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use tfq;
select * from EmployeeTasks
--1. Write a query to calculate the running total of tasks completed by each employee,
    ordered by the completion date
select employee_id, completion_date, tasks_completed,
sum(tasks_completed) over(partition by employee_id order by completion_date) from
EmployeeTasks
order by employee_id, completion_date

--2. Write a query to find the longest streak of consecutive days for each employee
    where tasks were completed
-- Step 1: Calculate Row Numbers and Date Differences
WITH Streaks AS (
    SELECT
        employee_id,
        completion_date,
        ROW_NUMBER() OVER (PARTITION BY employee_id ORDER BY completion_date) AS rn,
        DATEDIFF(DAY, LAG(completion_date, 1) OVER (PARTITION BY employee_id ORDER BY
        completion_date), completion_date) AS day_diff
    FROM EmployeeTasks
),

-- Step 2: Assign Grouping Key Based on Consecutive Dates
GroupedStreaks AS (
    SELECT
        employee_id,
        completion_date,
        SUM(CASE WHEN day_diff > 1 THEN 1 ELSE 0 END) OVER (PARTITION BY employee_id
        ORDER BY completion_date) AS group_key
    FROM Streaks
),

-- Step 3: Identify Streak Start and End Dates
StreakStartEnd AS (
    SELECT
        employee_id,
        MIN(completion_date) AS streak_start_date,
        MAX(completion_date) AS streak_end_date,
        COUNT(*) AS streak_length
    FROM GroupedStreaks
    GROUP BY employee_id, group_key
),

-- Step 4: Find the Longest Streak for Each Employee
LongestStreak AS (
    SELECT
        employee_id,
        streak_start_date,
        streak_end_date,
        streak_length,
        ROW_NUMBER() OVER (PARTITION BY employee_id ORDER BY streak_length DESC) AS rn
    FROM StreakStartEnd
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)

-- Final Output: Longest Streak Details

SELECT

    employee\_id,  
    streak\_start\_date,  
    streak\_end\_date,  
    streak\_length

FROM LongestStreak

WHERE rn = 1;