Package ‘contourPlot’

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Type Package

Title Plots x,y,z Co-Ordinates in a Contour Map

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Description Plots a set of x,y,z co-ordinates in a contour map. Designed to be similar to plots in base R so additional elements can be added using lines(), points() etc. This package is intended to be better suited, than existing packages, to displaying circular shaped plots such as those often seen in the semi-conductor industry.

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Encoding UTF-8

LazyData true

RoxygenNote 7.1.0

Depends R (>= 2.10), grDevices, interp, RColorBrewer

NeedsCompilation no

Repository CRAN

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Create a Set of Circle Co-Ordinates

Description

Creates a set of circle co-ordinates, of radius r, at position x,y

Usage

circle(x, y, r = 1)

Arguments

x  x position of the center of the circle
y  y position of the center of the circle
r  radius of the circle

Value

Matrix of x,y co-ordinates for a circle

Examples

plot(circle(0, 0, r = 1), type = 'l', asp = 1)

Plot a contour map

Description

Takes x,y,z co-ordinates and plots them on a contour map. Smoothing and interpolation is done by means of fitting a spline to the data.

Usage

contourPlot(
  x,
  y,
  z,
  nx = length(unique(x)),
  main = NULL,
  axis = TRUE,
  legend = TRUE,
  xlab = "",
  ylab = "",
  zlab = "",
  ...)
 contourPlot

    col = NULL,
    breaks = NULL,
    nlevels = 10,
    legend_pos = 4
 )

Arguments

 x          a vector of x co-ordinates
 y          a vector of y co-ordinates
 z          a vector of z co-ordinates representing the height of the contours
 nx         The number of pixels that will be in final plot. default is length(unique(x))
 main       Title of plot
 axis       logical if TRUE displays the axes of the plot
 legend     logical if TRUE displays the legend
 xlab       label on x axis
 ylab       label on y axis
 col        list of colors to be applied to contours.
 breaks     list of values indicating the contour ranges
 nlevels    useful if breaks and col are left as null. Sets the number of levels of the contours
to be plotted
 legend_pos set position of the colour bar. Default = 4.

Value

 A contour plot (similar to those in base, additional elements can be added using lines, points functions etc.

Examples

 x <- Volcontour$x
 y <- Volcontour$y
 z <- Volcontour$z

 contourPlot(x = x, y = y, z = z)

   # A smoother contour
   contourPlot(x = x, y = y, z = z, nx = 500)

   # Changing breaks and colours
   breaks = pretty(c(min(z), max(z)))
   col = brewer.pal(n = length(breaks)-1, “Blues”)
   contourPlot(x = x, y = y, z = z, nx = 500, breaks = breaks, col = col)

   # add lines
   lines(circle(0, 0, 26.5))
Volcontour

Re-formatted version of the base dataset volcano.

Description
A dataset containing the x,y,z co-ordinates of the base dataset volcano. Data is cropped in a radius <25 from the center of the volcano crater.

Usage
Volcontour

Format
An object of class tbl_df (inherits from tbl, data.frame) with 1941 rows and 3 columns.

Details
@format a data frame with 1941 obs. and 3 variables
@source r base package
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