Documentation Home (/learn/Main_Page)
Learn LaTeX in 30 minutes (/learn/Learn_LaTeX_in_30_minutes)

ShareLaTeX guides

Creating a document in ShareLaTeX (/learn/Creating_a_document_in_ShareLaTeX)
Uploading a project (/learn/Uploading_a_project)
Copying a project (/learn/Copying_a_project)
Creating a project from a template (/learn/Creating_a_project_from_a_template)
Including images in ShareLaTeX (/learn/Including_images_in_ShareLaTeX)
Exporting your work from ShareLaTeX (/learn/Exporting_your_work_from_ShareLaTeX)
Using bibliographies in ShareLaTeX (/learn/Using_bibliographies_in_ShareLaTeX)
Sharing your work with others (/learn/Sharing_your_work_with_others)
Debugging Compilation timeout errors (/learn/Debugging_Compilation_timeout_errors)
Knowledge Base (/learn/Kb/Knowledge_Base)

LaTeX Basics

Creating your first LaTeX document (/learn/Creating_a_document_in_LaTeX)
Choosing a LaTeX Compiler (/learn/Choosing_a_LaTeX_Compiler)
Paragraphs and new lines (/learn/Paragraphs_and_new_lines)
Bold, italics and underlining (/learn/Bold,_italics_and_underlining)
Lists (/learn/Lists)
Errors (/learn/Errors)

Mathematics

Mathematical expressions (/learn/Mathematical_expressions)
Subscripts and superscripts (/learn/Subscripts_and_superscripts)
Brackets and Parentheses (/learn/Brackets_and_Parentheses)
Fractions and Binomials (/learn/Fractions_and_Binomials)
Aligning Equations (/learn/Aligning_equations)
Operators (/learn/Operators)
Spacing in math mode (/learn/Spacing_in_math_mode)
Integrals, sums and limits (/learn/Integrals,_sums_and_limits)

Search help library....

Suggest new doc

Using colours in LaTeX

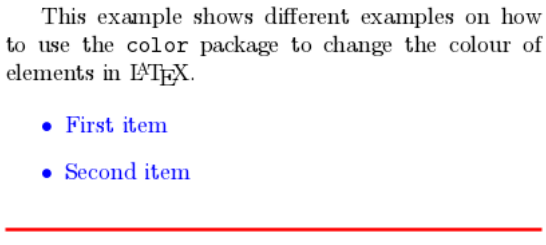
There are several elements in LaTeX whose colour can be changed to improve the appearance of the document. Colours can be manually defined to a desired tone using several models, this article explains how.

Contents

Introduction

The simplest manner to use colours in your LaTeX document is by importing the package **color** or **xcolor**. Both packages provide a common set of commands for colour manipulation, but the latter is more flexible and supports a larger number of colour models. Below an example:

```
\documentclass{article}
\usepackage[utf8]{inputenc}
\usepackage[english]{babel}

\usepackage{color}

\begin{document}

This example shows different examples on how to use the \texttt{color}
package
to change the colour of elements in \LaTeX.

\begin{itemize}
\color{blue}
\item First item
\item Second item
\end{itemize}

\noindent
{\color{red} \rule{\linewidth}{0.5mm} }

\end{document}
```



(/learn/File:ColoursEx1.png)

*Note: In all the examples the package **xcolor** can be used instead of **color***

In this example, the package **color** is imported with

```
\usepackage{color}
```

then the command `\color{blue}` sets the `blue` colour for the current block of text. In this case for the *itemize* environment.

The colour of a second block of text, delimited by { and }, is set to `red` with the command `\color{red}`, then a 0.5mm-thick horizontal ruler is inserted by `\rule{\linewidth}{0.5mm}`.

The amount of available colour names depends on the driver, usually the next colours can be used with any driver: white, black, yellow, green, blue, purple cyan and magenta.

See the reference guide for more colours supported by other drivers.

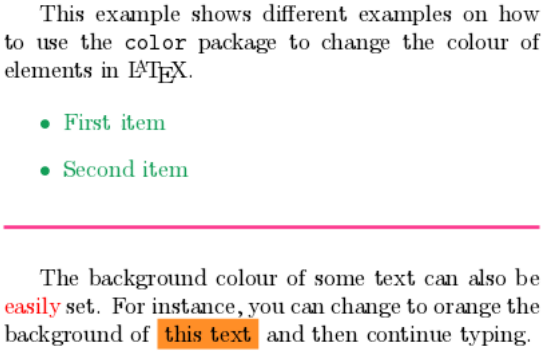
Open an example of the color package in ShareLaTeX (https://www.sharelatex.com/project/new/template?zipUrl=/project/536d26a2807a23564c7dc850/download/zip&templateName=Colours1&compiler=pdflatex)

Basic usage

The colour system provided by the packages **color** and **xcolor** is built around the idea of colour models, the colour mode and the colour names supported by a driver vary.

The model based on colour names is very intuitive, even though the list of available names is limited, usually provides enough options. Below an example:

```
\documentclass{article}
\usepackage[utf8]{inputenc}
\usepackage[english]{babel}

\usepackage[usenames, dvipsnames]{color}

\begin{document}

This example shows different examples on how to use the \texttt{color}
package
to change the colour of elements in \LaTeX.

\begin{itemize}
\color{ForestGreen}
\item First item
\item Second item
\end{itemize}

\noindent
{\color{RubineRed} \rule{\linewidth}{0.5mm} }

The background colour of some text can also be \textcolor{red}{easily} set.
For
instance, you can change to orange the background of \colorbox{BurntOrange}
{this
text} and then continue typing.

\end{document}
```



(/learn/File:ColoursEx2.png)

There are a few changes in this example compared to the one presented in the introduction. First, the command to import the **color** package has two additional parameters:

- `usenames` Makes the names in the corresponding driver name model available. This option can be omitted in **xcolor**.
- `dvipsnames` Makes the colour names for the driver *dvips* available, if the package **color** is imported, this option must be used in conjunction with `usenames`. From this new set of colour names, the example uses: *ForestGreen*, *RubineRed* and *BurntOrange*. See the reference guide for a complete list of possible colours.

Other possible drivers are: xdvi, dvipdf, pdftex, dvipsone, dviwin, emtex, truetex and xtex.

Two new commands are also presented in the example:

`\textcolor{red}{easily}`
Changes the colour of inline text. Takes two parameters, the colour to use and the text whose colour is changed. In the example the word `easily` is printed in `red`

`\colorbox{BurntOrange}{this text}`
Changes the background colour of the text passed as second parameter. In the example the words `this text` are printed in `BurntOrange`.

Open an example of the color package in ShareLaTeX (https://www.sharelatex.com/project/new/template?zipUrl=/project/536d26a2807a23564c7dc850/download/zip&templateName=Colours1&compiler=pdflatex)

Creating your own colours

It is possible to define your own colours, the manner in which the colour is defined depends on the preferred model. Below an example using the 4 colour models typically supported by any driver.

```
\documentclass{article}
\usepackage[utf8]{inputenc}
\usepackage[english]{babel}

\usepackage[usenames, dvipsnames]{color}

\definecolor{mypink1}{rgb}{0.858, 0.188, 0.478}
\definecolor{mypink2}{RGB}{219, 48, 122}
\definecolor{mypink3}{cmyk}{0, 0.7808, 0.4429, 0.1412}
\definecolor{mygray}{gray}{0.6}

\begin{document}
User-defined colours with different colour models:

\begin{enumerate}
\item \textcolor{mypink1}{Pink with rgb}
\item \textcolor{mypink2}{Pink with RGB}
\item \textcolor{mypink3}{Pink with cmyk}
\item \textcolor{mygray}{Gray with gray}
\end{enumerate}

\end{document}
```

User-defined colours with different colour models:

1. Pink with rgb
2. Pink with RGB
3. Pink with cmyk
4. Gray with gray

(/learn/File:ColoursEx3.png)

Commands

Commands (/learn/Commands)

Environments (/learn/Environments)

Field specific

Theorems and proofs (/learn/Theorems_and_proofs)

Chemistry formulae (/learn/Chemistry_formulae)

Feynman diagrams (/learn/Feynman_diagrams)

Molecular orbital diagrams (/learn/Molecular_orbital_diagrams)

Chess notation (/learn/Chess_notation)

Knitting patterns (/learn/Knitting_patterns)

CircuiTikz package (/learn/CircuiTikz_package)

Pgfplots package (/learn/Pgfplots_package)

Typing exams in LaTeX (/learn/Typing_exams_in_LaTeX)

Knitr (/learn/Knitr)

Attribute Value Matrices (/learn/Attribute_Value_Matrices)

Class files

Understanding packages and class files (/learn/Understanding_packages_and_class_files)

List of packages and class files (/learn/List_of_packages_and_class_files)

Writing your own package (/learn/Writing_your_own_package)

Writing your own class (/learn/Writing_your_own_class)

Tips (/learn/Tips)

The command `\definecolor` takes three parameters: the name of the new colour, the model, and the colour definition. Roughly speaking, each number represent how much of each colour you add to the mix that makes up the final colour.

- **rgb**: Red, Green, Blue. Three comma-separated values between 0 and 1 define the components of the colour.
- **RGB**: The same as **rgb**, but the numbers are integers between 0 and 255.
- **cmyk**: Cyan, Magenta, Yellow and blacK. Comma-separated list of four numbers between 0 and 1 that determine the colour according to the additive model used in most printers.
- **gray**: Grey scale. A single number between 0 and 1.

In the example, *mypink1*, *mypink2* and *mypink3* define the same colour but for different models. You can actually see that the one defined by **cmyk** is slightly different.

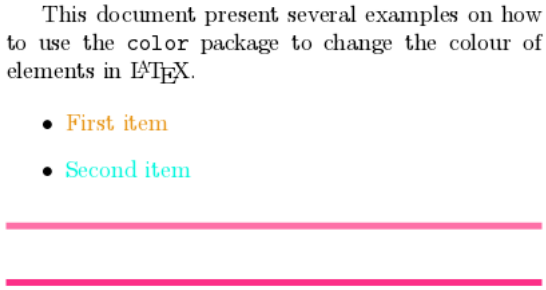
Colours defined by either model can later be used within your document not only to set the colour of the text, but for any other element that takes a colour as parameter, for instance tables (/learn/Tables#Colouring_a_table_.28cells.2C_rows.2C_columns_and_lines.29) (you must add the parameter `table` to the preamble), graphic elements created with TikZ (/learn/TikZ_package), plots (/learn/Pgfplots_package), vertical rulers in multicolumn documents (/learn/Multiple_columns#Inserting_vertical_rulers) and code listings (/learn/Code_listing#Code_styles_and_colours).

Open an example of the color package in ShareLaTeX (https://www.sharelatex.com/project/new/template?zipUrl=/project/536d26a2807a23564c7dc850/download/zip&templateName=Colours1&compiler=pdflatex)

xcolor-only colour models

There are some additional commands that are only available with the package **xcolor**, these enable support for more colour models and friendly colour mixing.

```
\documentclass{article}
\usepackage[utf8]{inputenc}
\usepackage[english]{babel}

\usepackage[dvipsnames]{xcolor}
\colorlet{LightRubineRed}{RubineRed!70!}
\colorlet{Mycolor1}{green!10!orange!90!}
\definecolor{Mycolor2}{HTML}{00F9DE}

\begin{document}

This document present several examples on how to use the \texttt{color}
package
to change the colour of elements in \LaTeX.

\begin{itemize}
\item \textcolor{Mycolor1}{First item}
\item \textcolor{Mycolor2}{Second item}
\end{itemize}

\noindent
{\color{LightRubineRed} \rule{\linewidth}{1mm} }

\noindent
{\color{RubineRed} \rule{\linewidth}{1mm} }
```


This document present several examples on how to use the color package to change the colour of elements in LaTeX.

- First item
- Second item

(/learn/File:ColoursEx5.png)

Three new colours are defined in this example, each one in a different manner.

`\colorlet{LightRubineRed}{RubineRed!70!}`
A new colour named *LightRubineRed* is created, this colour has 70% the intensity of the original *RubineRed* colour. You can think of it as a mixture of 70% RubineRed and 30% white. Defining colours in this way is great to obtain different tones of a main colour, common practice in corporate brands. In the example, you can see the original *RubineRed* and the new *LightRubineRed* used in two consecutive horizontal rulers.

`\colorlet{Mycolor1}{green!10!orange!90!}`
A colour named *Mycolor1* is created with 10% green and 90%orange. You can use any number of colours to create new ones with this syntax.

`\definecolor{Mycolor2}{HTML}{00F9DE}`
The colour *Mycolor2* is created using the HTML model. Colours in this model must be created with 6 hexadecimal digits, the characters A,B,C,D,E and F must be upper-case.

The colour models that only **xcolor** support are:

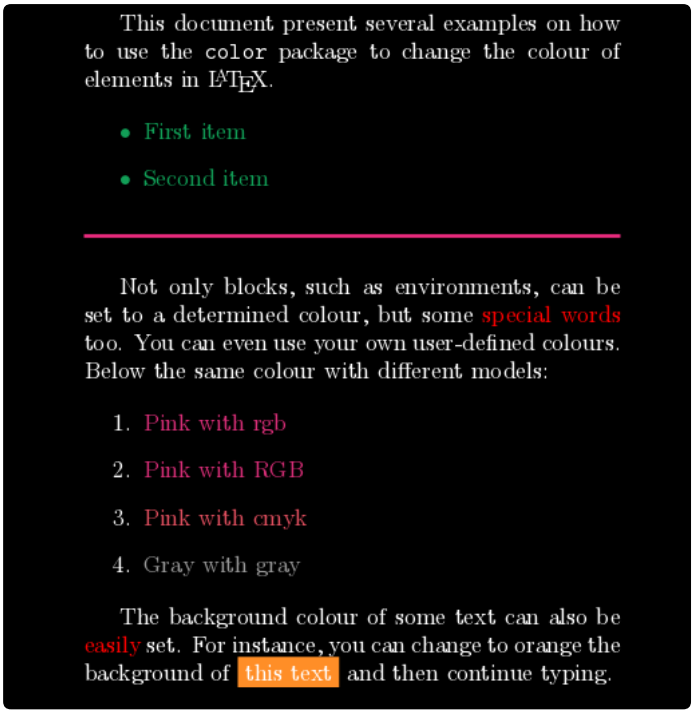
- **cmy** cyan, magenta, yellow
- **hsb** hue, saturation, brightness
- **HTML** RRGGBB
- **Gray** Grey scale, a number between 1 and 15.
- **wave** Wave length. Between 363 and 814.

Open an example of the xcolor package in ShareLaTeX (https://www.sharelatex.com/project/new/template?zipUrl=/project/536e8d70807a23564c7ddc51/download/zip&templateName=Colours2&compiler=pdflatex)

Setting the page background colour

The background colour of the entire page can be easily changed with `\pagecolor`. See the next example:

```
\pagecolor{black}
\color{white}
```



(/learn/File:ColoursEx4.png)

The command `\pagecolor{black}` set the page colour to *black*. This is a switch command, meaning it will take effect in the entire document unless another switch command is used to revert it. `\nopagecolor` will change the background back to normal.

Open an example of the color package in ShareLaTeX (https://www.sharelatex.com/project/new/template?zipUrl=/project/536d26a2807a23564c7dc850/download/zip&templateName=Colours1&compiler=pdflatex)

Reference guide

Basic colour names available in LaTeX

white, black, red, green, blue, cyan, magenta, yellow

(/learn/File:BasicColours.png)

Colour names available with the `dvipsnames` option

Apricot	Emerald	OliveGreen	RubineRed
Aquamarine	ForestGreen	Orange	Salmon
Bittersweet	Fuchsia	OrangeRed	SeaGreen
Black	Goldenrod	Orchid	Sepia
Blue	Gray	Peach	YellowOrange
BlueGreen	Green	Periwinkle	SkyBlue
BlueViolet	GreenYellow	PineGreen	SpringGreen
BrickRed	JungleGreen	Plum	Tan
Brown	Lavender	ProcessBlue	TealBlue
BurntOrange	LimeGreen	Purple	Thistle
CadetBlue	Magenta	RawSienna	Turquoise
CarnationPink	Mahogany	Red	Violet
Cerulean	Maroon	RedOrange	VioletRed
CornflowerBlue	Melon	RedViolet	White
Cyan	MidnightBlue	Rhodamine	WildStrawberry
Dandelion	Mulberry	RoyalBlue	Yellow
DarkOrchid	NavyBlue	RoyalPurple	YellowGreen

(/learn/File:ColoursEx6.png)

Other drivers have more colour names available, links to documentations in the further reading section.

Open an example of the xcolor package in ShareLaTeX (https://www.sharelatex.com/project/new/template?zipUrl=/project/536e8d70807a23564c7ddc51/download/zip&templateName=Colours2&compiler=pdflatex)

Further reading

For more information see:

- Lengths in LaTeX (/learn/Lengths_in_LaTeX)
- Font sizes, families, and styles (/learn/Font_sizes,_families,_and_styles)
- Font typefaces (/learn/Font_typefaces)
- Supporting modern fonts with XeLaTeX (/learn/XeLaTeX)
- Tables (/learn/Tables)
- Inserting Images (/learn/Inserting_Images)

- Beamer (/learn/Beamer)
- Powerdot (/learn/Powerdot)
- Posters (/learn/Posters)
- The **color** package documentation (http://repositorios.cpai.unb.br/ctan/macros/latex/required/graphics/grfguide.pdf)
- The **xcolor** package documentation (http://repositorios.cpai.unb.br/ctan/macros/latex/contrib/xcolor/xcolor.pdf)