-- #1 - On a monthly basis, how many users publish at least one video that violates all

-- three categories - sexual, hateful and spammy?

-- The top-level query applies group by on year, month and counts rows that represent

-- instances when users published videos that violated three rules.

SELECT year, month, COUNT(\*)

FROM (

-- The sub-query first filters on videos that violate all categories then removes

-- duplicate user\_id's using DISTINCT on year,month,user\_id

SELECT DISTINCT

EXTRACT(YEAR FROM date) AS year,

EXTRACT(MONTH FROM date) AS month,

user\_id

FROM violations

WHERE (sexual + hateful + spam) = 3

) t

GROUP BY year, month;

-- #2 - Currently, the integrity team doesnâ€™t enforce banning a user unless the number of violations exceeds ten.

-- A revision is proposed such that a user is banned if the number of violations accumulated exceeds three.

-- For each user, return two rows: the date of the first video and date when banned. Additionally, create an

-- indicator column that shows status of whether a user signed up "0" or banned "1." The query should return

-- a table with user\_id, status, date. Note that some users are not banned; hence, only one row is returned.

-- The first WITH clause calculates the cumulative violations per user across dates.

WITH cumulative\_violation\_table AS (

SELECT user\_id,

date,

SUM(total\_violations) OVER (PARTITION BY user\_id ORDER BY date, video ASC) AS cumulative\_violations

FROM (

SELECT user\_id,

video,

date,

(sexual + hateful + spam) AS total\_violations

FROM violations ) t1

),

-- The second WITH clause takes the sub-query that creates the status indicator below and

-- sets the key dates, first and last videos, based on the date of the first video in each

-- status per user.

status\_minimum\_date AS (

SELECT user\_id,

status,

MIN(date) as date

FROM (

-- The subquery creates a status indicator if the user is banned "1" or not "0" on a particular day.

SELECT user\_id,

date,

CASE WHEN cumulative\_violations <= 3 THEN 0 ELSE 1 END AS status

FROM cumulative\_violation\_table ) t

GROUP BY user\_id, status

)

-- Final table that retrieves status and date per user.

SELECT \* FROM status\_minimum\_date ORDER BY user\_id, status;