

An implementation of the grammar of graphics in R: ggplot

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The R package ggplot is an implementation of the grammar of graphics in R. It combines the advantages of both base and lattice graphics: conditioning and shared axes are handled automatically, while maintaining the ability to build up a plot step by step from multiple data sources. It also implements a more sophisticated multidimensional conditioning system and a consistent interface to map data to aesthetic attributes.

ggplot is built up of four basic building blocks: aesthetic mapping functions, graphic object functions, scale objects and the plot object. Aesthetic mapping functions transform data in aesthetics, graphic object (grob) functions turn lists of aesthetics into grobs, and scale objects ensure that each mapping function operates on a common domain, as well as producing plot guides. The plot object brings these building blocks together to convert a data frame and plot specification into a complete graphic.