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| abline {graphics} | R Documentation |

**Add Straight Lines to a Plot**

**Description**

This function adds one or more straight lines through the current plot.

**Usage**

abline(a = NULL, b = NULL, h = NULL, v = NULL, reg = NULL,

coef = NULL, untf = FALSE, ...)

**Arguments**

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| a, b | the intercept and slope, single values. |
| untf | logical asking whether to *untransform*. See ‘Details’. |
| h | the y-value(s) for horizontal line(s). |
| v | the x-value(s) for vertical line(s). |
| coef | a vector of length two giving the intercept and slope. |
| reg | an object with a [coef](http://127.0.0.1:14695/library/graphics/help/coef) method. See ‘Details’. |
| ... | [graphical parameters](http://127.0.0.1:14695/library/graphics/help/graphical%20parameters) such as col, lty and lwd (possibly as vectors: see ‘Details’) and xpd and the line characteristics lend, ljoin and lmitre. |

**Details**

Typical usages are

abline(a, b, untf = FALSE, \dots)

abline(h =, untf = FALSE, \dots)

abline(v =, untf = FALSE, \dots)

abline(coef =, untf = FALSE, \dots)

abline(reg =, untf = FALSE, \dots)

The first form specifies the line in intercept/slope form (alternatively a can be specified on its own and is taken to contain the slope and intercept in vector form).

The h= and v= forms draw horizontal and vertical lines at the specified coordinates.

The coef form specifies the line by a vector containing the slope and intercept.

reg is a regression object with a [coef](http://127.0.0.1:14695/library/graphics/help/coef) method. If this returns a vector of length 1 then the value is taken to be the slope of a line through the origin, otherwise, the first 2 values are taken to be the intercept and slope.

If untf is true, and one or both axes are log-transformed, then a curve is drawn corresponding to a line in original coordinates, otherwise a line is drawn in the transformed coordinate system. The h and v parameters always refer to original coordinates.

The [graphical parameters](http://127.0.0.1:14695/library/graphics/help/graphical%20parameters) col, lty and lwd can be specified; see [par](http://127.0.0.1:14695/library/graphics/help/par) for details. For the h= and v= usages they can be vectors of length greater than one, recycled as necessary.

Specifying an xpd argument for clipping overrides the global [par](http://127.0.0.1:14695/library/graphics/help/par)("xpd") setting used otherwise.

**References**

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

Murrell, P. (2005) *R Graphics*. Chapman & Hall/CRC Press.

**See Also**

[lines](http://127.0.0.1:14695/library/graphics/help/lines) and [segments](http://127.0.0.1:14695/library/graphics/help/segments) for connected and arbitrary lines given by their *endpoints*. [par](http://127.0.0.1:14695/library/graphics/help/par).

**Examples**

## Setup up coordinate system (with x == y aspect ratio):

plot(c(-2,3), c(-1,5), type = "n", xlab = "x", ylab = "y", asp = 1)

## the x- and y-axis, and an integer grid

abline(h = 0, v = 0, col = "gray60")

text(1,0, "abline( h = 0 )", col = "gray60", adj = c(0, -.1))

abline(h = -1:5, v = -2:3, col = "lightgray", lty = 3)

abline(a = 1, b = 2, col = 2)

text(1,3, "abline( 1, 2 )", col = 2, adj = c(-.1, -.1))

## Simple Regression Lines:

require(stats)

sale5 <- c(6, 4, 9, 7, 6, 12, 8, 10, 9, 13)

plot(sale5)

abline(lsfit(1:10, sale5))

abline(lsfit(1:10, sale5, intercept = FALSE), col = 4) # less fitting

z <- lm(dist ~ speed, data = cars)

plot(cars)

abline(z) # equivalent to abline(reg = z) or

abline(coef = coef(z))

## trivial intercept model

abline(mC <- lm(dist ~ 1, data = cars)) ## the same as

abline(a = coef(mC), b = 0, col = "blue")