Principles of DataScience

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The histogram shows the overall distribution of average scores, making it easy to identify common score ranges and any skewness.

The correlation heatmap highlights how strongly math, reading, and writing scores are related, helping identify subject strengths and weaknesses.

The boxplot compares writing scores based on lunch type, showing differences in performance based on socioeconomic background.

The scatter plot displays the relationship between reading and writing scores, revealing gender-based performance trends.

The pairplot provides a combined view of all three subjects, making it easier to identify patterns and differences between genders.

The visualizations help detect outliers in the dataset, which may indicate errors or unique student performances.

They make it easier to see performance gaps between different student groups, such as gender or economic background.

The correlation heatmap helps predict how improvement in one subject (e.g., reading) might impact another (e.g., writing). The scatter plot allows us to check for linear relationships between reading and writing scores, helping in future predictions.

The histogram makes it easy to spot whether most students perform above or below average in their overall scores.

The boxplot helps compare the spread and consistency of writing scores between students with different lunch types.

The pairplot helps in understanding multi-variable relationships, making it easier to find performance trends.