Grammar of R graphics = layers of elements/building blocks

➢ **Traditional R plots**

- plot(); hist(); boxplot() ; barplot(), pie()
- lines(); abline(); points()
- arrows(); segments()
- axis(), title(), legend()
- text(), mtext()
- grid(), box()
- par(), layout()

➢ **ggplot2 package**

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Element	Description
Data	The dataset being plotted.
Aesthetics	The scales onto which we *map* our data.
Geometries	The visual elements used for our data.
Facets	Plotting small multiples.
Statistics	Representations of our data to aid understanding.
Coordinates	The space on which the data will be plotted.
Themes	All non-data ink. **& labs** (title, x, y)

Diagram

Data		{variables of interest}			
Aesthetics	x-axis y-axis	colour fill	size labels	alpha shape	line width line type
Geometries	point	line	histogram	bar	boxplot
Facets	columns	rows			
Statistics	binning	smoothing	descriptive	inferential	
Coordinates	cartesian	fixed	polar	limits	
Themes	non-data ink				

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