🎓 Project Summary: Students' Score Analysis

I have completed a data analysis project on students' academic performance using a dataset named **"Students_score.csv"**.

The goal of this project was to explore students' performance across various metrics, such as gender, parental education, test preparation, and scores in different subjects (math, reading, writing).

🔍 What I Analyzed:

- Gender distribution

- Parental education level vs student scores

- Parental marital status vs scores

- Subject-wise score comparison

- Effect of the test preparation course

- Distribution of ethnic groups

📈 Key Insights and Findings:

1. 💁 **Gender Distribution:**

   - Female students are more in number than male students (exact count shown in the bar graph).

2. 🎓 **Parental Education vs Scores:**

   - Higher parental education is associated with higher average scores in **Math, Reading, and Writing**.

   - A heatmap shows this positive relationship visually.

3. 💍 **Marital Status of Parents:**

    ○ Minimal or **negligible impact** on student scores based on whether parents are married or not.

4. 📚 **Subject Difficulty:**

    ○ From the boxplot:

        ■ **Math** scores are relatively lower and show more variation than Reading and Writing.

        ■ Students find **Math more difficult**.

5. 📝 **Test Preparation Impact:**

    ○ Students who **completed the test preparation course** scored **higher** on average in all subjects compared to those who did not.

    ○ Clearly visible in the heatmap.

6. 🌍 **Ethnic Group Distribution:**

    ○ Pie chart shows students from five ethnic groups:

        ■ Group A to Group E

        ■ Group C and D seem to have a higher percentage share.

✅ **Final Conclusion:**

- Parental education and test preparation positively impact performance.

- No significant influence observed from parents' marital status.

- Math is comparatively more challenging for students.

- Ethnic diversity is well-distributed, with Group C and D being prominent.