**Analysis Report**

**Data Visualizations**

1. The below visualization is a Histogram of math reports. This histogram helps to understand the distribution of math scores among students and identify common score ranges and the overall spread of scores.

A graph of a distribution of math scores

Description automatically generated

1. The below visualization is the scatter plot of math score and reading scores, this scatter plot provides a visual overview of the relationship between math and reading scores while considering gender differences. It serves as a starting point for more in-depth analysis and hypothesis testing to better understand the factors influencing academic performance in these subjects.

A graph showing a number of red and blue dots

Description automatically generated

1. The below visualization is a box plot which allows to compare the distribution of writing scores between students those who have standard lunch and those who have free/reduced lunch. This helps to easily identify differences in the distribution of writing scores based on lunch type and assess whether lunch type has an impact on writing scores.

A diagram of a writing score

Description automatically generated with medium confidence

1. The below visualization is a bar graph which shows the distribution of students among different race/ethnicity groups. We can easily compare the number of students in each race/ethnicity group and assess the diversity within the dataset.

A graph of different colored squares

Description automatically generated with medium confidence

1. The below Visualization is a pie chart which shows the distribution of parental education levels among students. We can understand the educational background of students' parents or guardians.

A diagram of a degree

Description automatically generated with medium confidence