



GRAPHICS PART 2

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ARGUMENTS OF PAR() 1/2

Argument	Description
adj	Controls the text alignment: 0 – to the left, 0.5 – centered, 1 – to the right
bg	Sets the background color of the plot
bty	Controls the type of overline around the plot (o, l, 7, c, u,]) – overline looks like given value (n is for lack of overline)
cex	Controls the size of text and symbols, default value is 1. Additional functions available like cex.axis (axis size), cex.main (title text size), etc.
col	Controls the color of symbols. Additional functions available like col.lab (color of axis title), col.sub (color of the subtitle), etc.
font	A number controlling the text style (1 – normal, 2 – bold, 3 – italic, 4 – bold italic). Additional functions available like font.axis, font.lab, etc.

ARGUMENTS OF PAR() 2/2

Argument	Description
las	A number controlling the rotation of titles around axis (0 – parallel to the axis, 1 – horizontal, 2 - perpendicular to the axis, 3 – vertical).
lty	A number controlling the style of the line (0=blank, 1=solid (default), 2=dashed, 3=dotted, 4=dotdash, 5=longdash, 6=twodash)
lwd	Parameter for the line width (like in cex, default value 1)
pch	Point symbol (number in range 0-25 or sign in quotation marks)
ps	Point size in text and symbols
pty	Size of the plot area (s – squared, m – maximal)
tck	Size of axis ticks, as a fraction of height and width of the plot (for 1 there is a net drawn on the whole plot area)

TYPES OF POINTS IN R

In par() function
Argument pch =

pch = _

1	○	6	▽	11	⊠	16	●	21	◐
2	△	7	⊠	12	⊞	17	▲	22	◑
3	+	8	*	13	⊗	18	◆	23	◒
4	×	9	⊕	14	⊞	19	●	24	◕
5	◇	10	⊕	15	■	20	●	25	▽

COLOR IN R








Source of the plot:

<https://www.datanovia.com/en/blog/awesome-list-of-657-r-color-names/>





































































































#1

white	bisque2	burlywood4	coral4	darkgreen
aliceblue	bisque3	cadetblue	cornflowerblue	darkgrey
antiquewhite	bisque4	cadetblue1	cornsilk	darkkhaki
antiquewhite1	black	cadetblue2	cornsilk1	darkmagenta
antiquewhite2	blanchedalmond	cadetblue3	cornsilk2	darkolivegreen
antiquewhite3	blue	cadetblue4	cornsilk3	darkolivegreen1
antiquewhite4	blue1	chartreuse	cornsilk4	darkolivegreen2
aquamarine	blue2	chartreuse1	cyan	darkolivegreen3
aquamarine1	blue3	chartreuse2	cyan1	darkolivegreen4
aquamarine2	blue4	chartreuse3	cyan2	darkorange
aquamarine3	blueviolet	chartreuse4	cyan3	darkorange1
aquamarine4	brown	chocolate	cyan4	darkorange2
azure	brown1	chocolate1	darkblue	darkorange3
azure1	brown2	chocolate2	darkcyan	darkorange4
azure2	brown3	chocolate3	darkgoldenrod	darkorchid
azure3	brown4	chocolate4	darkgoldenrod1	darkorchid1
azure4	burlywood	coral	darkgoldenrod2	darkorchid2
beige	burlywood1	coral1	darkgoldenrod3	darkorchid3
bisque	burlywood2	coral2	darkgoldenrod4	darkorchid4
bisque1	burlywood3	coral3	darkgray	darkred

#2

	darksalmon		deepskyblue		ghostwhite		gray8		gray28
	darkseagreen		deepskyblue1		gold		gray9		gray29
	darkseagreen1		deepskyblue2		gold1		gray10		gray30
	darkseagreen2		deepskyblue3		gold2		gray11		gray31
	darkseagreen3		deepskyblue4		gold3		gray12		gray32
	darkseagreen4		dimgray		gold4		gray13		gray33
	darkslateblue		dimgrey		goldenrod		gray14		gray34
	darkslategray		dodgerblue		goldenrod1		gray15		gray35
	darkslategray1		dodgerblue1		goldenrod2		gray16		gray36
	darkslategray2		dodgerblue2		goldenrod3		gray17		gray37
	darkslategray3		dodgerblue3		goldenrod4		gray18		gray38
	darkslategray4		dodgerblue4		gray		gray19		gray39
	darkslategrey		firebrick		gray0		gray20		gray40
	darkturquoise		firebrick1		gray1		gray21		gray41
	darkviolet		firebrick2		gray2		gray22		gray42
	deeppink		firebrick3		gray3		gray23		gray43
	deeppink1		firebrick4		gray4		gray24		gray44
	deeppink2		floralwhite		gray5		gray25		gray45
	deeppink3		forestgreen		gray6		gray26		gray46
	deeppink4		gainsboro		gray7		gray27		gray47

#3

	gray48		gray68		gray88		grey0		grey20
	gray49		gray69		gray89		grey1		grey21
	gray50		gray70		gray90		grey2		grey22
	gray51		gray71		gray91		grey3		grey23
	gray52		gray72		gray92		grey4		grey24
	gray53		gray73		gray93		grey5		grey25
	gray54		gray74		gray94		grey6		grey26
	gray55		gray75		gray95		grey7		grey27
	gray56		gray76		gray96		grey8		grey28
	gray57		gray77		gray97		grey9		grey29
	gray58		gray78		gray98		grey10		grey30
	gray59		gray79		gray99		grey11		grey31
	gray60		gray80		gray100		grey12		grey32
	gray61		gray81		green		grey13		grey33
	gray62		gray82		green1		grey14		grey34
	gray63		gray83		green2		grey15		grey35
	gray64		gray84		green3		grey16		grey36
	gray65		gray85		green4		grey17		grey37
	gray66		gray86		greenyellow		grey18		grey38
	gray67		gray87		grey		grey19		grey39

#4

grey40	grey60	grey80	grey100	ivory4
grey41	grey61	grey81	honeydew	khaki
grey42	grey62	grey82	honeydew1	khaki1
grey43	grey63	grey83	honeydew2	khaki2
grey44	grey64	grey84	honeydew3	khaki3
grey45	grey65	grey85	honeydew4	khaki4
grey46	grey66	grey86	hotpink	lavender
grey47	grey67	grey87	hotpink1	lavenderblush
grey48	grey68	grey88	hotpink2	lavenderblush1
grey49	grey69	grey89	hotpink3	lavenderblush2
grey50	grey70	grey90	hotpink4	lavenderblush3
grey51	grey71	grey91	indianred	lavenderblush4
grey52	grey72	grey92	indianred1	lawngreen
grey53	grey73	grey93	indianred2	lemonchiffon
grey54	grey74	grey94	indianred3	lemonchiffon1
grey55	grey75	grey95	indianred4	lemonchiffon2
grey56	grey76	grey96	ivory	lemonchiffon3
grey57	grey77	grey97	ivory1	lemonchiffon4
grey58	grey78	grey98	ivory2	lightblue
grey59	grey79	grey99	ivory3	lightblue1

#5

lightblue2	lightpink2	lightsteelblue3	mediumblue	mistyrose2
lightblue3	lightpink3	lightsteelblue4	mediumorchid	mistyrose3
lightblue4	lightpink4	lightyellow	mediumorchid1	mistyrose4
lightcoral	lightsalmon	lightyellow1	mediumorchid2	moccasin
lightcyan	lightsalmon1	lightyellow2	mediumorchid3	navajowhite
lightcyan1	lightsalmon2	lightyellow3	mediumorchid4	navajowhite1
lightcyan2	lightsalmon3	lightyellow4	mediumpurple	navajowhite2
lightcyan3	lightsalmon4	limegreen	mediumpurple1	navajowhite3
lightcyan4	lightseagreen	linen	mediumpurple2	navajowhite4
lightgoldenrod	lightskyblue	magenta	mediumpurple3	navy
lightgoldenrod1	lightskyblue1	magenta1	mediumpurple4	navyblue
lightgoldenrod2	lightskyblue2	magenta2	mediumseagreen	oldlace
lightgoldenrod3	lightskyblue3	magenta3	mediumslateblue	olivedrab
lightgoldenrod4	lightskyblue4	magenta4	mediumspringgreen	olivedrab1
lightgoldenrodyellow	lightslateblue	maroon	mediumturquoise	olivedrab2
lightgray	lightslategray	maroon1	mediumvioletred	olivedrab3
lightgreen	lightslategrey	maroon2	midnightblue	olivedrab4
lightgrey	lightsteelblue	maroon3	mintcream	orange
lightpink	lightsteelblue1	maroon4	mistyrose	orange1
lightpink1	lightsteelblue2	mediumaquamarine	mistyrose1	orange2

#6

	orange3		paleturquoise2		plum		rosybrown4		seashell2
	orange4		paleturquoise3		plum1		royalblue		seashell3
	orangered		paleturquoise4		plum2		royalblue1		seashell4
	orangered1		palevioletred		plum3		royalblue2		sienna
	orangered2		palevioletred1		plum4		royalblue3		sienna1
	orangered3		palevioletred2		powderblue		royalblue4		sienna2
	orangered4		palevioletred3		purple		saddlebrown		sienna3
	orchid		palevioletred4		purple1		salmon		sienna4
	orchid1		papayawhip		purple2		salmon1		skyblue
	orchid2		peachpuff		purple3		salmon2		skyblue1
	orchid3		peachpuff1		purple4		salmon3		skyblue2
	orchid4		peachpuff2		red		salmon4		skyblue3
	palegoldenrod		peachpuff3		red1		sandybrown		skyblue4
	palegreen		peachpuff4		red2		seagreen		slateblue
	palegreen1		peru		red3		seagreen1		slateblue1
	palegreen2		pink		red4		seagreen2		slateblue2
	palegreen3		pink1		rosybrown		seagreen3		slateblue3
	palegreen4		pink2		rosybrown1		seagreen4		slateblue4
	paleturquoise		pink3		rosybrown2		seashell		slategray
	paleturquoise1		pink4		rosybrown3		seashell1		slategray1

#7

	slategray2		tan		turquoise4
	slategray3		tan1		violet
	slategray4		tan2		violetred
	slategrey		tan3		violetred1
	snow		tan4		violetred2
	snow1		thistle		violetred3
	snow2		thistle1		violetred4
	snow3		thistle2		wheat
	snow4		thistle3		wheat1
	springgreen		thistle4		wheat2
	springgreen1		tomato		wheat3
	springgreen2		tomato1		wheat4
	springgreen3		tomato2		whitesmoke
	springgreen4		tomato3		yellow
	steelblue		tomato4		yellow1
	steelblue1		turquoise		yellow2
	steelblue2		turquoise1		yellow3
	steelblue3		turquoise2		yellow4
	steelblue4		turquoise3		yellowgreen

PALETTES IN R - BASIC

Palette: base R

Generating a color vector:

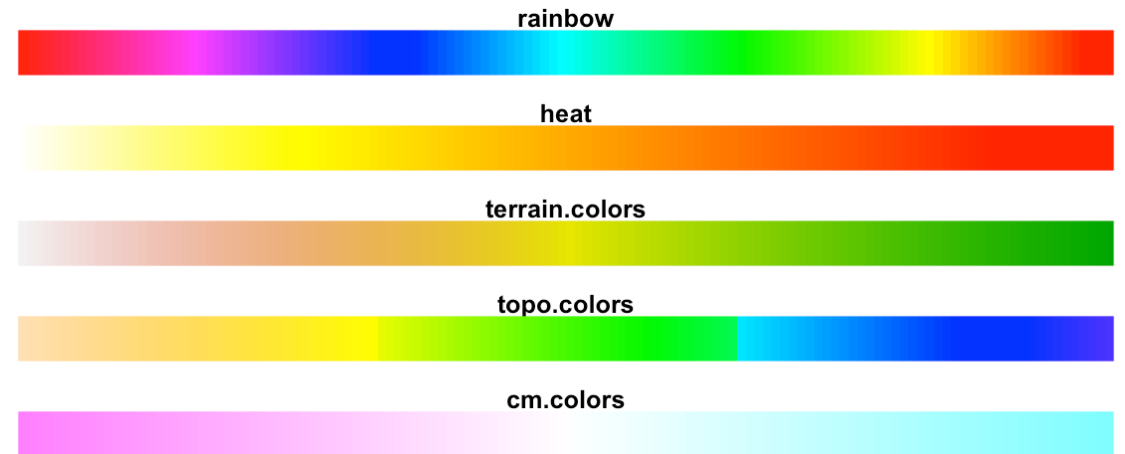
```
rainbow(n)
```

```
heat.colors(n)
```

```
terrain.colors(n)
```

```
topo.colors(n)
```

```
cm.colors(n)
```



PALETTES IN R - CONTINUOUS

Palette: Viridis

*Palettes for black and white printing,
adapted to colorblindness*

```
library("viridis")
```

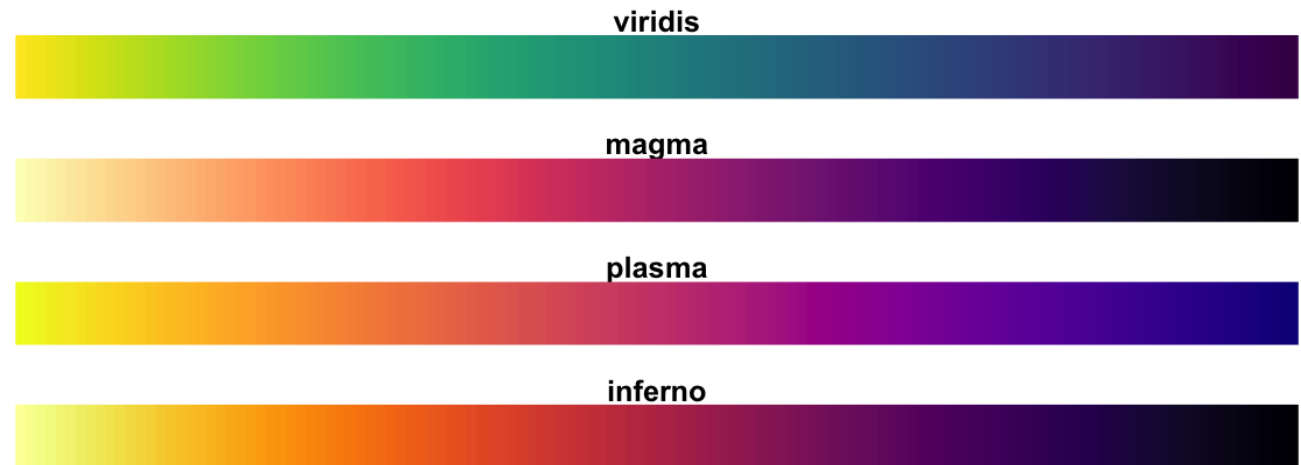
Generating a vector of colours:

```
viridis(n)
```

```
magma(n)
```

```
inferno(n)
```

```
plasma(n)
```



PALETTES IN R - MIXED

Palette: Wes Anderson

*16 palettes, inspired by Wes
Anderson movies*

```
library(wesanderson)
```

Generating a vector of colors
(continuous or discrete)

```
wes_palette(name, n,  
type = c("discrete",  
"continuous"))
```



PALLETS IN R - DISCRETE

Palette: RColorBrewer

*Color sets, some are adapted to
colourblindness*

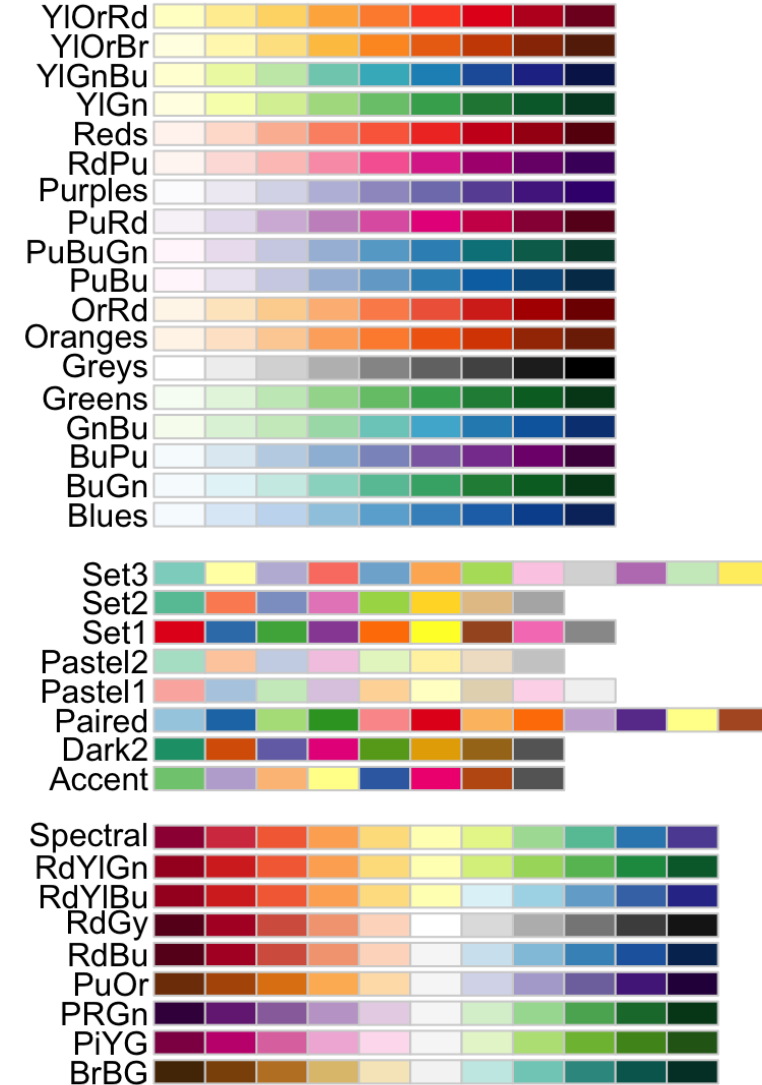
```
library(RColorBrewer)
```

Palletes that are colorblind friendly:

```
display.brewer.all(colorbl  
indFriendly = TRUE)
```

Generating a set of colours (not
more than available in a given set)

```
brewer.pal(n = 5, name =  
"Set3")
```



ADDITIONAL SOURCES WITH INFORMATION ABOUT GRAPHICS IN R

Visualization with base R:

<http://www.sthda.com/english/wiki/r-base-graphs>

<https://bookdown.org/hneth/i2ds/3-visualize.html>

https://intro2r.com/graphics_base_r.html

Visualization in ggplot2():

[this will be discussed in the Advanced Visualization classes]

https://intro2r.com/graphics_r.html