The xcolor-material package

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Abstract

The xcolor-material package is built on top of the great xcolor package. It provides a useful definition of the beautiful Google Material Color Palette, available at https://material.google.com/style/color.html, for its use in document writing with LaTeX and Friends.

Usage

1 Installation

1.1 Required Packages

The xcolor-material package requires relatively updated packages. These packages are kvoptions[1] and xcolor[2], which are included in any popular TeX distribution. Both are loaded without options.

1.2 Installing **xcolor-material**

Once the xcolor-material package is released in CTAN, users should be able to install it from the TeX distribution package manager available in their PC. However, if you need to install this package manually, you should run:

```
latex xcolor-material.ins
```

and copy the generated file `xcolor-material.sty` to a path where LaTeX can find it. To generate the documentation run the following command twice.

```
pdflatex xcolor-material.dtx
```

2 Loading **xcolor-material**

Simply add the package declaration somewhere in the document preamble.

```
\usepackage{xcolor-material}
```

If you want to load the kvoptions and xcolor packages with some options, you can specify those options using the `\PassOptionsToPackage` command *before* loading xcolor-material, or by loading those packages with their options *before* loading the xcolor-material package.

2.1 Package Options

The xcolor-material currently offers only one option,

prefix=⟨*prefix*⟩ Defines the prefix for all color names defined in the Google Material Color Palette; this is used for namespacing purposes. The default prefix is "`Material`".

The main purpose of this option is to avoid conflicts with other existent color definitions. The `prefix` option allows custom prefix definition, e.g., if you want to use the word '`myprefix`' as the color prefix, then you must load the xcolor-material package with

```
\usepackage[prefix=myprefix]{xcolor-material}
```

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[1]The kvoptions package is available at https://www.ctan.org/pkg/kvoptions
[2]The xcolor package is available at https://www.ctan.org/pkg/xcolor

3 Using **xcolor-material**

The xcolor-material provides all colors specified in the Google Material Color Palette, available at https://material.google.com/style/color.html, in the global scope of the document. This package relies on the xcolor package, and you should refer to its documentation for more details about using colors inside the document.

3.1 Color Names

The Google Material Color Palette consists of 19 color palettes (each for one base color) and two colors not included in any palette (`White` and `Black`), together forming a list of 256 colors. Each individual palette consists of 14 color variations of the base color, except for `Brown`, `Grey`, and `Blue Grey` with 10. Every color variation has a number from the list `{50, 100, 200, 300, 400, 500, 600, 700, 800, 900}` for the first ten colors or *primary palette*, and from the list `{A100, A200, A300, A400}` for the last four or *secondary palette*. The names of the base colors and their variations are listed in table 1. For a complete list of these palettes go to the section 3.4.

The name under which the xcolor-material package defines each Google Material color has the form '⟨*prefix*⟩⟨*base name*⟩⟨*variation*⟩', where

- ⟨*prefix*⟩ corresponds to the prefix set via the package option `prefix`,

- ⟨*base name*⟩ is the official name of the base color (see table 1), and

Table 1: Color names from the Google Material Color Palette and their variation palettes.

Base Color	Palettes
Red	primary, secondary
Pink	primary, secondary
Purple	primary, secondary
Deep Purple	primary, secondary
Indigo	primary, secondary
Blue	primary, secondary
Light Blue	primary, secondary
Cyan	primary, secondary
Teal	primary, secondary
Green	primary, secondary
Light Green	primary, secondary
Lime	primary, secondary
Yellow	primary, secondary
Amber	primary, secondary
Orange	primary, secondary
Deep Orange	primary, secondary
Brown	secondary
Grey	secondary
Blue Grey	secondary
Black	—
White	—

3

- ⟨*variation*⟩ is the id number of the color variation, e.g., `50` or `A100`.

For instance, by default (if a custom prefix is not defined), the `Blue 600` color of the palette will be available in the document global scope as "`MaterialBlue600`". Also, all base colors are representative of the palettes' primary color and are available at the `500` variation or using their color names, e.g., `MaterialBlue` or `MaterialBlue500` are the primary color of the "Material Blue Palette".

3.2 Google Colors

The xcolor-material package provides the Google Identity colors, which definitions are available in the Google Design Blog at https://design.google.com/articles/evolving-the-google-identity. The name under which these colors are defined has the form 'Google⟨*name*⟩', where ⟨*name*⟩ is a color name among `Blue`, `Green`, `Yellow`, and `Red`. For instance, if you want to use the Google Blue color you have to call for it by using '`GoogleBlue`'.

GoogleBlue	GoogleGreen	GoogleYellow	GoogleRed
#4285F4	#34A853	#FBBC05	#EA4335
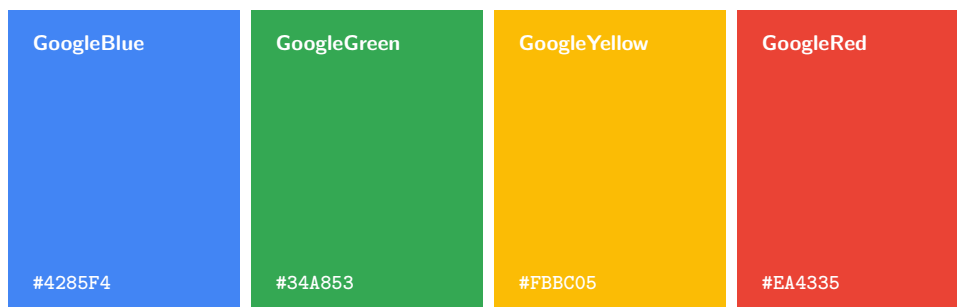
3.3 Useful macros

The xcolor-material provides some useful macros for printing color values, samples, and palettes. Some of them maybe rely on other LaTeX packages that are not loaded by default.

`\printcolorvalue`   [⟨*color model*⟩]{⟨*color name*⟩}

This macro can be used to print any color value. It has one mandatory argument ⟨*color name*⟩, which specifies the color name which you want to know its value. And one optional argument, ⟨*color model*⟩ that corresponds to the color model in which the value will be presented: `HTML`, `RGB` and `cmyk` (`HTML` by default).

`\printcolorvalue{MaterialBlue}`	#2196F3
`\printcolorvalue[RGB]{MaterialGrey}`	rgb(158,158,158)
`\printcolorvalue[cmyk]{orange}`	cmyk(0,0.5,1,0)

`\colorsample`   [⟨*color model*⟩][⟨*text color*⟩][⟨*box width*⟩]{⟨*color name*⟩}[⟨*title*⟩]

This macro allows you to draw color samples using a simple colorbox with text. It has one mandatory argument

- ⟨*color name*⟩ which is the name of the color to be drawn,

and four optional arguments:

4

- ⟨*color model*⟩ represents the color model in which the color will be presented (by default `HTML`),

- ⟨*text color*⟩ which specifies the color used for printing the text (by default `white`),

- ⟨*box width*⟩ specifies the box width (by default is `6.5em`), if it is *empty* the default is passed,

- and ⟨*title*⟩ which is the title of the color sample, if this argument is not passed the color name is taken.

To generate samples of the Google Colors showed above we can type

```
\colorsample{GoogleBlue} \colorsample{GoogleGreen}
\colorsample{GoogleYellow} \colorsample{GoogleRed}
```

Other samples:

```
\colorsample[HTML][][black]{MaterialAmber50}
\colorsample{MaterialAmber}
\colorsample[RGB]{MaterialAmber600}
\colorsample{MaterialAmberA700}[Amber\\A700]
```

MaterialAmber50	MaterialAmber	MaterialAmber600	Amber A700
#FFF8E1	#FFC107	rgb(255,179,0)	#FFAB00
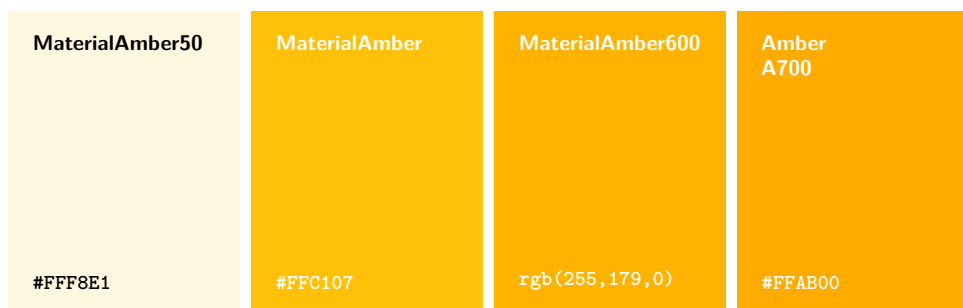
```
\colorsample[cmyk][13em]{MaterialBlueGrey500}
\colorsample{purple}[\texttt{xcolor}\\ Purple]
\colorsample[RGB]{teal}[]
```

MaterialBlueGrey500	xcolor Purple	
cmyk(0.16864,0.0549,0,0.4549)	#BF0040	rgb(0,128,128)

`\colorpalette`   [⟨*key-value arguments*⟩]{⟨*color name*⟩}

This macro is available only if the PGF/Ti*k*Z package is loaded. It provides a simple way to draw the Google Material Color Palettes in the same way as we

Table 2: Key-value arguments for the `\colorpalette` macro.

Key	Default	Description
width	$.45 \times$ `\textwidth`	Palette width
height	$2 \times$ `\baselineskip`	Variation colorbox height
shape	rectangle	Variation colorbox shape
title	⟨*color name*⟩	Palette title
title text color	white	Title colorbox text color
init text color	black	Initial variation text color
altern text color	white	Alternative variation text color
variation font	sffamily	Variation title font
value font	ttfamily	Variation value font
title font	sffamily and bfseries	Palette title font
colorbox sep	0pt	Separation between variation colorboxes
first colorbox sep	$.2 \times$ `\baselineskip`	Separation between title colorbox and first palette colorbox
title colorbox height	$6 \times$ `\baselineskip`	Height of the title colorbox
primary palette	{50,100,200,…,900}	List of primary palette variations
secondary palette	{A100,A200,A400,A700}	List of secondary palette variations
percent char	{}	Character for color mixtures (usually !), this is useful when the `basic` style is selected
primary variation	500	Primary variation or palette's base color
primary toggle at	1000	Color variation at which alternates between `init text color` and `altern text color` for the primary palette
secondary toggle at	1000	Color variation at which alternates between `init text color` and `altern text color` for the secondary palette
color model	HTML	Color Model to be used for printing the palette

can find them into the Google Style Blog. It has one mandatory argument ⟨*color name*⟩, which specifies the palette base color that will be used to draw its variation palette. Optional arguments are provided in the form of key-value arguments and key styles. A complete list of key-value arguments and styles is available at table 2 and 3 respectively. The xcolor-material package relies on the pgfkeys package to provide key-value arguments, for deeper knowledge about how to use key-value arguments look at package documentation[3].

A printed palette is a stack of colorboxes that comprises three main sections, one on top or `title colorbox` that is used for introducing the palette with its primary variation, a `primary palette` in the middle and a `secondary palette`

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[3]The pgfkeys package is available at `https://www.ctan.org/pkg/pgfkeys`.

Table 3: Style arguments for the `\colorpalette` macro.

Style	Description
both	Settings for printing both primary and secondary palettes (Default)
primary	For printing primary palette only
basic	For printing variations from 10 % to 100 % of a base color

at the bottom. With this macro, you can print out all the palettes of the Google Material Colors, and with some configurations you can print any color palette that you want in a fancy way as the Material Palettes.

For instance, the following commands produce a color palette for the variations of the xcolor predefined `yellow` color between 10 % and 100 %, and a custom palette by tricking the `\colorpalette` macro.

```
\colorpalette[basic, title text color=black]{yellow}
\colorpalette[primary palette={yellow,blue,red,gray,black,purple},
  secondary palette={yellow!20,blue!30,red!20,gray!40}, primary
  variation=orange, primary toggle at=blue]{}
```

yellow	
100	**#FFFF00**
10	#FFFFE5
20	#FFFFCC
30	#FFFFB2
40	#FFFF99
50	#FFFF80
60	#FFFF66
70	#FFFF4D
80	#FFFF33
90	#FFFF1A
100	#FFFF00

Predefined Orange	
orange	**#FF8000**
yellow	#FFFF00
blue	#0000FF
red	#FF0000
gray	#808080
black	#000000
purple	#BF0040
yellow!20	#FFFFCC
blue!30	#B2B2FF
red!20	#FFCCCC
gray!40	#CCCCCC

3.4 Color Palettes

Here all Google Material Palettes are presented in the same way as they appear at the Google Design blog using the \colorpalette command described above.

```
\colorpalette[primary toggle at=400, secondary toggle at=A200, secondary
  palette={A100,A200,A400,A700}]{MaterialRed}
\colorpalette[primary toggle at=400, secondary toggle at=A200, secondary
  palette={A100,A200,A400,A700}]{MaterialPink}
```

MaterialRed		MaterialPink	
500	#F44336	**500**	#E91E63
50	#FFEBEE	50	#FCE4EC
100	#FFCDD2	100	#F8BBD0
200	#EF9A9A	200	#F48FB1
300	#E57373	300	#F06292
400	#EF5350	400	#EC407A
500	#F44336	500	#E91E63
600	#E53935	600	#D81B60
700	#D32F2F	700	#C2185B
800	#C62828	800	#AD1457
900	#B71C1C	900	#880E4F
A100	#FF8A80	A100	#FF80AB
A200	#FF5252	A200	#FF4081
A400	#FF1744	A400	#F50057
A700	#D50000	A700	#C51162

```
\colorpalette[primary toggle at=300, secondary toggle at=A200, secondary
  palette={A100,A200,A400,A700}]{MaterialPurple}
\colorpalette[primary toggle at=300, secondary toggle at=A200, secondary
  palette={A100,A200,A400,A700}]{MaterialDeepPurple}
```

MaterialPurple	
500	#9C27B0
50	#F3E5F5
100	#E1BEE7
200	#CE93D8
300	#BA68C8
400	#AB47BC
500	#9C27B0
600	#8E24AA
700	#7B1FA2
800	#6A1B9A
900	#4A148C
A100	#EA80FC
A200	#E040FB
A400	#D500F9
A700	#AA00FF

MaterialDeepOrange	
500	#FF5722
50	#FBE9E7
100	#FFCCBC
200	#FFAB91
300	#FF8A65
400	#FF7043
500	#FF5722
600	#F4511E
700	#E64A19
800	#D84315
900	#BF360C
A100	#FF9E80
A200	#FF6E40
A400	#FF3D00
A700	#DD2C00

```
\colorpalette[primary toggle at=500, secondary toggle at=A200, secondary
  palette={A100,A200,A400,A700}]{MaterialBlue}
\colorpalette[primary toggle at=300, secondary toggle at=A200, secondary
  palette={A100,A200,A400,A700}]{MaterialIndigo}
```

MaterialBlue	
500	#2196F3
50	#E3F2FD
100	#BBDEFB
200	#90CAF9
300	#64B5F6
400	#42A5F5
500	#2196F3
600	#1E88E5
700	#1976D2
800	#1565C0
900	#0D47A1
A100	#82B1FF
A200	#448AFF
A400	#2979FF
A700	#2962FF

MaterialIndigo	
500	#3F51B5
50	#E8EAF6
100	#C5CAE9
200	#9FA8DA
300	#7986CB
400	#5C6BC0
500	#3F51B5
600	#3949AB
700	#303F9F
800	#283593
900	#1A237E
A100	#8C9EFF
A200	#536DFE
A400	#3D5AFE
A700	#304FFE

```
\colorpalette[primary toggle at=600, secondary toggle at=A700, title text
  color=black]{MaterialLightBlue}
\colorpalette[primary toggle at=700, title text color=black]{MaterialCyan}
```

MaterialLightBlue	
500	#03A9F4
50	#E1F5FE
100	#B3E5FC
200	#81D4FA
300	#4FC3F7
400	#29B6F6
500	#03A9F4
600	#039BE5
700	#0288D1
800	#0277BD
900	#01579B
A100	#80D8FF
A200	#40C4FF
A400	#00B0FF
A700	#0091EA

MaterialCyan	
500	#00BCD4
50	#E0F7FA
100	#B2EBF2
200	#80DEEA
300	#4DD0E1
400	#26C6DA
500	#00BCD4
600	#00ACC1
700	#0097A7
800	#00838F
900	#006064
A100	#84FFFF
A200	#18FFFF
A400	#00E5FF
A700	#00B8D4

```
\colorpalette[primary toggle at=500, secondary
  palette={A100,A200,A400,A700}]{MaterialTeal}
\colorpalette[primary toggle at=600, title text color=black]{MaterialGreen}
```

MaterialTeal		MaterialGreen	
500	#009688	**500**	#4CAF50
50	#E0F2F1	50	#E8F5E9
100	#B2DFDB	100	#C8E6C9
200	#80CBC4	200	#A5D6A7
300	#4DB6AC	300	#81C784
400	#26A69A	400	#66BB6A
500	#009688	500	#4CAF50
600	#00897B	600	#43A047
700	#00796B	700	#388E3C
800	#00695C	800	#2E7D32
900	#004D40	900	#1B5E20
A100	#A7FFEB	A100	#B9F6CA
A200	#64FFDA	A200	#69F0AE
A400	#1DE9B6	A400	#00E676
A700	#00BFA5	A700	#00C853

```
\colorpalette[primary toggle at=700, title text
  color=black]{MaterialLightGreen}
\colorpalette[primary toggle at=900, title text color=black]{MaterialLime}
```

MaterialLightGreen	
500	#8BC34A
50	#F1F8E9
100	#DCEDC8
200	#C5E1A5
300	#AED581
400	#9CCC65
500	#8BC34A
600	#7CB342
700	#689F38
800	#558B2F
900	#33691E
A100	#CCFF90
A200	#B2FF59
A400	#76FF03
A700	#64DD17

MaterialLime	
500	#CDDC39
50	#F9FBE7
100	#F0F4C3
200	#E6EE9C
300	#DCE775
400	#D4E157
500	#CDDC39
600	#C0CA33
700	#AFB42B
800	#9E9D24
900	#827717
A100	#F4FF81
A200	#EEFF41
A400	#C6FF00
A700	#AEEA00

`\colorpalette[title text color=black]{MaterialYellow}`
`\colorpalette[title text color=black]{MaterialAmber}`

MaterialYellow	
500	**#FFEB3B**
50	#FFFDE7
100	#FFF9C4
200	#FFF59D
300	#FFF176
400	#FFEE58
500	#FFEB3B
600	#FDD835
700	#FBC02D
800	#F9A825
900	#F57F17
A100	#FFFF8D
A200	#FFFF00
A400	#FFEA00
A700	#FFD600

MaterialAmber	
500	**#FFC107**
50	#FFF8E1
100	#FFECB3
200	#FFE082
300	#FFD54F
400	#FFCA28
500	#FFC107
600	#FFB300
700	#FFA000
800	#FF8F00
900	#FF6F00
A100	#FFE57F
A200	#FFD740
A400	#FFC400
A700	#FFAB00

```
\colorpalette[primary toggle at=800, title text color=black]{MaterialOrange}
\colorpalette[primary toggle at=500, secondary toggle
  at=A400]{MaterialDeepOrange}
```

MaterialOrange	
500	**#FF9800**
50	#FFF3E0
100	#FFE0B2
200	#FFCC80
300	#FFB74D
400	#FFA726
500	#FF9800
600	#FB8C00
700	#F57C00
800	#EF6C00
900	#E65100
A100	#FFD180
A200	#FFAB40
A400	#FF9100
A700	#FF6D00

MaterialDeepOrange	
500	**#FF5722**
50	#FBE9E7
100	#FFCCBC
200	#FFAB91
300	#FF8A65
400	#FF7043
500	#FF5722
600	#F4511E
700	#E64A19
800	#D84315
900	#BF360C
A100	#FF9E80
A200	#FF6E40
A400	#FF3D00
A700	#DD2C00

```
\colorpalette[primary, primary toggle at=300]{MaterialBrown}
\colorpalette[primary, primary toggle at=600]{MaterialGrey}
```

MaterialBrown		MaterialGrey	
500	#795548	**500**	#9E9E9E
50	#EFEBE9	50	#FAFAFA
100	#D7CCC8	100	#F5F5F5
200	#BCAAA4	200	#EEEEEE
300	#A1887F	300	#E0E0E0
400	#8D6E63	400	#BDBDBD
500	#795548	500	#9E9E9E
600	#6D4C41	600	#757575
700	#5D4037	700	#616161
800	#4E342E	800	#424242
900	#3E2723	900	#212121

```
\colorpalette[primary, primary toggle at=400]{MaterialBlueGrey}
```

MaterialBlueGrey	
500	#607D8B
50	#ECEFF1
100	#CFD8DC
200	#B0BEC5
300	#90A4AE
400	#78909C
500	#607D8B
600	#546E7A
700	#455A64
800	#37474F
900	#263238

4 Bug reports

The development version of this package is available at https://github.com/OSjerick/xcolor-material. If you find bugs, have feature suggestions or think of ways in which the xcolor-material package and its documentation could be improved, please open a ticket in the GitHub repository's issue tracker.

5 Acknowledgements

This package was inspired by the xcolor-solarized package, available at https://www.ctan.org/pkg/xcolor-solarized, then I have to thank Julien Cretel its creator. Also, thanks to Google for such amazing color palette.

Implementation

I have used the word 'XCM' followed by an '@' character for namespacing purposes into the xcolor-material package source.

6   Required Packages

The xcolor-material requires the xcolor and kvoptions packages, both are loaded without any option.

```
1 \RequirePackage{xcolor}[2007/01/21]
2 \RequirePackage{kvoptions}[2011/06/30]
```

The xcolor package is used to define and provide every single color in the Google Material Color Palette. The kvoptions package supports package options in a key-value format.

7   Package Options

Setting up kvoptions configuration.

```
 3 \SetupKeyvalOptions{
 4   family=XCM,
 5   prefix=XCM@
 6 }
```

Declaring string option key 'prefix':

```
 7 \DeclareStringOption[Material]{prefix}[Material]
 8 \DeclareDefaultOption{
 9   \OptionNotUsed
10   \PackageError{xcolor-material}{Unknown '\CurrentOption' option.}
11 }
12 \ProcessKeyvalOptions*
```

Note that the default value for this key is 'Material'. Note also that this package checks for valid options, if an invalid option is passed, a PackageError will be thrown.

8   Color Definitions

\XCM@definecolor   I have taken the idea from the xcolor-solarized package of having a convenient internal macro for color definitions.

```
13 \newcommand{\XCM@definecolor}[2]
14   {\expandafter\definecolor\expandafter{\XCM@prefix #1}{HTML}{#2}}
```

Using this macro definition we can define all the Google Material colors as follows. Note that for every color in the palette, the 500 variation is the base color default as Google recommends for primary colors.

8.1 Red

```
15 \XCM@definecolor{Red50}  {FFEBEE}
16 \XCM@definecolor{Red100} {FFCDD2}
17 \XCM@definecolor{Red200} {EF9A9A}
18 \XCM@definecolor{Red300} {E57373}
19 \XCM@definecolor{Red400} {EF5350}
20 \XCM@definecolor{Red500} {F44336}
21 \XCM@definecolor{Red600} {E53935}
22 \XCM@definecolor{Red700} {D32F2F}
23 \XCM@definecolor{Red800} {C62828}
24 \XCM@definecolor{Red900} {B71C1C}
25 \XCM@definecolor{RedA100}{FF8A80}
26 \XCM@definecolor{RedA200}{FF5252}
27 \XCM@definecolor{RedA400}{FF1744}
28 \XCM@definecolor{RedA700}{D50000}
29 \definecolor{\XCM@prefix Red}{named}{\XCM@prefix Red500}
```

8.2 Pink

```
30 \XCM@definecolor{Pink50}  {FCE4EC}
31 \XCM@definecolor{Pink100} {F8BBD0}
32 \XCM@definecolor{Pink200} {F48FB1}
33 \XCM@definecolor{Pink300} {F06292}
34 \XCM@definecolor{Pink400} {EC407A}
35 \XCM@definecolor{Pink500} {E91E63}
36 \XCM@definecolor{Pink600} {D81B60}
37 \XCM@definecolor{Pink700} {C2185B}
38 \XCM@definecolor{Pink800} {AD1457}
39 \XCM@definecolor{Pink900} {880E4F}
40 \XCM@definecolor{PinkA100}{FF80AB}
41 \XCM@definecolor{PinkA200}{FF4081}
42 \XCM@definecolor{PinkA400}{F50057}
43 \XCM@definecolor{PinkA700}{C51162}
44 \definecolor{\XCM@prefix Pink}{named}{\XCM@prefix Pink500}
```

8.3 Purple

```
45 \XCM@definecolor{Purple50}  {F3E5F5}
46 \XCM@definecolor{Purple100} {E1BEE7}
47 \XCM@definecolor{Purple200} {CE93D8}
48 \XCM@definecolor{Purple300} {BA68C8}
49 \XCM@definecolor{Purple400} {AB47BC}
50 \XCM@definecolor{Purple500} {9C27B0}
51 \XCM@definecolor{Purple600} {8E24AA}
52 \XCM@definecolor{Purple700} {7B1FA2}
53 \XCM@definecolor{Purple800} {6A1B9A}
54 \XCM@definecolor{Purple900} {4A148C}
55 \XCM@definecolor{PurpleA100}{EA80FC}
56 \XCM@definecolor{PurpleA200}{E040FB}
57 \XCM@definecolor{PurpleA400}{D500F9}
58 \XCM@definecolor{PurpleA700}{AA00FF}
59 \definecolor{\XCM@prefix Purple}{named}{\XCM@prefix Purple500}
```

8.4 Deep Purple

```
60 \XCM@definecolor{DeepPurple50}  {EDE7F6}
```

```
61 \XCM@definecolor{DeepPurple100} {D1C4E9}
62 \XCM@definecolor{DeepPurple200} {B39DDB}
63 \XCM@definecolor{DeepPurple300} {9575CD}
64 \XCM@definecolor{DeepPurple400} {7E57C2}
65 \XCM@definecolor{DeepPurple500} {673AB7}
66 \XCM@definecolor{DeepPurple600} {5E35B1}
67 \XCM@definecolor{DeepPurple700} {512DA8}
68 \XCM@definecolor{DeepPurple800} {4527A0}
69 \XCM@definecolor{DeepPurple900} {311B92}
70 \XCM@definecolor{DeepPurpleA100}{B388FF}
71 \XCM@definecolor{DeepPurpleA200}{7C4DFF}
72 \XCM@definecolor{DeepPurpleA400}{651FFF}
73 \XCM@definecolor{DeepPurpleA700}{6200EA}
74 \definecolor{\XCM@prefix DeepPurple}{named}{\XCM@prefix DeepPurple500}
```

8.5 Indigo

```
75 \XCM@definecolor{Indigo50}  {E8EAF6}
76 \XCM@definecolor{Indigo100} {C5CAE9}
77 \XCM@definecolor{Indigo200} {9FA8DA}
78 \XCM@definecolor{Indigo300} {7986CB}
79 \XCM@definecolor{Indigo400} {5C6BC0}
80 \XCM@definecolor{Indigo500} {3F51B5}
81 \XCM@definecolor{Indigo600} {3949AB}
82 \XCM@definecolor{Indigo700} {303F9F}
83 \XCM@definecolor{Indigo800} {283593}
84 \XCM@definecolor{Indigo900} {1A237E}
85 \XCM@definecolor{IndigoA100}{8C9EFF}
86 \XCM@definecolor{IndigoA200}{536DFE}
87 \XCM@definecolor{IndigoA400}{3D5AFE}
88 \XCM@definecolor{IndigoA700}{304FFE}
89 \definecolor{\XCM@prefix Indigo}{named}{\XCM@prefix Indigo500}
```

8.6 Blue

```
90  \XCM@definecolor{Blue50}  {E3F2FD}
91  \XCM@definecolor{Blue100} {BBDEFB}
92  \XCM@definecolor{Blue200} {90CAF9}
93  \XCM@definecolor{Blue300} {64B5F6}
94  \XCM@definecolor{Blue400} {42A5F5}
95  \XCM@definecolor{Blue500} {2196F3}
96  \XCM@definecolor{Blue600} {1E88E5}
97  \XCM@definecolor{Blue700} {1976D2}
98  \XCM@definecolor{Blue800} {1565C0}
99  \XCM@definecolor{Blue900} {0D47A1}
100 \XCM@definecolor{BlueA100}{82B1FF}
101 \XCM@definecolor{BlueA200}{448AFF}
102 \XCM@definecolor{BlueA400}{2979FF}
103 \XCM@definecolor{BlueA700}{2962FF}
104 \definecolor{\XCM@prefix Blue}{named}{\XCM@prefix Blue500}
```

8.7 Light Blue

```
105 \XCM@definecolor{LightBlue50}  {E1F5FE}
106 \XCM@definecolor{LightBlue100} {B3E5FC}
107 \XCM@definecolor{LightBlue200} {81D4FA}
```

```
108 \XCM@definecolor{LightBlue300} {4FC3F7}
109 \XCM@definecolor{LightBlue400} {29B6F6}
110 \XCM@definecolor{LightBlue500} {03A9F4}
111 \XCM@definecolor{LightBlue600} {039BE5}
112 \XCM@definecolor{LightBlue700} {0288D1}
113 \XCM@definecolor{LightBlue800} {0277BD}
114 \XCM@definecolor{LightBlue900} {01579B}
115 \XCM@definecolor{LightBlueA100}{80D8FF}
116 \XCM@definecolor{LightBlueA200}{40C4FF}
117 \XCM@definecolor{LightBlueA400}{00B0FF}
118 \XCM@definecolor{LightBlueA700}{0091EA}
119 \definecolor{\XCM@prefix LightBlue}{named}{\XCM@prefix LightBlue500}
```

8.8   Cyan

```
120 \XCM@definecolor{Cyan50}   {E0F7FA}
121 \XCM@definecolor{Cyan100} {B2EBF2}
122 \XCM@definecolor{Cyan200} {80DEEA}
123 \XCM@definecolor{Cyan300} {4DD0E1}
124 \XCM@definecolor{Cyan400} {26C6DA}
125 \XCM@definecolor{Cyan500} {00BCD4}
126 \XCM@definecolor{Cyan600} {00ACC1}
127 \XCM@definecolor{Cyan700} {0097A7}
128 \XCM@definecolor{Cyan800} {00838F}
129 \XCM@definecolor{Cyan900} {006064}
130 \XCM@definecolor{CyanA100}{84FFFF}
131 \XCM@definecolor{CyanA200}{18FFFF}
132 \XCM@definecolor{CyanA400}{00E5FF}
133 \XCM@definecolor{CyanA700}{00B8D4}
134 \definecolor{\XCM@prefix Cyan}{named}{\XCM@prefix Cyan500}
```

8.9   Teal

```
135 \XCM@definecolor{Teal50}   {E0F2F1}
136 \XCM@definecolor{Teal100} {B2DFDB}
137 \XCM@definecolor{Teal200} {80CBC4}
138 \XCM@definecolor{Teal300} {4DB6AC}
139 \XCM@definecolor{Teal400} {26A69A}
140 \XCM@definecolor{Teal500} {009688}
141 \XCM@definecolor{Teal600} {00897B}
142 \XCM@definecolor{Teal700} {00796B}
143 \XCM@definecolor{Teal800} {00695C}
144 \XCM@definecolor{Teal900} {004D40}
145 \XCM@definecolor{TealA100}{A7FFEB}
146 \XCM@definecolor{TealA200}{64FFDA}
147 \XCM@definecolor{TealA400}{1DE9B6}
148 \XCM@definecolor{TealA700}{00BFA5}
149 \definecolor{\XCM@prefix Teal}{named}{\XCM@prefix Teal500}
```

8.10   Green

```
150 \XCM@definecolor{Green50}   {E8F5E9}
151 \XCM@definecolor{Green100} {C8E6C9}
152 \XCM@definecolor{Green200} {A5D6A7}
153 \XCM@definecolor{Green300} {81C784}
154 \XCM@definecolor{Green400} {66BB6A}
```

```
155 \XCM@definecolor{Green500} {4CAF50}
156 \XCM@definecolor{Green600} {43A047}
157 \XCM@definecolor{Green700} {388E3C}
158 \XCM@definecolor{Green800} {2E7D32}
159 \XCM@definecolor{Green900} {1B5E20}
160 \XCM@definecolor{GreenA100}{B9F6CA}
161 \XCM@definecolor{GreenA200}{69F0AE}
162 \XCM@definecolor{GreenA400}{00E676}
163 \XCM@definecolor{GreenA700}{00C853}
164 \definecolor{\XCM@prefix Green}{named}{\XCM@prefix Green500}
```

8.11   Light Green

```
165 \XCM@definecolor{LightGreen50}   {F1F8E9}
166 \XCM@definecolor{LightGreen100} {DCEDC8}
167 \XCM@definecolor{LightGreen200} {C5E1A5}
168 \XCM@definecolor{LightGreen300} {AED581}
169 \XCM@definecolor{LightGreen400} {9CCC65}
170 \XCM@definecolor{LightGreen500} {8BC34A}
171 \XCM@definecolor{LightGreen600} {7CB342}
172 \XCM@definecolor{LightGreen700} {689F38}
173 \XCM@definecolor{LightGreen800} {558B2F}
174 \XCM@definecolor{LightGreen900} {33691E}
175 \XCM@definecolor{LightGreenA100}{CCFF90}
176 \XCM@definecolor{LightGreenA200}{B2FF59}
177 \XCM@definecolor{LightGreenA400}{76FF03}
178 \XCM@definecolor{LightGreenA700}{64DD17}
179 \definecolor{\XCM@prefix LightGreen}{named}{\XCM@prefix LightGreen500}
```

8.12   Lime

```
180 \XCM@definecolor{Lime50}   {F9FBE7}
181 \XCM@definecolor{Lime100} {F0F4C3}
182 \XCM@definecolor{Lime200} {E6EE9C}
183 \XCM@definecolor{Lime300} {DCE775}
184 \XCM@definecolor{Lime400} {D4E157}
185 \XCM@definecolor{Lime500} {CDDC39}
186 \XCM@definecolor{Lime600} {C0CA33}
187 \XCM@definecolor{Lime700} {AFB42B}
188 \XCM@definecolor{Lime800} {9E9D24}
189 \XCM@definecolor{Lime900} {827717}
190 \XCM@definecolor{LimeA100}{F4FF81}
191 \XCM@definecolor{LimeA200}{EEFF41}
192 \XCM@definecolor{LimeA400}{C6FF00}
193 \XCM@definecolor{LimeA700}{AEEA00}
194 \definecolor{\XCM@prefix Lime}{named}{\XCM@prefix Lime500}
```

8.13   Yellow

```
195 \XCM@definecolor{Yellow50}   {FFFDE7}
196 \XCM@definecolor{Yellow100} {FFF9C4}
197 \XCM@definecolor{Yellow200} {FFF59D}
198 \XCM@definecolor{Yellow300} {FFF176}
199 \XCM@definecolor{Yellow400} {FFEE58}
200 \XCM@definecolor{Yellow500} {FFEB3B}
201 \XCM@definecolor{Yellow600} {FDD835}
```

```
202 \XCM@definecolor{Yellow700} {FBC02D}
203 \XCM@definecolor{Yellow800} {F9A825}
204 \XCM@definecolor{Yellow900} {F57F17}
205 \XCM@definecolor{YellowA100}{FFFF8D}
206 \XCM@definecolor{YellowA200}{FFFF00}
207 \XCM@definecolor{YellowA400}{FFEA00}
208 \XCM@definecolor{YellowA700}{FFD600}
209 \definecolor{\XCM@prefix Yellow}{named}{\XCM@prefix Yellow500}
```

8.14 Amber

```
210 \XCM@definecolor{Amber50}  {FFF8E1}
211 \XCM@definecolor{Amber100} {FFECB3}
212 \XCM@definecolor{Amber200} {FFE082}
213 \XCM@definecolor{Amber300} {FFD54F}
214 \XCM@definecolor{Amber400} {FFCA28}
215 \XCM@definecolor{Amber500} {FFC107}
216 \XCM@definecolor{Amber600} {FFB300}
217 \XCM@definecolor{Amber700} {FFA000}
218 \XCM@definecolor{Amber800} {FF8F00}
219 \XCM@definecolor{Amber900} {FF6F00}
220 \XCM@definecolor{AmberA100}{FFE57F}
221 \XCM@definecolor{AmberA200}{FFD740}
222 \XCM@definecolor{AmberA400}{FFC400}
223 \XCM@definecolor{AmberA700}{FFAB00}
224 \definecolor{\XCM@prefix Amber}{named}{\XCM@prefix Amber500}
```

8.15 Orange

```
225 \XCM@definecolor{Orange50}  {FFF3E0}
226 \XCM@definecolor{Orange100} {FFE0B2}
227 \XCM@definecolor{Orange200} {FFCC80}
228 \XCM@definecolor{Orange300} {FFB74D}
229 \XCM@definecolor{Orange400} {FFA726}
230 \XCM@definecolor{Orange500} {FF9800}
231 \XCM@definecolor{Orange600} {FB8C00}
232 \XCM@definecolor{Orange700} {F57C00}
233 \XCM@definecolor{Orange800} {EF6C00}
234 \XCM@definecolor{Orange900} {E65100}
235 \XCM@definecolor{OrangeA100}{FFD180}
236 \XCM@definecolor{OrangeA200}{FFAB40}
237 \XCM@definecolor{OrangeA400}{FF9100}
238 \XCM@definecolor{OrangeA700}{FF6D00}
239 \definecolor{\XCM@prefix Orange}{named}{\XCM@prefix Orange500}
```

8.16 Deep Orange

```
240 \XCM@definecolor{DeepOrange50}  {FBE9E7}
241 \XCM@definecolor{DeepOrange100} {FFCCBC}
242 \XCM@definecolor{DeepOrange200} {FFAB91}
243 \XCM@definecolor{DeepOrange300} {FF8A65}
244 \XCM@definecolor{DeepOrange400} {FF7043}
245 \XCM@definecolor{DeepOrange500} {FF5722}
246 \XCM@definecolor{DeepOrange600} {F4511E}
247 \XCM@definecolor{DeepOrange700} {E64A19}
248 \XCM@definecolor{DeepOrange800} {D84315}
```

```
249 \XCM@definecolor{DeepOrange900} {BF360C}
250 \XCM@definecolor{DeepOrangeA100}{FF9E80}
251 \XCM@definecolor{DeepOrangeA200}{FF6E40}
252 \XCM@definecolor{DeepOrangeA400}{FF3D00}
253 \XCM@definecolor{DeepOrangeA700}{DD2C00}
254 \definecolor{\XCM@prefix DeepOrange}{named}{\XCM@prefix DeepOrange500}
```

8.17 Brown

```
255 \XCM@definecolor{Brown50} {EFEBE9}
256 \XCM@definecolor{Brown100}{D7CCC8}
257 \XCM@definecolor{Brown200}{BCAAA4}
258 \XCM@definecolor{Brown300}{A1887F}
259 \XCM@definecolor{Brown400}{8D6E63}
260 \XCM@definecolor{Brown500}{795548}
261 \XCM@definecolor{Brown600}{6D4C41}
262 \XCM@definecolor{Brown700}{5D4037}
263 \XCM@definecolor{Brown800}{4E342E}
264 \XCM@definecolor{Brown900}{3E2723}
265 \definecolor{\XCM@prefix Brown}{named}{\XCM@prefix Brown500}
```

8.18 Grey

```
266 \XCM@definecolor{Grey50} {FAFAFA}
267 \XCM@definecolor{Grey100}{F5F5F5}
268 \XCM@definecolor{Grey200}{EEEEEE}
269 \XCM@definecolor{Grey300}{E0E0E0}
270 \XCM@definecolor{Grey400}{BDBDBD}
271 \XCM@definecolor{Grey500}{9E9E9E}
272 \XCM@definecolor{Grey600}{757575}
273 \XCM@definecolor{Grey700}{616161}
274 \XCM@definecolor{Grey800}{424242}
275 \XCM@definecolor{Grey900}{212121}
276 \definecolor{\XCM@prefix Grey}{named}{\XCM@prefix Grey500}
```

8.19 Blue Grey

```
277 \XCM@definecolor{BlueGrey50} {ECEFF1}
278 \XCM@definecolor{BlueGrey100}{CFD8DC}
279 \XCM@definecolor{BlueGrey200}{B0BEC5}
280 \XCM@definecolor{BlueGrey300}{90A4AE}
281 \XCM@definecolor{BlueGrey400}{78909C}
282 \XCM@definecolor{BlueGrey500}{607D8B}
283 \XCM@definecolor{BlueGrey600}{546E7A}
284 \XCM@definecolor{BlueGrey700}{455A64}
285 \XCM@definecolor{BlueGrey800}{37474F}
286 \XCM@definecolor{BlueGrey900}{263238}
287 \definecolor{\XCM@prefix BlueGrey}{named}{\XCM@prefix BlueGrey500}
```

8.20 Black & White

```
288 \XCM@definecolor{Black}{000000}
289 \XCM@definecolor{White}{FFFFFF}
```

8.21 Google colors

The Google Indentity colors are available at https://design.google.com/articles/evolving-the-google-identity.

```
290 \definecolor{GoogleBlue}  {HTML}{4285F4}
291 \definecolor{GoogleGreen} {HTML}{34A853}
292 \definecolor{GoogleYellow}{HTML}{FBBC05}
293 \definecolor{GoogleRed}   {HTML}{EA4335}
```

9   User-level macros

\XCM@extractcolor   An internal macro to extract and convert color values.

```
294 \newcommand{\XCM@extractcolor}[2]{%
295   \extractcolorspecs{#1}{\model}{\colorval}%
296   \convertcolorspec{\model}{\colorval}{#2}\extractedcolor
297   \extractedcolor
298 }
```

\printcolorvalue   A user level macro to provide color values formatted in three different color models:
HTML, **RGB**, and **CMYK**. The default value for the color model is HTML, that
provides color values in hexadecimal format.

```
299 \newcommand*{\printcolorvalue}[2][HTML]{%
300   \edef\XCM@requiredModel{#1}%
301   \def\XCM@HTMLModel{HTML}%
302   \def\XCM@RGBModel{RGB}%
303   \def\XCM@CMYKModel{cmyk}%
304   \ifx\XCM@requiredModel\XCM@HTMLModel
305     \#\XCM@extractcolor{#2}{#1}%
306   \else\ifx\XCM@requiredModel\XCM@RGBModel
307     rgb(\XCM@extractcolor{#2}{#1})%
308   \else\ifx\XCM@requiredModel\XCM@CMYKModel
309     cmyk(\XCM@extractcolor{#2}{#1})%
310   \else\fi\fi\fi
311 }
```

\colorsample   A user level macro for drawing color samples. It draws a `colorbox` with the
specified color and value. By default the color model is HTML, the text color is
`white`, and the colorbox width is `6.5em`.

```
312 \def\colorsample{%
313   \@ifnextchar[%
314     {\XCM@colorsample@i}
315     {\XCM@colorsample@i[HTML]}%
316 }
317 \def\XCM@colorsample@i[#1]{%
318   \@ifnextchar[%
319     {\XCM@colorsample@ii{#1}}
320     {\XCM@colorsample@ii{#1}[6.5em]}%
321 }
322 \def\XCM@colorsample@ii#1[#2]{%
323   \@ifnextchar[%
324     {\XCM@colorsample@iii{#1}{#2}}
325     {\XCM@colorsample@iii{#1}{#2}[white]}%
326 }
327 \def\XCM@colorsample@iii#1#2[#3]#4{%
328   \@ifnextchar[%
329     {\XCM@colorsample@iv{#1}{#2}{#3}{#4}}
```

```
330      {\XCM@colorsample@iv{#1}{#2}{#3}{#4}[#4]}%
331 }
332 \def\XCM@colorsample@iv#1#2#3#4[#5]{%
333   \def\XCM@temp{#2}\ifx\XCM@temp\empty
334     \def\XCM@boxwidth{6.5em}%
335   \else
336     \def\XCM@boxwidth{#2}%
337   \fi
338   \selectcolormodel{#1}
339   \colorbox{#4}{%
340     \hspace*{.3em}
341     \parbox[b][9\baselineskip]{\XCM@boxwidth}{%
342       \footnotesize\bfseries\sffamily\color{#3}
343       \vspace*{.7em}
344       \raggedright#5%
345       \vfill
346       \raggedright\texttt{\printcolorvalue[#1]{#4}}
347       \vspace*{.7em}
348     }
349     \hspace*{.3em}
350   }
351 }
```

xcolor-material provides some macro definitions at begin document.

```
352 \AtBeginDocument{
```

There is a macro definition that is built on top of the PGF/Ti*k*Z package. This definition works if such package is loaded in the main document.

```
353 \@ifpackageloaded{tikz}{%
```

When PGF/Ti*k*Z is loaded, a macro with key-value options is provided using the \pgfkeys tools. Those key-value macro arguments are optional, the default value of each one is defined by the /palette/both style.

```
354 \pgfkeys{/palette/.is family, /palette,
355   width/.estore in = \XCM@pltWidth,
356   height/.estore in = \XCM@pltHeight,
357   shape/.estore in = \XCM@pltShape,
358   title/.estore in = \XCM@pltTitle,
359   title text color/.estore in = \XCM@pltTTextColor,
360   init text color/.estore in = \XCM@pltITextColor,
361   altern text color/.estore in = \XCM@pltATextColor,
362   variation font/.store in = \XCM@pltVFont,
363   value font/.store in = \XCM@pltNFont,
364   title font/.store in = \XCM@pltTFont,
365   colorbox sep/.estore in = \XCM@pltColorboxSep,
366   first colorbox sep/.estore in = \XCM@pltFirstCSep,
367   title colorbox height/.estore in = \XCM@pltTitleHeight,
368   primary palette/.estore in = \XCM@pltPrimary,
369   secondary palette/.estore in = \XCM@pltSecondary,
370   percent char/.estore in = \XCM@pltPercentSep,
371   primary variation/.estore in = \XCM@pltPrimaryBase,
372   primary toggle at/.estore in = \XCM@pltPToggle,
373   secondary toggle at/.estore in = \XCM@pltSToggle,
374   color model/.estore in = \XCM@ColorModel,
375   both/.style = {width = .45\textwidth,
```

```
376    height = 2\baselineskip,
377    shape = rectangle,
378    title text color = white,
379    init text color = black,
380    altern text color = white,
381    colorbox sep = 0pt,
382    first colorbox sep = .2\baselineskip,
383    title colorbox height = 6\baselineskip,
384    variation font = \sffamily,
385    value font = \ttfamily,
386    title font = \sffamily\bfseries,
387    primary palette = {50,100,200,...,900},
388    secondary palette = {A100,A200,A400,A700},
389    percent char = {},
390    primary variation = 500,
391    primary toggle at = 1000,
392    secondary toggle at = 1000,
393    color model = HTML},
394  primary/.style = {primary palette = {50,100,200,...,900},
395    secondary palette={},
396    primary variation = 500,
397    percent char={}},
398  basic/.style = {primary palette = {10,20,...,100},
399    secondary palette={},
400    primary variation = 100,
401    percent char=!}
402 }
```

The `positioning` library of PGF/Ti*k*Z is loaded to provide convenient node placement.

```
403 \usetikzlibrary{positioning}
```

\colorpalette A macro for drawing color palettes using PGF/Ti*k*Zİt takes one mandatory argument (*base color name*) and optional key-value arguments.

```
404 \newcommand*{\colorpalette}[2][]{%
405   \def\XCM@pltTitle{#2}%
406   \def\XCM@colorname{#2}%
407   \pgfkeys{/palette, both, #1}%
408   \begin{tikzpicture}
409     \selectcolormodel{\XCM@ColorModel}
410     \tikzset{colorbox/.style={\XCM@pltShape, minimum width=\XCM@pltWidth,
411       minimum height=\XCM@pltHeight, node distance=\XCM@pltColorboxSep,
412       outer sep=0pt}}
413     \tikzset{title/.style = {font=\XCM@pltTFont, color=\XCM@pltTTextColor,
414       inner sep=1em}}
415     \tikzset{variant/.style = {font=\XCM@pltVFont, inner sep=1em}}
416     \tikzset{value/.style = {font=\XCM@pltNFont, inner sep=1em}}
417     \node[colorbox, fill=\XCM@colorname\XCM@pltPercentSep\XCM@pltPrimaryBase,
418       minimum height=\XCM@pltTitleHeight, alias=last] {};
419     \node[title, anchor=north west, align=left] at (last.north west)
420       {\XCM@pltTitle};
421     \node[title, anchor=south west] at (last.south west) {\XCM@pltPrimaryBase};
422     \node[title, anchor=south east, align=right] at (last.south east)
423       {\texttt{\printcolorvalue[\XCM@ColorModel]{\XCM@colorname%
```

```
424      \XCM@pltPercentSep\XCM@pltPrimaryBase}}};
425    \def\auxcolor{\XCM@pltITextColor}%
426    \def\first{1}%
427    \foreach \variant [count=\i] in \XCM@pltPrimary {
428      \ifx\i\first
429        \node[node distance=\XCM@pltFirstCSep, inner sep=0pt, below=of last,
430          alias=last] {};
431      \else\fi
432      \ifx\variant\XCM@pltPToggle
433        \gdef\auxcolor{\XCM@pltATextColor}%
434      \else\fi
435      \node[colorbox, fill=\XCM@colorname\XCM@pltPercentSep\variant,
436        below=of last, alias=last] {};
437      \node[variant, anchor=west, color=\auxcolor] at (last.west) {\variant};
438      \node[value, anchor=east, color=\auxcolor, align=right] at (last.east)
439        {\printcolorvalue[\XCM@ColorModel]{\XCM@colorname%
440        \XCM@pltPercentSep\variant}};
441    }%
442    \def\auxcolor{\XCM@pltITextColor}%
443    \foreach \variant [count=\i] in \XCM@pltSecondary {
444      \ifx\i\first
445      \node[node distance=\XCM@pltFirstCSep, inner sep=0pt, below=of last,
446        alias=last] {};
447      \else\fi
448      \ifx\variant\XCM@pltSToggle
449        \gdef\auxcolor{\XCM@pltATextColor}%
450      \else\fi
451      \node[colorbox, fill=\XCM@colorname\XCM@pltPercentSep\variant,
452        below=of last, alias=last] {};
453      \node[variant, anchor=west, color=\auxcolor] at (last.west) {\variant};
454      \node[value, anchor=east, color=\auxcolor, align=right] at (last.east)
455        {\printcolorvalue[\XCM@ColorModel]{\XCM@colorname%
456        \XCM@pltPercentSep\variant}};
457    }%
458  \end{tikzpicture}%
459 }

460 }{}
461 }
```

That's all!

Change History

Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.