# Package 'contourPlot'

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**Type** Package

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

**Version** 0.1.4

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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.

**License** MIT +file LICENSE

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 7.1.0

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

**NeedsCompilation** no

**Repository** CRAN

**Date/Publication** 2020-06-03 16:10:10 UTC

## R topics documented:

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| circle | *Create a Set of Circle Co-Ordinates* |
|---|---|

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### 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)
```

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| contourPlot | *Plot a contour map* |
|---|---|

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### 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 = "",
```

```
    col = NULL,
    breaks = NULL,
    nlevels = 10
)
```

## 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 |

## 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 containg the x,y,z co-ordinates of the base data set 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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