Bhartiya Vidya Bhavan's
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Department of Computer Science and Engineering

ADVANCED DATA VISUALIZATION
(EXP 3)

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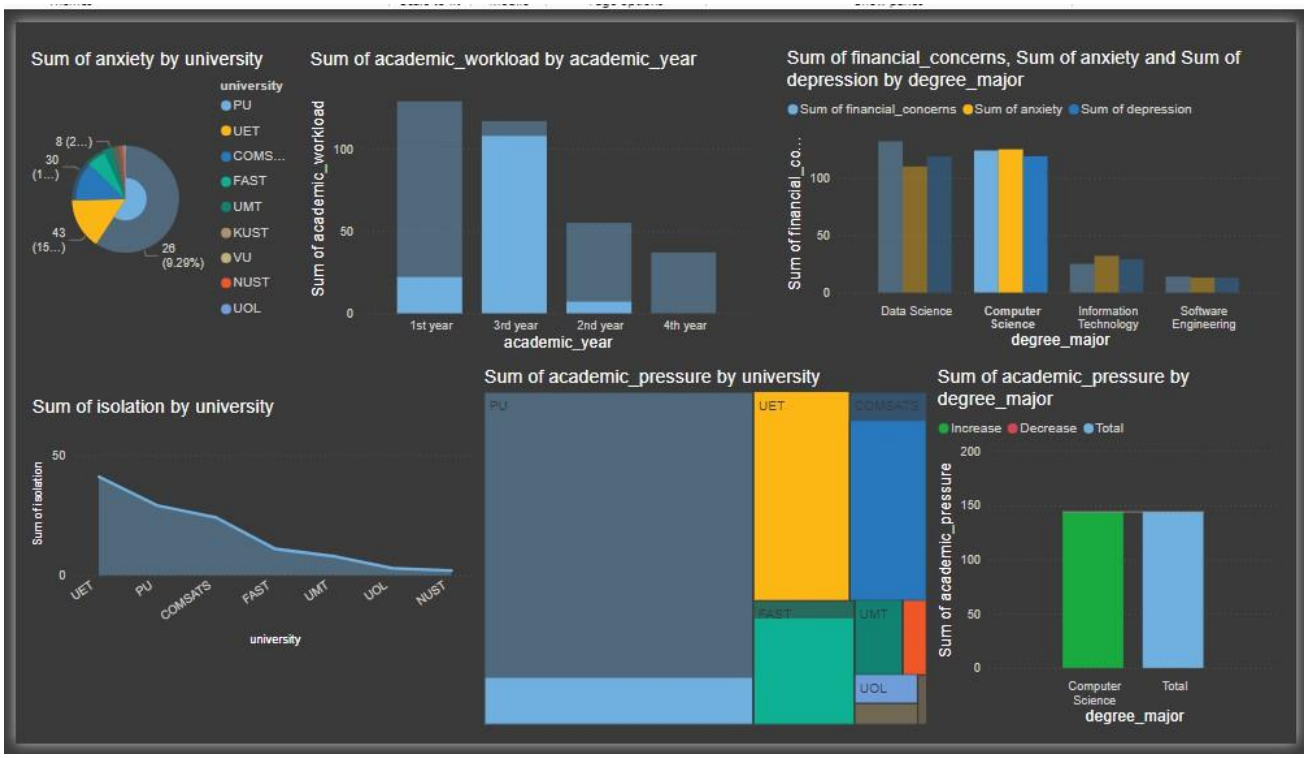
AIM:

Design Interactive Dashboard and storytelling using Power BI /Python

DATA: The dataset appears to capture a comprehensive overview of mental health factors among students across different universities and academic majors. It includes variables such as anxiety, depression, academic pressure, isolation, and financial concerns, providing a multidimensional view of the challenges faced by students. The dataset also seems to be segmented by demographic factors (like university, academic year, and degree major), allowing for detailed analysis of how these mental health concerns vary across different student groups. This type of data is critical for identifying patterns and potential areas where universities can improve student well-being through targeted interventions and support systems.

DASHBOARD:



OBSERVATION:

1. Sum of Anxiety by University (Pie Chart)

- Analysis: The pie chart represents the total sum of anxiety levels reported by students at each university. Universities like PU and UET seem to have a significant share of students reporting anxiety, indicating potential stress factors that may be specific to these institutions. In contrast, universities with smaller slices, like VU and UOL, report lower anxiety levels, which could suggest a more supportive or less stressful environment.

2. Sum of Academic Workload by Academic Year (Stacked Bar Chart)

- Analysis: This chart shows how the academic workload is distributed across different academic years. It appears that students in their 1st year have the highest workload, while the workload seems to decrease in subsequent years. This trend might suggest that students face the most pressure during their initial adjustment to university life, which could be a critical period for interventions.

3. Sum of Financial Concerns, Anxiety, and Depression by Degree Major (Clustered Bar Chart)

- Analysis: This chart compares the financial concerns, anxiety, and depression among students across different degree majors. Students in Data Science and Computer Science majors seem to have higher levels of anxiety and depression, potentially due to the challenging nature of these fields. Financial concerns also appear to be higher in these majors, which may be contributing to the mental health issues observed.

4. Sum of Isolation by University (Area Chart)

- Analysis: The area chart visualizes the total reported isolation feelings by students at each university. UET, PU, and COMSATS have higher levels of reported isolation, suggesting that students at these universities might feel more disconnected or lack a strong support system. This could be due to the campus culture, the size of the student body, or other environmental factors.

5. Sum of Academic Pressure by University (Tree Map)

- Analysis: The tree map displays the total academic pressure experienced by students at different universities. PU has the largest block, indicating that students there report the highest academic pressure, followed by UET and COMSATS. This suggests that these universities may have more rigorous academic programs or less effective stress management resources for students.

6. Sum of Academic Pressure by Degree Major (Clustered Bar Chart)

- Analysis: This chart shows the academic pressure reported by students in different degree majors. Students in Computer Science report the highest pressure, which aligns with the earlier chart showing high levels of anxiety and depression in this major. The data suggests that students in technical fields like Computer Science may need more support to manage academic stress.

<u>Overall Insights</u>:

- High Academic Pressure: Universities like PU and UET show high levels of academic pressure, anxiety, and isolation. This could indicate a need for better mental health support services or stress management programs at these institutions.

- Major-Specific Stress: Technical majors like Computer Science and Data Science report higher levels of anxiety, depression, and academic pressure, suggesting these students might benefit from targeted mental health resources and academic support.
- Year-Wise Workload Distribution: The heavy workload reported by first-year students indicates a critical period where intervention could prevent long-term mental health issues.