

Посчитать сколько пользователей живет в каждой стране и каждом городе

```
SELECT `city`.`id`, `city`.`name`, COUNT(*) AS `total_user`
FROM `city`
    INNER JOIN `city_user` ON (`city`.`id` = `city_user`.`city_id`)
GROUP BY `city_user`.`city_id`;
```

```
SELECT `country`.`id`, `country`.`name`, COUNT(*) AS `total_user`
FROM `city`
    INNER JOIN `city_user` ON (`city`.`id` = `city_user`.`city_id`)
    INNER JOIN `country` ON (`city`.`country_id` = `country`.`id`)
GROUP BY `country`.`id`;
```

Посчитать сколько пользователей живет в каждой стране и в каждом городе которые авторизовались за последние трое суток.

```
SELECT `city`.`id`, `city`.`name`, COUNT(*) AS `total_user`
FROM `city`
    INNER JOIN `city_user` ON (`city`.`id` = `city_user`.`city_id`)
    INNER JOIN `authorization` ON (`authorization`.`user_id` = `city_user`.`user_id`)
WHERE (TO_DAYS(NOW()) - TO_DAYS(`date`)) <= 3
GROUP BY `city_user`.`city_id`;
```

```
SELECT `country`.`id`, `country`.`name`, COUNT(*) AS `total_user`
FROM `city`
    INNER JOIN `city_user` ON (`city`.`id` = `city_user`.`city_id`)
    INNER JOIN `country` ON (`city`.`country_id` = `country`.`id`)
    INNER JOIN `authorization` ON (`authorization`.`user_id` = `city_user`.`user_id`)
WHERE (TO_DAYS(NOW()) - TO_DAYS(`date`)) <= 3
GROUP BY `country`.`id`;
```

Найти ту страну и тот город с которого максимальное количество авторизаций за (все время/за последние три дня/за последний месяц/квартал/год)

```
SELECT `city_user_authorization`.`city_id`, `city_user_authorization`.`name`,
MAX(`total_user`)
FROM (
    SELECT `city_user`.`city_id`, `city`.`name`, COUNT(*) AS `total_user`
    FROM `city`
        INNER JOIN `city_user` ON (`city`.`id` = `city_user`.`city_id`)
        INNER JOIN `authorization` ON (`city_user`.`user_id` = `authorization`.`user_id`)
    WHERE (MONTH(NOW()) = MONTH(`date`)) AND (YEAR(NOW()) = YEAR(`date`))
    GROUP BY `city`.`id`
) `city_user_authorization`;
```

```
SELECT `country_user_authorization`.`id`, `country_user_authorization`.`name`,
MAX(`total_user`)
FROM (
    SELECT `country`.`id`, `country`.`name`, COUNT(*) AS `total_user`
    FROM `city`
        INNER JOIN `city_user` ON (`city`.`id` = `city_user`.`city_id`)
        INNER JOIN `country` ON (`city`.`country_id` = `country`.`id`)
        INNER JOIN `authorization` ON (`authorization`.`user_id` = `city_user`.`user_id`)
    WHERE (QUARTER(NOW()) = QUARTER(`date`)) AND (YEAR(NOW()) = YEAR(`date`))
    GROUP BY `country`.`id`
```

```
) `country_user_authorization`;
```

Вывести список стран по возрастанию количества пользователей в стране. (Аналогично сделать для городов)

```
SELECT `city`.`id`, `city`.`name`, COUNT(*) AS `total_user`  
FROM `city`  
    INNER JOIN `city_user` ON (`city`.`id` = `city_user`.`city_id`)  
GROUP BY `city`.`id`  
ORDER BY `total_user` ASC;
```

```
SELECT `country`.`id`, `country`.`name`, COUNT(*) AS `total_user`  
FROM `city`  
    INNER JOIN `city_user` ON (`city`.`id` = `city_user`.`city_id`)  
    INNER JOIN `country` ON (`city`.`country_id` = `country`.`id`)  
GROUP BY `country`.`id`  
ORDER BY `total_user` ASC;
```

Посчитать сколько проживает пользователей по ролям в каждом городе/каждой стране

```
SELECT `city_user`.`city_id`, `city`.`name`, `role_user`.`role_id`, `role`.`title`, COUNT(*)  
AS `total_user`  
FROM `city_user`  
    INNER JOIN (`city` ON `city`.`id` = `city_user`.`city_id`)  
    INNER JOIN (`role_user` ON `role_user`.`user_id` = `city_user`.`user_id`)  
INNER JOIN (`role` ON `role`.`id` = `role_user`.`role_id`)  
GROUP BY `role_user`.`role_id`, `city_user`.`city_id`;
```

```
SELECT `city`.`country_id`, `country`.`name`, `role_user`.`role_id`, `role`.`title`, COUNT(*)  
AS `total_user`  
FROM `city_user`  
    INNER JOIN `city` ON (`city`.`id` = `city_user`.`city_id`)  
    INNER JOIN `role_user` ON (`role_user`.`user_id` = `city_user`.`user_id`)  
    INNER JOIN `country` ON (`city`.`country_id` = `country`.`id`)  
    INNER JOIN `role` ON (`role`.`id` = `role_user`.`role_id`)  
GROUP BY `role_user`.`role_id`, `city`.`country_id`;
```

Посчитать сколько раз заходили пользователи с ролью админ за последний месяц в разрезе каждой страны и города

```
SELECT `city_user`.`city_id`, `city`.`name`, `authorization`.`user_id`,  
COUNT(*) AS `total_user`  
FROM `city_user`  
    INNER JOIN `city` ON (`city`.`id` = `city_user`.`city_id`)  
    INNER JOIN `role_user` ON (`role_user`.`user_id` = `city_user`.`user_id`)  
    INNER JOIN `role` ON (`role`.`id` = `role_user`.`role_id`)  
    INNER JOIN `authorization` ON (`city_user`.`user_id` = `authorization`.`user_id`)  
WHERE `role`.`title` = 'admin'  
AND (TO_DAYS(NOW()) - TO_DAYS(`date`)) <= 30  
GROUP BY `city_user`.`city_id`, `authorization`.`user_id`;
```

```
SELECT `city`.`country_id`, `country`.`name`, `authorization`.`user_id`,
```

```

COUNT(*) AS `total_user`
FROM `city_user`
    INNER JOIN `city` ON (`city`.`id` = `city_user`.`city_id`)
    INNER JOIN `role_user` ON (`role_user`.`user_id` = `city_user`.`user_id`)
    INNER JOIN `country` ON (`city`.`country_id` = `country`.`id`)
    INNER JOIN `role` ON (`role`.`id` = `role_user`.`role_id`)
    INNER JOIN `authorization` ON (`city_user`.`user_id` = `authorization`.`user_id`)
WHERE `role`.`title` = 'admin'
AND (MONTH(NOW( )) = MONTH(`date`)) AND (YEAR(NOW( )) = YEAR(`date`))
GROUP BY `city`.`country_id`, `authorization`.`user_id`;

```

Найти всех пользователей у которых нет ни одной роли

```

SELECT `user`.`id`, `user`.`name`, `user`.`lastname`
FROM `user`
    LEFT JOIN `role_user` ON (`user`.`id` = `role_user`.`user_id`)
WHERE `role_user`.`role_id` IS NULL;

```

Посчитать сколько проживает в каждой стране и в каждом городе пользователей по всем существующим ролям

```

SELECT `role`.`id` AS `role_id`, `role`.`title`, `city_user`.`city_id`, `city`.`name`,
COUNT(*) AS `total_user`
FROM `role`
    LEFT JOIN `role_user` ON (`role`.`id` = `role_user`.`role_id`)
    LEFT JOIN `city_user` ON (`city_user`.`user_id` = `role_user`.`user_id`)
    LEFT JOIN `city` ON (`city`.`id` = `city_user`.`city_id`)
WHERE `role_user`.`role_id` IS NOT NULL
GROUP BY `role`.`id`, `city_user`.`city_id`;

```

```

SELECT `role`.`id` AS `role_id`, `role`.`title`, `city`.`country_id`, `country`.`name`,
COUNT(*) AS `total_user`
FROM `role`
    LEFT JOIN `role_user` ON (`role`.`id` = `role_user`.`role_id`)
    LEFT JOIN `city_user` ON (`city_user`.`user_id` = `role_user`.`user_id`)
    LEFT JOIN `city` ON (`city`.`id` = `city_user`.`city_id`)
    LEFT JOIN `country` ON (`country`.`id` = `city`.`country_id`)
WHERE `role_user`.`role_id` IS NOT NULL
GROUP BY `role`.`id`, `country`.`id`;

```

Все SQL запросы реализовать с учетом активных и неактивных пользователей

Для обозначения активности пользователей в таблице `user` используется атрибут `is\_active`. Условие проверки этого атрибута:

```

WHERE `user`.`is_active` = 1;

```

можно использовать во всех запросах.