Практическое задание по теме
«Операторы, фильтрация, сортировка и ограничение. Агрегация данных»

Задание 1. Выполнено. Проанализировал запросы, которые выполнялись на занятии, предлагаю следующие корректировки с учетом структуры моей базы данных vk:

1. Запрос на извлечение имени, фамилии, города и имени файла с фото будет короче, поскольку в моей структуре базы vk таблица profiles отсутствует, а данные из нее хранятся в таблице users:

```
SELECT firstname,
       lastname,
       hometown,
       (SELECT filename FROM media WHERE id = photo_id) AS photo
FROM users
WHERE id = 1001;
```

users 1

SELECT firstname, lastname, hometown, (SEI — Enter a SQL expression to filter results (use Ctrl+Space)

Grid

	firstname	lastname	hometown	photo
1	Lyda	Jenkins	Dickensfurt	soluta

2. Запрос на вывод друзей пользователя с преобразованием поля возраста и пола. Предлагаю более точно выводить возраст пользователя (до месяца):

```
SELECT id,
       CASE(gender)
           WHEN 'm' THEN 'male'
           WHEN 'f' THEN 'female'
       END AS gender,
       CONCAT(
       PERIOD_DIFF(EXTRACT(YEAR_MONTH FROM NOW()), EXTRACT(YEAR_MONTH FROM birthday)) DIV 12, ' year(s) ',
       MOD(PERIOD_DIFF(EXTRACT(YEAR_MONTH FROM NOW()), EXTRACT(YEAR_MONTH FROM birthday)),12), ' month(s)') as age
FROM users
WHERE id IN (
    SELECT initiator_user_id FROM friend_requests WHERE target_user_id = 1001 AND status = 'approved'
    UNION
    SELECT target_user_id FROM friend_requests WHERE initiator_user_id = 1001 AND status = 'approved'
);
```

Out Log

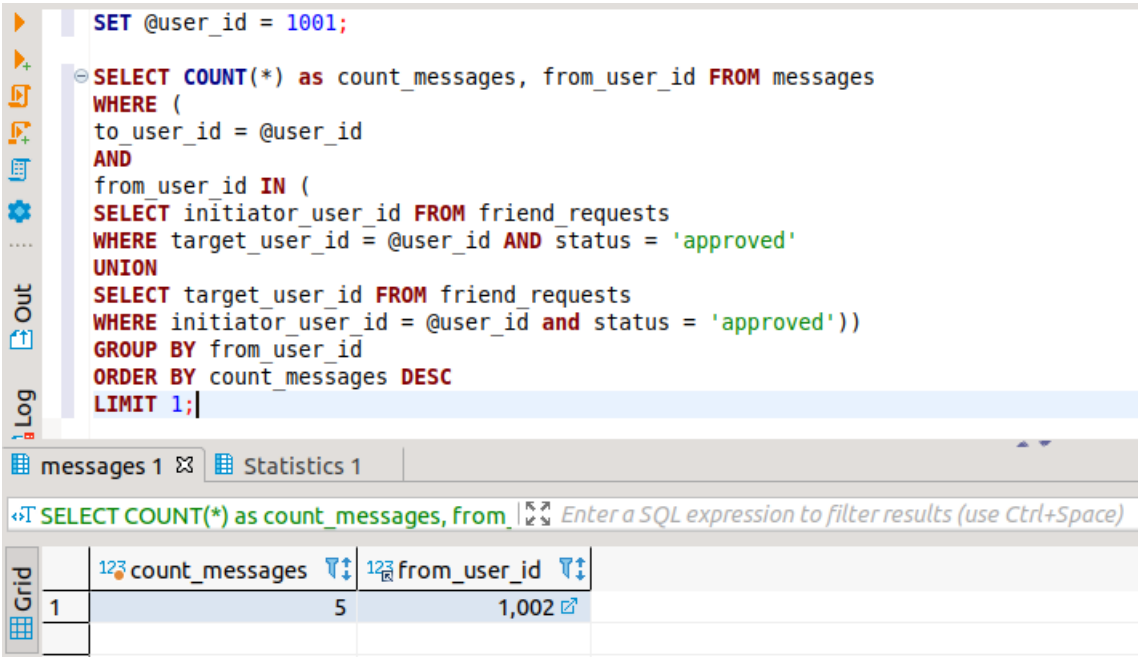
users 1

SELECT id, CASE(gender) WHEN 'm' THEN 'm — Enter a SQL expression to filter results (use Ctrl+Space)

Grid Text

	id	gender	age
1	1,002	male	9 year(s) 10 month(s)
2	1,003	male	1 year(s) 11 month(s)
3	1,005	female	13 year(s) 6 month(s)
4	1,006	female	6 year(s) 7 month(s)

Задание 2. Выполнено. Определил среди друзей пользователя с id=1001 человека, который больше всех общался с этим пользователем (писал ему сообщения).



```
SET @user_id = 1001;

SELECT COUNT(*) as count_messages, from_user_id FROM messages
WHERE (
to_user_id = @user_id
AND
from_user_id IN (
SELECT initiator_user_id FROM friend_requests
WHERE target_user_id = @user_id AND status = 'approved'
UNION
SELECT target_user_id FROM friend_requests
WHERE initiator_user_id = @user_id and status = 'approved'))
GROUP BY from_user_id
ORDER BY count_messages DESC
LIMIT 1;
```

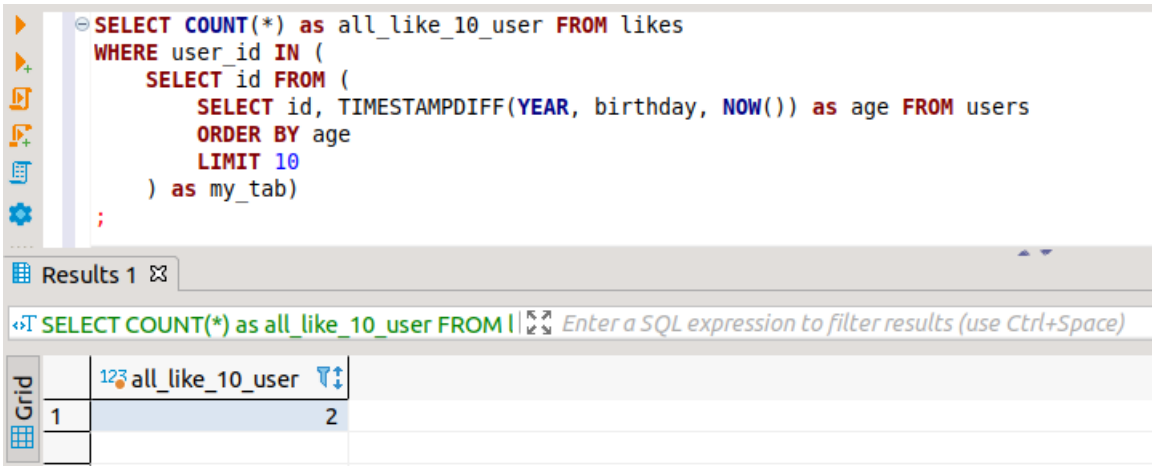
messages 1 | Statistics 1

SELECT COUNT(*) as count_messages, from_ | Enter a SQL expression to filter results (use Ctrl+Space)

Grid

	count_messages	from_user_id
1	5	1,002

Задание 3. Выполнено. Подсчитал общее количество лайков, которые получили 10 самых молодых пользователей.



```
SELECT COUNT(*) as all_like_10_user FROM likes
WHERE user_id IN (
    SELECT id FROM (
        SELECT id, TIMESTAMPDIFF(YEAR, birthday, NOW()) as age FROM users
        ORDER BY age
        LIMIT 10
    ) as my_tab)
;
```

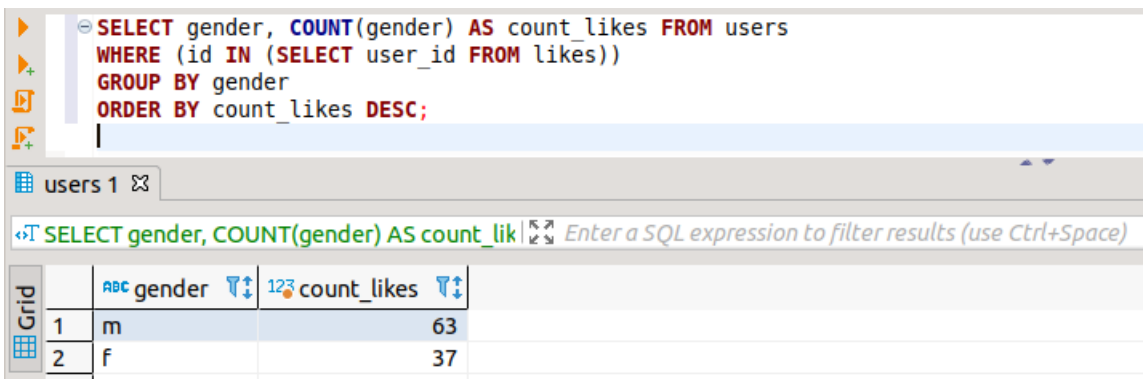
Results 1

SELECT COUNT(*) as all_like_10_user FROM l | Enter a SQL expression to filter results (use Ctrl+Space)

Grid

	all_like_10_user
1	2

Задание 4. Выполнено. Определил кто больше поставил лайков (всего) — мужчины или женщины.



```
SELECT gender, COUNT(gender) AS count_likes FROM users
WHERE (id IN (SELECT user_id FROM likes))
GROUP BY gender
ORDER BY count_likes DESC;
```

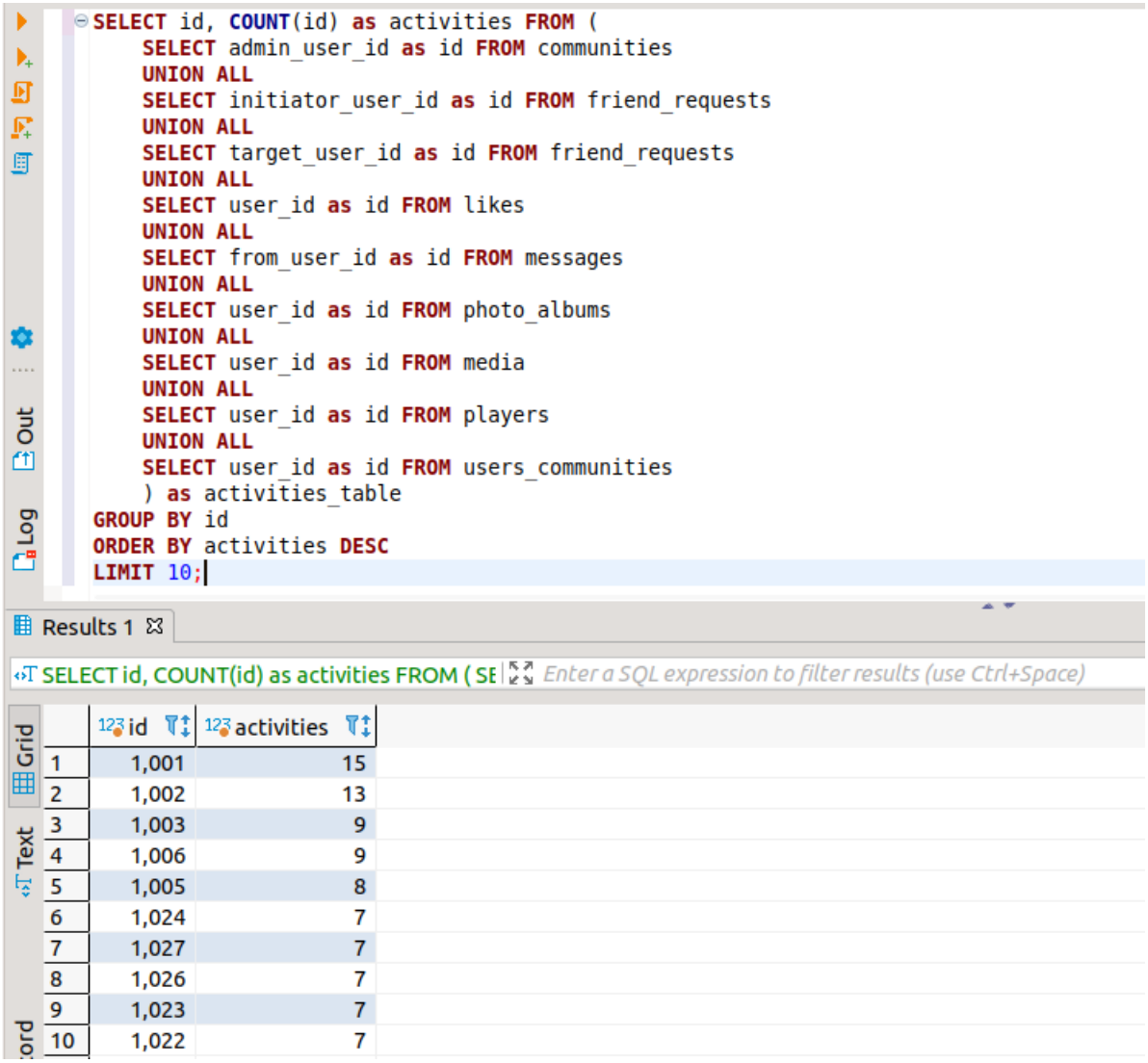
users 1

SELECT gender, COUNT(gender) AS count_lik | Enter a SQL expression to filter results (use Ctrl+Space)

Grid

	gender	count_likes
1	m	63
2	f	37

Задание 5. Выполнено. Нашел 10 пользователей, которые проявляют наименьшую активность в использовании социальной сети.



```sql
SELECT id, COUNT(id) as activities FROM (
    SELECT admin_user_id as id FROM communities
    UNION ALL
    SELECT initiator_user_id as id FROM friend_requests
    UNION ALL
    SELECT target_user_id as id FROM friend_requests
    UNION ALL
    SELECT user_id as id FROM likes
    UNION ALL
    SELECT from_user_id as id FROM messages
    UNION ALL
    SELECT user_id as id FROM photo_albums
    UNION ALL
    SELECT user_id as id FROM media
    UNION ALL
    SELECT user_id as id FROM players
    UNION ALL
    SELECT user_id as id FROM users_communities
    ) as activities_table
GROUP BY id
ORDER BY activities DESC
LIMIT 10;
```

Results 1

SELECT id, COUNT(id) as activities FROM (SE — Enter a SQL expression to filter results (use Ctrl+Space)

	id	activities
1	1,001	15
2	1,002	13
3	1,003	9
4	1,006	9
5	1,005	8
6	1,024	7
7	1,027	7
8	1,026	7
9	1,023	7
10	1,022	7