Analysing Students Mental Health

Dataset Overview:-

https://www.kaggle.com/datasets/sonia22222/students-mental-health-assessments

SQL based Questions:-

1. Retrieve the total number of students surveyed.

```
select count(*) as total_students
from students_mental_health;
```

2. Calculate the average stress level.

```
select avg(stress_level) as avg_stress_level
from students_mental_health;
```

3. Identify the most common health issue.

```
select avg(depression_score) as avg_depression,
avg(anxiety_score) as avg_anxiety
from students_mental_health;
```

4. Find the most common sleep quality reported.

```
select sleep_quality,count(*) as total_students
from students_mental_health
group by sleep_quality
order by total_students desc
limit 1;
```

5. List the top 5 most residence types with their frequencies.

```
select residence_type,count(*) as total_students
from students_mental_health
group by residence_type
order by total_students desc
limit 5;
```

6. Find the average stress level per course.

```
select course,avg(stress_level) as avg_stress
from students_mental_health
group by course
order by avg_stress desc;
```

7. Identify the stress level distribution by gender.

```
select gender,avg(stress_level) as avg_stress
from students_mental_health
group by gender;
```

8. Find the percentage of high stress students (stress_level>=5) using counselling service use.

```
select
    (count(case when stress_level >= 5
     And counselling_service_use = 'Frequently' then 1 end)
* 100.0 /
     count(case when stress_level >= 5 then 1 end))
     AS percentage_counseling_high_stress
From students_mental_health;
```

9. Find the average CGPA grouped by stress levels.

```
select stress_level,avg(CGPA) as avg_cgpa
from students_mental_health
group by stress_level
order by stress_level;
```

10. Identify the top 3 factors linked with high stress.

```
Select avg(financial_stress) AS avg_financial_stress,
    avg(semester_credit_load) AS avg_credit_load,
     avg(case when physical_activity = 'Low' then 1 else 0
end) AS low_activity_ratio
From students_mental_health
Where stress_level >= 5;
```

11. Calculate the percentage contribution of each gender to high stress case.

```
Select gender,
      count(*) * 100.0 / (select count(*)
       From students_mental_health where stress_level >=
5)
      AS pct_high_stress
From students_mental_health
Where stress_level >= 5
Group by gender;
```

12. Analyze the cumulative count of students reported over time.

```
Select stress_level,
      sum (count(*)) over(order by stress_level)
      AS cumulative_counseling_use
From students_mental_health
Where counselling_service_use = 'Occasionally' or
counselling_service_use = 'Frequently'
Group by stress_level
Order by stress_level;
```

13. Determine the top 3 courses with the highest average depression score.

```
Select course, avg(depression_score) AS avg_depression
From students_mental_health
Group by course
Order by avg_depression desc
Limit 3;
```

14. Show stress vs CGPA trend(categorical analysis).

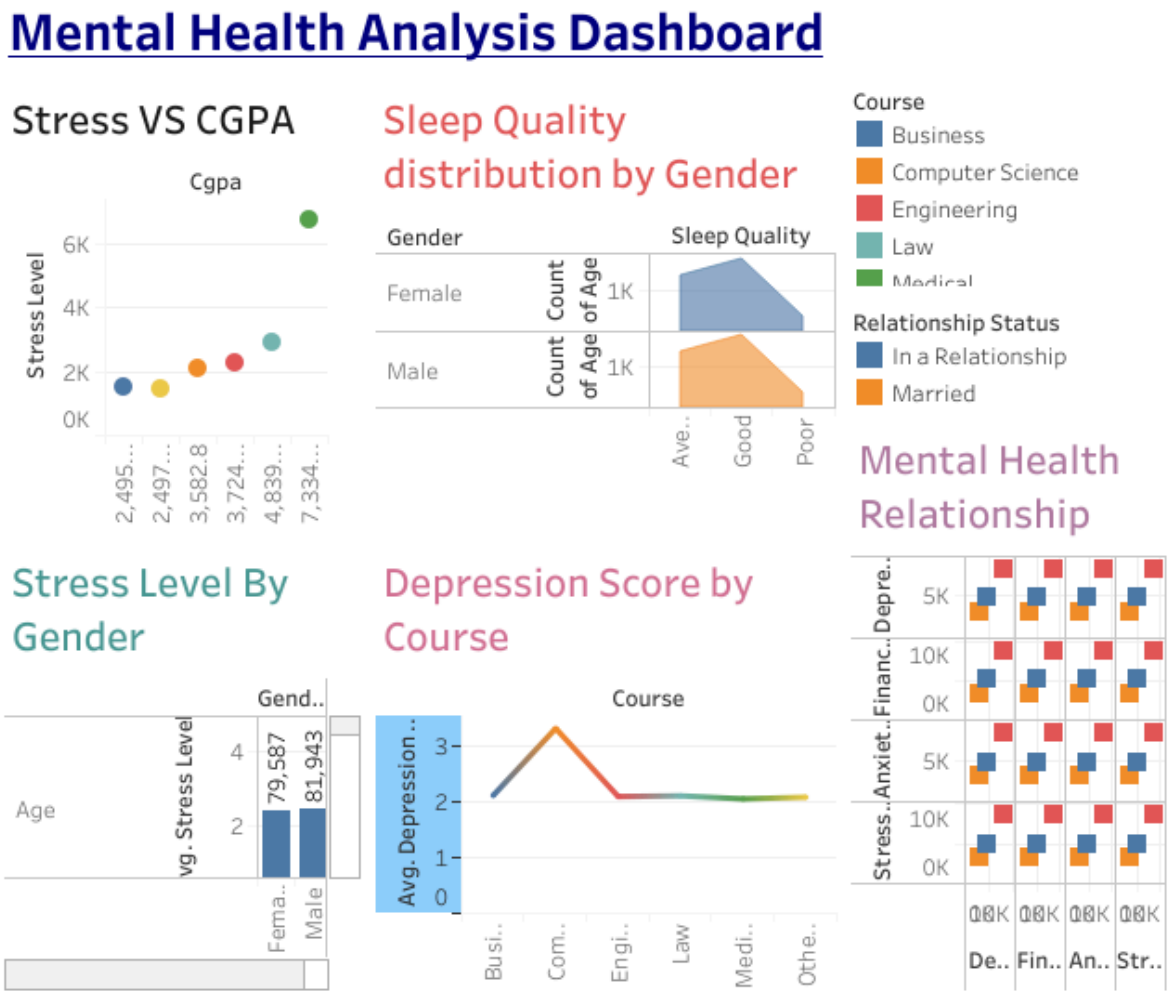
```
select
   case
        When stress_level between 1 AND 3 then 'Low Stress'
       When stress_level between 4 AND 6 then 'Moderate Stress'
       Else 'High Stress'
   End as stress_category,
   avg(cgpa) AS avg_cgpa
From students_mental_health
Group by  stress_category;
```

15. Identify the top 3 residence types contributing most to financial stress.

```
Select residence_type, avg(financial_stress)
 AS avg_financial_stress
From students_mental_health
Group by  residence_type
Order by avg_financial_stress desc
Limit 3;
```

Tableau Dashboard:-

https://public.tableau.com/app/profile/shubhneet.kaur1479/viz/MentalHealthAnalysisDashboard_17588029927920/Dashboard1



📊 Insights from Student Mental Health Analysis

1. **Stress vs CGPA** → Students with higher stress levels tend to have lower CGPA, showing a negative relationship between stress and academics.

2. **Gender differences** → Female students report slightly higher average stress compared to males.

3. **Sleep quality impact** → Poor sleep quality is strongly associated with higher stress and depression scores.

4. **Depression–Anxiety link** → Depression and anxiety scores are highly correlated, often occurring together.

5. **Financial stress factor** → Financial stress shows a moderate positive correlation with overall stress and depression.

6. **Course & residence variations** → Certain courses and residence types have consistently higher stress levels than others.

💡 Recommendations

1. **Promote better sleep habits** – Conduct workshops on sleep hygiene and lifestyle balance.

2. **Targeted mental health support** – Offer tailored programs for high-stress groups (e.g., females, specific courses, or residence types).

3. **Introduce financial aid & guidance** – Provide financial counseling and support schemes to reduce economic burden.

4. **Address co-occurring symptoms** – Develop integrated programs tackling both depression and anxiety together.

5. **Expand counseling services** – Increase availability of confidential counseling, group therapy, and peer support.

6. **Course-specific wellness initiatives** – Embed stress management sessions in departments with high academic pressure.