



GRAPHICS PART 1

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CREATING PLOTS IN BASE R



Creating the graphic environment
(functions `plot`/`hist`/`barplot` etc.)



Modification of the plot elements
(functions `par`/`title`/`legend` etc.)



plot()

Description

Draw a scatter plot with decorations such as axes and titles in the active graphics window.

Usage

```
## Default S3 method:  
plot(x, y = NULL, type = "p", xlim = NULL, ylim = NULL,  
      log = "", main = NULL, sub = NULL, xlab = NULL, ylab = NULL,  
      ann = par("ann"), axes = TRUE, frame.plot = axes,  
      panel.first = NULL, panel.last = NULL, asp = NA,  
      xgap.axis = NA, ygap.axis = NA,  
      ...)
```

Arguments

<code>x, y</code>	the <code>x</code> and <code>y</code> arguments provide the <code>x</code> and <code>y</code> coordinates for the plot. Any reasonable way of defining the coordinates is acceptable. See the function xy.coords for details. If supplied separately, they must be of the same length.
<code>type</code>	1-character string giving the type of plot desired. The following values are possible, for details, see plot : "p" for points, "l" for lines, "b" for both points and lines, "c" for empty points joined by lines, "o" for overplotted points and lines, "s" and "S" for stair steps and "h" for histogram-like vertical lines. Finally, "n" does not produce any points or lines.
<code>xlim</code>	the <code>x</code> limits (<code>x1</code> , <code>x2</code>) of the plot. Note that <code>x1 > x2</code> is allowed and leads to a 'reversed axis'. The default value, <code>NULL</code> , indicates that the range of the finite values to be plotted should be used.
<code>ylim</code>	the <code>y</code> limits of the plot.
<code>log</code>	a character string which contains "x" if the <code>x</code> axis is to be logarithmic, "y" if the <code>y</code> axis is to be logarithmic and "xy" or "yx" if both axes are to be logarithmic.
<code>main</code>	a main title for the plot, see also title .
<code>sub</code>	a sub title for the plot.
<code>xlab</code>	a label for the <code>x</code> axis, defaults to a description of <code>x</code> .
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Additional elements... and much more

BASIC PLOTS IN R

Function	Plot
<code>plot()</code>	Point
<code>plot(..., type = „l”)</code>	Line
<code>barplot()</code>	Barplot
<code>hist()</code>	Histogram
<code>plot(density())</code>	Density plot
<code>boxplot()</code>	Boxplot
<code>library(vioplot) vioplot()</code>	Violin plot
<code>pairs()</code>	Matrix of point plots
<code>library(corrplot) corrplot()</code>	Plot of correlation between variables

ADDING ELEMENTS TO THE PLOT

Function	Description
<code>lines()</code>	Adding a line to the plot
<code>curve()</code>	Adding a curve, as per given function
<code>arrows()</code>	Drawing arrows between two points
<code>text()</code>	Adding text to the plot
<code>mtext()</code>	Adding text to the margin of the plot
<code>axis()</code>	Adding an axis to the plot
<code>rect()</code>	Drawing a rectangle
<code>legend()</code>	Adding a legend
<code>points()</code>	Adding points to the plot
<code>abline()</code>	Adding a straight line to the plot