데이터베이스 Lab7 OLAP

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1.

```
select rental_rate, rating, count(film_id)
from film
group by
    grouping sets(
    (rental_rate),
    (rating)
    );
```

```
 rental_rate | rating | count
-------------+--------+-------
        2.99 |        |   323
        4.99 |        |   336
        0.99 |        |   341
             | R      |   195
             | PG     |   194
             | PG-13  |   223
             | NC-17  |   210
             | G      |   178
(8 rows)
```

2.

```
select actor_id, name, count(film_id)
from film_actor as fa
    join film_category as fc using (film_id)
    join category as c using(category_id)
where fa.actor_id = 1 or fa.actor_id = 2
group by
    cube(actor_id, name)
order by actor_id ;
```

```
 actor_id |     name      | count
----------+---------------+-------
        1 | Music         |     1
        1 | Children      |     1
        1 | Games         |     2
        1 | Animation     |     1
        1 | Comedy        |     1
        1 | Documentary   |     1
        1 | Foreign       |     1
        1 | Sports        |     1
        1 | New           |     2
        1 |               |    19
        1 | Horror        |     3
        1 | Sci-Fi        |     1
        1 | Classics      |     2
        1 | Family        |     2
        2 | Action        |     1
        2 | Animation     |     1
        2 | Documentary   |     1
        2 | Comedy        |     2
        2 | New           |     4
        2 | Family        |     4
        2 | Music         |     1
        2 | Foreign       |     2
        2 | Sci-Fi        |     2
        2 | Classics      |     2
        2 | Children      |     1
        2 | Travel        |     2
        2 | Drama         |     1
        2 | Games         |     1
        2 |               |    25
          | Sci-Fi        |     3
          | Family        |     6
          | Games         |     3
          | Animation     |     2
          | Classics      |     4
          | Documentary   |     2
          | Sports        |     1
          | New           |     6
          | Children      |     2
          | Music         |     2
          | Travel        |     2
          | Foreign       |     3
          | Drama         |     1
          | Horror        |     3
          | Action        |     1
          | Comedy        |     3
          |               |    44
(46 rows)
```

3.

```
select Y, M, D, count(*)
from
    (select
        extract(year from rental_date) Y,
        extract(month from rental_date) M,
        extract(day from rental_date) D,
        extract(hour from rental_date) h,
        extract(minute from rental_date) min,
        extract(second from rental_date) s
    from rental) as date
group by rollup(Y, M, D)
```

```
  y   | m | d  | count
------+---+----+-------
 2005 | 5 | 24 |     8
 2005 | 5 | 25 |   137
 2005 | 5 | 26 |   174
 2005 | 5 | 27 |   166
 2005 | 5 | 28 |   196
 2005 | 5 | 29 |   154
 2005 | 5 | 30 |   158
 2005 | 5 | 31 |   163
 2005 | 5 |    |  1156
 2005 | 6 | 14 |    16
 2005 | 6 | 15 |   348
 2005 | 6 | 16 |   324
 2005 | 6 | 17 |   325
 2005 | 6 | 18 |   344
 2005 | 6 | 19 |   348
 2005 | 6 | 20 |   331
 2005 | 6 | 21 |   275
 2005 | 6 |    |  2311
 2005 | 7 |  5 |    27
 2005 | 7 |  6 |   504
 2005 | 7 |  7 |   461
 2005 | 7 |  8 |   512
 2005 | 7 |  9 |   513
 2005 | 7 | 10 |   480
 2005 | 7 | 11 |   461
 2005 | 7 | 12 |   495
 2005 | 7 | 26 |    33
 2005 | 7 | 27 |   649
 2005 | 7 | 28 |   620
 2005 | 7 | 29 |   641
 2005 | 7 | 30 |   634
 2005 | 7 | 31 |   679
 2005 | 7 |    |  6709
 2005 | 8 |  1 |   671
 2005 | 8 |  2 |   643
 2005 | 8 | 16 |    23
 2005 | 8 | 17 |   593
 2005 | 8 | 18 |   621
 2005 | 8 | 19 |   628
 2005 | 8 | 20 |   624
 2005 | 8 | 21 |   659
 2005 | 8 | 22 |   626
 2005 | 8 | 23 |   598
 2005 | 8 |    |  5686
 2005 |   |    | 15862
 2006 | 2 | 14 |   182
 2006 | 2 |    |   182
 2006 |   |    |   182
      |   |    | 16044
(49 rows)
```

4.

```
select *
from
    (select fc.category_id, r.customer_id, count(*),
    rank() over (partition by category_id order by count(*) desc)
    from rental as r
        join inventory as i using(inventory_id)
        join film_category as fc using(film_id)
    group by fc.category_id, r.customer_id) as data
where rank <= 2;
```

category_id	customer_id	count	rank
1	506	7	1
1	323	7	1
2	526	8	1
2	196	8	1
3	38	7	1
3	574	6	2
3	408	6	2
4	5	7	1
4	1	6	2
5	197	7	1
5	584	6	2
5	244	6	2
6	243	8	1
6	257	7	2
7	133	7	1
7	424	6	2
7	354	6	2
7	12	6	2
7	76	6	2
8	526	7	1
8	116	7	1
8	181	7	1
9	562	6	1
9	446	6	1
9	215	6	1
9	356	6	1
9	380	6	1
9	469	6	1
9	168	6	1
10	469	9	1
10	522	7	2
11	204	5	1
11	134	5	1
11	181	5	1
11	513	5	1
11	122	5	1
11	563	5	1
11	12	5	1
11	526	5	1
12	71	6	1
12	472	6	1
13	20	7	1
13	206	7	1
13	441	7	1
14	148	7	1
14	279	7	1
15	454	7	1
15	569	6	2
15	277	6	2
15	591	6	2
15	314	6	2
15	579	6	2
15	594	6	2
15	494	6	2
15	138	6	2
15	16	6	2
15	539	6	2
16	375	7	1
16	216	5	2
16	414	5	2
16	473	5	2
16	381	5	2
16	148	5	2
16	323	5	2
16	567	5	2

(65 rows)

5.

```sql
with total_amount as
(select customer_id, country, sum(amount) as one_sum
from customer
    join payment using(customer_id)
    join address using(address_id)
    join city using(city_id)
    join country using(country_id)
group by customer_id, country
),
country_total as (
select *, sum(one_sum) over(partition by country) as country_sum
from total_amount
)
select *, dense_rank() over(order by country_sum desc) as country_rank
from country_total;
```

customer_id	country	one_sum	country_sum	country_rank
231	India	88.77	6034.78	1
224	India	76.78	6034.78	1
492	India	62.85	6034.78	1
358	India	75.80	6034.78	1
336	India	93.78	6034.78	1
379	India	96.79	6034.78	1
117	India	69.83	6034.78	1
529	India	115.72	6034.78	1
217	India	86.79	6034.78	1
509	India	86.82	6034.78	1
78	India	141.69	6034.78	1
446	India	109.72	6034.78	1
534	India	81.78	6034.78	1
370	India	70.81	6034.78	1
31	India	104.74	6034.78	1
440	India	83.79	6034.78	1
238	India	86.81	6034.78	1
68	India	94.78	6034.78	1
316	India	80.81	6034.78	1
367	India	97.80	6034.78	1
271	India	56.84	6034.78	1
268	India	96.79	6034.78	1
287	India	80.78	6034.78	1
208	India	86.75	6034.78	1
186	India	111.71	6034.78	1
508	India	121.77	6034.78	1
121	India	104.75	6034.78	1
28	India	105.70	6034.78	1
259	India	154.70	6034.78	1
95	India	72.83	6034.78	1
60	India	88.78	6034.78	1
136	India	59.86	6034.78	1
32	India	112.74	6034.78	1
170	India	109.77	6034.78	1
300	India	123.74	6034.78	1
15	India	134.68	6034.78	1
554	India	95.80	6034.78	1
12	India	93.74	6034.78	1
426	India	125.74	6034.78	1
297	India	99.74	6034.78	1
274	India	116.73	6034.78	1
202	India	103.74	6034.78	1
167	India	108.71	6034.78	1