Notes on Reading a Correlation Heatmap

What Is a Correlation Heatmap?

Definition: A correlation heatmap is a graphical representation of the correlation between multiple variables displayed as a color-coded matrix.

Representation: Each variable is a row and a column, and the cells show the correlation strength and direction.

Colour Code: Darker colours represent stronger correlations, and the colour spectrum indicates the correlation strength and direction.

How to Read a Correlation Heatmap:

Colour Interpretation:

Darker Colour: Indicate stronger correlations.

Lighter colours: Indicate weaker correlations.

Direction of Correlation:

Positive Correlations: One variable increase, the other tends to increase.

Representation: Warm colours (red, orange).

Negative Correlations: One variable increase, the other tends to decrease.

Representation: Cool colours (blue, green).

Example: Food and Health Relationship

Scenario: Studying food types and health outcomes like heart disease.

Interpretation:

Darker red cell between "Fruits" and "Heart Health" suggests a strong positive correlation.

Lighter blue cell between "Processed Foods" and "Heart Health" suggests a weak negative correlation.

Understanding Correlation Heatmaps:

Identify Patterns: Useful for identifying patterns and relationships between multiple variables.

Strength and Direction: Darker colours signify stronger correlations, and warm colours indicate positive correlations.

Visual Insight: Provides quick visual insights into relationships within the data.

Next Steps:

Think like an artist when analysing data with multiple variables.

Utilize correlation heatmaps for a visual understanding of relationships.

Enhance data analysis skills by recognizing the nuances of correlations.