

- 1) Find the total number of listening actions done in each city in the current week and display the result in descending order of the total listening actions

```
select city, count(user_id) as listening_count
from fact_weekly_songs_listens
join dim_users
using (user_id)
group by city
order by listening_count desc;
```

city	listening_count
OK	248
NV	235
TX	220
WA	208
NY	200
FL	198
VA	186
CA	181
LA	178
IN	146

- 2) Find the cumulative count of song plays of each user as of 10 November 2022. Display the counts of the three highest users

```
WITH history AS (
SELECT user_id, sum(song_plays) as song_plays
FROM fact_historical_songs_listens
group by user_id

UNION ALL

SELECT user_id, COUNT(listen_id) AS song_plays
FROM fact_weekly_songs_listens
WHERE listen_time <= '2022-11-13'
GROUP BY user_id)

SELECT user_id, SUM(song_plays) AS songs_count
FROM history
GROUP BY user_id
ORDER BY songs_count DESC
limit 3;
```

user_id	songs_count
1893	138
1599	129
1193	125

- 3) Find the names of users who have listened to songs for four consecutive days in the current week

```
with consecutive_listening_days as
(select user_id , CAST(listen_time AS date) as listen_day,
lead(CAST(listen_time AS date) , 1, 0) over(partition by user_id
order by CAST(listen_time AS date) asc) as next_listen_day
from fact_weekly_songs_listens),
four_consecutive_listening_days as
(select c1.user_id, c1.listen_day, c1.next_listen_day,
c2.next_listen_day as following_listen_day, c3.next_listen_day as
three_days_later
from consecutive_listening_days c1
join consecutive_listening_days c2
join consecutive_listening_days c3
where c2.user_id = c1.user_id
and c2.user_id= c3.user_id
and c2.listen_day = c1.next_listen_day
and c3.listen_day = c2.next_listen_day

and c1.next_listen_day = c1.listen_day + INTERVAL 1 DAY
and c2.next_listen_day = c2.listen_day + INTERVAL 1 DAY
and c3.next_listen_day = c3.listen_day + INTERVAL 1 DAY)

select DISTINCT name
from four_consecutive_listening_days
join dim_users
using (user_id);
```

name

Stephanie Andersen
Sabrina Howard
Douglas Sanchez
Cristina Hines
Robert Preston
April McLaughlin
Jonathan Willis
Jeffrey Bauer
Mrs. Maria Jones MD
Jonathan Swanson
Sharon Stewart
Anne Brown
Sandra Kelly