```
/*
First of all, upload the two months datasets into bigquery, manually editing the
schema by changing the DateTime column from time stamp into string because bigquery
does not recognize the timestamp format of the dataset.
*/



# Merge the two months minute_Intensities and convert DateTime column from string to
timestamp

# Distinct to remove duplicates

SELECT DISTINCT Id, UTC_ActivityMinute, Intensity
FROM (

# Convert string datatype into time stamp

SELECT Id, PARSE_TIMESTAMP('%m/%d/%Y %r %Z', ActivityMinute) AS UTC_ActivityMinute,
Intensity
FROM (
SELECT Id, CONCAT(ActivityMinute, " +00:00") AS ActivityMinute, Intensity
FROM(

# Merge the two months together

SELECT *
FROM(
SELECT *
FROM capstone-project-329311.Fitabase.minuteIntensitiesNarrow_merged_2
WHERE Id IN (SELECT Id FROM
capstone-project-329311.Fitabase.minuteIntensitiesNarrow_merged)
) AS DB_2
UNION ALL
SELECT *
FROM capstone-project-329311.Fitabase.minuteIntensitiesNarrow_merged
ORDER BY Id
)
)
)

# By the same way we can merge minute_Sleep, weight_LogInfo, heart rate



# Merge the two months minute_Sleep

# Change values of sleep_type from 1,2 and 3 into asleep, restless and awake

SELECT DISTINCT Id, UTC_ActivityMinute
```

```
,CASE value WHEN 1 THEN 'asleep' WHEN 2 THEN 'restless' WHEN 3 THEN 'awake_bed' END
As sleep_type

# The rest goes as minute_Intensities merging



# Calculating average BMI after merging the two months weight_LogInfo

SELECT Id,avg_weight, avg_BMI, CASE
WHEN avg_BMI BETWEEN 18.5 AND 24.9 THEN 'Normal'
WHEN avg_BMI BETWEEN 25.0 AND 29.9 THEN 'Overweight'
WHEN avg_BMI > 30.0 THEN 'Obese'
END AS Category
FROM (
SELECT Id, AVG(WeightKg) avg_weight, AVG(BMI) avg_BMI
FROM capstone-project-329311.Fitabase_Merged.weight_LogInfo
GROUP BY Id
ORDER BY avg_BMI
)



# Converting heart rate from beats per second into beats per minute after merging
the two months heartrate_seconds

SELECT Id, UTC_Time UTC_ActivityMinute, heart_rate_min
FROM(
SELECT Id, DATETIME_TRUNC(UTC_Time, minute) as UTC_Time , AVG(Value) heart_rate_min
FROM capstone-project-329311.Fitabase_Merged.heartrate_seconds
GROUP BY id, UTC_Time
ORDER BY UTC_Time
)



# Calculating average heart rate for different intensities

SELECT Intensity, AVG(heart_rate_min) avg_HR
FROM
 capstone-project-329311.Fitabase_Merged.minute_Intensities C
 LEFT JOIN capstone-project-329311.Fitabase_Merged.minute_HR  HR
 ON C.Id = HR.Id AND C.UTC_ActivityMinute = HR.UTC_ActivityMinute
WHERE heart_rate_min > 0
Group by Intensity



# Join minute_Intensities with HR and fill na in HR
```

```
SELECT N.Id, N.UTC_ActivityMinute, Intensity, CASE
WHEN Intensity = 0 THEN IFNULL(heart_rate_min, 68.454450602027663)
WHEN Intensity = 1 THEN IFNULL(heart_rate_min, 85.969880393527077)
WHEN Intensity = 2 THEN IFNULL(heart_rate_min, 101.90953843625941)
WHEN Intensity = 3 THEN IFNULL(heart_rate_min, 120.1748174945493)
END AS heart_rate_min

FROM capstone-project-329311.Fitabase_Merged.minute_Intensities N
LEFT JOIN capstone-project-329311.Fitabase_Merged.minute_HR  HR
ON HR.Id = N.Id AND HR.UTC_ActivityMinute = N.UTC_ActivityMinute




/*
References

https://www.kaggle.com/arashnic/fitbit/discussion/265899

https://stackoverflow.com/questions/26916741/how-to-join-two-tables-by-multiple-colu
mns-in-sql
*/
```