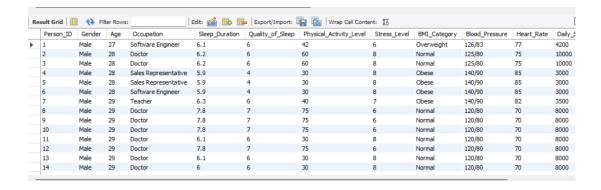
## 1. Retrieve the information of all individuals in the dataset.

-- 1. Retrieve the information of all individuals in the dataset. SELECT \* FROM patient\_details;

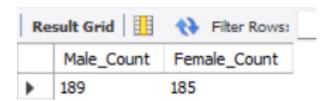


## 2. Retrieve the count of males and females in the dataset.

-- 2. Retrieve the count of males and females in the dataset.

## SELECT

```
(SELECT COUNT(*) FROM patient_details WHERE Gender = 'Male') AS Male_Count,
(SELECT COUNT(*) FROM patient_details WHERE Gender = 'Female') AS Female_Count;
```



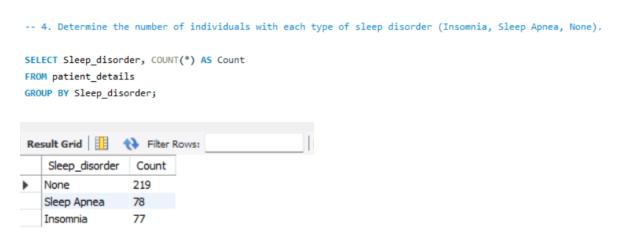
## 3. Calculate the average sleep duration of all individuals in the dataset.

-- 3. Calculate the average sleep duration of all individuals in the dataset.

```
SELECT AVG(Sleep_Duration) as avg_count
FROM patient_details;
```

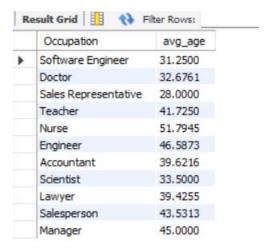


4. Determine the number of individuals with each type of sleep disorder (Insomnia, Sleep Apnea, None).



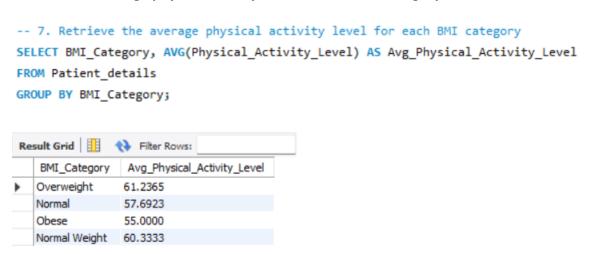
- 5. Find the average age of individuals grouped by occupation
  - -- 5. Find the average age of individuals grouped by occupation.

```
SELECT Occupation, AVG(age) as avg_age FROM patient_details GROUP BY Occupation;
```



6. Calculate the average quality of sleep for individuals with stress levels above 5

7. Retrieve the average physical activity level for each BMI category.



8. Find the number of individuals with systolic blood pressure greater than 120

9. Determine if there is any correlation between sleep duration and heart rate.

```
SELECT
          SUM((Sleep_Duration - Sleep_Duration_mean) * (Heart_Rate - Heart_Rate_mean)) /
          SQRT(SUM(POWER(Sleep_Duration - Sleep_Duration_mean, 2))) * SUM(POWER(Heart_Rate - Heart_Rate_mean, 2)))
      ) AS correlation_coefficient
\ominus FROM (
       SELECT
          AVG(Sleep_Duration) AS Sleep_Duration_mean,
          AVG(Heart_Rate) AS Heart_Rate_mean
       FROM Patient_details
 ) AS means,
       SELECT Sleep_Duration, Heart_Rate
      FROM Patient_details
 ) AS data;
   correlation_coefficient
     -0.516454837324888
```

Predict the likelihood of an individual having a sleep disorder based on their occupation, stress level

```
SELECT
Occupation,
Stress_Level,
Sleep_Duration,
COUNT(*) AS Total_Individuals,
SUM(CASE WHEN Sleep_Disorder <> 'None' THEN 1 ELSE @ END) AS Individuals_With_Disorder,
ROUND(SUM(CASE WHEN Sleep_Disorder <> 'None' THEN 1 ELSE @ END) * 100.0 / COUNT(*), 2) AS Likelihood_of_Disorder
FROM
patient_details
GROUP BY
Occupation, Stress_Level, Sleep_Duration;
```

Occupation	Stress_Level	Sleep_Duration	Total_Individuals	Individuals_With_Disorder	Likelihood_of_Disorder
Software Engineer	6	6.1	1	0	0.00
Doctor	8	6.2	6	0	0.00
Sales Representative	8	5.9	2	2	100.00
Software Engineer	8	5.9	1	1	100.00
Teacher	7	6.3	1	1	100.00
Doctor	6	7.8	9	0	0.00
Doctor	8	6.1	9	0	0.00
Doctor	8	6	18	2	11.11
Nurse	7	6.5	2	2	100.00
Doctor	6	7.6	5	0	0.00
Doctor	6	7.7	14	1	7.14
Doctor	6	7.9	4	0	0.00
Nurse	7	6.4	2	2	100.00
Nurse	4	7.9	1	0	0.00
Engineer	3	7.5	2	0	0.00
Accountant	6	7.2	3	0	0.00
Scientist	6	6.2	2	0	0.00
Scientist	8	5.8	2	2	100.00