|  |  |
| --- | --- |
| arrows {graphics} | R Documentation |

**Add Arrows to a Plot**

**Description**

Draw arrows between pairs of points.

**Usage**

arrows(x0, y0, x1 = x0, y1 = y0, length = 0.25, angle = 30,

code = 2, col = par("fg"), lty = par("lty"),

lwd = par("lwd"), ...)

**Arguments**

|  |  |
| --- | --- |
| x0, y0 | coordinates of points **from** which to draw. |
| x1, y1 | coordinates of points **to** which to draw. At least one must the supplied |
| length | length of the edges of the arrow head (in inches). |
| angle | angle from the shaft of the arrow to the edge of the arrow head. |
| code | integer code, determining *kind* of arrows to be drawn. |
| col, lty, lwd | [graphical parameters](http://127.0.0.1:14695/library/graphics/help/graphical%20parameters), possible vectors. NA values in col cause the arrow to be omitted. |
| ... | [graphical parameters](http://127.0.0.1:14695/library/graphics/help/graphical%20parameters) such as xpd and the line characteristics lend, ljoin and lmitre: see [par](http://127.0.0.1:14695/library/graphics/help/par). |

**Details**

For each i, an arrow is drawn between the point (x0[i], y0[i]) and the point (x1[i], y1[i]). The coordinate vectors will be recycled to the length of the longest.

If code = 1 an arrowhead is drawn at (x0[i], y0[i]) and if code = 2 an arrowhead is drawn at (x1[i], y1[i]). If code = 3 a head is drawn at both ends of the arrow. Unless length = 0, when no head is drawn.

The [graphical parameters](http://127.0.0.1:14695/library/graphics/help/graphical%20parameters) col, lty and lwd can be vectors of length greater than one and will be recycled if necessary.

The direction of a zero-length arrow is indeterminate, and hence so is the direction of the arrowheads. To allow for rounding error, arrowheads are omitted (with a warning) on any arrow of length less than 1/1000 inch.

**Note**

The first four arguments in the comparable S function are named x1, y1, x2, y2.

**References**

Becker, R. A., Chambers, J. M. and Wilks, A. R. (1988) *The New S Language*. Wadsworth & Brooks/Cole.

**See Also**

[segments](http://127.0.0.1:14695/library/graphics/help/segments) to draw segments.

**Examples**

x <- stats::runif(12); y <- stats::rnorm(12)

i <- order(x, y); x <- x[i]; y <- y[i]

plot(x,y, main = "arrows(.) and segments(.)")

## draw arrows from point to point :

s <- seq(length(x)-1) # one shorter than data

arrows(x[s], y[s], x[s+1], y[s+1], col = 1:3)

s <- s[-length(s)]

segments(x[s], y[s], x[s+2], y[s+2], col = "pink")