

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

```
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SELECT * FROM patient_details;
```

Result Grid   Filter Rows:   Edit:   Export/Import:   Wrap Cell Content:											
Person_ID	Gender	Age	Occupation	Sleep_Duration	Quality_of_Sleep	Physical_Activity_Level	Stress_Level	BMI_Category	Blood_Pressure	Heart_Rate	Daily_S
1	Male	27	Software Engineer	6.1	6	42	6	Overweight	126/83	77	4200
2	Male	28	Doctor	6.2	6	60	8	Normal	125/80	75	10000
3	Male	28	Doctor	6.2	6	60	8	Normal	125/80	75	10000
4	Male	28	Sales Representative	5.9	4	30	8	Obese	140/90	85	3000
5	Male	28	Sales Representative	5.9	4	30	8	Obese	140/90	85	3000
6	Male	28	Software Engineer	5.9	4	30	8	Obese	140/90	85	3000
7	Male	29	Teacher	6.3	6	40	7	Obese	140/90	82	3500
8	Male	29	Doctor	7.8	7	75	6	Normal	120/80	70	8000
9	Male	29	Doctor	7.8	7	75	6	Normal	120/80	70	8000
10	Male	29	Doctor	7.8	7	75	6	Normal	120/80	70	8000
11	Male	29	Doctor	6.1	6	30	8	Normal	120/80	70	8000
12	Male	29	Doctor	7.8	7	75	6	Normal	120/80	70	8000
13	Male	29	Doctor	6.1	6	30	8	Normal	120/80	70	8000
14	Male	29	Doctor	6	6	30	8	Normal	120/80	70	8000

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

```
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```

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

Result Grid   Filter Rows:		
	Male_Count	Female_Count
▶	189	185

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

```
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```

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

Result Grid			Filter Rows: <input type="text"/>
	avg_count		
▶	7.132085540077903		

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

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```

```
SELECT Sleep_disorder, COUNT(*) AS Count
FROM patient_details
GROUP BY Sleep_disorder;
```

Result Grid			Filter Rows: <input type="text"/>
	Sleep_disorder	Count	
▶	None	219	
	Sleep Apnea	78	
	Insomnia	77	

5. Find the average age of individuals grouped by occupation

```
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```

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

Result Grid			Filter Rows: <input type="text"/>
	Occupation	avg_age	
▶	Software Engineer	31.2500	
	Doctor	32.6761	
	Sales Representative	28.0000	
	Teacher	41.7250	
	Nurse	51.7945	
	Engineer	46.5873	
	Accountant	39.6216	
	Scientist	33.5000	
	Lawyer	39.4255	
	Salesperson	43.5313	
	Manager	45.0000	

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

```
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```

```
SELECT AVG(Quality_of_Sleep) As QoS
FROM patient_details
WHERE Stress_Level > 5;
```

Result Grid		Filter Rows:
	QoS	
▶	6.2169	

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

```
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```

```
SELECT BMI_Category, AVG(Physical_Activity_Level) AS Avg_Physical_Activity_Level
FROM Patient_details
GROUP BY BMI_Category;
```

Result Grid			Filter Rows:
	BMI_Category	Avg_Physical_Activity_Level	
▶	Overweight	61.2365	
	Normal	57.6923	
	Obese	55.0000	
	Normal Weight	60.3333	

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

```
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```

```
SELECT COUNT(*) AS num_individuals
FROM patient_details
WHERE SUBSTRING_INDEX(Blood_Pressure, '/', 1) > 120;
```

Result Grid		Filter Rows:
	num_individuals	
▶	288	

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
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;
```

Result Grid		Filter Rows
	correlation_coefficient	
	-0.516454837324888	

10. 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 0 END) AS Individuals_With_Disorder,
    ROUND(SUM(CASE WHEN Sleep_Disorder <> 'None' THEN 1 ELSE 0 END) * 100.0 / COUNT(*), 2) AS Likelihood_of_Disorder
FROM
    patient_details
GROUP BY
    Occupation, Stress_Level, Sleep_Duration;
```

<div> <div>Result Grid</div> <div> <div>Filter Rows:</div> <div>Export:</div> <div>Wrap Cell Content:</div> </div> </div>						
	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