### #1 Copy existing table into a new group

CREATE TABLE bellabeat-362202.Fitbit\_Cleaned.Daily\_Steps AS (

SELECT

\*

FROM

bellabeat-362202.fitbit.dailySteps\_merged

)

### 

### #2 Splitting the date values and formatting from String to correct data type From “MM/DD/YYYY HH/MM/SS A(P)M” as STRING into separate “YYYY/MM/DD” and “HH/MM/SS” and “AM” or “PM” indicator

SELECT

DISTINCT CAST(SPLIT(Time, ' ')[offset(0)] as DATE FORMAT 'MM/DD/YYYY') as Date,

CAST(SPLIT(Time, ' ')[offset(1)] as TIME ) as HMS,

SPLIT(Time, ' ')[offset(2)] as Time\_Of\_Day

FROM

bellabeat-362202.FitBit\_Fitness\_Tracker.Heartrate\_Seconds

### #3 Convert ‘m/d/Y H:M:S AM’ string to ‘Y-m-d H:M:S’ datetime

SELECT

CAST(

PARSE\_TIMESTAMP('%m/%d/%Y %I:%M:%S %p', date\_string\_column)

AS datetime ) AS new\_column\_name

FROM

Dataset.name

### #4 Write the formatted datetime column into a new dataset

CREATE TABLE bellabeat-362202.Fitbit\_Cleaned.Weight\_Log\_Info AS (

SELECT

\*,

CAST(

PARSE\_TIMESTAMP('%m/%d/%Y %I:%M:%S %p', Date)

AS datetime ) AS Datetime

FROM

bellabeat-362202.fitbit.weightLogInfo\_merged

);

### #5 Remove the old date column from the new table

ALTER TABLE bellabeat-362202.Fitbit\_Cleaned.Weight\_Log\_Info

DROP COLUMN Date;

### #6 View average activity distance and minutes by day of the week

SELECT

FORMAT\_TIMESTAMP('%A', ActivityDate) AS Day,

ROUND(avg(Calories), 2) AS avg\_calories,

ROUND(avg(TotalSteps), 2) AS avg\_total\_steps,

ROUND(avg(TotalDistance), 2) AS avg\_total\_distance,

ROUND(avg(TrackerDistance), 2) AS avg\_tracker\_distance,

ROUND(avg(LoggedActivitiesDistance), 2) AS avg\_logged\_act\_distance,

ROUND(avg(SedentaryActiveDistance), 5) AS avg\_sedAct\_distance,

ROUND(avg(LightActiveDistance), 3) AS avg\_lightAct\_distance,

ROUND(avg(ModeratelyActiveDistance), 3) AS avg\_modAct\_distance,

ROUND(avg(VeryActiveDistance), 3) AS avg\_veryAct\_distance,

ROUND(avg(SedentaryMinutes), 2) AS avg\_sedAct\_minutes,

ROUND(avg(LightlyActiveMinutes), 2) AS avg\_lightAct\_minutes,

ROUND(avg(FairlyActiveMinutes), 2) AS avg\_modAct\_minutes,

ROUND(avg(VeryActiveMinutes), 2) AS avg\_veryAct\_minutes

FROM

bellabeat-362202.Fitbit\_Cleaned.Daily\_Activity

GROUP BY

Day

ORDER BY (

CASE Day

WHEN 'Monday' THEN 0

WHEN 'Tuesday' THEN 1

WHEN 'Wednesday' THEN 2

WHEN 'Thursday' THEN 3

WHEN 'Friday' THEN 4

WHEN 'Saturday' THEN 5

WHEN 'Sunday' THEN 6

END

) ASC

### #7 Count amount of unique IDs

SELECT COUNT(DISTINCT Id) AS Num\_Of\_Users

FROM table.name

### #8 Show unique IDs that do not appear in both tables

(

SELECT Id FROM table1

EXCEPT DISTINCT

SELECT Id from table2

)

UNION ALL

(

SELECT Id FROM table2

EXCEPT DISTINCT

SELECT Id from table1

)

### #9 Display max/min of a column and day

(

SELECT

Day,

Column AS newName

FROM

dataTable

WHERE

avg\_calories = (SELECT max(avg\_calories) from dataTable)

)

UNION ALL

(

SELECT

Day,

Column AS newName

FROM

dataTable

WHERE

avg\_calories = (SELECT min(avg\_calories) from dataTable)

)

-- avg\_calories | max: Tue | min: Thur

-- avg\_total\_steps | max: Sat | min: Sun

-- avg\_total\_distance | max: Sat | min: Sun

-- avg\_tracker\_distance | max: Sat | min: Sun

-- avg\_logged\_act\_distance | max: Mon | min: Sat/Sun

-- avg\_sedAct\_distance | max: Mon | min: Sun

-- avg\_lightAct\_distance | max: Sat | min: Sun

-- avg\_modAct\_distance | max: Sat | min: Fri

-- avg\_veryAct\_distance | max: Wed | min: Fri

-- avg\_sedAct\_minutes | max: Mon | min: Thur

-- avg\_lightAct\_minutes | max: Sat | min: Sun

-- avg\_modAct\_minutes | max: Thur | min: Sat

-- avg\_veryAct\_minutes | max: Mon | min: Thurs

### #10 Extract daily sleep start time and end time from Minute\_Sleep

SELECT

Id,

logId,

EXTRACT(DATE from min(Datetime)) AS Day,

EXTRACT(TIME from min(Datetime)) AS sleep\_start,

EXTRACT(TIME from max(Datetime)) AS sleep\_end

FROM

bellabeat-362202.Fitbit\_Cleaned.Minute\_Sleep

GROUP BY

Id, logId

### #11 Merge Sleep\_per\_Day and the result from above to aggregate daily sleep and sleep time

SELECT

day.Id,

time.logId,

time.Day,

TotalSleepRecords,

TotalMinutesAsleep,

TotalTimeInBed,

sleep\_start,

sleep\_end

FROM

bellabeat-362202.Fitbit\_Cleaned.Sleep\_per\_Day AS day

INNER JOIN

bellabeat-362202.Analysis.Sleep\_Time AS time

ON day.Id = time.Id AND

EXTRACT(DATE from day.Datetime) = TIME.Day

### #12 Two queries above together

SELECT

day.Id,

time.logId,

time.Day,

TotalSleepRecords,

TotalMinutesAsleep,

TotalTimeInBed,

sleep\_start,

sleep\_end

FROM

bellabeat-362202.Fitbit\_Cleaned.Sleep\_per\_Day AS day

INNER JOIN

(SELECT

Id,

logId,

EXTRACT(DATE from min(Datetime)) AS Day,

EXTRACT(TIME from min(Datetime)) AS sleep\_start,

EXTRACT(TIME from max(Datetime)) AS sleep\_end

FROM

bellabeat-362202.Fitbit\_Cleaned.Minute\_Sleep

GROUP BY

Id, logId

) AS time

ON day.Id = time.Id AND

EXTRACT(DATE from day.Datetime) = TIME.Day

### #13 Avg time asleep and in bed by day of week

SELECT

FORMAT\_TIMESTAMP('%A', Day) AS Day,

ROUND(avg(TotalMinutesAsleep), 0) AS avg\_time\_asleep,

ROUND(avg(TotalTimeInBed), 0) AS avg\_time\_in\_bed

FROM

bellabeat-362202.Analysis.Sleep\_Time

GROUP BY

Day

ORDER BY (

CASE Day

WHEN 'Monday' THEN 0

WHEN 'Tuesday' THEN 1

WHEN 'Wednesday' THEN 2

WHEN 'Thursday' THEN 3

WHEN 'Friday' THEN 4

WHEN 'Saturday' THEN 5

WHEN 'Sunday' THEN 6

END

) ASC

### #14 Merge Hourly Calorie, Steps, and Intensity

SELECT

C.Id,

C.Datetime,

StepTotal AS Steps,

Calories,

TotalIntensity AS Total\_Intensity,

AverageIntensity AS Avg\_Intensity

FROM

bellabeat-362202.Fitbit\_Cleaned.Hourly\_Calories AS C

JOIN

bellabeat-362202.Fitbit\_Cleaned.Hourly\_Intensities AS I

ON

C.Id = I.Id AND

C.Datetime = I.Datetime

JOIN

bellabeat-362202.Fitbit\_Cleaned.Hourly\_Steps AS S

ON

C.Id = S.Id AND

C.Datetime = S.Datetime

ORDER BY

Id, Datetime

### #15 Average activity per hour of day

SELECT

EXTRACT(Hour from Datetime) AS Hour,

avg(Steps) AS Avg\_Steps,

avg(Calories) AS Avg\_Calories,

avg(Total\_Intensity) AS Avg\_Total\_Intensity,

avg(Avg\_Intensity) AS Avg\_Intensity\_per\_Min

FROM

bellabeat-362202.Analysis.Hourly\_Activity

GROUP BY

Hour

### #16 Aggregating heartrate per second to average heartrate per minute

SELECT

Id,

DATE\_TRUNC(Datetime, minute) AS Timestamp,

avg(Value) AS Avg\_Heartrate

FROM

bellabeat-362202.Fitbit\_Cleaned.Heartrate\_Seconds

GROUP BY

Id, Timestamp

### #17 Merge narrow heartrate, calorie, intensity, and METs per minute tables

SELECT

tb1.Id,

Timestamp,

Avg\_Heartrate,

Calories,

Intensity,

METs

FROM

bellabeat-362202.Analysis.Avg\_Heartrate\_per\_Minute as tb1

INNER JOIN bellabeat-362202.Fitbit\_Cleaned.Calories\_per\_Minute\_Narrow as tb2

ON tb1.Id = tb2.Id AND tb1.Timestamp = tb2.Datetime

INNER JOIN bellabeat-362202.Fitbit\_Cleaned.Intensity\_per\_Minute\_Narrow as tb3

ON tb1.Id = tb3.Id AND tb1.Timestamp = tb3.Datetime

INNER JOIN bellabeat-362202.Fitbit\_Cleaned.METs\_per\_Minute\_Narrow as tb4

ON tb1.Id = tb4.Id AND tb1.Timestamp = tb4.Datetime

ORDER BY

tb1.Id, Timestamp asc

### #18 Calculating average heartrate by the hour of day

SELECT

EXTRACT(Hour from Timestamp) AS Hour\_of\_Day,

avg(Avg\_Heartrate) as Avg\_Heartrate

FROM

bellabeat-362202.Analysis.Avg\_Heartrate\_per\_Minute

GROUP BY

Hour\_of\_Day

ORDER BY

Hour\_of\_Day