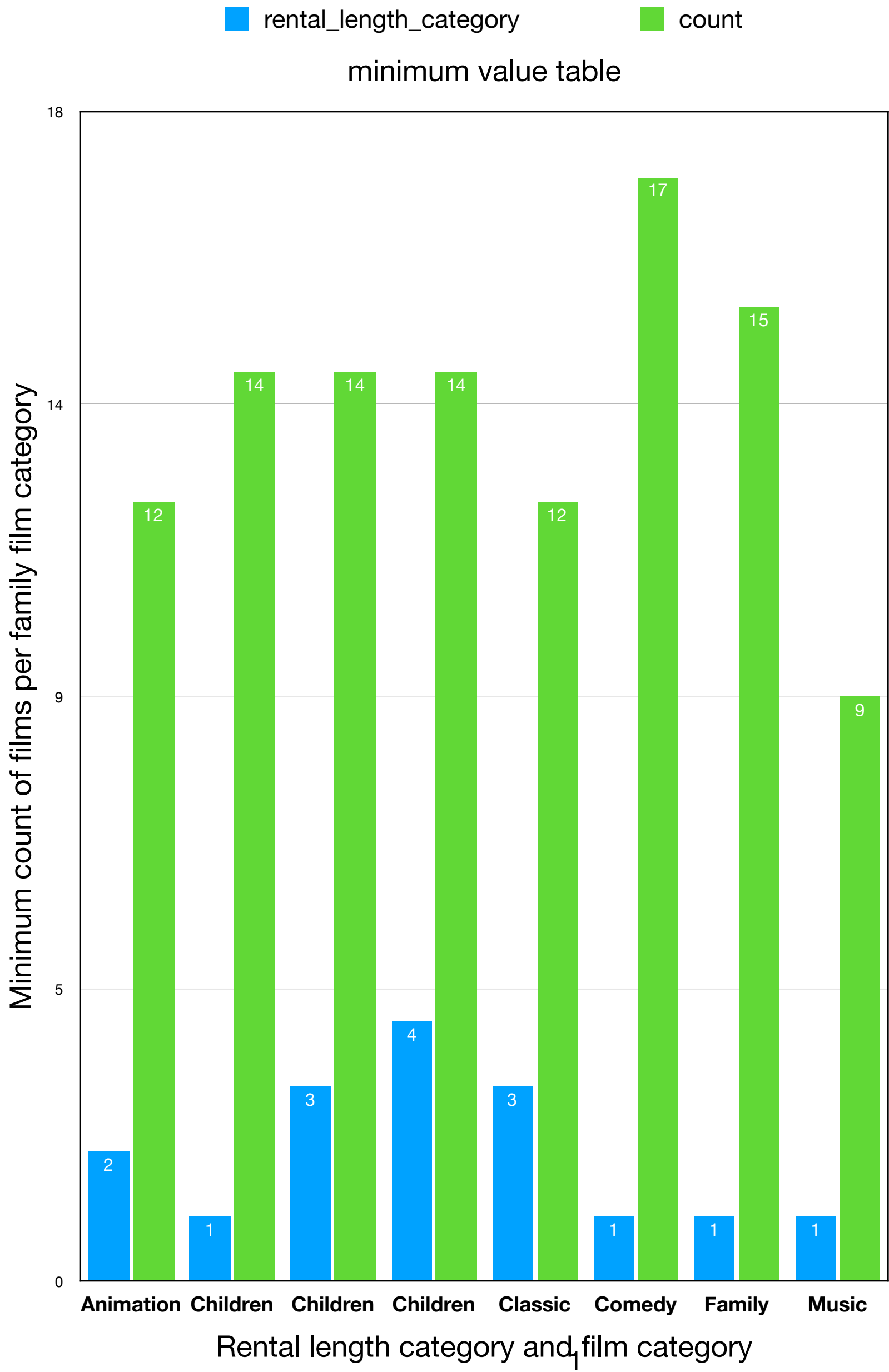
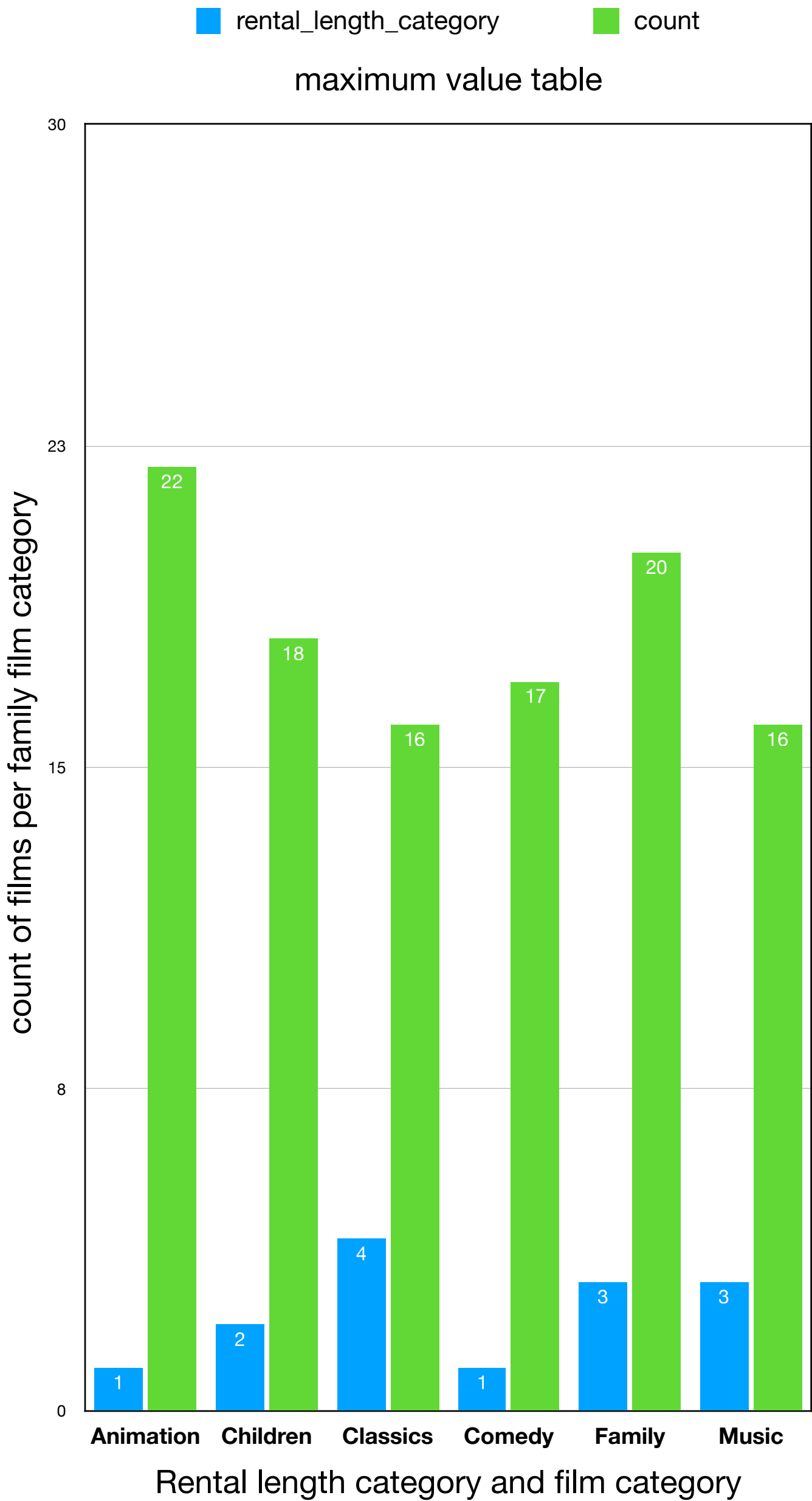


# How many films correspond to each of the categories of films for family viewing, taking into account the category of the film by its rental duration?

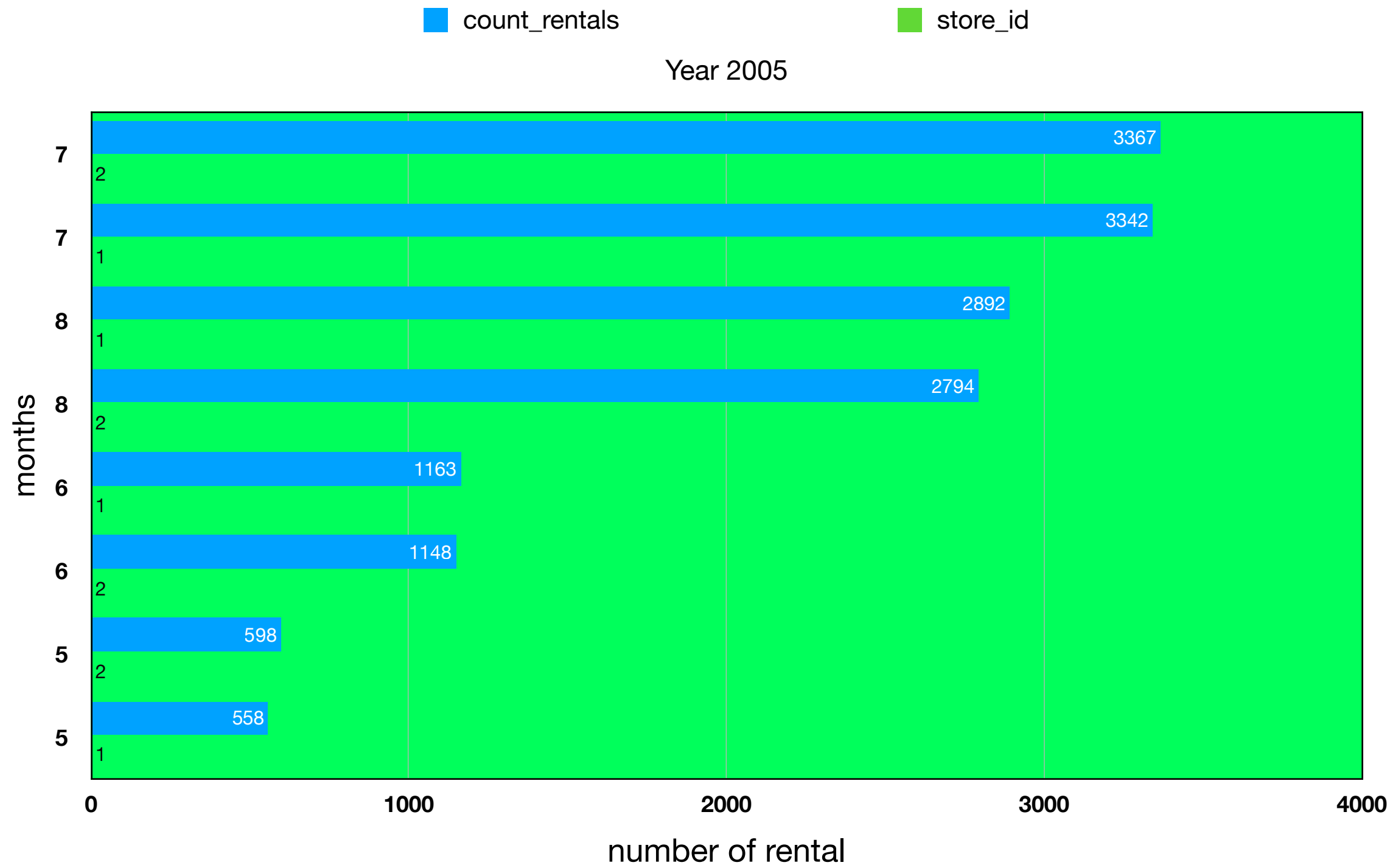


Based on the resulting table to question 1 obtained using a query specified in the queries.txt file of the SQL\_Project folder, two diagrams are given in this slide. These diagrams show the minimum and maximum data on the number of rental films in different family categories, taking into account the rental period.

Based on the data in the diagrams, it can be assumed that the films in the Animation and Family categories have the highest rates in terms of duration and number of rentals. Whereas the films with the lowest rental rates belong to the category of Musical films.

I would also like to explain the reasons that I was guided by showing in the diagrams "rental length category" and "count" at the same time. These characteristics are closely related to each other in that a certain number of rentals, minimum or maximum, is achieved not only taking into account a certain category of films for family viewing, but also considering the length of rental films, which in turn also has four categories and can be an important statistical indicator . In my opinion, both of these categories should be present in the diagrams.

Compare two stores from the database in their count of rental orders every month for all the years we have data for.



Based on the data from the resulting table for question 2 received using the query in the slide and specified in the queries.txt file of the SQL\_Project folder, the diagram is shown in the slide.

The diagram provides information on the number of movie rentals of all categories at two rental locations in the indicated months of 2005.

It can be concluded that both rental points worked with approximately equal indicators in the indicated period.

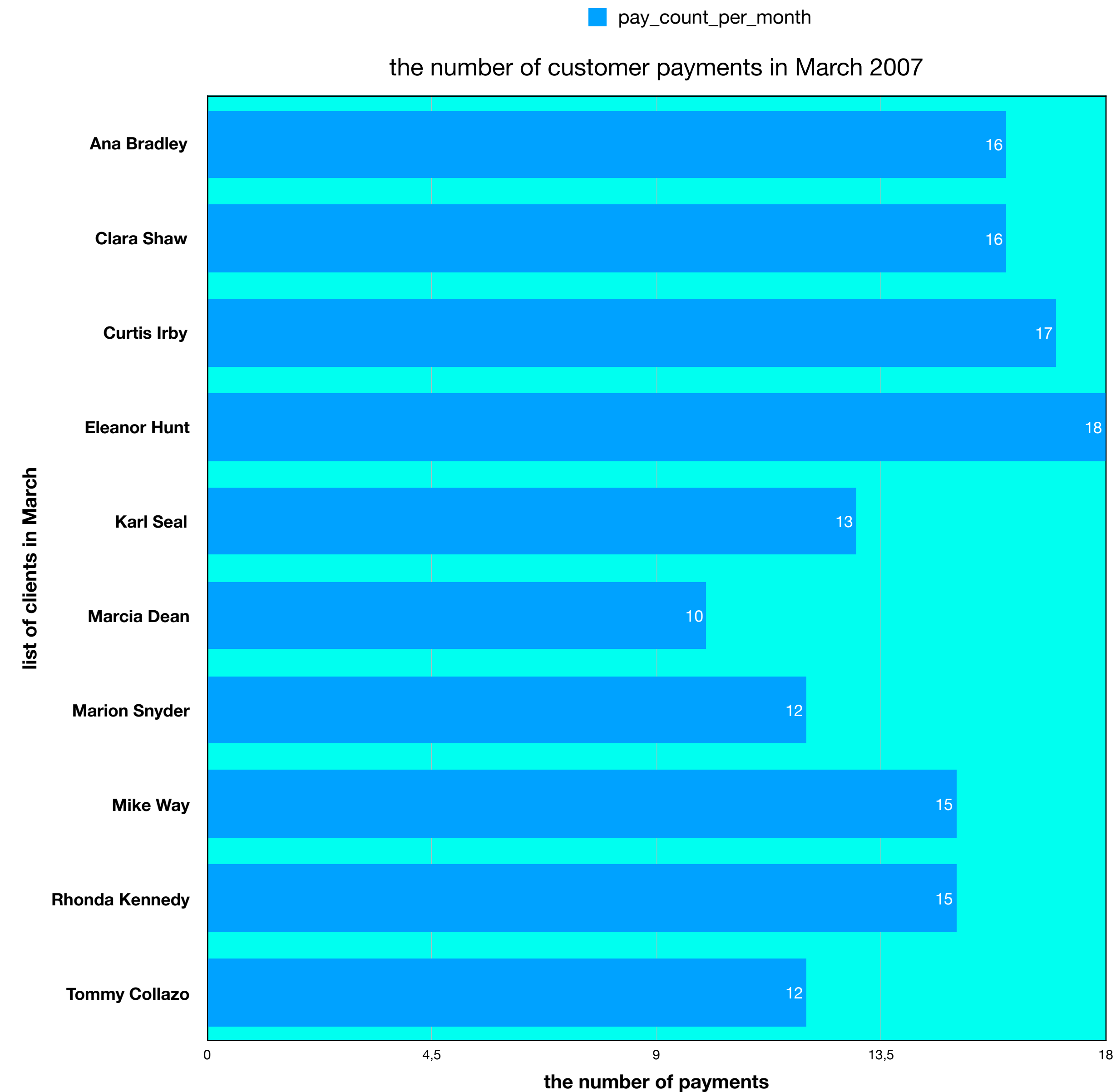
resulting table to question 2

rental_month	rental_year	store_id	count_rentals
7	2005	2	3367
7	2005	1	3342
8	2005	1	2892
8	2005	2	2794
6	2005	1	1163
6	2005	2	1148
5	2005	2	598
5	2005	1	558
2	2006	2	97
2	2006	1	85

-- Query to Question 2

```
SELECT
  DATE_PART('month', r.rental_date) AS rental_month,
  DATE_PART('year', r.rental_date) AS rental_year,
  s.store_id,
  COUNT(*) AS count_rentals
FROM rental r
LEFT JOIN staff s
  ON r.staff_id = s.staff_id
LEFT JOIN store st
  ON s.store_id = st.store_id
GROUP BY 1,
         2,
         3
ORDER BY 4 DESC;
```

# Who were top 10 paying customers, how many payments they made on a monthly basis during 2007, and what was the amount of the monthly payments?



Resulting table for question 3

pay_month	full_name	pay_count_per_month	pay_amount
2007-03-01T00:00:00.000Z	Ana Bradley	16	71.84
2007-03-01T00:00:00.000Z	Clara Shaw	16	72.84
2007-03-01T00:00:00.000Z	Curtis Irby	17	86.83
2007-03-01T00:00:00.000Z	Eleanor Hunt	18	87.82
2007-03-01T00:00:00.000Z	Karl Seal	13	76.87
2007-03-01T00:00:00.000Z	Marcia Dean	10	53.90
2007-03-01T00:00:00.000Z	Marion Snyder	12	58.88
2007-03-01T00:00:00.000Z	Mike Way	15	64.85
2007-03-01T00:00:00.000Z	Rhonda Kennedy	15	74.85
2007-03-01T00:00:00.000Z	Tommy Collazo	12	67.88

Based on the data from the resulting table for question received using queries specified in the queries.txt file of the SQL\_Project folder, the diagram is shown in the slide.

The diagram provides information about the ten most active clients of the movie rental network, namely the number of payments made by these users in March 2007.

Using this diagram, information on the number of payments in March is easy to read and does not require much time to understand customer activity. The most active client is obvious to whom, for example, a bonus system can be applied.

From the difference in monthly payments for each of the 10 largest paying customers during 2007, find out which of them had the largest difference during this year.

```
-- Query to Question 4
-- final result

WITH final_result_table AS
(
  WITH difference_table AS
  (
    SELECT
      pay_month,
      full_name,
      SUM(count_of_pay) AS pay_count_per_month,
      SUM(count_of_pay * amount) AS pay_amount
    FROM
      (
        SELECT
          DATE_TRUNC('month', p.payment_date) AS pay_month,
          CONCAT(c.first_name, ' ', c.last_name) AS full_name,
          COUNT(sub1.customer_id) AS count_of_pay,
          p.amount
        FROM
          (
            SELECT
              customer_id,
              SUM(amount) AS sum_amt
            FROM
              payment
            GROUP BY
              1
            ORDER BY
              2 DESC LIMIT 10
          )
          AS sub1
        JOIN
          payment p
          ON sub1.customer_id = p.customer_id
        JOIN
          customer c
          ON p.customer_id = c.customer_id
        GROUP BY
          2,
          1,
          4
        ORDER BY
          2,
          1
      )
      AS sub2
    GROUP BY
      1,
      2
    ORDER BY
      2
  )
  SELECT
    pay_month,
    full_name,
    pay_amount AS current_month_amt,
    LEAD(pay_amount) OVER (
      ORDER BY
        full_name) AS next_month_amt,
    LEAD(pay_amount) OVER (
      ORDER BY
        full_name) - pay_amount AS difference
    FROM
      difference_table
  )
  SELECT
    full_name,
    MAX(difference) AS biggest_diff
  FROM
    final_result_table
  GROUP BY
    1
  ORDER BY
    2 DESC LIMIT 1;
```

In my opinion, the table and the final query are optimal visualizations for answering this question because there is only one result for answering question 4.

The query shown here is the final one but first I had to find the difference for all 10 customers so there are two queries.

Both queries for obtaining the resulting table are shown in the queries.txt file in the SQL\_Project folder.

The second query with the resulting data shows the client of the movie rental service with the biggest difference who is Eleanor Hu

Resulting table for question 4

full_name	biggest_diff
Eleanor Hunt	64.87