**Assignment-1**

Data Analysis of Student Performance Dataset Results

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1. This correlation heatmap visualization depicts the correlation between the scores of math, reading, and writing. This heatmap helps to understand the relationship between scores. If the correlation values is high and positive we can tell that students who perform good in one subject will also perform well in another subjects.

A graph showing a heatmap of student scores

Description automatically generated

1. This box plot will compare the distribution of scores in various subjects based on gender. Advantage of box plot is it show the spread of scores, includes median, quartiles, and potential outliers. Which will help in comparing the score distributions across gender.

A chart with green and orange rectangular shapes

Description automatically generatedA graph showing a number of people

Description automatically generated with medium confidence

1. This below scatter plot compares students’ performance in math and reading. This plot depicts the relationship between reading and math scores. So, it tells that student who performs better in math will also score high in reading, and this varies by gender.

A graph showing a number of dots

Description automatically generated

1. The count plot shows the count of students who completed the test preparation course, grouped by gender. This plot will help in understanding whether there is a difference in completing the test preparation course. That provides an idea of how many students benefited from preparation before tests.

A graph showing a course completion

Description automatically generated

1. This Bar plot will compare the average scores across various parental education levels. And this plot shows how parental education impacts student performance. And this allows visual comparison how students fare across different subjects based on their educational background of parents.

A graph of blue bars

Description automatically generated