

Package ‘cursr’

May 8, 2026

Type Package

Title Cursor and Terminal Manipulation

Version 0.1.0

Author Chris Mann

Maintainer Chris Mann <cmann3@unl.edu>

Description A toolbox for developing applications, games, simulations, or agent-based models in the R terminal. Included functions allow users to move the cursor around the terminal screen, change text colors and attributes, clear the screen, hide and show the cursor, map key presses to functions, draw shapes and curves, among others. Most functionalities require users to be in a terminal (not the R GUI).

Imports keypress

Suggests knitr, rmarkdown

VignetteBuilder knitr

License MIT + file LICENSE

Encoding UTF-8

LazyData true

RoxygenNote 7.0.2

NeedsCompilation no

Repository CRAN

Date/Publication 2021-01-11 08:50:09 UTC

Contents

attr_off	3
attr_on	4
bg_off	5
bg_on	5
box_at	6
clear	7
color_off	8
color_pair	9

draw_arc	9
draw_bezier	10
draw_circle	11
draw_ellipse	12
draw_fn	13
draw_lerp	14
draw_path	14
draw_ray	15
draw_rect	16
draw_shape	17
erase	18
example_luckynumber	18
fg_off	19
fg_on	19
fill_circle	20
fill_ellipse	21
fill_rect	22
fill_shape	23
getkp	24
getkpl	24
grid_at	25
grid_mat	26
hide_cursor	27
hline	28
hline_at	28
in.term	29
load_cursor	30
make_bg	30
make_fg	31
make_style	32
mv	32
mv_col	33
mv_row	34
mv_to	35
path_arc	36
path_bezier	36
path_circle	37
path_ellipse	38
path_fill	39
path_fn	39
path_intersection	40
path_lerp	41
path_ray	41
path_rect	42
path_shape	43
repch	44
reset	44
save_cursor	45

<i>attr_off</i>	3
show_cursor	45
style	46
Sym	47
term_dim	47
vline	48
vline_at	48
wr	49
wrapup	50
wrat	50
wrch	51
wrchat	52
wrkp	53
wrkpl	54
Index	55

<i>attr_off</i>	<i>Attributes Off</i>
-----------------	-----------------------

Description

Turns off text attributes in the terminal, including bold text, italics, underline, etc.

Usage

```
attr_off(...)
```

Arguments

... characters indicating attributes to turn off. "bf" for bold face; "ft" for faint; "it" for italics; "ul" for underline; "sb" for slow blink; "fb" for fast blink; "rv" for reverse video (invert bg and fg colors); "st" for strike-through. All attributes are turned off if left blank.

Details

Use [attr_on](#) to turn on attributes.

Value

NULL

See Also

Other style functions: [attr_on\(\)](#), [bg_off\(\)](#), [bg_on\(\)](#), [color_off\(\)](#), [color_pair\(\)](#), [fg_off\(\)](#), [fg_on\(\)](#), [make_bg\(\)](#), [make_fg\(\)](#), [make_style\(\)](#), [reset\(\)](#), [style\(\)](#)

Examples

```
cat("hello world!\n")
attr_on("bf", "ul")
cat("hello world!\n")
attr_off("bf")
cat("hello world!\n")
attr_off()
cat("hello world!\n")
```

attr_on

Attributes On

Description

Turns on text attributes in terminal, including bold text, italics, underline, etc. Note that not all terminals support each attribute.

Usage

```
attr_on(...)
```

Arguments

... characters indicating attributes to turn on. "bf" for bold face; "ft" for faint; "it" for italics; "ul" for underline; "sb" for slow blink; "fb" for fast blink; "rv" for reverse video (invert bg and fg colors); "st" for strike-through

Details

Use [attr_off](#) to turn off the attributes.

Value

NULL

See Also

Other style functions: [attr_off\(\)](#), [bg_off\(\)](#), [bg_on\(\)](#), [color_off\(\)](#), [color_pair\(\)](#), [fg_off\(\)](#), [fg_on\(\)](#), [make_bg\(\)](#), [make_fg\(\)](#), [make_style\(\)](#), [reset\(\)](#), [style\(\)](#)

Examples

```
cat("hello world!\n")
attr_on("bf", "ul")
cat("hello world!\n")
attr_off()
```

bg_off	<i>Turn Off Background Color</i>
--------	----------------------------------

Description

Return the background of future terminal text to the default color. Background color is turned on with [bg_on](#).

Usage

```
bg_off()
```

Value

NULL

See Also

Other style functions: [attr_off\(\)](#), [attr_on\(\)](#), [bg_on\(\)](#), [color_off\(\)](#), [color_pair\(\)](#), [fg_off\(\)](#), [fg_on\(\)](#), [make_bg\(\)](#), [make_fg\(\)](#), [make_style\(\)](#), [reset\(\)](#), [style\(\)](#)

Examples

```
# Different methods of specifying yellow
bg_on("yellow")
bg_on("#FFFF00")
bg_on(11)
bg_on(255, 255, 0)

# Turn off color
bg_off()
```

bg_on	<i>Turn On Background Color</i>
-------	---------------------------------

Description

Specifies the background color of all future text written in the terminal [bg_on](#) accepts numeric values (RGB or 8-bit color code), hexadecimal characters, or the name of the color. Not all terminals support each possible color.

Usage

```
bg_on(...)
```

Arguments

... character or numeric value

Details

Background color is turned off with `bg_off`.

Value

NULL

See Also

Other style functions: `attr_off()`, `attr_on()`, `bg_off()`, `color_off()`, `color_pair()`, `fg_off()`, `fg_on()`, `make_bg()`, `make_fg()`, `make_style()`, `reset()`, `style()`

Examples

```
# Different methods of specifying yellow
bg_on("yellow")
bg_on("#FFFF00")
bg_on(11)
bg_on(255, 255, 0)

# Turn off color
bg_off()
```

box_at

Draw Box

Description

Draws a box of size `dim=c(height, width)` at `yx=c(row,col)`.

Usage

```
box_at(
  yx = c(1, 1),
  dim = NULL,
  text = c("|", "|", "-", "-", rep("+", 4)),
  fg = NA,
  bg = NA,
  attr = NA,
  fill = NA,
  fill.bg = NA,
  fill.fg = NA,
  fill.attr = NA
)
```

Arguments

<code>yx</code>	starting console row and column of top-left corner of box
<code>dim</code>	box dimensions in <code>c(height, width)</code> . If NA, defaults to the terminal's screen width.
<code>text</code>	repeated character used for box. <code>text</code> can either be a single character or a vector of 8 characters (left side, right side, top, bottom, 4 corners: upper left, upper right, lower left, lower right).
<code>fg</code>	foreground color. See fg_on for more details.
<code>bg</code>	background color. See bg_on for more details.
<code>attr</code>	border text attributes. See attr_on for details.
<code>fill</code>	character object to fill box. Only the first character in the first element is used. If NA (the default), the box is not filled.
<code>fill.bg</code>	background color of the fill character.
<code>fill.fg</code>	foreground color of the fill character.
<code>fill.attr</code>	text attributes of the fill character.

Value

NULL

See Also

Other drawing functions: [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
box_at(yx=c(4,4), dim=c(5,10), text="X")
```

clear

Clear Text

Description

Clear text from the terminal. Passing values "start" or "end" allow the user to clear specific portions of the screen relative to the cursor.

Usage

```
clear(x = c("screen", "end", "start"), ...)
```

Arguments

x character describing console location to clear. The default, "screen", clears the entire screen; "start" clears all text from the beginning of the screen until the cursor's position; "end" clears all text from the cursor's position to the bottom of the screen.

... objects passed to/from methods

Value

NULL

Examples

```
clear()

cat(paste(LETTERS[1:10], collapse="\n"))

clear("start")
clear("end")
```

color_off

Turn Off Colors in Terminal

Description

Return the background and foreground of future terminal text to the default colors.

Usage

```
color_off()
```

Value

NULL

See Also

Other style functions: [attr_off\(\)](#), [attr_on\(\)](#), [bg_off\(\)](#), [bg_on\(\)](#), [color_pair\(\)](#), [fg_off\(\)](#), [fg_on\(\)](#), [make_bg\(\)](#), [make_fg\(\)](#), [make_style\(\)](#), [reset\(\)](#), [style\(\)](#)

Examples

```
bg_on("red")
fg_on("yellow")

# Turn off color
color_off()
```

`color_pair`*Create Background & Foreground Color Combination*

Description

Returns the ANSI codes for the specified colors. `color_pair` accepts numeric values (RGB or 8-bit color code), hexadecimal characters, or the name of the color.

Usage

```
color_pair(fg, bg)
```

Arguments

<code>fg</code>	character or numeric value for the foreground color
<code>bg</code>	character or numeric value for the background color

Value

ANSI character string

See Also

Other style functions: [attr_off\(\)](#), [attr_on\(\)](#), [bg_off\(\)](#), [bg_on\(\)](#), [color_off\(\)](#), [fg_off\(\)](#), [fg_on\(\)](#), [make_bg\(\)](#), [make_fg\(\)](#), [make_style\(\)](#), [reset\(\)](#), [style\(\)](#)

Examples

```
# Blue background with white text
color_pair("white", "blue")
color_pair("#FFFFFF", "#0000FF")
color_pair(0, 12)
color_pair(c(255, 255, 255), c(0,0,255))
```

`draw_arc`*Draw an Arc*

Description

Calculate the path of an arc within a grid and print to screen.

Usage

```
draw_arc(yx, start, end, r = 1, n = 50, text = "x", ...)
```

Arguments

yx	center (row, col) coordinate of circle
start	starting angle in radians
end	ending angle in radians
r	radius of circle
n	number of points along curve to calculate
text	character value drawn at coordinate
...	parameters that are passed to <code>style()</code> , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_arc(yx=c(10,10), start=pi/2, end=pi, r=6)
```

draw_bezier

Draw a Bezier Curve

Description

Calculate the path of a Bezier Curve with up to two control points in a grid and draw to screen.

Usage

```
draw_bezier(start, end, c1, c2 = NULL, n = 50, text = "x", ...)
```

Arguments

start	starting (row, col) coordinate
end	ending (row, col) coordinate
c1	coordinate of first control point
c2	coordinate of second control point
n	number of points along curve to calculate
text	character value drawn at coordinate
...	parameters that are passed to <code>style()</code> , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_bezier(start=c(10,1), end=c(10,10), c1=c(1, 3))
```

draw_circle

Draw a Circle

Description

Calculate the path of a circle in a grid and draw it to screen.

Usage

```
draw_circle(yx, r = 1, n = 50, text = "x", ...)
```

Arguments

yx	center (row, col) coordinate
r	radius of the circle in grid points
n	number of points along curve to calculate
text	character value drawn at coordinate
...	parameters that are passed to style() , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_circle(yx=c(10,10), r=5)
```

`draw_ellipse`*Draw Ellipse*

Description

Calculate the path of an ellipse within a grid and draw to screen.

Usage

```
draw_ellipse(yx = c(0, 0), rx = 1, ry = 1, n = 50, text = "x", ...)
```

Arguments

<code>yx</code>	(row, col) coordinate of the center of the ellipse
<code>rx</code>	radius along the x-axis in grid points
<code>ry</code>	radius along the y-axis in grid points
<code>n</code>	number of points along curve to calculate
<code>text</code>	character value drawn at coordinate
<code>...</code>	parameters that are passed to <code>style()</code> , including the foreground color <code>fg</code> , background color <code>bg</code> , and attribute <code>attr</code>

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_ellipse(yx=c(10,10), rx=8, ry = 4)
```

draw_fn	<i>Draw a Function</i>
---------	------------------------

Description

Calculate the path within a grid of an user-supplied function and print to screen.

Usage

```
draw_fn(x1, x2, fn, n = 50, text = "x", ...)
```

Arguments

x1	starting column value of the path
x2	ending column value of the path
fn	function returning row value for a column input
n	number of points along curve to calculate
text	character value drawn at coordinate
...	parameters that are passed to <code>style()</code> , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_fn(x1=1, x2=10,  
        function(x){sqrt(x)}  
)
```

 draw_lerp

Draw a Line

Description

Interpolate between two points in a grid and draw to screen.

Usage

```
draw_lerp(start, end, n = 50, text = "x", ...)
```

Arguments

start	starting (row, col) coordinate
end	ending (row, col) coordinate
n	number of points along curve to calculate
text	character value drawn at coordinate
...	parameters that are passed to <code>style()</code> , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_lerp(start=c(10,1), end=c(1,3))
```

 draw_path

Draw Path

Description

Draws text at each supplied coordinate.

Usage

```
draw_path(coord, text = "x", ...)
```

Arguments

coord	matrix or list containing (row, col) coordinates.
text	character value drawn at coordinate
...	parameters that are passed to <code>style()</code> , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: `box_at()`, `draw_arc()`, `draw_bezier()`, `draw_circle()`, `draw_ellipse()`, `draw_fn()`, `draw_lerp()`, `draw_ray()`, `draw_rect()`, `draw_shape()`, `fill_circle()`, `fill_ellipse()`, `fill_rect()`, `fill_shape()`, `grid_at()`, `grid_mat()`, `hline_at()`, `hline()`, `vline_at()`, `vline()`

Examples

```
c <- path_circle(yx = c(5,5), r=3)
draw_path(c, text="0")
```

draw_ray

Draw a Ray

Description

Calculate the path of a ray extending and print to screen.

Usage

```
draw_ray(start, end, lim = c(64, 128), n = 200, text = "x", ...)
```

Arguments

start	start (row, col) coordinate of the ray
end	either an ending coording, an angle in radians, or a character direction (u, d, l, r, ul, ur, dl, dr)
lim	bounding box dimensions used to calculate ray
n	number of points along curve to calculate
text	character value drawn at coordinate
...	parameters that are passed to <code>style()</code> , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_ray(start=c(10,10), end=pi/6)
draw_ray(start=c(10,10), end=pi/6, lim=c(15,15))
draw_ray(start=c(10,10), end=c(4,2))
```

draw_rect

Draw a Rectangle

Description

Calculate the path of a rectangle in a grid and draw to screen.

Usage

```
draw_rect(yx1, yx2, text = "x", ...)
```

Arguments

yx1	upper-left (row, col) coordinate
yx2	lower-right (row, col) coordinate
text	character value drawn at coordinate
...	parameters that are passed to style() , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_rect(c(5,5), c(9,9))
```

draw_shape	<i>Draw a Shape</i>
------------	---------------------

Description

Calculate the path of a shape given supplied vertices and draw to screen.

Usage

```
draw_shape(mat, cycle = TRUE, n = 30, text = "x", ...)
```

Arguments

mat	an Nx2 matrix of (row, col) coordinates
cycle	logical value determining whether to the first and last coordinates
n	number of points along each edge to calculate
text	character value drawn at coordinate
...	parameters that are passed to <code>style()</code> , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
# Right Triangle
draw_shape(rbind(
  c(10,1),
  c(10,10),
  c(1,1)
), cycle=TRUE)
```

erase

Erase Text

Description

Clear text from the cursor's row . Passing values "start" and "end" allow the user to erase specific portions of the row relative to the cursor.

Usage

```
erase(x = c("row", "start", "end"), ...)
```

Arguments

x	character describing location to clear. The default, "row", clears the entire row; "start" clears all text from the beginning of the row until the cursor's position; "end" clears all text from the cursor's position until the end of the row.
...	objects passed to/from methods

Value

NULL

Examples

```
cat('hello world!')  
erase('row')
```

example_luckynumber*Example Program From Vignette*

Description

Simple program that asks for a letter and a number and returns another value to screen.

Usage

```
example_luckynumber()
```

Value

NULL

fg_off	<i>Turn Off Foreground Color</i>
--------	----------------------------------

Description

Return future terminal text to the default color. Foreground color is turned on with [fg_on](#).

Usage

```
fg_off()
```

Value

NULL

See Also

Other style functions: [attr_off\(\)](#), [attr_on\(\)](#), [bg_off\(\)](#), [bg_on\(\)](#), [color_off\(\)](#), [color_pair\(\)](#), [fg_on\(\)](#), [make_bg\(\)](#), [make_fg\(\)](#), [make_style\(\)](#), [reset\(\)](#), [style\(\)](#)

Examples

```
# Different methods of specifying red
fg_on("red")
fg_on("#FF0000")
fg_on(1)
fg_on(255, 0, 0)

# Turn off color
fg_off()
```

fg_on	<i>Turn On Foreground Color</i>
-------	---------------------------------

Description

Specifies the color of all future text written in the terminal [fg_on](#) accepts numeric values (RGB or 8-bit color code), hexadecimal characters, or the name of the color. Not all terminals support each possible color.

Usage

```
fg_on(...)
```

Arguments

... character or numeric value

Details

Foreground color is turned off with `fg_off`.

Value

NULL

See Also

Other style functions: `attr_off()`, `attr_on()`, `bg_off()`, `bg_on()`, `color_off()`, `color_pair()`, `fg_off()`, `make_bg()`, `make_fg()`, `make_style()`, `reset()`, `style()`

Examples

```
# Different methods of specifying red
fg_on("red")
fg_on("#FF0000")
fg_on(9)
fg_on(255, 0, 0)

# Turn off color
fg_off()
```

fill_circle

Draw a Filled-In Circle

Description

Calculate the path of a circle in a grid and draw it to screen.

Usage

```
fill_circle(yx, r = 1, n = 50, text = "x", ...)
```

Arguments

`yx` center (row, col) coordinate
`r` radius of the circle in grid points
`n` number of points along curve to calculate
`text` character value drawn at coordinate
... parameters that are passed to `style()`, including the foreground color `fg`, background color `bg`, and attribute `attr`

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_circle(yx=c(10,10), r=5)
```

fill_ellipse

Draw a Filled-In Ellipse

Description

Calculate the path of an ellipse within a grid and draw to screen.

Usage

```
fill_ellipse(yx = c(0, 0), rx = 1, ry = 1, n = 50, text = "x", ...)
```

Arguments

yx	(row, col) coordinate of the center of the ellipse
rx	radius along the x-axis in grid points
ry	radius along the y-axis in grid points
n	number of points along curve to calculate
text	character value drawn at coordinate
...	parameters that are passed to style() , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_ellipse(yx=c(10,10), rx=8, ry = 4)
```

fill_rect

Draw a Filled-In Rectangle

Description

Calculate the path of a rectangle in a grid and draw to screen.

Usage

```
fill_rect(yx1, yx2, text = "x", ...)
```

Arguments

yx1	upper-left (row, col) coordinate
yx2	lower-right (row, col) coordinate
text	character value drawn at coordinate
...	parameters that are passed to <code>style()</code> , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
draw_rect(c(5,5), c(9,9))
```

`fill_shape`*Draw a Filled-In Shape*

Description

Calculate the path of a shape given supplied vertices and draw to screen.

Usage

```
fill_shape(mat, cycle = TRUE, n = 30, text = "x", ...)
```

Arguments

<code>mat</code>	an Nx2 matrix of (row, col) coordinates
<code>cycle</code>	logical value determining whether to the first and last coordinates
<code>n</code>	number of points along each edge to calculate
<code>text</code>	character value drawn at coordinate
<code>...</code>	parameters that are passed to <code>style()</code> , including the foreground color <code>fg</code> , background color <code>bg</code> , and attribute <code>attr</code>

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
# Right Triangle
fill_shape(rbind(
  c(10,1),
  c(10,10),
  c(1,1)
), cycle=TRUE)
```

getkp

Get Keypress

Description

Listen for a keypress, then apply keypress to a function or echo it to the terminal screen. The user must be in a terminal to use `getkp`; it will not work in RStudio or the R GUI. All actions within R are halted until the keypress is returned.

Usage

```
getkp(fn = list(), echo = FALSE)
```

Arguments

<code>fn</code>	list of named functions
<code>echo</code>	whether the keypress should be echoed to the screen if not found in list

Value

character naming the key that was pressed (*invisibly*).

Examples

```
f <- list(
  'up'    = function(){mv(row=-1)},
  'down'  = function(){mv(row=-1)},
  'left'  = function(){mv(col=-1)},
  'right' = function(){mv(col=1)}
)
## Not run:
getkp(fn=f, echo=FALSE)

## End(Not run)
```

getkpl*Loop a Keypress*

Description

Maintain a loop that listens for a keypress, then applies the keypress to a function or echoes it to the terminal screen. The user must be in a terminal to use `getkp`; it will not work in RStudio or the R GUI. All actions within R are halted until the keypress is returned.

Usage

```
getkpl(escape = "escape", fn = list(), echo = FALSE)
```

Arguments

escape	vector of character keypresses that escape the loop. The default is "escape" key.
fn	list of named functions
echo	whether the keypress should be echoed to the screen if not found in list

Value

NULL

Examples

```
f <- list(
  'up'    = function(){mv(row=-1)},
  'down'  = function(){mv(row=1)},
  'left'  = function(){mv(col=-1)},
  'right' = function(){mv(col=1)}
)
## Not run:
getkpl(escape = c("escape", "enter"), fn=f, echo=FALSE)

## End(Not run)
```

grid_at

Draw a Character Grid Matrix

Description

Constructs a grid with given dimension, character values, and step parameter, and prints it to screen

Usage

```
grid_at(
  yx = c(1, 1),
  dim = NULL,
  step = c(2, 2),
  text = c(".", ".", "+", "|", "|", "-", "-", rep("+", 8)),
  border = TRUE
)
```

Arguments

yx	(row, column) on screen or window where the upper-left corner of the grid is to be printed
dim	(row, column) vector for size of grid.
step	numeric vector describing grid step across (rows, columns)
text	character vector of values for the grid, in order: horizontal grid line, vertical grid line, grid intersection, left border, right border, top border, bottom border, corners (upper-left, upper-right, lower-left, lower-right), ticks (right, bottom, left, top)
border	logical value for whether a border should be included.

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
grid_at(yx=c(2,2), dim=c(11,13), step=c(2,4), border=TRUE)
```

grid_mat

Create a Character Grid Matrix

Description

Constructs a grid with provided dimensions (row, col), character values for gridlines, and a step parameter noting the number of rows and columns between each gridline.

Usage

```
grid_mat(
  dim,
  step = c(2, 2),
  text = c(".", ".", "+", "|", "|", "-", "-", rep("+", 8)),
  border = TRUE
)
```

Arguments

dim	(row, column) vector for size of grid.
step	numeric vector describing grid step across (rows, columns)
text	character vector of values for the grid, in order: horizontal grid line, vertical grid line, grid intersection, left border, right border, top border, bottom border, corners (upper-left, upper-right, lower-left, lower-right), ticks (right, bottom, left, top)
border	logical value for whether a border should be included.

Value

rowxcol matrix

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
grid_mat(dim=c(11,13), step=c(2,4), border=TRUE)
```

hide_cursor

Hide Cursor

Description

Make the cursor invisible. The cursor can be revealed with [show_cursor](#)

Usage

```
hide_cursor()
```

Value

NULL

Examples

```
hide_cursor()
cat("\n\nHello World!")
show_cursor()
```

hline	<i>Horizontal Line</i>
-------	------------------------

Description

Horizontal Line

Usage

```
hline(n, text = "-")
```

Arguments

n	integer describing the character length of the line
text	character to be repeated

Value

character string of length n

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
hline(10, "*") # *****
hline(5, "$") # $$$$$
```

hline_at	<i>Draw Horizontal Line</i>
----------	-----------------------------

Description

Draws a horizontal line of length n at (row, col)

Usage

```
hline_at(yx, n, text = "-", ...)
```

Arguments

<code>yx</code>	(row, col) coordinates where line should be drawn.
<code>n</code>	integer describing the character length of the line
<code>text</code>	character to be repeated
<code>...</code>	parameters that are passed to <code>style()</code> , including the foreground color <code>fg</code> , background color <code>bg</code> , and attribute <code>attr</code>

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline\(\)](#), [vline_at\(\)](#), [vline\(\)](#)

Examples

```
hline_at(c(3,4),6,"-") # print "-----" at (3,4)
```

in.term

Determine whether in Terminal

Description

Tests whether the session is in terminal and returns TRUE or FALSE. Many of the `cursor` functions require being in terminal and will not work with RStudio or the R GUI application.

Usage

```
in.term()
```

Value

logical value; TRUE or FALSE

Examples

```
in.term()
```

load_cursor	<i>Load Cursor</i>
-------------	--------------------

Description

Restore cursor to its previously saved location from [save_cursor](#).

Usage

```
load_cursor()
```

Value

NULL

Examples

```
save_cursor()
cat("\n\nHello World!")
load_cursor()
```

make_bg	<i>Create Background Color</i>
---------	--------------------------------

Description

Returns the ANSI code for the specified background color. `make_bg` accepts numeric values (RGB or 8-bit color code), hexadecimal characters, or the name of the color.

Usage

```
make_bg(...)
```

Arguments

... character or numeric value

Value

ANSI character string

See Also

Other style functions: [attr_off\(\)](#), [attr_on\(\)](#), [bg_off\(\)](#), [bg_on\(\)](#), [color_off\(\)](#), [color_pair\(\)](#), [fg_off\(\)](#), [fg_on\(\)](#), [make_fg\(\)](#), [make_style\(\)](#), [reset\(\)](#), [style\(\)](#)

Examples

```
# Different methods of specifying cyan
make_bg("cyan")
make_bg("#00FFFF")
make_bg(14)
make_bg(0, 255, 255)
```

make_fg

Create Foreground Color

Description

Returns the ANSI code for the specified foreground color. `make_fg` accepts numeric values (RGB or 8-bit color code), hexadecimal characters, or the name of the color.

Usage

```
make_fg(...)
```

Arguments

... character or numeric value

Value

ANSI character string

See Also

Other style functions: [attr_off\(\)](#), [attr_on\(\)](#), [bg_off\(\)](#), [bg_on\(\)](#), [color_off\(\)](#), [color_pair\(\)](#), [fg_off\(\)](#), [fg_on\(\)](#), [make_bg\(\)](#), [make_style\(\)](#), [reset\(\)](#), [style\(\)](#)

Examples

```
# Different methods of specifying red
make_fg("red")
make_fg("#FF0000")
make_fg(9)
make_fg(255, 0, 0)
```

make_style	<i>Create Color & Attribute Style</i>
------------	---

Description

Returns the ANSI codes for the specified colors and text attributes.

Usage

```
make_style(fg = NA, bg = NA, attr = NA)
```

Arguments

fg character or numeric value for the foreground color. See [fg_on](#) for more details.
bg character or numeric value for the background color. See [bg_on](#) for more details.
attr character vector describing attributes to turn on. See [attr_on](#) for more details.

Value

ANSI character string

See Also

Other style functions: [attr_off\(\)](#), [attr_on\(\)](#), [bg_off\(\)](#), [bg_on\(\)](#), [color_off\(\)](#), [color_pair\(\)](#), [fg_off\(\)](#), [fg_on\(\)](#), [make_bg\(\)](#), [make_fg\(\)](#), [reset\(\)](#), [style\(\)](#)

Examples

```
cat(make_style(fg="blue", bg=c(192,192,192), attr=c("ul", "st")))
cat("Hello World!\n")
reset()
```

mv	<i>Move Cursor</i>
----	--------------------

Description

Move cursor relative to its current position on the screen. Screen coordinates are given by (row, column) with the position of the screen being (1, 1).

Usage

```
mv(row = 0L, col = 0L)
```


Arguments

row	number of rows in which to move the cursor. Positive values move the cursor down; negative values move the cursor up. If row has two or more values, the second value replaces col.
col	number of columns in which to move the cursor. Positive values move the cursor forward; negative values move the cursor backwards.

Details

The user must be in a terminal to use the functionality; it will not work in RStudio or the R GUI.

Value

NULL

See Also

[mv_to](#) to move to a specific location on the screen.

Other moving functions: [mv_col\(\)](#), [mv_row\(\)](#), [mv_to\(\)](#)

Examples

```
# move the cursor down one and forward two
mv(1, 2)

# Alternatively, you can specify the coordinates as a single vector.
loc <- c(1, 2)
mv(loc)

# to move to the left one unit (only works if the current column is > 1)
mv(, -1)
```

mv_col

Move Cursor to Column

Description

Move the cursor to the specified column, while maintaining the same row.

Usage

```
mv_col(n = 1L)
```

Arguments

n positive integer specifying the column

Details

The user must be in a terminal to use the functionality; it will not work in RStudio or the R GUI.

Value

NULL

See Also

Other moving functions: [mv_row\(\)](#), [mv_to\(\)](#), [mv\(\)](#)

Examples

```
# Position cursor at the beginning of the row
mv_col(1)

# Move cursor to the 10th column in the row
mv_col(10)
```

mv_row

Move Cursor to Row

Description

Moves cursor to the beginning of the row relative to its current location.

Usage

```
mv_row(n = 1L)
```

Arguments

n number of rows to move. Positive values indicate the next rows; negative values indicate the previous rows

Details

The user must be in a terminal to use the functionality; it will not work in RStudio or the R GUI.

Value

NULL

See Also

Other moving functions: [mv_col\(\)](#), [mv_to\(\)](#), [mv\(\)](#)

Examples

```
# move the cursor to the beginning of the previous line
mv_row(-1)
```

mv_to	<i>Move Cursor to Specified Location</i>
-------	--

Description

Move cursor relative to its current position on the screen. Screen coordinates are given by (row, column) with the position of the screen being (1, 1).

Usage

```
mv_to(row = 1L, col = 1L)
```

Arguments

row	positive integer specifying the console row. If row has two or more values, the second value replaces col.
col	positive integer specifying the console column.

Details

The user must be in a terminal to use the functionality; it will not work in RStudio or the R GUI.

Value

NULL

See Also

[mv](#) to move relative to the current location on the screen.

Other moving functions: [mv_col\(\)](#), [mv_row\(\)](#), [mv\(\)](#)

Examples

```
# move the cursor to the 2nd row, 4th column
mv_to(2, 4)

# alternatively, you can specify the coordinates as a vector.
loc <- c(2, 4)
mv_to(loc)
```

path_arc	<i>Arc Path</i>
----------	-----------------

Description

Calculate the path of an arc within a grid.

Usage

```
path_arc(yx, start, end, r = 1, n = 50)
```

Arguments

yx	center (row, col) coordinate of circle
start	starting angle in radians
end	ending angle in radians
r	radius of circle
n	number of points along curve to calculate

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_bezier\(\)](#), [path_circle\(\)](#), [path_ellipse\(\)](#), [path_fill\(\)](#), [path_fn\(\)](#), [path_intersection\(\)](#), [path_lerp\(\)](#), [path_ray\(\)](#), [path_rect\(\)](#), [path_shape\(\)](#)

Examples

```
path_arc(yx=c(10,10), start=pi/2, end=pi, r=6)
```

path_bezier	<i>Bezier Curve Path</i>
-------------	--------------------------

Description

Calculate the path of a Bezier Curve with up to two control points in a grid.

Usage

```
path_bezier(start, end, c1, c2 = NULL, n = 50)
```

Arguments

start	starting (row, col) coordinate
end	ending (row, col) coordinate
c1	coordinate of first control point
c2	coordinate of second control point
n	number of points along curve to calculate

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_arc\(\)](#), [path_circle\(\)](#), [path_ellipse\(\)](#), [path_fill\(\)](#), [path_fn\(\)](#), [path_intersection\(\)](#), [path_lerp\(\)](#), [path_ray\(\)](#), [path_rect\(\)](#), [path_shape\(\)](#)

Examples

```
path_bezier(start=c(10,1), end=c(10,10), c1=c(1, 3))
```

path_circle	<i>Path of a Circle</i>
-------------	-------------------------

Description

Calculate the path of a circle in a grid.

Usage

```
path_circle(yx, r = 1, n = 50)
```

Arguments

yx	center (row, col) coordinate
r	radius of the circle in grid points
n	number of points along curve to calculate

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_arc\(\)](#), [path_bezier\(\)](#), [path_ellipse\(\)](#), [path_fill\(\)](#), [path_fn\(\)](#), [path_intersection\(\)](#), [path_lerp\(\)](#), [path_ray\(\)](#), [path_rect\(\)](#), [path_shape\(\)](#)

Examples

```
path_circle(yx=c(10,10), r=5)
```

path_ellipse

Ellipse Path

Description

Calculate the path of an ellipse within a grid.

Usage

```
path_ellipse(yx = c(0, 0), rx = 1, ry = 1, n = 50)
```

Arguments

yx	(row, col) coordinate of the center of the ellipse
rx	radius along the x-axis in grid points
ry	radius along the y-axis in grid points
n	number of points along curve to calculate

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_arc\(\)](#), [path_bezier\(\)](#), [path_circle\(\)](#), [path_fill\(\)](#), [path_fn\(\)](#), [path_intersection\(\)](#), [path_lerp\(\)](#), [path_ray\(\)](#), [path_rect\(\)](#), [path_shape\(\)](#)

Examples

```
path_ellipse(yx=c(10,10), rx=8, ry = 4)
```

path_fill	<i>Fill In Path</i>
-----------	---------------------

Description

Calculate the coordinates of all points inside of a path.

Usage

```
path_fill(mat)
```

Arguments

mat	Nx2 matrix of (row, column) path coordinates
-----	--

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_arc\(\)](#), [path_bezier\(\)](#), [path_circle\(\)](#), [path_ellipse\(\)](#), [path_fn\(\)](#), [path_intersection\(\)](#), [path_lerp\(\)](#), [path_ray\(\)](#), [path_rect\(\)](#), [path_shape\(\)](#)

Examples

```
c0 <- path_circle(c(10,10), r=5)
path_fill(c0)
```

path_fn	<i>Function Path</i>
---------	----------------------

Description

Calculate the path within a grid of an user-supplied function.

Usage

```
path_fn(x1, x2, fn, n = 50)
```

Arguments

x1	starting column value of the path
x2	ending column value of the path
fn	function returning row value for a column input
n	number of points along curve to calculate

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_arc\(\)](#), [path_bezier\(\)](#), [path_circle\(\)](#), [path_ellipse\(\)](#), [path_fill\(\)](#), [path_intersection\(\)](#), [path_lerp\(\)](#), [path_ray\(\)](#), [path_rect\(\)](#), [path_shape\(\)](#)

Examples

```
path_fn(x1=1, x2=10,  
        function(x){sqrt(x)}  
)
```

path_intersection	<i>Intersection between Two Paths</i>
-------------------	---------------------------------------

Description

Calculate the points of intersection between two paths.

Usage

```
path_intersection(path)
```

Arguments

path list containing two coordinate (row, column) matrices.

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_arc\(\)](#), [path_bezier\(\)](#), [path_circle\(\)](#), [path_ellipse\(\)](#), [path_fill\(\)](#), [path_fn\(\)](#), [path_lerp\(\)](#), [path_ray\(\)](#), [path_rect\(\)](#), [path_shape\(\)](#)

Examples

```
c1 <- path_circle(c(4,4), r=3)  
c2 <- path_circle(c(6,6), r=3)  
path_intersection(list(c1, c2))
```

path_lerp	<i>Linear Interpolation Path</i>
-----------	----------------------------------

Description

Interpolate between two points in a grid.

Usage

```
path_lerp(start, end, n = 50)
```

Arguments

start	starting (row, col) coordinate
end	ending (row, col) coordinate
n	number of points along curve to calculate

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_arc\(\)](#), [path_bezier\(\)](#), [path_circle\(\)](#), [path_ellipse\(\)](#), [path_fill\(\)](#), [path_fn\(\)](#), [path_intersection\(\)](#), [path_ray\(\)](#), [path_rect\(\)](#), [path_shape\(\)](#)

Examples

```
path_lerp(start=c(10,1), end=c(1,3))
```

path_ray	<i>Ray Path</i>
----------	-----------------

Description

Calculate the path of a ray extending

Usage

```
path_ray(start, end, lim = c(64, 128), n = 200)
```

Arguments

start	start (row, col) coordinate of the ray
end	either an ending coording, an angle in radians, or a character direction (u, d, l, r, ul, ur, dl, dr)
lim	bounding box dimensions used to calculate ray
n	number of points along curve to calculate

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_arc\(\)](#), [path_bezier\(\)](#), [path_circle\(\)](#), [path_ellipse\(\)](#), [path_fill\(\)](#), [path_fn\(\)](#), [path_intersection\(\)](#), [path_lerp\(\)](#), [path_rect\(\)](#), [path_shape\(\)](#)

Examples

```
path_ray(start=c(10,10), end=pi/6)
path_ray(start=c(10,10), end=pi/6, lim=c(15,15))
path_ray(start=c(10,10), end=c(4,2))
```

path_rect

Rectangle Path

Description

Calculate the path of a rectangle in a grid.

Usage

```
path_rect(yx1, yx2)
```

Arguments

yx1	upper-left (row, col) coordinate
yx2	lower-right (row, col) coordinate

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_arc\(\)](#), [path_bezier\(\)](#), [path_circle\(\)](#), [path_ellipse\(\)](#), [path_fill\(\)](#), [path_fn\(\)](#), [path_intersection\(\)](#), [path_lerp\(\)](#), [path_ray\(\)](#), [path_shape\(\)](#)

Examples

```
path_rect(c(5,5), c(9,9))
```

path_shape	<i>Path along a Shape</i>
------------	---------------------------

Description

Calculate the path of a shape given supplied vertices.

Usage

```
path_shape(mat, cycle = TRUE, n = 30)
```

Arguments

mat	an Nx2 matrix of (row, col) coordinates
cycle	logical value determining whether to the first and last coordinates
n	number of points along each edge to calculate

Value

Nx2 matrix of (row, column) coordinates

See Also

Other path-fitting functions: [path_arc\(\)](#), [path_bezier\(\)](#), [path_circle\(\)](#), [path_ellipse\(\)](#), [path_fill\(\)](#), [path_fn\(\)](#), [path_intersection\(\)](#), [path_lerp\(\)](#), [path_ray\(\)](#), [path_rect\(\)](#)

Examples

```
# Right Triangle
path_shape(rbind(
  c(10,1),
  c(10,10),
  c(1,1)
), cycle=TRUE)
```

`repch`*Repeat a Character*

Description

Repeat a character n times and concatenate into a single value.

Usage

```
repch(x, n)
```

Arguments

x	character to be repeated
n	number of times to be repeated

Value

character vector

Examples

```
repch("abc", 5)
```

`reset`*Reset Console Style*

Description

Turns off all text attributes and colors in the terminal.

Usage

```
reset()
```

Value

NULL

See Also

Other style functions: [attr_off\(\)](#), [attr_on\(\)](#), [bg_off\(\)](#), [bg_on\(\)](#), [color_off\(\)](#), [color_pair\(\)](#), [fg_off\(\)](#), [fg_on\(\)](#), [make_bg\(\)](#), [make_fg\(\)](#), [make_style\(\)](#), [style\(\)](#)

Examples

```
attr_on("ul")
fg_on("red")
bg_on(c(10,60,205))
cat("Hello World!\n")

reset()
cat("Hello World!\n")
```

save_cursor	<i>Save Cursor Position</i>
-------------	-----------------------------

Description

Save the position of the cursor so that the position can be restored for later with [load_cursor](#).

Usage

```
save_cursor()
```

Value

NULL

Examples

```
save_cursor()
cat("\n\nHello World!")
load_cursor()
```

show_cursor	<i>Show Cursor</i>
-------------	--------------------

Description

Reveal the cursor after it has been hidden by [hide_cursor](#).

Usage

```
show_cursor()
```

Value

NULL

Examples

```
hide_cursor()
cat("\n\nHello World!")
show_cursor()
```

style

Add Color & Attributes to a Character

Description

Add color and other text attributes to a character vector. Attributes can be seen after text is passed to `cat`, though it may only show up in a terminal. Note that terminal attributes and colors are automatically reset to default after text is printed.

Usage

```
style(x, fg = NA, bg = NA, attr = NA)
```

Arguments

<code>x</code>	character vector to be styled
<code>fg</code>	character or numeric value for the foreground color. See fg_on for more details.
<code>bg</code>	character or numeric value for the background color. See bg_on for more details.
<code>attr</code>	character vector describing attributes to turn on. See attr_on for more details.

Value

character vector

See Also

Other style functions: [attr_off\(\)](#), [attr_on\(\)](#), [bg_off\(\)](#), [bg_on\(\)](#), [color_off\(\)](#), [color_pair\(\)](#), [fg_off\(\)](#), [fg_on\(\)](#), [make_bg\(\)](#), [make_fg\(\)](#), [make_style\(\)](#), [reset\(\)](#)

Examples

```
x <- style("Hello World!\n", fg="blue", bg=c(192,192,192), attr=c("ul", "st"))
cat(paste(x, "It is nice to meet you!"))
```

Sym	<i>Unicode Symbols</i>
-----	------------------------

Description

A named list containing the unicode character for various box drawing, mathematical, currency, astrological, and other symbols.

Usage

Sym

Format

A named list of characters

term_dim	<i>Determine Terminal Size</i>
----------	--------------------------------

Description

Function determines the size of the terminal in number of rows and columns. The value may not be accurate in RStudio or the R GUI.

Usage

```
term_dim()
```

Value

numeric vector (# of rows, # of columns)

Examples

```
term_dim()
```

vline	<i>Vertical Line</i>
-------	----------------------

Description

Vertical Line

Usage

```
vline(n, text = "|")
```

Arguments

n	integer describing the character length of the line
text	character to be repeated

Value

character string of length n, separated by "\n"

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline_at\(\)](#)

Examples

```
vline(4, "*") # "*\n*\n*\n*"
```

vline_at	<i>Draw Vertical Line</i>
----------	---------------------------

Description

Draws a vertical line of length n at (row, col)

Usage

```
vline_at(yx, n, text = "|", ...)
```


Arguments

<code>yx</code>	(row, col) coordinates where top of the line should be drawn.
<code>n</code>	integer describing the character length of the line
<code>text</code>	character to be repeated
<code>...</code>	parameters that are passed to <code>style()</code> , including the foreground color <code>fg</code> , background color <code>bg</code> , and attribute <code>attr</code>

Value

NULL

See Also

Other drawing functions: [box_at\(\)](#), [draw_arc\(\)](#), [draw_bezier\(\)](#), [draw_circle\(\)](#), [draw_ellipse\(\)](#), [draw_fn\(\)](#), [draw_lerp\(\)](#), [draw_path\(\)](#), [draw_ray\(\)](#), [draw_rect\(\)](#), [draw_shape\(\)](#), [fill_circle\(\)](#), [fill_ellipse\(\)](#), [fill_rect\(\)](#), [fill_shape\(\)](#), [grid_at\(\)](#), [grid_mat\(\)](#), [hline_at\(\)](#), [hline\(\)](#), [vline\(\)](#)

Examples

```
vline_at(c(3,4),6,"|") # print "|" at (3,4), ..., (8,4)
```

wr *Write String to Terminal*

Description

Writes a string of characters to the terminal at the current cursor position. `wr` accepts text colors and attributes, but these are reset to default afterwards if used.

Usage

```
wr(text, fg = NA, bg = NA, attr = NA)
```

Arguments

<code>text</code>	string to be printed to the Console
<code>fg</code>	foreground color. See fg_on for more details.
<code>bg</code>	background color. See bg_on for more details.
<code>attr</code>	character attribute. See attr_on for more details.

Value

NULL

See Also

Other writing functions: [wrat\(\)](#), [wrch\(\)](#), [wrkpl\(\)](#), [wrkp\(\)](#)

Examples

```
mv_to(5,4)
wrch("h")
wrch("e", fg="red")
wr("llo World")
```

wrapup

Return Screen to Blank State

Description

Function to be used at the end of a terminal function. It resets the colors and attributes to their default values, clears the screen, and reveals the cursor.

Usage

```
wrapup()
```

Value

```
NULL
```

wrat

Write At a Specific Location

Description

Move cursor to specified location in the terminal screen, then print the supplied text. This function will only work in terminal, not the RStudio Console or R GUI.

Usage

```
wrat(yx, text, ...)
```

Arguments

<code>yx</code>	numeric vector specifying the (row, col) coordinates to print at
<code>text</code>	text to be written at <code>yx</code>
<code>...</code>	colors and attributes added to text. See wr , fg_on , bg_on , and attr_on for more details.

Details

The coordinates are given in matrix notation: (row, column), with the top-left corner of the screen being (1,1).

Value

NULL

See Also

Other writing functions: [wrch\(\)](#), [wrkpl\(\)](#), [wrkp\(\)](#), [wr\(\)](#)

Examples

```
wrat(c(10,6), "CURSR")
wrat(c(4,1), "Hello World!", fg="red", attr=c("bf", "ul"))

mat <- rbind(c(5,2), c(10,5), c(1,19))
wrat(mat, "HI", fg="yellow")
```

wrch

Write Character to Terminal

Description

Writes a single character to the terminal at the current cursor position. `wr` accepts text colors and attributes, but these are reset to default afterwards if used.

Usage

```
wrch(chr, fg = NA, bg = NA, attr = NA)
```

Arguments

<code>chr</code>	character to be printed to the Console
<code>fg</code>	foreground color. See fg_on for more details.
<code>bg</code>	background color. See bg_on for more details.
<code>attr</code>	character attribute. See attr_on for more details.

Value

NULL

See Also

Other writing functions: [wrat\(\)](#), [wrkpl\(\)](#), [wrkp\(\)](#), [wr\(\)](#)

Examples

```
mv_to(5,4)
wrch("h")
wrch("e", fg="red")
wr("llo World")
```

wrchat

Write Character to Terminal at Specified Location

Description

Move cursor to specified location in the terminal screen, then print the supplied character. This function will only work in terminal, not the RStudio Console or R GUI.

Usage

```
wrchat(row, col, chr, ...)
```

Arguments

row	row in which character is printed. If length of row is greater than one, the second value replaces col.
col	column in which character is printed
chr	character to be printed to the Console
...	parameters that are passed to <code>style()</code> , including the foreground color fg, background color bg, and attribute attr

Details

The coordinates are given in matrix notation: (row, column), with the top-left corner of the screen being (1,1).

Value

NULL

Examples

```
wrchat(5, 4, "h")
```

`wrkp`*Echo Keypress to Screen*

Description

Detect keypress and print it to the terminal screen, while invisibly returning the keypress. The user can specify which characters to ignore, and can also map keys to a list of functions. Any keypress mapped to a function will not be echoed to the screen.

Usage

```
wrkp(ignore = "escape", fn = list(), ...)
```

Arguments

<code>ignore</code>	vector of keypresses to ignore.
<code>fn</code>	list of functions, named by key, to be called when key is pressed.
<code>...</code>	parameters that are passed to <code>style()</code> , including the foreground color <code>fg</code> , background color <code>bg</code> , and attribute <code>attr</code>

Value

NULL

See Also

Other writing functions: [wrat\(\)](#), [wrch\(\)](#), [wrkpl\(\)](#), [wr\(\)](#)

Examples

```
## Not run:
wrkp(
  ignore="escape",
  fn = list(
    enter = function(){mv_row(1)},
    left = function(){mv(0, -1)},
    right = function(){mv(0, 1)},
    up = function(){mv(-1,0)},
    down = function(){mv(1,0)},
    space = function(){cat(" ")}
  )
)

## End(Not run)
```

 wrkpl

Echo Keypress to Screen in a Loop

Description

Detect keypress and print it to the terminal screen, while invisibly returning the keypress. The user can specify which characters to ignore, and can also map keys to a list of functions. Any keypress mapped to a function will not be echoed to the screen.

Usage

```
wrkpl(escape = c("escape"), ignore = NA_character_, fn = list(), ...)
```

Arguments

escape	vector of keypresses to escape the loop.
ignore	vector of keypresses to ignore.
fn	list of functions, named by key, to be called when key is pressed.
...	parameters that are passed to <code>style()</code> , including the foreground color fg, background color bg, and attribute attr

Value

NULL

See Also

Other writing functions: [wrat\(\)](#), [wrch\(\)](#), [wrkp\(\)](#), [wr\(\)](#)

Examples

```
## Not run:
wrkpl(
  escape = "escape",
  fn = list(
    enter = function(){mv_row(1)},
    left = function(){mv(0, -1)},
    right = function(){mv(0, 1)},
    up = function(){mv(-1,0)},
    down = function(){mv(1,0)},
    space = function(){cat(" ")}
  )
)
## End(Not run)
```

Index

- * **datasets**
 - Sym, 47
 - * **drawing functions**
 - box_at, 6
 - draw_arc, 9
 - draw_bezier, 10
 - draw_circle, 11
 - draw_ellipse, 12
 - draw_fn, 13
 - draw_lerp, 14
 - draw_path, 14
 - draw_ray, 15
 - draw_rect, 16
 - draw_shape, 17
 - fill_circle, 20
 - fill_ellipse, 21
 - fill_rect, 22
 - fill_shape, 23
 - grid_at, 25
 - grid_mat, 26
 - hline, 28
 - hline_at, 28
 - vline, 48
 - vline_at, 48
 - * **moving functions**
 - mv, 32
 - mv_col, 33
 - mv_row, 34
 - mv_to, 35
 - * **path-fitting functions**
 - path_arc, 36
 - path_bezier, 36
 - path_circle, 37
 - path_ellipse, 38
 - path_fill, 39
 - path_fn, 39
 - path_intersection, 40
 - path_lerp, 41
 - path_ray, 41
 - path_rect, 42
 - path_shape, 43
 - * **style functions**
 - attr_off, 3
 - attr_on, 4
 - bg_off, 5
 - bg_on, 5
 - color_off, 8
 - color_pair, 9
 - fg_off, 19
 - fg_on, 19
 - make_bg, 30
 - make_fg, 31
 - make_style, 32
 - reset, 44
 - style, 46
 - * **writing functions**
 - wr, 49
 - wrat, 50
 - wrch, 51
 - wrkp, 53
 - wrkpl, 54
- attr_off, 3, 4–6, 8, 9, 19, 20, 30–32, 44, 46
- attr_on, 3, 4, 5–9, 19, 20, 30–32, 44, 46, 49–51
- bg_off, 3, 4, 5, 6, 8, 9, 19, 20, 30–32, 44, 46
- bg_on, 3–5, 5, 7–9, 19, 20, 30–32, 44, 46, 49–51
- box_at, 6, 10–17, 21–23, 26–29, 48, 49
- clear, 7
- color_off, 3–6, 8, 9, 19, 20, 30–32, 44, 46
- color_pair, 3–6, 8, 9, 19, 20, 30–32, 44, 46
- draw_arc, 7, 9, 11–17, 21–23, 26–29, 48, 49
- draw_bezier, 7, 10, 10, 11–17, 21–23, 26–29, 48, 49
- draw_circle, 7, 10, 11, 11, 12–17, 21–23, 26–29, 48, 49

- draw_ellipse, 7, 10, 11, 12, 13–17, 21–23, 26–29, 48, 49
- draw_fn, 7, 10–12, 13, 14–17, 21–23, 26–29, 48, 49
- draw_lerp, 7, 10–13, 14, 15–17, 21–23, 26–29, 48, 49
- draw_path, 7, 10–14, 14, 16, 17, 21–23, 26–29, 48, 49
- draw_ray, 7, 10–15, 15, 16, 17, 21–23, 26–29, 48, 49
- draw_rect, 7, 10–16, 16, 17, 21–23, 26–29, 48, 49
- draw_shape, 7, 10–16, 17, 21–23, 26–29, 48, 49

- erase, 18
- example_luckynumber, 18

- fg_off, 3–6, 8, 9, 19, 20, 30–32, 44, 46
- fg_on, 3–9, 19, 19, 30–32, 44, 46, 49–51
- fill_circle, 7, 10–17, 20, 21–23, 26–29, 48, 49
- fill_ellipse, 7, 10–17, 21, 21, 22, 23, 26–29, 48, 49
- fill_rect, 7, 10–17, 21, 22, 23, 26–29, 48, 49
- fill_shape, 7, 10–17, 21, 22, 23, 26–29, 48, 49

- getkp, 24
- getkpl, 24
- grid_at, 7, 10–17, 21–23, 25, 27–29, 48, 49
- grid_mat, 7, 10–17, 21–23, 26, 26, 28, 29, 48, 49

- hide_cursor, 27, 45
- hline, 7, 10–17, 21–23, 26, 27, 28, 29, 48, 49
- hline_at, 7, 10–17, 21–23, 26–28, 28, 48, 49

- in. term, 29

- load_cursor, 30, 45

- make_bg, 3–6, 8, 9, 19, 20, 30, 31, 32, 44, 46
- make_fg, 3–6, 8, 9, 19, 20, 30, 31, 32, 44, 46
- make_style, 3–6, 8, 9, 19, 20, 30, 31, 32, 44, 46
- mv, 32, 34, 35
- mv_col, 33, 33, 34, 35
- mv_row, 33, 34, 34, 35
- mv_to, 33, 34, 35

- path_arc, 36, 37–43
- path_bezier, 36, 36, 37–43
- path_circle, 36, 37, 37, 38–43
- path_ellipse, 36, 37, 38, 39–43
- path_fill, 36–38, 39, 40–43
- path_fn, 36–39, 39, 40–43
- path_intersection, 36–40, 40, 41–43
- path_lerp, 36–40, 41, 42, 43
- path_ray, 36–41, 41, 42, 43
- path_rect, 36–42, 42, 43
- path_shape, 36–42, 43

- repch, 44
- reset, 3–6, 8, 9, 19, 20, 30–32, 44, 46

- save_cursor, 30, 45
- show_cursor, 27, 45
- style, 3–6, 8, 9, 19, 20, 30–32, 44, 46
- Sym, 47

- term_dim, 47

- vline, 7, 10–17, 21–23, 26–29, 48, 49
- vline_at, 7, 10–17, 21–23, 26–29, 48, 48

- wr, 49, 50, 51, 53, 54
- wrapup, 50
- wrat, 50, 50, 51, 53, 54
- wrch, 50, 51, 51, 53, 54
- wrchat, 52
- wrkp, 50, 51, 53, 54
- wrkpl, 50, 51, 53, 54