1. Bar representation of scores with gender hue:

Using the Bar representation for relation between gender and Mean test scores as we can observe in graph the performance of female students in reading and writing is better than male students.

The performance in math is almost similar in both cases. Also, math performance is highest compared to other scores

1. Scatterplot: Reading vs math Scores:

Utilizing the scatter plot to relation between 2 scores Reading and math with gender.

As we can observe that female has achieved less scores in math but better scores in reading. As Male students achieved better scores in math but not as much in reading.

1. Density Curve:

The Density Curse between density of 3 scores in gender perspective.

In the Math score curse we can observe the density of math score in females have peaked at 60 whereas the male students its peaked at 70

In the reading score curve for female student's graph peaked at 75 and for male students' density peaked at 60.

In writing score graph, the density for female students peaked at 80 and for male students it peaked at 70

1. Scatter Plot: Reading score vs Test preparation:

By Using Scatterplot for the reading score vs test preparation, we can observe the data point of reading scores of both the genders, and they have completed the test preparation.

From the graph we can observe that students secure below 40 when they have not completed the test preparation though significant amount of people has secured greater score. But in case of test course completed students the greater numbers are above 40 as per the graph

1. Histogram Representation:

Using histogram to visualize 3 scores, from the graph we can observe more than 200 students are in range of 70 in reading 70 in math, and more students in range from 70 to 80 in writing.

From the reading scores graph we can observe that more than half of the students have crossed the 50. More than 50 students secure the more than 90.

From the math score graph, we can observe that 200 students have secured above 70 and around 50 people have secured more than 90.

From writing graph, we can observe more than 150 students have secured above 60 and more than 50 students secured more that 90 in writing

1. Pie Chart:

Using pie graph virtualization to explain the gender balance from given data.

As projected there slightly a greater number of females with 51.8% whereas males percentage is 48.2% among the students from the given data.

1. Heatmaps:

Heatmaps are being used to explain the correlation between test preparation course, 3 scores. As we can observe that:

Scores vs Test preparation course: the relation between scores and test preparation is moderate positive correlation which helps to attain high scores in all three subjects' math writing and reading.

Reading score vs math score: we can observe positive correlation between reading and math scores, showing that students tend to score higher in reading tend to score higher in math.

Writing score vs Reading score: The correlation between writing scores and Reading score is strong positive as about 0.95. Which helps us determine that students who tend to score more in the reading than he may score more in writing.

Writing score vs Math score: There is a moderate positive correlation between writing and math, explains similar relation like writing and reading scores with the correlation value of 0.8