

R documentation

of ‘colorbar.Rd’

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colorbar

Add Colorbars to Plots

Description

This function adds a colorbar to a plot.

Usage

```
colorbar(x, y = NULL, col = palette(), labels = TRUE,
         tick = !any(is.na(c(minlabel, maxlabel))) ||
           !is.logical(labels),
         horiz = "auto", minlabel = NA, maxlabel = NA,
         nticks = 2, tickat = NULL, margin = rep(-0.03, 4),
         longside = -0.6, shortside = -0.05,
         axisloc = c("in", "out"), reverse = "auto",
         xjust = 0.5, yjust = 0.5, labeljust = TRUE,
         noaxissize = FALSE, totalsize = FALSE, ...)
```

Arguments

x	The x coordinate(s) or other location specifier used to position the colorbar. See ‘Details’.
y	The y coordinate(s) used to position the colorbar.
col	The colors used in the colorbar
labels	A vector of labels to draw. See <i>tickat</i> for help on setting the location of the labels (each marked with a tick). Can also be FALSE for no labels or TRUE for automatic labels and locations when <i>minlabel</i> and <i>maxlabel</i> are specified. Mathematical annotation is supported, see plotmath .
tick	A logical flag. If TRUE, draw ticks (and labels). If FALSE, just the colorbar is drawn with no extras.
horiz	A logical flag or "auto" indicating if the colorbar will be drawn horizontally (TRUE) or vertically (FALSE). If "auto", the orientation will be determined automatically in some situations, i.e. when x is "top" or "bottom" (horizontal orientation is assumed) or when two (x, y) points are given (the direction with the longer distance between the points determines the orientation).

<code>minlabel</code>	A numeric value giving the label corresponding to the first color. If NA, manual labels are used if available.
<code>maxlabel</code>	A numeric value giving the label corresponding to the last color.
<code>nticks</code>	The desired number of ticks and labels. Used when a linear number range is indicated by giving values for <i>minlabel</i> and <i>maxlabel</i> or when only ticks and no labels are used. In the first case, the number will not necessarily match the actual number of ticks and labels that are drawn.
<code>tickat</code>	A vector giving the tick locations on the annotation axis. Values between $i - 0.5$ and $i + 0.5$ cover the i :th color. When <i>minlabel</i> and <i>maxlabel</i> are specified, automatic tick locations are used instead, guided by <i>nticks</i> .
<code>margin</code>	A numeric vector of length 4 giving the margins on the bottom, left, top, right sides (in this order). Given either as a proportion of the relevant dimension of the plotting region (negative value, absolute value taken) or as inches (positive value). If the colorbar is placed in a corner, two of the margin values are used. When <i>x</i> is "standalone", all four values are used. Otherwise, only one margin is relevant.
<code>longside</code>	The size of the "long" side of the colorbar. Given either as a proportion of the relevant dimension of the plotting region (negative value, absolute value taken) or as inches (positive value). Long side means the side along which the colors change. Ignored if two (<i>x</i> , <i>y</i>) coordinates are supplied.
<code>shortside</code>	The size of the "short" side of the colorbar. See <i>longside</i> . Ignored if two (<i>x</i> , <i>y</i>) coordinates are supplied. See argument <i>totalsize</i> .
<code>axisloc</code>	Location of annotation axis relative to colorbar. Either "in" (closer to the center of the plotting region) or "out" (closer to the border). When a horizontal / vertical colorbar is drawn in the middle / center, "out" means the bottom / right side of the colorbar.
<code>reverse</code>	A logical flag. If TRUE, the drawing order of the colors is reversed (right to left or up to down).
<code>xjust</code>	A numeric value indicating the horizontal justification of the colorbar when its position is given with a single (<i>x</i> , <i>y</i>) coordinate. A value of 0 means left justified, 0.5 is centered and 1 right justified.
<code>yjust</code>	A numeric value indicating the vertical justification. 0 means bottom justified, 0.5 is centered and 1 top justified.
<code>labeljust</code>	A logical flag. If TRUE, some adjustments are made so that the labels are justified next to the colorbar.
<code>noaxisize</code>	A logical flag. If TRUE, the size of the axis is not taken into account when positioning the colorbar. When two (<i>x</i> , <i>y</i>) coordinates are given, TRUE means that the colorbar itself fills the whole space, and FALSE means that the annotation axis and its labels (if drawn) consume some of the space.
<code>totalsize</code>	A logical flag. If TRUE, <i>shortside</i> must be large enough to accommodate the possible annotation axis and labels. If FALSE (the default), the axis consumes space additional to <i>shortside</i> .
<code>...</code>	Arguments passed to axis

Details

The values of *x* and *y* are interpreted using [xy.coords](#). This allows giving one coordinate point, two points (the corners of the colorbar) and a number of other possibilities. For example, *x* can be

a call to `locator`. Alternatively, `x` can be one of the preset locations "bottomright", "bottom", "bottomleft", "left", "topleft", "top", "topright", "right", "center". When `x` is given the special value "standalone", a standalone colorbar occupies the whole device except *margin*.

Additional arguments can be given to `axis`. For example, *las* controls the orientation of axis labels and *cex.axis* adjusts text size.

Value

An `invisible` named numeric vector containing the approximate coordinates defining the bounding box of the colorbar and its axis, with components (in this order)

<code>xleft</code>	x coordinate, left side
<code>ybottom</code>	y coordinate, bottom side
<code>xright</code>	x coordinate, right side
<code>ytotop</code>	y coordinate, top side

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See Also

`par` for how to specify colors

Examples

```
pal <- cm.colors(128)
agricol <- round(swiss$Agriculture / 100 * 127 + 1)
plot(swiss$Education, swiss$Fertility, bg = pal[agricol], pch=21, cex=2,
      xlab = "Education", ylab = "Fertility")
coord <- colorbar("right", col = pal, minlabel = 0, maxlabel = 100,
                  nticks=6, las=1, axisloc="out", cex.axis=0.75, xjust=0)
text(coord[1] - 2, mean(coord[c(2, 4)]), "Agriculture",
      srt = 90, adj=c(0.5,0))
```

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