ADVANCED DATA VISUALIZATION
EXPERIMENT 10

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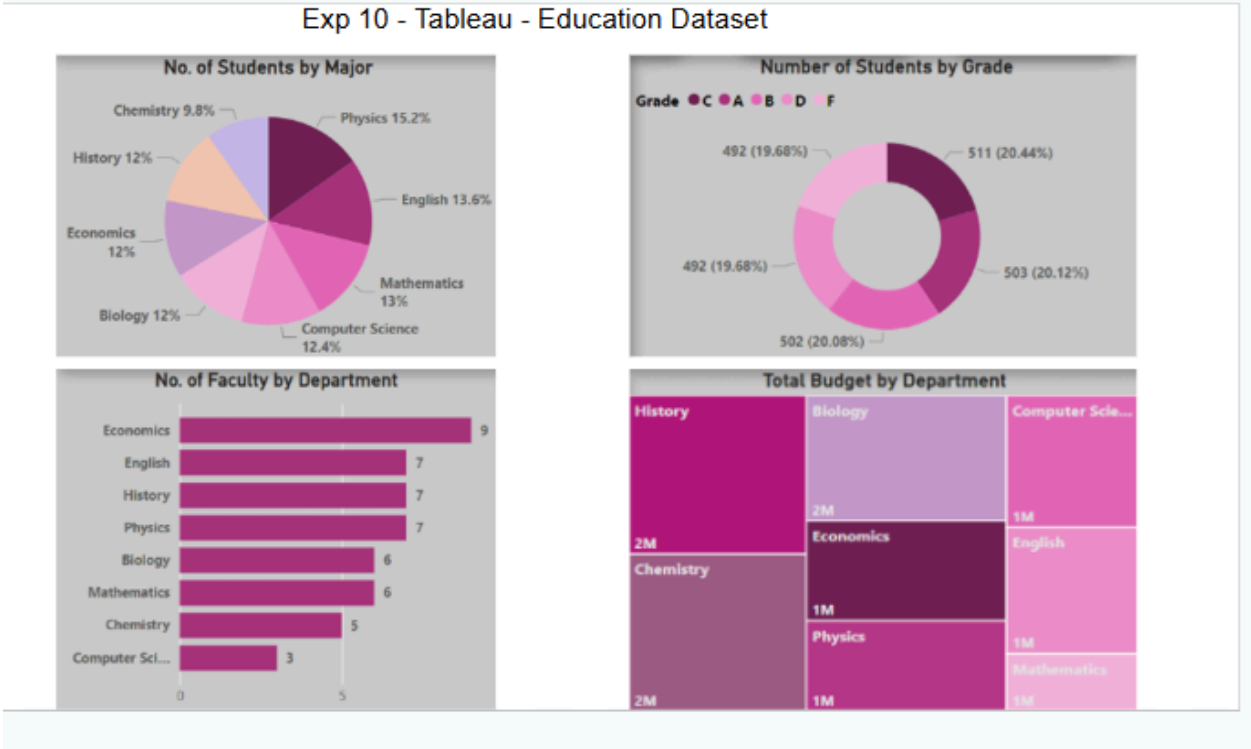

Observations:

1. Pie Chart: Number of Students by Major

- This chart depicts the percentage distribution of students across different majors.
- Physics (15.2%) and Chemistry (9.8%) have the highest and lowest proportions of students, respectively.
- **Insight:** Physics is the most popular major, while Chemistry has the least number of students, suggesting trends in student preferences.

2. Donut Chart: Number of Students by Grade

- The donut chart shows the distribution of students based on their grades (A, B, C, D, F).
- Grades are evenly distributed, with around 20% of students achieving each grade.

- **Insight:** No single grade dominates the distribution, indicating balanced academic performance across the dataset.

3. Bar Chart: Number of Faculty by Department

- This chart compares the number of faculty members across departments.
- Economics has the highest number of faculty (9), while Chemistry and Computer Science have the least (5).
- **Insight:** Economics appears to have the most resources allocated in terms of faculty strength, while smaller departments like Chemistry may face staffing constraints.

4. Treemap: Total Budget by Department

- The treemap illustrates the budget distribution among departments, with larger rectangles indicating higher budgets.
- History, Biology, and Computer Science each have a budget of 2M, while Chemistry, Mathematics, and Physics have only 1M.
- **Insight:** Departments like History and Biology are well-funded, possibly reflecting their higher student enrollments or program priorities.

Conclusion:

The Tableau visualizations provide key insights into the education dataset:

1. **Student Distribution:**
    - Popular majors like Physics and Mathematics may attract more institutional focus, while smaller majors like Chemistry may require efforts to boost enrollment.
2. **Academic Performance:**
    - The even grade distribution indicates consistent academic performance, but further analysis could explore how factors like faculty size or funding impact grades.
3. **Resource Allocation:**
    - Discrepancies in faculty size and departmental budgets highlight potential imbalances in resource allocation. Departments like Chemistry and Computer Science may benefit from additional funding and staffing.
4. **Action Points:**
    - To ensure equitable growth, underfunded departments and less popular majors might require strategic planning for curriculum improvement, faculty recruitment, and student engagement.