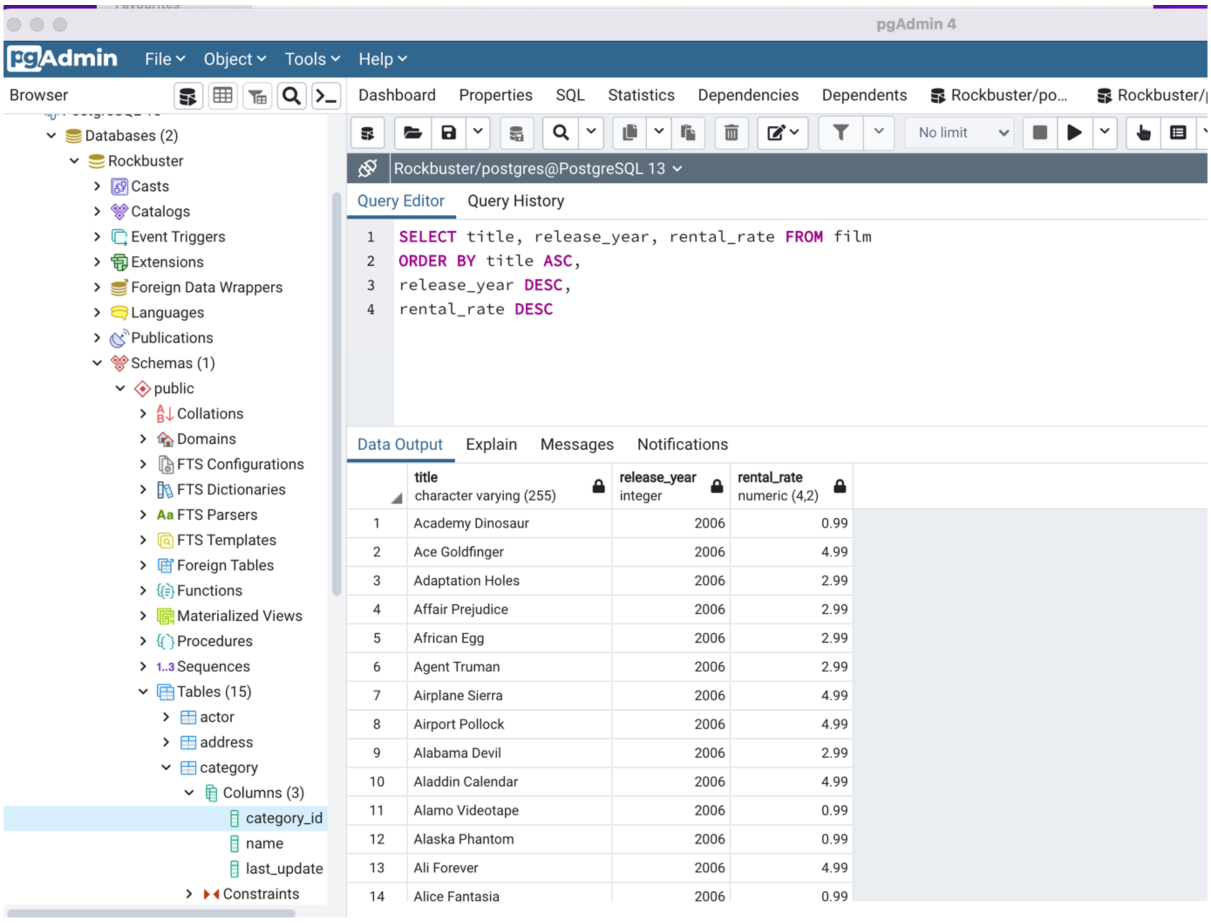


```
EXPLAIN
SELECT film_id, title
FROM film
```

```
QUERY PLAN
text
1   Seq Scan on film  (cost=0.00..64.00 rows=1000 width=19)
```

The cost for both queries is same. Only the width differs in both results. According to our results width does not have any effect on cost. However, we can optimize our results limiting the rows if we know what exactly we need.

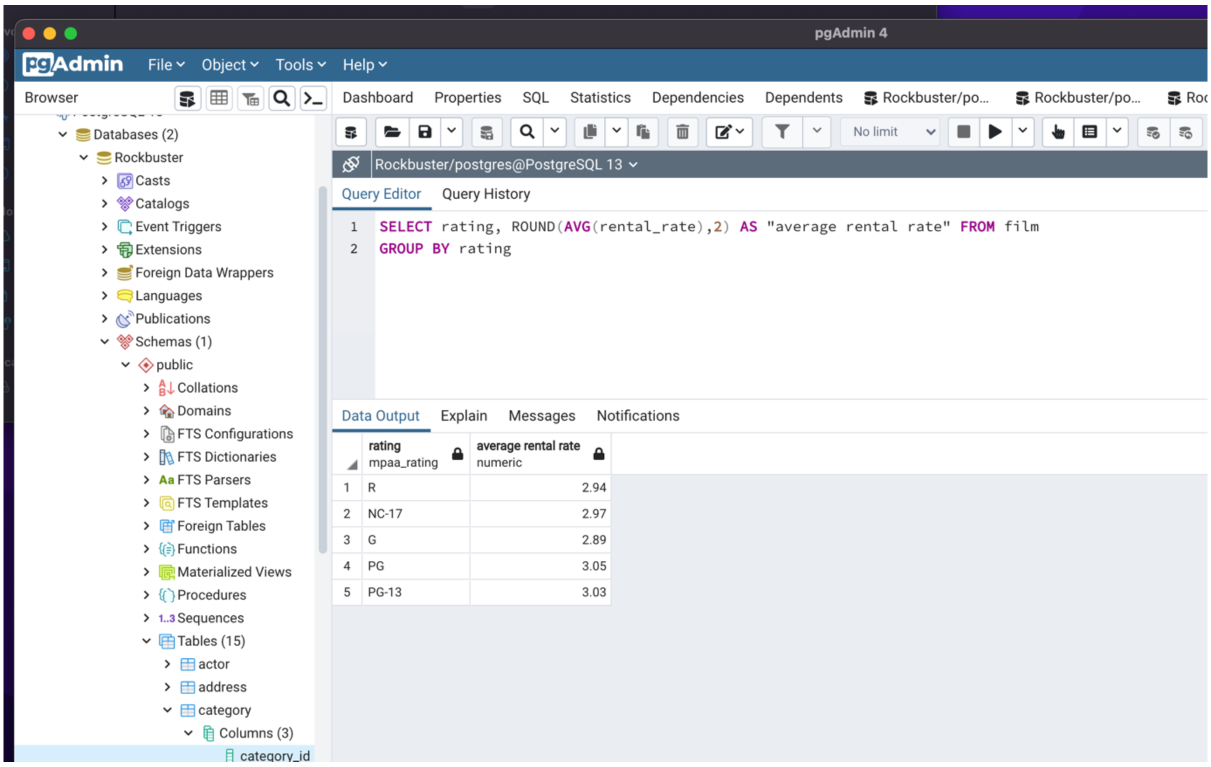
2.



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

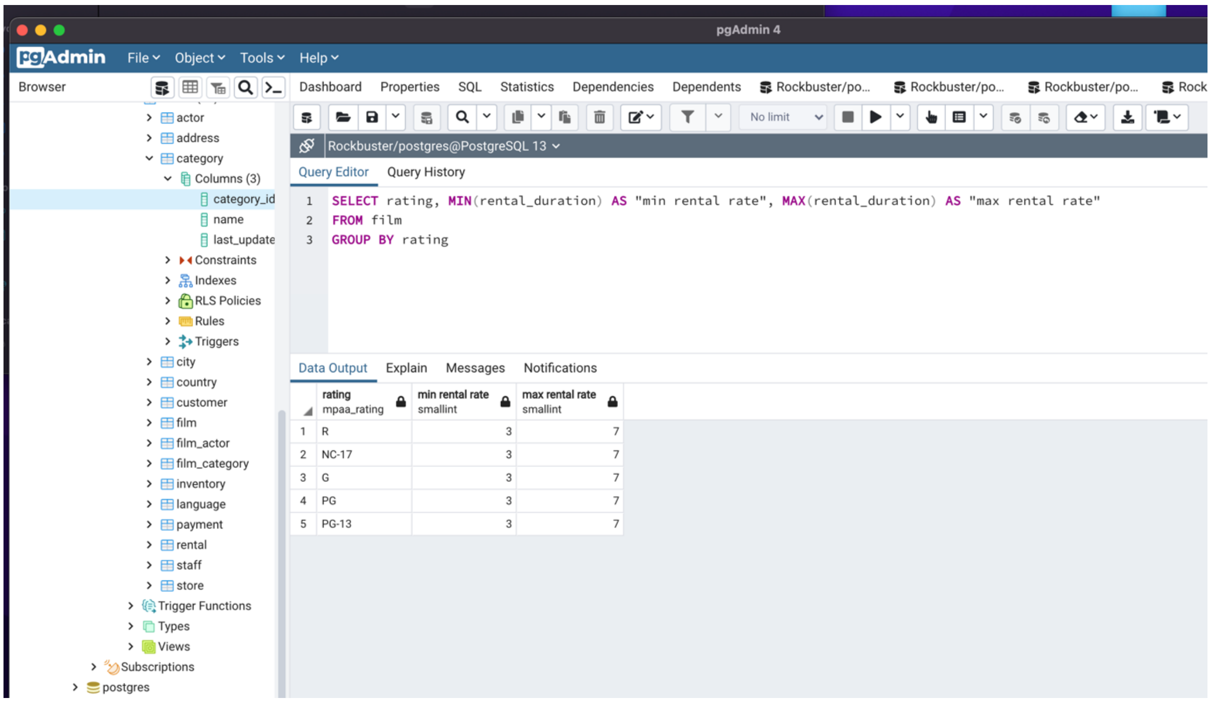
	title character varying (255)	release_year integer	rental_rate numeric (4,2)
1	Academy Dinosaur	2006	0.99
2	Ace Goldfinger	2006	4.99
3	Adaptation Holes	2006	2.99
4	Affair Prejudice	2006	2.99
5	African Egg	2006	2.99
6	Agent Truman	2006	2.99
7	Airplane Sierra	2006	4.99
8	Airport Pollock	2006	4.99
9	Alabama 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

3.



```
SELECT rating, ROUND(AVG(rental_rate),2) AS "average rental rate" FROM film
GROUP BY rating
```

	rating mpaa_rating	average rental rate numeric
1	R	2.94
2	NC-17	2.97
3	G	2.89
4	PG	3.05
5	PG-13	3.03



```
SELECT rating, MIN(rental_duration) AS "min rental rate", MAX(rental_duration) AS "max rental rate"
FROM film
GROUP BY rating
```

	rating mpaa_rating	min rental rate smallint	max rental rate smallint
1	R	3	7
2	NC-17	3	7
3	G	3	7
4	PG	3	7
5	PG-13	3	7

4.

a) Firstly, we **Extract** the necessary information from the app (Performed by data engineers, cloud engineers)
b) We **Transform** the data into suitable format (Performed by data engineers also possible data analysts and scientist)
c) **Loading** the data into new database

If data is analyzed before migrating, firstly there might be a “clean data” issue. However, it is also possible that the data that analyzed before migrating, will not be match our current inventory data.