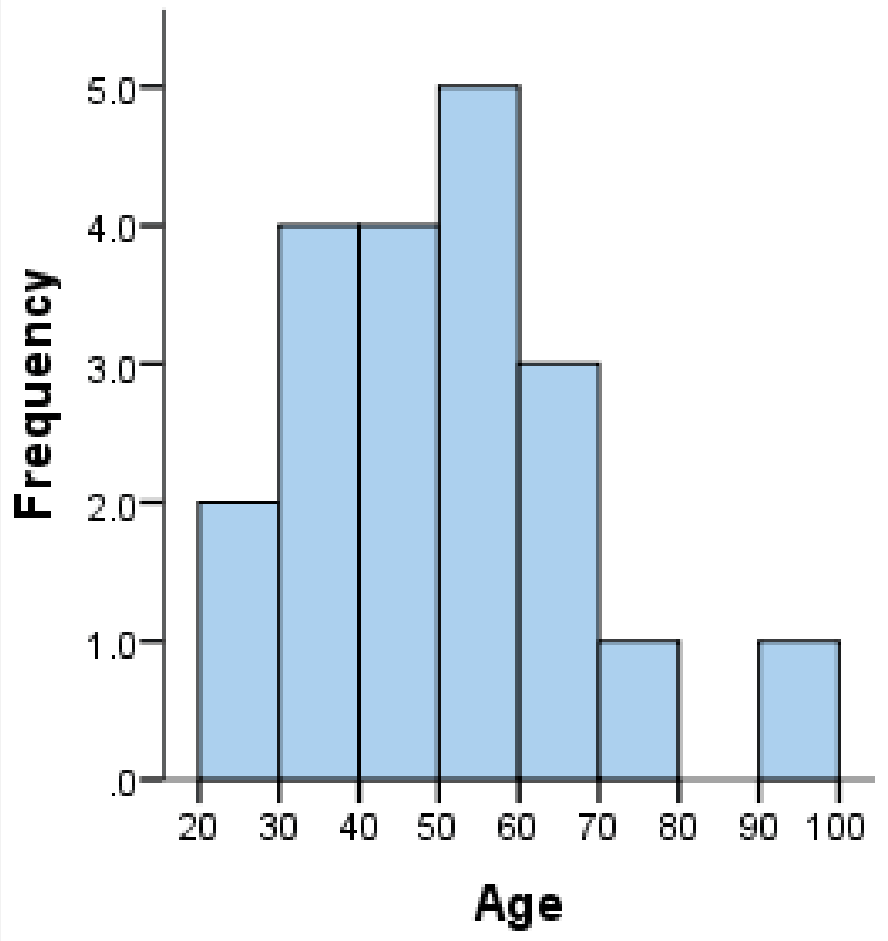
Task 04 (Different Plots/Graphs)

1- Histogram

A histogram is a graphical representation of the distribution of numerical data. It uses bars to display the frequency of data points falling within specific ranges or "bins". Essentially, it provides a visual summary of the data's distribution, showing how often different values occur.



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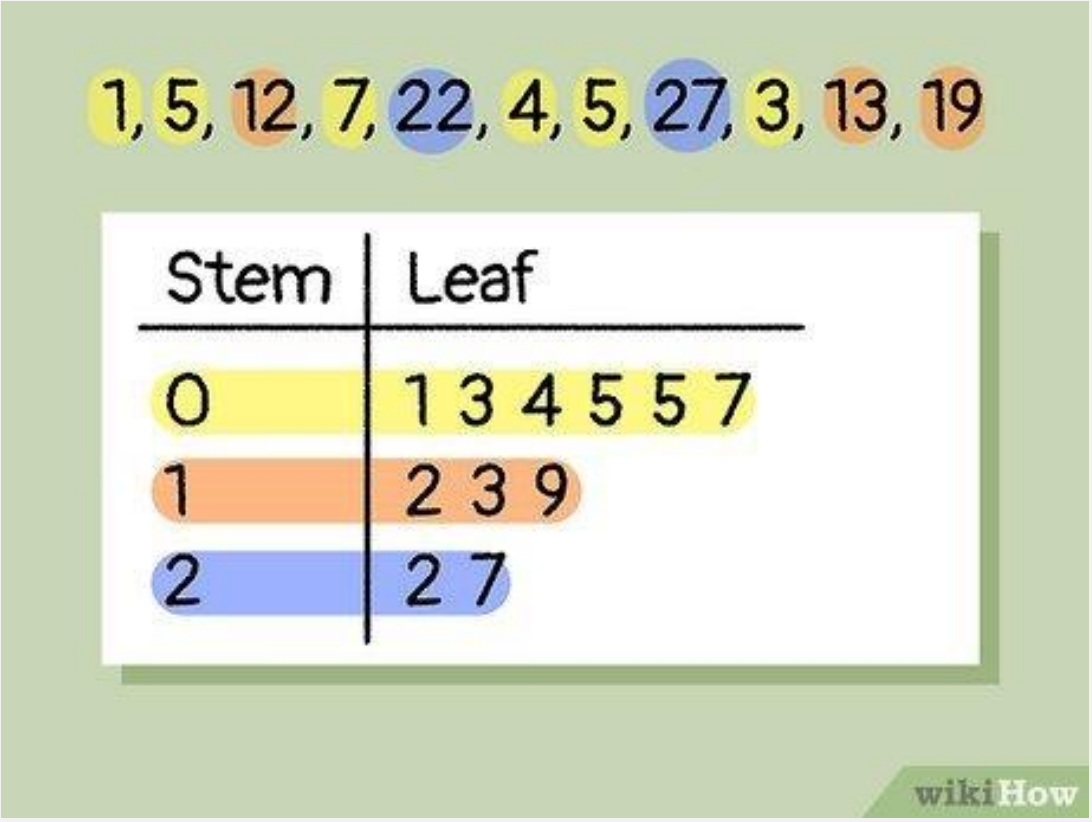
1- Stem & Leaf

A stem-and-leaf plot is a way to organize and visualize numerical data, similar to a histogram. It splits each data point into two parts: a "stem"

(usually the leading digit(s)) and a "leaf" (typically the last digit). This display allows for easy identification of data distribution, central tendency, and variability.



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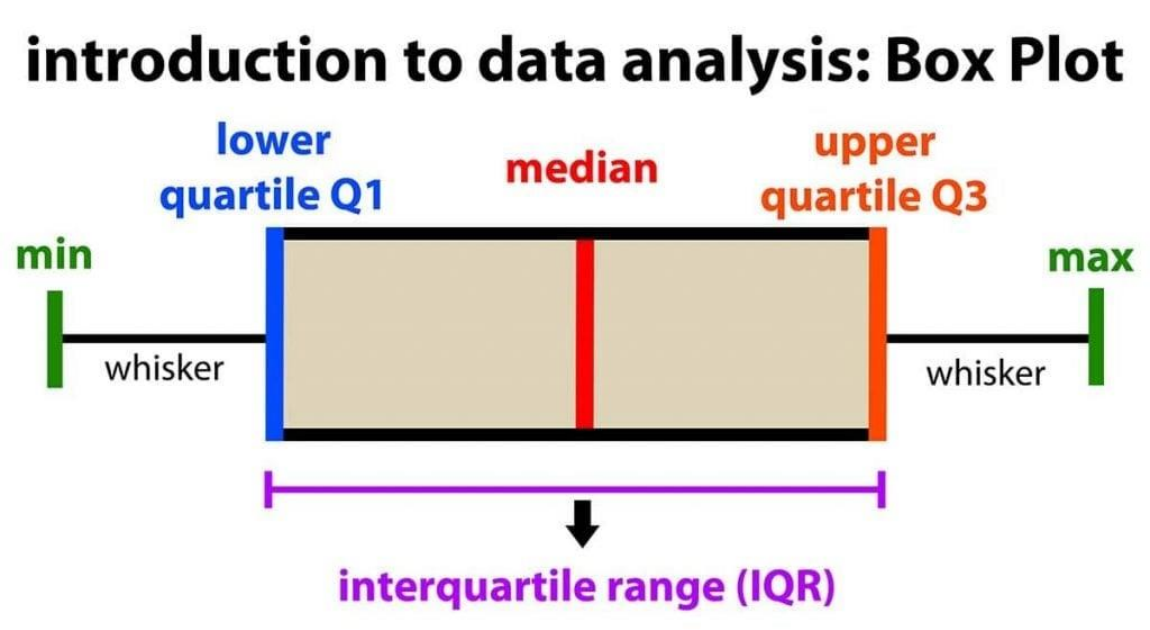
3 – Box Plot

A box plot, also known as a box-and-whisker plot, is a standardized way of displaying the distribution of data based on a five-number summary: minimum, first quartile, median, third quartile, and maximum. It visually represents the spread and skew of data, and can be used to identify outliers



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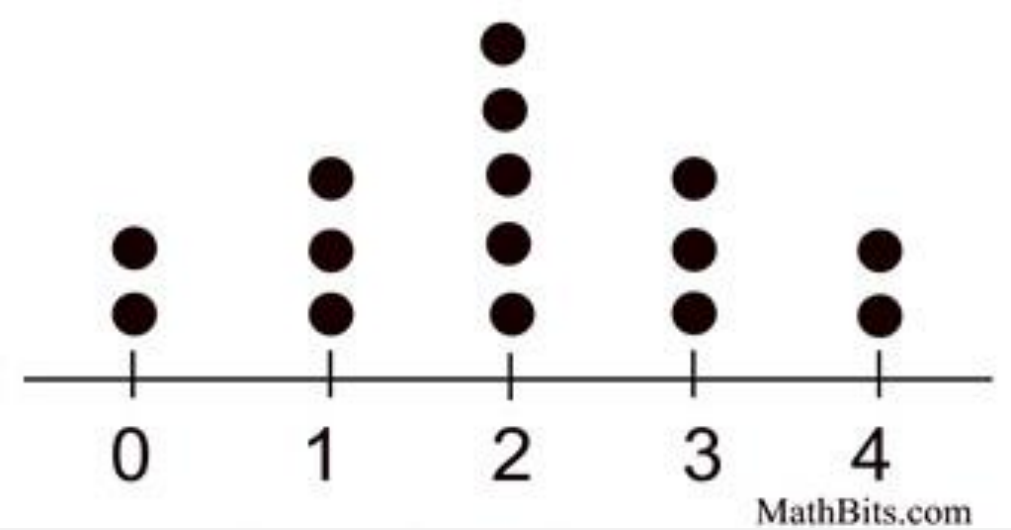
4 – Dot Plot

A dot plot is a simple form of data visualization that consists of data points plotted as dots on a graph with an x- and y-axis. These types of charts are used to graphically depict certain data trends or groupings.



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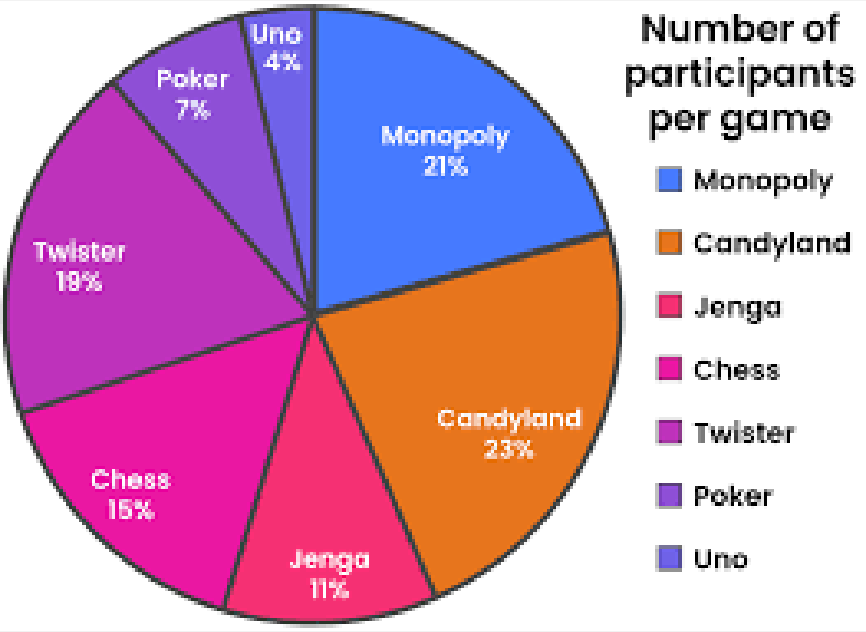
5 – Pie Chart

A pie chart is a graphical representation technique that displays data in a circular-shaped graph. It is a composite static chart that works best with few variables. Pie charts are often used to represent sample data—with data points belonging to a combination of different categories.



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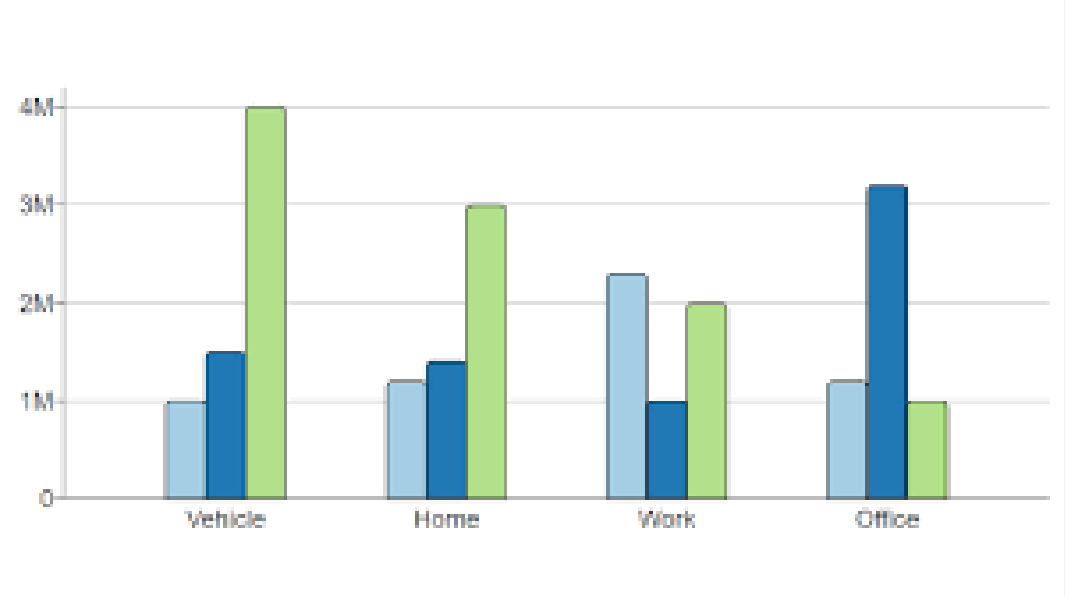
6 – Bar Chart

A bar chart is used when you want to show a distribution of data points or perform a comparison of metric values across different subgroups of your data. From a bar chart, we can see which groups are highest or most common, and how other groups compare against the others.



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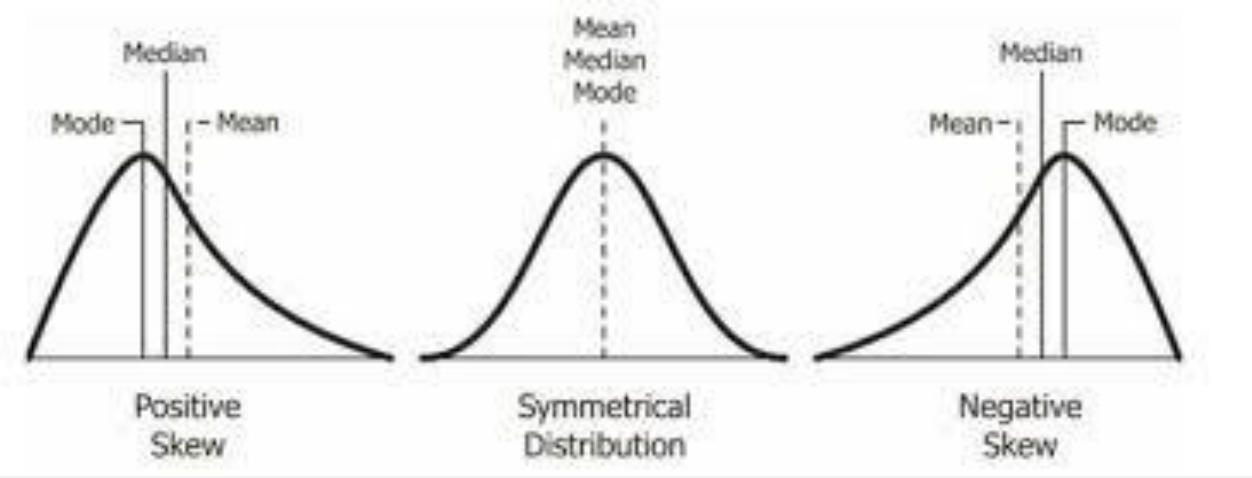
7 – Symmetry & Skewness

Symmetry and skewness are statistical concepts that describe the shape of a data distribution. A symmetric distribution is balanced, meaning it looks the same on both sides of the center. A skewed distribution, in contrast, is asymmetrical, with a tail extending longer on one side than the other.



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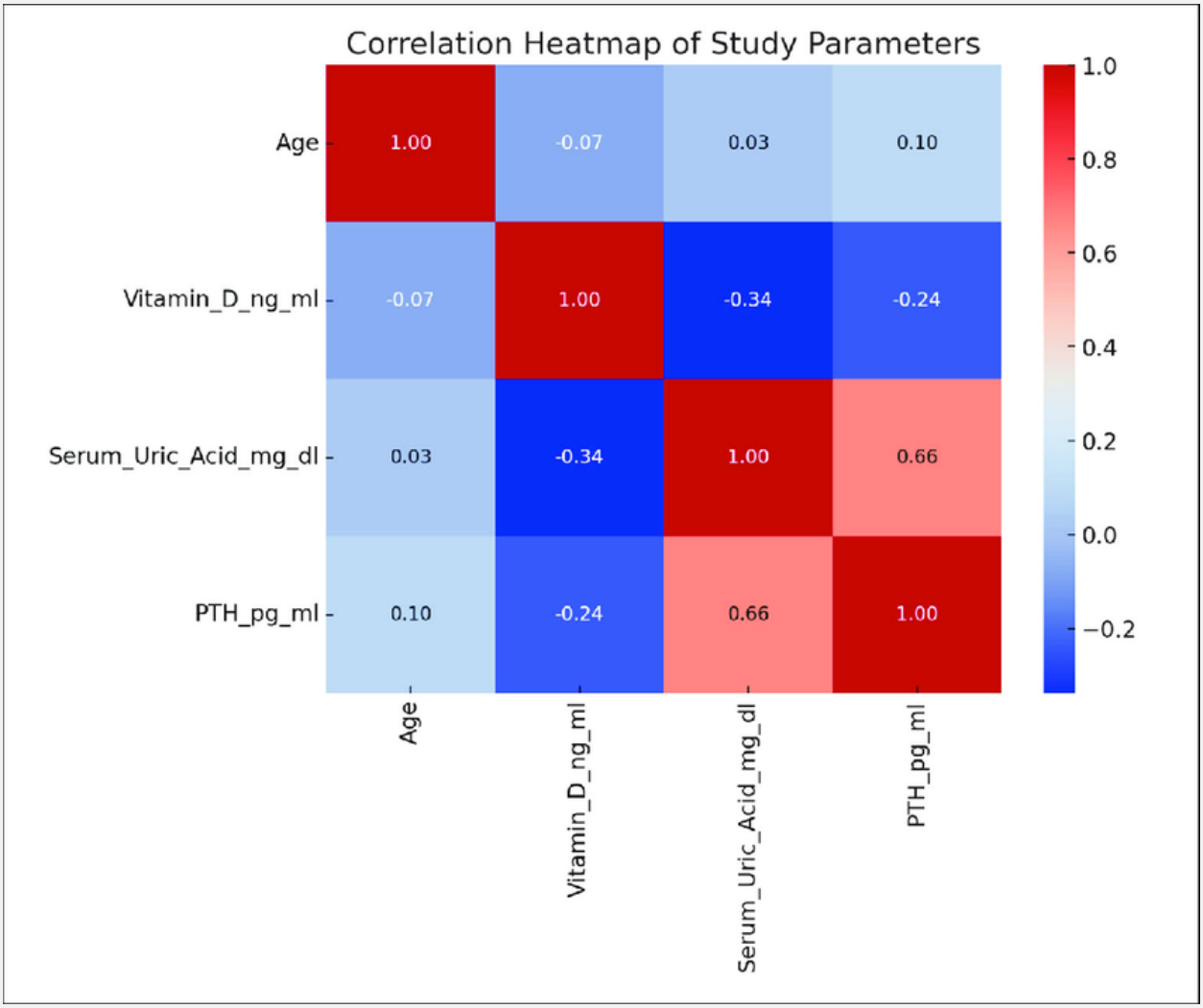
8 – Heatmap

A heatmap depicts values for a main variable of interest across two axis variables as a grid of colored squares. The axis variables are divided into ranges like a bar chart or histogram, and each cell's color indicates the value of the main variable in the corresponding cell range.



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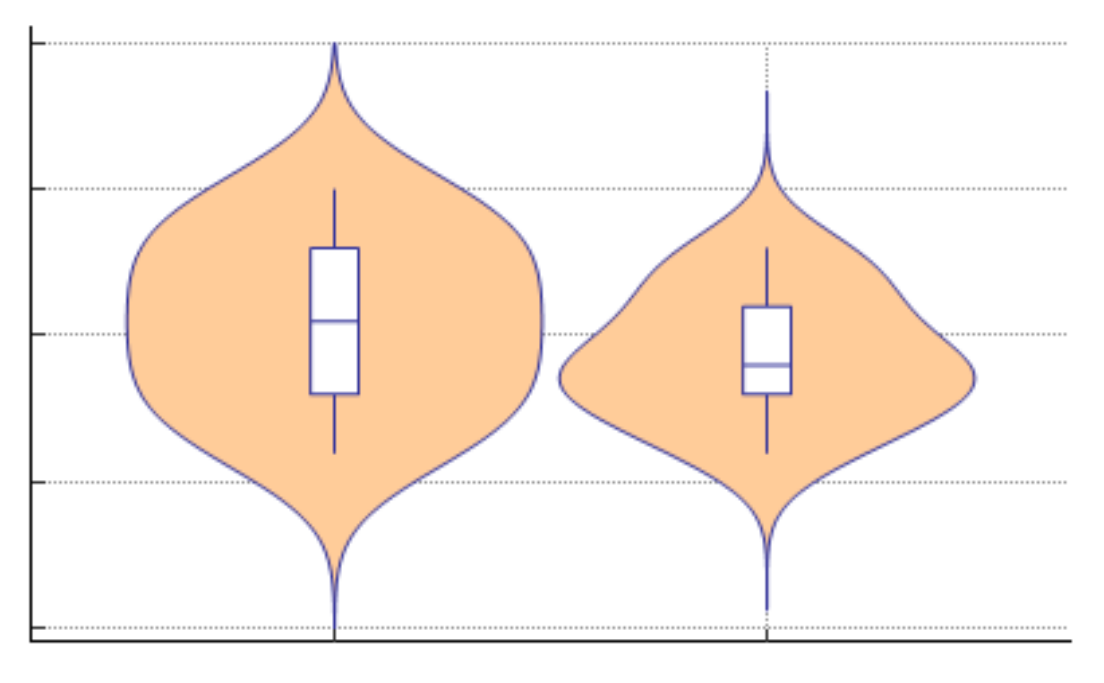
9 – Violin Plot

A violin plot is a statistical chart used to visualize the distribution of numerical data, combining features of a box plot and a kernel density plot. It displays the data's median, quartiles, and the density of the data at different values,

providing a more comprehensive view of the distribution than a simple box plot.



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