Analysis

The student data dataset's many components may be explored and analyzed using the visualizations produced by the code. An overview of the lessons that may be learned from each plot is provided below

Arithmetic score versus reading score by gender in a scatter plot: With the help of this plot, we can see how the math and reading scores of male and female students relate to one another. We may check for a correlation between the two variables and determine whether there are gender differences.

Box plot of Math Score by Race/Ethnicity: This plot helps us compare the distribution of Math Scores for different race/ethnicity groups. We can see if there are any significant differences in the distribution of Math Scores for different groups.

Bar graph of Test Preparation Course by Parents Education Level: This graph displays the number of students who participated in the Test Preparation Course by the parental education level. We can check to see whether there is any correlation between parental educational attainment and propensity to enroll in a test preparation course.

Density plot of Writing Scores by Gender: With this figure, we can assess how Writing Scores are distributed across students in terms of gender. We may check to see if the distribution of Writing Scores differs for each gender.

Test-Preparation Course Bar Plot by Math Score: Plotting the percentage of students who took the test preparation course based on how well they performed on the math test. With relation to math test results, we can investigate the potential for enrolling in a test preparation course.