SQL Analysis Summary

1. Total Daily Steps by User

Query retrieved daily steps taken by each user. Helped identify consistent and active users.

```
SELECT Id, ActivityDay, TotalSteps

FROM cleaned_dailyActivity

ORDER BY ActivityDay;
```

2. Average Calories Burned

Found the average daily calories burned per user. This gives a baseline of energy expenditure.

```
SELECT Id, AVG(Calories) AS AvgCalories FROM cleaned_dailyActivity

GROUP BY Id;
```

3. Total Active Minutes

Combined very active, fairly active, and lightly active minutes. Provided an estimate of how much time usersare physically active daily.

```
SELECT ActivityDay,

    SUM(VeryActiveMinutes + FairlyActiveMinutes + LightlyActiveMinutes) AS

TotalActiveMinutes

FROM cleaned_dailyActivity

GROUP BY ActivityDay;
```

4. Sleep Duration Analysis

Calculated average sleep duration per user. Helped identify if users are meeting the recommended 7-8hours.

```
SELECT Id, AVG(TotalMinutesAsleep) AS AvgSleepMinutes

FROM sleepDay

GROUP BY Id;
```

5. Sleep vs. Calories Burned

Joined sleep and activity tables on date and user ID. Helped check if better sleep leads to better activity performance.

```
SELECT s.Id, s.ActivityDay, s.TotalMinutesAsleep, d.Calories

FROM sleepDay s

JOIN cleaned_dailyActivity d   ON s.Id = d.Id AND s.ActivityDay = d.ActivityDay;
```

6. Activity Intensity Distribution

Categorized intensity into low, medium, high. Found that most activity minutes are low to medium inSELECT

```
  CASE
    WHEN Intensity < 3 THEN 'Low'     WHEN Intensity BETWEEN 3 AND 6 THEN 'Medium'
    ELSE 'High'
  END AS Intensity_Level,
  COUNT(*) AS Frequency
FROM cleaned_minuteIntensities
GROUP BY Intensity_Level;
```

tensity.

7. Average Daily Steps

Showed long-term step consistency per user. Used to recommend walking goals for different user groups.

```
SELECT Id, AVG(TotalSteps) AS AvgDailySteps FROM cleaned_dailyActivity
GROUP BY Id;
```

Key Insights

- Most users are moderately active.
- Sleep patterns are irregular, and sleep data is incomplete for some users.
- Higher sleep duration doesn't always correlate with higher activity.
- Many users are below the recommended 10,000 steps/day.

Recommendations

- Encourage users to set daily step goals.
- Promote consistent sleep routines through reminders.
- Incentivize high-intensity activity through in-app challenges.

Conclusion:

This SQL analysis provided foundational insights to support Bellabeat's wellness product strategy. Future analysis can expand by integrating heart rate and gender-based behavioral segmentation.