# Latex in Examples



Thanks to me

Examples in this book is updated every week.

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# Contents

1	Mai	th Tips 5
	1.1	Auto-resizing equation
	1.2	Form for simplest calculation
	1.3	Equation in the form of steps
	1.4	One number for multiline equation
	1.5	Matrix in <b>standalone</b> documentclass
	1.6	Multiple lines, one centered label
2	Tex	t, Symbols
	2.1	New section symbol
	2.2	Wireframe rendering
	2.3	Justifyed text
	2.4	Text under an underline
3	Cod	le, listings, minted
		Code listing using $\boxed{minted}$ in $\boxed{\text{beamer}}$
	3.2	"Zebra" style listing
	3.3	Listing with russian language
	3.4	Listing with minted 12
4	Tab	oles, boxes and so on
_	4.1	Nice tcolorbox
	4.2	Color box with yellow border
	4.3	A drop capital in a teolorbox
	4.4	Table with the desired length
	4.5	bclogo – Creating colourful boxes with logos
	4.6	Warning banner
	4.7	
	4.8	Absolutely centered cells (vertically and horisontally)
	4.9	Martix made of table
		Centering cells with (NiceTabular)
		Centered cells in (longtable)
	1.11	Convoled comb in Cloudstable J

	4.12 If table is not wide enough	19
	4.13 Text next to a table	19
	4.14 Text next to a table	20
5	Figures	21
	5.1 Comment to figure	21
	5.2 Positioning 1   2	21
	5.3 Placing image (anywhere) You want	22
	5.4 Italic sabfigure references	22
6	Numbering, enumeration, itemizing	23
	6.1 Numbering in few columns	23
	6.2 Enumeration environment with position number in the format (i, j)	23
	6.3 Colored enumeration	24
7	Plots, tikz, pie charts	25
	7.1 Simple pie chart	25
	7.2 Circled arrows with text	25
	7.3 Diamond with text	26
8	Highlighting	27
	8.1 Words highlighting (1)	27
	8.2 Unusual words highlighting	27
	8.3 Colored circles	28
	8.4 Whole line colored	28
9	For Fun	29
	9.1 LaTeX Coffee Stains	29
	9.2 Sticky notes	29
	9.3	30
	9.4 Single Watermark	31
	9.5 Full page of Watermarks	31

```
\label{eq1} $$ \operatorname{equation} \left( eq1 \right) \left( eq1
```

CORRECT paste code from examples

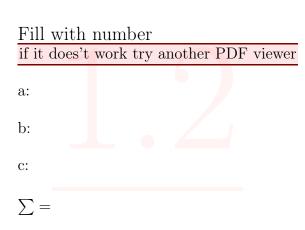
# Math Tips

#### 1.1 Auto-resizing equation

$$\dot{\rho} = \frac{x^3}{45a^9 - 23b}$$

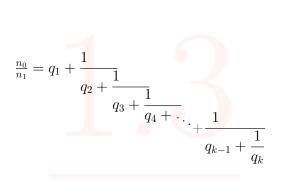
```
\begin{equation*} \label{eq1} $$\operatorname{constant}_{1}^{\theta} \leq .4 \to 0.5... $$ \det{\rho}=\left(x^3\right)_{45a^9-23b}^{\theta} \end{equation*}
```

#### 1.2 Form for simplest calculation



```
documentclass{article}
usepackage{hyperref}
begin{document}
\begin{Form}
\noindent%
Fill with number\\
\text{TextField[name=a]{a:} }
\text{TextField[name=b]{b:} }
TextField[name=c]{c:} \\
\noindent%
\sum = \frac{\text{Num} = \text{Num}}{\text{Iname}}
 event.value = (
    \langle sss\{a\} +
   \backslash sss\{b\} +
   \backslash sss\{c\});
\}, readonly, value=0|{}
\end{Form}
\end{document}
```

#### 1.3 Equation in the form of steps



```
documentclass{article}
 usepackage{amsmath}
 def\mywd{35pt}
\begin{document}
         \label{eq:frac} $$ \prod_0 {n_1} = q_1 + \frac{n_0}{makebox[\mwd][l]} $$
                              \hookrightarrow $1$}}
        {\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mbox[\mb
         {\makebox[\mywd][l]{\q} 3 + \dfrac{\makebox[\mywd][l]}{}}
                               \hookrightarrow $1$}}
         {\mbox[\mbox[\mbox]][l]{$q_4 + }
              \ \c {-6pt}{{\dots}}
              \rightarrow \text{kern30pt\$}
         \{q \{k-1\} + dfrac\{1\}\}
        \{q_k\}$$
\end{document}
```

#### 1.4 One number for multiline equation

$$x_{ij} = d_{ijk}E_k,$$

$$x_{ij} = \varsigma_{ijk}H_k,$$

$$x_{ij} = s_{ijkl}X_{kl},$$

$$x_{ij} = \xi_{ij}\delta p,$$

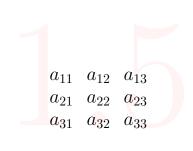
$$x_{ij} = \alpha_{ij}\delta T$$

$$(1.1)$$

```
\documentclass{article}
\usepackage{amsmath}
\begin{document}
\begin{equation}
\begin{aligned}

x_{ij} &= d_{ijk}E_k, \\
x_{ij} &= \varsigma_{ijk}H_k, \\
x_{ij} &= s_{ijkl}X_{kl}, \\
x_{ij} &= \xi_{ij} \delta p, \\
x_{ij} &= \alpha_{ij} \delta T
\end{aligned}
\end{equation}
\end{document}
```

#### 1.5 Matrix in standalone document class



#### 1.6 Multiple lines, one centered label

$$A = \frac{\pi r^2}{2}$$

$$= \frac{1}{2}\pi r^2$$
(1.2)

$$\begin{equation} \label{eq1} \\ begin{split} \\ A \& = \frac{ \pi^2}{2} \\ \& = \frac{1}{2} \pi^2 \\ end{split} \\ end{equation} \\ \end{equation}$$

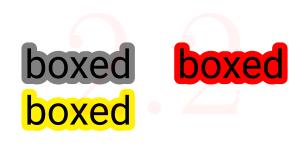
# Text, Symbols

#### 2.1 New section symbol



```
\usepackage[object=vectorian]{pgfornament}
\usepackage{lipsum,tikz}
\newcommand{\sectionlinetwo}[2]{\%}
\nointerlineskip \vspace{.5\baselineskip}\hspace{\fill}
{\color{#1}\resizebox{0.5\linewidth}{2ex}
{\{\begin{tikzpicture}}
\node (C) at (0,0) {\};\node (D) at (9,0) {\};
\path (C) to [ornament=#2] (D);
\end{tikzpicture}}\}\%
\hspace{\fill}\par\nointerlineskip
\vspace{.5\baselineskip}}
\%usage---> \sectionlinetwo{orange}{88}
```

#### 2.2 Wireframe rendering



```
\documentclass{article}
\usepackage{xcolor}
\usepackage{roboto}
\usepackage[outline]{contour}
\begin{document}
\roboto\huge\contourlength{.15em}
\contour{gray}{boxed}
\end{document}
```

#### 2.3 Justifyed text

- 1. First item in a list
- 2. Second item in a list
- 3. Third item in a list
- 4. Fourth item in a list
- 5. Fifth item in a list
- 6. Sixth item in a list
- 7. Seventh item in a list
- 8. Eighth item in a list
- 9. Ninth item in a list
- 10. Tenth item in a list

```
\documentclass{article}
\usepackage{blindtext}
\newcommand*\justify{%
\fontdimen2\font=0.4em% interword space
\fontdimen3\font=0.2em% interword stretch
\fontdimen4\font=0.1em% interword shrink
\fontdimen7\font=0.1em% extra space
\hyphenchar\font='\-% allowing hyphenation
}
\begin{document}
\texttt{\justify\blindenumerate[10]}
\end{document}
```

#### 2.4 Text under an underline

# This is short text (some text)

```
\documentclass[12pt]{article}
\usepackage{amsmath,soul}
\usepackage{soulpos}
\ulposdef{\ulnumaux}{%

\underset{\saveulnum}{\rule[-.7ex]{\ulwidth}{.4pt}}$}
\newcommand{\ulnum}[2]{%
\def\saveulnum{#1}%
\ulnumaux{#2}}
\begin{document}
\ulnum{\text{(some text)}}{This is short text}
\end{document}
```

# Code, listings, minted ...

#### 3.1 Code listing using minted in beamer



```
documentclass{beamer}
usepackage{amsmath}
\usepackage{tcolorbox}
tcbuselibrary{minted,skins,breakable}
newtcblisting{pythoncode}[2][]{
 listing engine=minted, breakable, colback=bg,
 colframe=black!70, listing only,
 minted style=colorful, minted language=python,
 minted options={numbersep=3mm,texcl=true,#1},
 left=5mm,enhanced,
 overlay={\begin{tcbclipinterior}\fill[black!25] (frame.south west)
rectangle ([xshift=5mm]frame.north west);\end{tcbclipinterior}},
\#2,}
\begin{document}
\begin{frame}[fragile]
    \frametitle{Premature Optimization}
    \begin{pythoncode} [linenos=true,] {title=Python Code}
        \hookrightarrow Example}
   import glob
    \end{pythoncode}
\end{frame}
\end{document}
```

#### 3.2 "Zebra" style listing

```
/**

* Prints Hello World.

**/
#include <stdio.h>

int main(void) {
    printf("Hello World!");
    return 0;
}
```

```
\documentclass{article}
  \usepackage[T1]{fontenc}
  \usepackage{beramono}
  \usepackage{listings}
  \usepackage{xcolor}
  \newcommand\realnumberstyle[1]{}
  \makeatletter
  \newcommand{\zebra}[3]{%
                      {\realnumberstyle{#3}}%
                      \begingroup
                     \label{lem:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma:lemma
                                        \color{#1}%
                                        \color{#2}%
                                        \label{lem:lap} $$ \Gamma_{\infty}(\st@numbersep)% $$
                                         \verb|\color@block{\linewidth}{\ht\strutbox}{\dp\strutbox}|
                     \endgroup}
  \makeatother
  \begin{document}
 \begin{lstlisting}[language=C,basicstyle=\ttfamily,
numberstyle=\zebra{green!35}{yellow!35},numbers=left]
  * Prints Hello World.
 #include <stdio.h>
int main(void) {
   printf("Hello World!");
                return 0;
 \end{document}
```

#### 3.3 Listing with russian language



```
documentclass{article}
   usepackage[T2A]{fontenc}
   usepackage[utf8]{inputenc}
  \usepackage[russian]{babel}
   usepackage{listings}
  \usepackage{xcolor}
 \begin{document}
 \lstset{ keepspaces=true,
backgroundcolor=\color{blue},
showstringspaces=false,
language=C,
extendedchars=\true,
framexrightmargin=0pt,
framexleftmargin=0pt,
framextopmargin=15pt,
framexbottommargin=15pt,
frame=tb, framerule=0pt,
basicstyle=\color{yellow}\ttfamily\small}
begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{begin{bee}b}}}}}}}}}}
print("English comment"); // English comment
print("Russian comment"); // %here can be russian words
end{lstlisting}\% <<<<<< add "/"
\end{document}
```

#### 3.4 Listing with minted



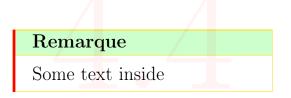
```
\documentclass{article}
\usepackage[many]{tcolorbox}
\tcbuselibrary{minted}
\newtcblisting{mylisting}{
    colframe=cyan,
    colback=cyan!10,
    listing only,
    listing engine=minted,
    minted language=cpp,
    minted options={fontsize=\small,linenos,numbersep=3mm},
}
\begin{document}
    begin{mylisting}
    some code
    \end{mylisting}
\end{document}
```

# Tables, boxes and so on

#### 4.1 Nice tcolorbox



#### 4.2 Color box with yellow border



```
documentclass[border=2mm]{standalone}
 usepackage[most]{tcolorbox}
usepackage{lipsum}
\newtcolorbox{mycolorbox}[1]{
   enhanced, breakable,
   title=#1, colback=white,
   colbacktitle=green!20!white,
   coltitle=black,
   fonttitle = \backslash bfseries,
   boxrule=.5pt, arc=0pt,
   outer arc=0pt,
   colframe=yellow!80!orange,
   borderline west={2pt}{0pt}{red}}
begin{document}
begin{mycolorbox}{Remarque}
\lceil \lim_{n \to \infty} [1]
\end{mycolorbox}
end{document}
```

#### 4.3 A drop capital in a toolorbox

Some text. Lorem ipsum dolor sit amet, consectetuer adipiscing elit.

```
\documentclass{article}
\usepackage{lettrine}
\usepackage{tcolorbox}
\usepackage{lipsum}

\begin{document}
\begin{tcolorbox}
\lettrine{S}{ome} text. \lipsum[1]
\end{document}
\end{document}
```

#### 4.4 Table with the desired length.



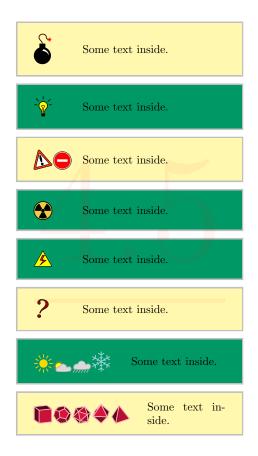
a command was also created to make a new cell view in the table

```
\usepackage{graphicx}
\usepackage{tabularx}
\newcolumntype{Y}{>\centering\arraybackslash}X}
\begin{document}
\begin{table}[h!]
\begin{center}
\caption{\textbf{Caption}}
\begin{tabularx}{14cm}{|Y|Y|c|Y|Y|}
\hline

Variant & res & Veriaty of waters $f_0$, res & C, res & L, res\\hline

5 & 1 & 2 & 1.26 & 5\\
hline
\end{tabularx}
\end{center}
\end{table}
```

#### 4.5 bclogo – Creating colourful boxes with logos



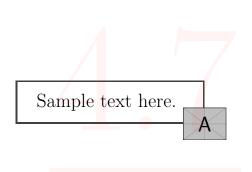
```
documentclass{article}
usepackage{geometry}
\geometry{
paperwidth=8cm,
paperheight=14cm,
margin=0.5cm
usepackage{xcolor}
usepackage[most]{tcolorbox}
usepackage[tikz]{bclogo}
newtcolorbox\{framedd\}[1][]{
 colframe=lightgray,
 colback=yellow!40!white,
 enhanced jigsaw,
 sharp corners,
 lower separated=false,
 lefthand width=1cm,
 sidebyside gap=0.5cm,
 sidebyside,#1}
 begin{document}
begin{framedd}
  \bcbombe \tcblower Some text inside.
\end{framedd}
\begin{framedd}[colback=blue!40!green]
  \bclampe \tcblower Some text inside.
\end{framedd}
\begin{framedd}
  \bcattention \bcinterdit \tcblower
 Some text inside.
end{framedd}
\bcnucleaire \tcblower
 Some text inside.
\end{framedd}
\begin{framedd}[colback=blue!40!green]
 \bcdanger \tcblower
 Some text inside.
end\{framedd\}
begin{framedd}
 \bcquestion \tcblower
 Some text inside.
\end{framedd}
\begin{framedd}[colback=blue!40!green, lefthand width=2.5cm]
  \bcsoleil \bceclaircie \bcpluie \bcneige \tcblower
 Some text inside.
end\{framedd\}
begin{framedd}[lefthand width=3cm]
  \bccube \bcdodecaedre \bcicosaedre \bcoctaedre \bctetraedre \tcblower
 Some text inside.
\end{framedd}
end{document}
```

#### 4.6 Warning banner



```
usepackage[utf8]{inputenc}
     usepackage[T1]{fontenc}
   \usepackage[most]{tcolorbox}
   definecolor{orang}{RGB}{255,155,0}
  \newtcolorbox[auto counter,number within=section]{caja}[1][]{
enhanced jigsaw,colback=white,colframe=orang,coltitle=orang,
fonttitle=\bfseries\sffamily,
sharp corners,
detach title,
leftrule=10mm,
% What you need %%%%%%%%%%%%%%%%
underlay unbroken and first={\node[below,text=black,anchor=east]
at ([xshift=-5.5pt]interior.base west) {\Huge \textbf{!}};},
breakable,pad at break=1mm,
#1,
code = {\left\{ \begin{array}{l} code = {\left[ code = {\left[ \begin{array}{l} code = {\left[ \begin{array}{l} code = {\left[ \begin{array}{l} code = {\left[ \begin{array}{l} code = {\left[ code = {\left[ code = {\left[ \begin{array}{l} code = {\left[ code =
                       \hookrightarrow tcbtitle\par\medskip\}\}\},
 \begin{document}
 \begin{caja}[title=warning]
The vertical alignment settings
 \end{caja}
    end{document}
```

#### 4.7 Photo positioning

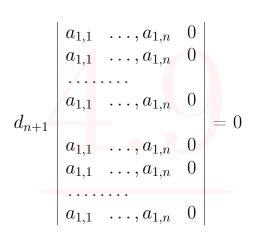


# 4.8 Absolutely centered cells (vertically and horisontally)

all	in	cells
are 🗸	centered	vertically
and	horisontally	Σ

\documentclass{article}			
\usepackage{float}			
\usepackage{array, makecell}			
\setcellgapes{5pt}			
\begin{document}			
$\begin{array}{c} \begin{array}{c} \\ \\ \end{array} \end{array}$			
\center			
makegapedcells			
$\operatorname{begin}\{\operatorname{tabular}\}\{ c c c c \}$			
\hline			
$1\&1\&1\&1\setminus\setminus$ hline			
$1&1&1&1\setminus\setminus$ hline			
1&1&1&1\\ \hline			
\end{tabular}			
$\ensuremath{\mbox{end}\{ able\}}$			
$\ensuremath{\operatorname{Nend}} \{ \operatorname{document} \}$			

#### 4.9 Martix made of table



```
documentclass[a4paper,14pt]{extreport}
 begin{document}
\begin{table}[]
\begin{array}{c} \begin{array}{c} \\ \\ \end{array} \end{array}
& $a \{1,1\}$ & $\\dots, a \{1,n\}$ & 0 & \\
& a_{1,1} & \cdot dots, a_{1,n} & 0 & \
& $a \{1,1\}$ & $\\dots, a \{1,n\}$ & 0 & \\
d_{n+1} & & & & & = \overline{p} pm 2ad_n$ = 0 \
& a_{1,1} & dots, a_{1,n} & 0 & \\
& $a_{1,1}$ & $\\dots, a_{1,n}$ & 0 & \\
& a_{1,1} & \cdot a_{1,n} & 0 & \
\end{tabular}
\end{table}
\end{document}
```

#### 4.10 Centering cells with NiceTabular



```
documentclass{article}
usepackage[table]{xcolor}
\usepackage{nicematrix}
\NiceMatrixOptions{cell-space-top-limit=5pt,cell-space-bottom-
   \hookrightarrow limit=5pt
begin{document}
\begin{table}[htbp]
centering
\operatorname{begin}\{\operatorname{NiceTabular}\}\{|c|c|c|\}
hline
\cellcolor{red}1\&\cellcolor{green}1\&\ 1\ \ \ \
\cellcolor{green!35}1 \& \cellcolor{blue!45}1 \& 1 \ \ \
end{NiceTabular}
\end{table}
end{document}
```

#### 4.11 Centered cells in longtable

Enum	Example	Description
1	test	Quisque facilisis auctor sapien. Pellentesque gravida hendrerit lectus. Mauris rutrum sodales sapien. Fusce hendrerit sem vel lorem. Integer pellentesque massa vel augue. Integer elit tortor, feugiat quis, sagitis et, ornare non, lacus. Vestibulum posuere pellentesque eros. Quisque venenatis ipsum dictum nulla. Aliquam quis quam non metus eleifend interdum. Nam eget sapien ac mauris malesuada adipiscing. Etiam eleifend neque sed quam. Nulla facilisi. Proin a ligula. Sed id dui eu nibh egestas tincidumt. Suspendisse arcu.
2a	test	Quisque facilisis auctor sapien. Pellentesque gravida hendrerit lectus. Mauris rutrum sodales sapien. Fusce hendrerit sem vel lorem. Integer pellentesque massa vel augue. Integer elit tortor, feugiat quis, sagittis et, ornare non, lacus. Vestibulum posuere pellentesque eros. Quisque venenatis ipsum dictum nulla. Alfquam quis quam non metus eleifend interdum. Nam eget sapien ac mauris malesuada adipiscing. Etiam eleifend neque sed quam. Nulla facilisi. Proin a ligula. Sed id dui eu nibh egestas tincidumt. Suspendisse arcu.
		Quisque facilisis auctor sapien. Pellentesque gravida hendrerit lectus. Mauris rutrum sodales sapien. Fusce hendrerit sem vel lorem. Integer pellentesque massa
2b	test	vel augue. Integer elit tortor, feugiat quis, sagittis et, ornare non, lacus. Vestibulum posuere pellentesque eros. Quisque venenatis ipsum dictum nulla. Aliquam quis quam non metus eleifend interdum. Nam eget sapien ac mauris malesuada adipiscing. Etiam eleifend neque sed quam. Nulla facilisi. Proin a ligula. Sed id dui eu nibh egestas tincidunt. Suspendisse arcu.

\documentclass{article}			
\usepackage[left=1.5cm,right=1.5cm,			
top=1.5cm,bottom=2cm,bindingoffset=0cm]{geometry}			
\usepackage{float}			
\usepackage{array, makecell}			
\usepackage[utf8]{inputenc}			
\usepackage{lipsum}			
\usepackage{booktabs}			
\usepackage{multirow}			
\usepackage{pdflscape}			
\usepackage{longtable, array}			
\begin{document}			
$\operatorname{begin}\{\operatorname{landscape}\}$			
$\label{longtable} $$\left[0{\rm s}_{15}\right] *{1}{m_{.15}\pi} *{1}{m_{.40}}$			
$\hookrightarrow$ paperwidth}} @{}}			
\endfirsthead			
\endhead			
\toprule			
lem:lem:lem:lem:lem:lem:lem:lem:lem:lem:			
\midrule			
$1 \& \text{test } \& \lceil 50 \rceil \setminus$			
\midrule			
2a & test & \lipsum[50]\\			
2b & test & \lipsum[50]\\			
bottomrule			
\end{longtable}			
\end{landscape}			
$\ensuremath{\operatorname{Nend}} \{ \operatorname{document} \}$			
P			

#### 4.12 If table is not wide enough

	Item1	Item2	Item3
Group	1 0.8	0.1	0.1
Group?	20.1	0.8	0.1
Group:	30.1	-0.1	0.8
Group <sup>2</sup>	40.34	0.33	0.33

```
documentclass{article}
usepackage[left=1.5cm,right=1.5cm,
top=1.5cm,bottom=2cm,bindingoffset=0cm]{geometry}
\usepackage{graphicx}
\usepackage{booktabs}
\usepackage{tabularx}
\begin{document}
\begin{table}[!ht]
\caption{Vertical and lateral stresses of mortar.}
vspace{0.5cm}
\left( \frac{tabularx}{tx} \right) 
      & Item1 & Item2 & Item3 \\ \midrule
Group1 & 0.8 & 0.1 & 0.1 \\
Group2 & 0.1 & 0.8 & 0.1 \\
Group3 & 0.1 & 0.1 & 0.8 \\
Group4 & 0.34 & 0.33 & 0.33 \\ \bottomrule
\end{tabularx}
\left| \left| c \right| \right|
\end{table}
\end{document}
```

#### 4.13 Text next to a table

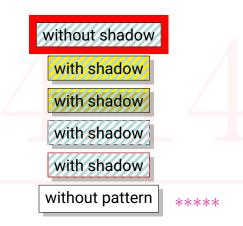


```
documentclass[a4paper,14pt]{extreport}
 usepackage[left=1.5cm,right=1.5cm,top=1.5cm,bottom=2cm,

→ bindingoffset=0cm]{geometry}

\usepackage{lipsum}
\begin{document}
\left[ \frac{minipage}{m} \right] = 0.58 \right]
text text text
end{minipage}
hspace{0.2cm}
\operatorname{begin}\{\min_{m=0}^{m} \{0.40 \setminus \text{textwidth}\}
\left( \frac{c|c|c}{c|c|} \right)
\hline
1 & 22 & 333 & \\ \hline
  & & & \setminus \setminus hline
  & & & \\ \hline
 & & & \setminus \setminus hline
\end{tabular}
\end{minipage}
\end{document}
```

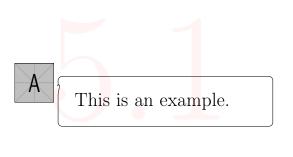
#### 4.14 Text next to a table



```
documentclass[tikz,border=5mm]{standalone}
   usetikzlibrary{chains,patterns,shadows,fit,backgrounds}
 makeatletter
 \tikzset{% customization of pattern
                                 % based on <m.wibrow@gm...> - 2013-03-24 07:20:
                              hatch distance/.store in=\hatchdistance,
                             hatch distance=5pt,
                              hatch thickness/.store in=\hatchthickness,
                              hatch thickness=5pt
\pgfdeclarepatternformonly[\hatchdistance,\hatchthickness]{north east hatch
                   \hookrightarrow \gamma \quad name
               {\left\{\begin{array}{c} pgfqpoint{-1pt}{-1pt}}\% \text{ below left} \right\}}
               {\left\{\begin{array}{c} \left( \right) \\ \left( \right
               {\bf \{\pdfpoint\{\hatchdistance-1pt\}\{\hatchdistance-1pt\}\}\%}
                              \pgfsetcolor{\tikz@pattern@color}
                              \pgfsetlinewidth{\hatchthickness}
                              \protect\operatorname{pgfqpoint}\{0pt\}\{0pt\}\}
                               \pgfusepath{stroke}
makeatother
 \begin{document}
   \begin{tikzpicture}[
             start chain=going below,
              node distance=2mm,
              Node/.style = \{minimum \ width = \#1, \}
                                                                       shape=rectangle,
                                                                       draw, fill=white,
                                                                       on chain},
              Pattern/.style = {pattern=north east hatch,
                                                                           pattern color=teal!30,
                                                                           hatch distance=7pt,
                                                                           hatch thickness=2pt},
              font = \backslash small \backslash sffamily]
              \node[Node=24mm, Pattern,
                                            preaction={fill=white}] (a) {without shadow};
               \begin{scope}[on background layer]
                              \ensuremath{\ensuremath{\mathsf{end}}}
              \node[Node=24mm, drop shadow,
                                             preaction={fill=yellow}, Pattern| (b) {with shadow};
              \node[Node=24mm, preaction={fill=yellow},
                                             drop shadow, Pattern (b) {with shadow};
              \node[Node=24mm, postaction={Pattern},
                                             drop shadow] (b) {with shadow};
              \node[Node=24mm, postaction={draw=red, Pattern},
                                             drop shadow] (b) {with shadow};
              \node[Node=24mm, drop shadow] (c) {without pattern};
  \end{tikzpicture}
 \end{document}
```

# Figures

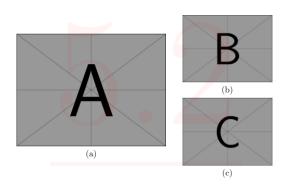
#### 5.1 Comment to figure



```
\documentclass{article}
\usepackage{tikz}
\usetikzlibrary{shapes.callouts}

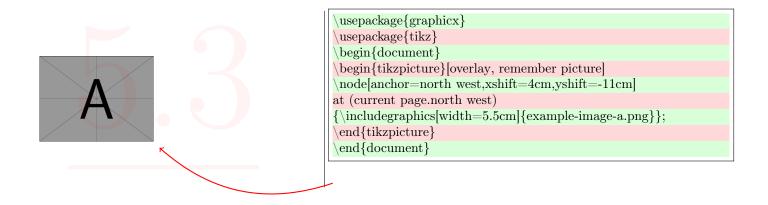
\begin{document}
\begin{tikzpicture}
\node [anchor=south west] at (0, 0) (cartoon) {\includegraphics[width \infty] \infty] \infty] \text{suidth, height=.15\textwidth} {\text{example-image-a}};
\node [anchor=north west, rectangle callout, draw=black, callout absolute pointer=(cartoon.east), rounded corners=3pt, text width=0.7\textwidth, inner sep=2ex] at (.19\times \text{extwidth, 125\textwidth} {\text{This is an example.}};
\end{\text{tikzpicture}}
\end{\document}
```

#### 5.2 Positioning $1 \mid 2$

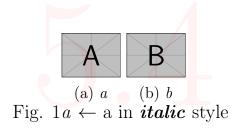


```
documentclass{article}
usepackage{graphicx}
usepackage{subfig}
begin{document}
\operatorname{begin}\{\operatorname{figure}\}[\operatorname{htp}]
centering
begin{tabular}{@{}c@{}}
end{tabular}\qquad % some space
\operatorname{begin}\{\operatorname{tabular}\{@\{\}c@\{\}\}\}
\operatorname{subfloat}\{\operatorname{includegraphics}[\operatorname{width}=0.3]\
\end{tabular}
\caption{Caption.}
end{figure}
end{document}
```

#### 5.3 Placing image anywhere You want



#### 5.4 Italic sabfigure references



```
documentclass{article}
           usepackage{graphicx}
        usepackage{subcaption}
     \renewcommand\thesubfigure\{\itshape\alph\subfigure\}\} \%<--- added
     begin{document}
  \begin{figure}
     centering
     begin{subfigure}{.25\textwidth}
     centering
  \includegraphics[width=.6\linewidth]{example-image-a}
     \operatorname{caption}\{ \operatorname{textit}\{a\} \}
  \left\{1a\right\}
        end{subfigure}%
        \begin{array}{c} \begin{array}{c} \\ \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\
  \includegraphics[width=.715\linewidth]{example-image-b}
  \operatorname{caption}\{ \operatorname{textit}\{b\} \}
  \left\{1b\right\}
  \end{subfigure}
  \caption{ }
  \label{fig1}
  end{figure}
  Fig. \left\{1a\right\}  \ in \left\{\text{textit}\left\{\text{italic}\right\}\right\} style
\end{document}
```

# Numbering, enumeration, itemizing

#### 6.1 Numbering in few columns

```
| \text{documentclass{article}} \\ \text{usepackage{multicol}} \\ \text{begin{document}} \\ \text{begin{multicols}{2}\%change to have more columns} \\ \text{begin{multicols}{2}\%change to have more columns} \\ \text{begin{multicols}{emumerate}} \\ \text{item c} \\ \text{item d} \\ \text{item d} \\ \text{item f} \\ \end{emud{enumerate}} \\ \end{multicols} \\ \end{document} \\ \end{documen
```

6.2 Enumeration environment with position number in the format (i, j)

- (1) First level-one item
  - (1,1) First level-two item
  - (1,2) Second level-two item
- (2) Second level-one item
  - (2,1) Still another level-two item

```
documentclass{article}
\renewcommand{\theenumi}{(\arabic{enumi})}
\renewcommand{\theenumii}{(\arabic{enumi},\arabic{enumii})}\renewcommand{\labelenumi}{\theenumii}}\renewcommand{\labelenumii}{\theenumii}
makeatletter \renewcommand{\p@enumii}{} \makeatother
begin{document}
begin{enumerate}
item First level-one item
  \begin{enumerate}
  \item First level-two item
  \item Second level-two item
  end{enumerate}
\item Second level-one item
  begin{enumerate}
  \item Still another level-two item
  \end{enumerate}
end{enumerate}
end{document}
```

#### 6.3 Colored enumeration

- **1)** item
- 2)
- 3) item
- 4)
- 5) special item
- 6)
- 7) item

```
documentclass{article}
 usepackage{tikz}
\definecolor{amethyst}{rgb}{0.6, 0.4, 0.8}
definecolor{applegreen}{rgb}{0.55, 0.71, 0.0}
\label{lem:color} $$ \define color {arylide yellow} {rgb} {0.91, 0.84, 0.42} $$
definecolor{asparagus}{rgb}{0.53, 0.66, 0.42}
definecolor{atomictangerine}{rgb}{1.0, 0.6, 0.4}
\definecolor{bananayellow}{rgb}{1.0, 0.88, 0.21}
\definecolor\{brightgreen\}\{rgb\}\{0.4, 1.0, 0.0\}
definecolor{cambridgeblue}{rgb}{0.64, 0.76, 0.68}
definecolor{capri}{rgb}{0.0, 0.75, 1.0}
definecolor{carnationpink}{rgb}{1.0, 0.65, 0.79}
\label{lem:command} $$\operatorname{ClaudioList}_{red, applegreen, amethyst, carnationpink, blue! 50!}$
      \hookrightarrow cyan,arylideyellow,asparagus,atomictangerine,bananayellow,brightgreen

→ ,cambridgeblue,capri}

\mbox{\newcommand{\SebastianoItem}[1]{\newcommand{\X[count=\Y] in \ClaudioList}}
{ \left| ifnum \right| Y = \#1 \mid relax }
\xdef\SebastianoColor\{X\}
\tikz[baseline=(SebastianoItem.base),remember
picture]{%
\node[fill=\SebastianoColor,inner sep=4pt,font=\sffamily,fill opacity=0.5] (
       \rightarrow SebastianoItem){#1)};}}
\mbox{\ensuremath{\mbox{newcommand}\{\SebastianoHighlight\}\{\tikz[overlay,remember\ picture]\{\%\}\}} }
\fill[\SebastianoColor,fill opacity=0.5] ([yshift=4pt,xshift=-\pgflinewidth]
      \rightarrow SebastianoItem.east) -- ++(4pt,-4pt)
-- ++(-4pt,-4pt) -- cycle;\}
\begin{document}
\renewcommand{\labelenumi}{\SebastianoItem{\arabic{enumi}}}
  \begin{enumerate}
    \item item
    \item special item \SebastianoHighlight
    \item item
  \end{enumerate}
end{document}
```

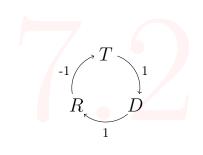
# Plots, tikz, pie charts ...

#### 7.1 Simple pie chart



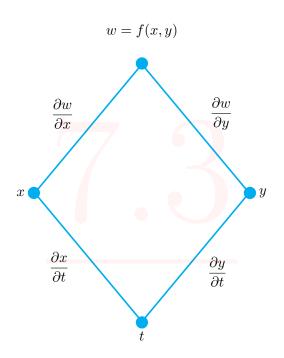
```
\documentclass[border=0.2cm]{standalone}
\usepackage{pgf-pie}
\begin{document}
\begin{tikzpicture}
\pie{22.97/Los Angeles Lakers,
22.97/Boston Celtics,
8.11/Golden State Warriors,
8.11/Chicago Bulls,
6.76/San Antonio Spurs,
31.07/Other Teams}
\end{tikzpicture}
\end{document}
```

#### 7.2 Circled arrows with text



```
\documentclass{article}
\usepackage{tikz}
\begin{document}
\begin{tikzpicture}[->,scale=.7]
\node (i) at (90:1cm) {$T$};
\node (j) at (-30:1cm) {$D$};
\node (k) at (210:1cm) {$R$};
\draw (70:1cm) arc (70:-10:1cm) node[midway, right] {{\footnotesize 1}};
\draw (-50:1cm) arc (-50:-130:1cm) node[midway, below] {{\footnotesize 1}};
\draw (190:1cm) arc (190:110:1cm) node[midway, left] {{\footnotesize -1}};
\end{tikzpicture}
\end{document}
```

#### 7.3 Diamond with text



```
\documentclass[a4paper,14pt]{extreport}
\\ \verb| usepackage[left=1.5cm, right=1.5cm, top=1.5cm, bottom=2cm, binding of fset=0| \\

→ cm]{geometry}
\usepackage{amsmath}
usepackage{tikz}
\usetikzlibrary{shapes.geometric}
\begin{document}
\begin{tikzpicture}
\node[diamond,font=\small,
line width=0.4mm,scale=0.7,
   draw = cyan, minimum width = 7.5cm, %text = red,
   minimum height = 9cm] (d) at (0,0) { };
     \node [above=0.5cm] (a) at (d.90) \{w = f(x,y)\};
     \hookrightarrow partial y\$;
     \hookrightarrow partial x}$};
     \node [left=0.1cm] (dd) at (d.180) {$x$};
     \node [right=0.1cm] (e) at (d.0) \{\$y\$\};
     \node [below=0.1cm] (f) at (d.270) {$t$};
     \hookrightarrow partial t}$};
     \node [below=0.5cm,left=0.1cm] (h) at (d.220) {\frac{\color{0.5cm},\color{0.5cm}}{\color{0.5cm}}}
          \hookrightarrow partial t\$;
     \node at (d.90) [cyan,circle,fill,inner sep=3pt]{};
     \node at (d.180) [cyan,circle,fill,inner sep=3pt]{};
     \node at (d.0) [cyan,circle,fill,inner sep=3pt]{};
     \node at (d.270) [cyan,circle,fill,inner sep=3pt]{};
\end{tikzpicture}
\end{document}
```

# Highlighting

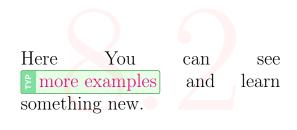
#### 8.1 Words highlighting 1

```
The quick brown fox jumps over the lazy dog.

The quick brown fox jumps over the lazy dog.
```

```
\documentclass{article}
\usepackage{tcolorbox}
\newtcbox{\mybox}[1][red]{on line,
\arc=0pt,outer \arc=0pt,colback=#1!10!\white,colframe=#1!50!\black,
\boxsep=0pt,left=1pt,right=1pt,top=2pt,\bottom=2pt,
\boxrule=0pt,\bottomrule=1pt,toprule=1pt}
\newtcbox{\xmybox}[1][red]{\no line,
\arc=7pt,colback=#1!10!\white,colframe=#1!50!\black,
\before \upper={\rule[-3pt]{0pt}{10pt}},\boxrule=1pt,
\boxsep=0pt,left=6pt,right=6pt,top=2pt,\bottom=2pt}
\begin{\document}
\text{The \mybox[green]{quick} \brown \mybox{fox}...\par
\text{The \xmybox[green]{quick} \brown \xmybox{fox}} ...\end{\document}
```

#### 8.2 Unusual words highlighting



```
\usepackage[many]{tcolorbox}
\newtcbox{\mylib}{enhanced,nobeforeafter, tcbox raise base, boxrule=0.4pt,

\uphature top=0mm, bottom=0mm,
\text{right=0mm, left=4mm, arc=1pt, boxsep=2pt, before upper={\vphantom{dlg}}

\uphature \gamma\gamma\gamma\gamma\gamma\text{solback}=green!50!black, coltext=green!25!black, colback=green

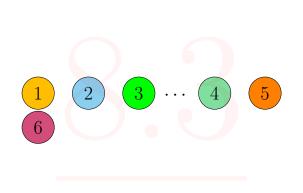
\uphature !10!white, overlay={\begin{tcbclipinterior} \fill[green!75!blue!50!

\uphature white] (frame.south west) rectangle node[text=white,font=\sffamily\

\uphature bfseries\tiny,rotate=90] {TYP} ([xshift=4mm]frame.north west);\

\uphature end{tcbclipinterior}}}
\underset{begin{document}}
\underset{mylib{recieve}}
\underset{end{document}}
\underset{end{document}}
```

#### 8.3 Colored circles



```
usepackage{tikz}
usepackage[framemethod=TikZ]{mdframed}
\usepackage{xcolor}
usetikzlibrary{calc}
makeatletter
\newlength{\mylength}
\xdef\CircleFactor{1.1}
\setlength\mylength{\dimexpr\f@size pt}
\newsavebox{\newbox{\newbox}}
\hookrightarrow WL1/}#1}}\setlength\mylength{\dimexpr\CircleFactor\dimexpr\ht\
     \begin{tabular}{l} \hookrightarrow \begin{tabular}{l} mybox+\dp\mybox\relax}\tikzset\{mystyle/.style=\{circle,\#1,
     → minimum height={\mylength}}} \tikz[baseline=(char.base)]
\node[mystyle] (char) {\#2};
\displaystyle \operatorname{definecolor}\{\operatorname{amber}\}\{\operatorname{rgb}\}\{1.0,\,0.75,\,0.0\}
\definecolor{babyblue}{rgb}{0.54, 0.81, 0.94}
usage --> \circled[fill=amber,draw=black]{1}
```

#### 8.4 Whole line colored



```
\documentclass{article}
\usepackage{xcolor}
\newcommand{\hly}[2]{\colorbox{#1!80}{\parbox{\textwidth}{#2}}}
\begin{document}
%\hly{YOURcolor}{some text}
\hly{green}{some text}
\hly{yellow}{some text}
\hly{red}{some text}
\hly{red}{some text}
\end{document}
```



Download coffee4.sty and put in the same directory

#### 9.2 Sticky notes



```
documentclass{article}
usepackage{xparse}
\usepackage{fancypar}
\usetikzlibrary{calc,shadows}
\begin{tikzpicture}
\node[
drop shadow={shadow xshift=3pt,},
inner xsep=0pt,
xslant=-0.1, yslant=0.1,
inner ysep=0pt,
text depth = \\ \\ the \\ \\ dimexpr \# 1 + 2.5ex \\ \\ relax
\end{tikzpicture}}
\begin{document}
\StickyNoteP[2.5cm]{\%}
NotebookPar[spiral=false]{
\LARGE first \ \end \} [6.5cm]
\end{document}
```



```
\documentclass{article}
\usepackage{tikz}
\usetikzlibrary{fadings, shadings}
newcommand\fadingtext[3][]{%
\stepcounter{fadcnt}
     \begin{tikzfadingfrompicture}[name=fading letter\thefadcnt]
        \node[text=transparent!0,inner xsep=0pt,outer xsep=0pt,#1] {#3};
     end{tikzfadingfrompicture}%
    \begin{tikzpicture}[baseline=(textnode.base)]
         \label{localization} $$  \  \  = 0pt, \#1](textnode)_{\pi}$ 
         \shade[path fading=fading letter\thefadcnt, #2, fit fading=false]
        (textnode.south west) rectangle (textnode.north east);\%
    \end{tikzpicture}%
\usetikzlibrary{calc}
\newbox\shbox
\tikzset{%
    path picture shading/.style={%
   path picture=\{\%
\pgfpointdiff{\pgfpointanchor{path picture bounding box}{south west}}%
    {\bf \{pf point anchor \{path\ picture\ bounding\ box\}\{north\ east\}\}\%}
\verb|\pgfgetlastxy| pathwidth | pathheight\%|
\pgfinterruptpicture%
       \global\setbox\shbox=\hbox{\pgfuseshading}{\#1}}\%
  \endpgfinterruptpicture%
\protect{\box\shbox}\%
\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\protect\pro
                         color(1.6667bp) = (blue);
                         color(3.3333bp)=(cyan);
                         color(5bp)=(green);
                         color(6.6667bp)=(yellow);
                         color(8.3333bp)=(orange);
                         color(10bp) = (red)
\begin{document}
  \fadingtext[scale=10, font=\bfseries]{upper left=red, upper right=green,
             \hookrightarrow lower left=blue,lower right=yellow}{\LaTeX}
\finterline{10, font=\bfseries]{path picture shading=rainbow}{}}
           \hookrightarrow \text{LaTeX}
\verb|\noindent| fading text[scale=0.7, font=|\bfseries] {path picture shading=}
            \rightarrow rainbow}{\parbox[b]{1.5\linewidth}{\strut\lipsum[1]}}
\end{document}
```

#### 9.4 Single Watermark

```
Lowen ispums dober at sunt, consectiven adjusting det. Ut pursus ells, vederloams ut, placera as, adjusting with a filter gravith matrix. Non arcs illuses, nonummy eyet, consectivent di, veliparta as manges. Dokes velocitate angues en noque velocitate quart in tributate position. Matrix of fine, Can vivera nortan income de latino es trape opsista. Mantrix of fine, Can vivera nortan income de latino es trape opsista. Mantrix of fine, Can vivera nortan income particular and the secondary of the contractivent o
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Nam du ligala, fringilla « enissood sodale», sollicitudis vel, veit. Morbi autore locem não justo. Nam losse libero, pettim at, blootri vitas, ultricios ex, tellus. Donce alapest, tortor sed accuman bloendum, eral ligala alapest magas, vitas orante colo nettas an ini. Morbi ac crei et nia blemberlen molila. Suspendisse et massa. Cras nes ante. Pelustrosque a milla. Cum sociós natoque penatiless et magais do parturient montes, nascetur riefeculas mus. Alapana tincident uras. Nulla ultamecoper vestibalum turpis. Pelientesque cumus hecta manuri.

has measured portifier dam. Board fells erat, coague son, voltrigat at, fine-infant tratique, illeren. Venamus viverar fermientum verter. The coague son, voltrigat at, fine-infant tratique, illeren. Venamus viverar fermientum verter. The coague of the co

Quisque ullameceper placerat ipsum. Cras nibb. Morbi vel justo vitae lacus tincidint, ultricos. Lecun ipsum dolor sit ann consectutors adipicing elli. In lace habitasso platato dictiumst. Integer tempas convalia sargo, Elliam facilitàs. Nune elementum fermentum wist. Aemoan placerat. Ut imperdiet, enim sed gravidas solicitudin, felli odio placerat quan, ac pulvinar ellit purus egget enii Nune vitae tortor. Posit tempus nibi sit amet ind. Vivums eggis tereper vitae risus port avvidar risus port risu

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Sed commodo posuver podo. Maurisr ut est. Ut quis pursu. Sed ac collo. Sel vehicula hendreti sem. Duis ons dello. Medrà ut dul. Gel accuman risme spet dello. In hac helbatson plates dichema. Pellestroquejim est. Piente sed quise della rese urma portar tatendumt. Mauris felis odio, solicitudin sed, vehitpat a, ornare as, erat. Morbi quis dobr. Desce pellentroque, erat ac sagittis sumper, nunc dui beborti prune, quis compae pura menta utilizie todia. Prisa et quan. Cleas appart tardit solectiona di hono toquent per combina nostra, per prune, quis compae pura menta utilizie todia. Prisa et quan. Cleas appart tardit solectiona di hono toquent per combina nostra, per

Pellencespie habitant modri trittigue senectus et privaç malesmad fames ac turpis egestas. Donce cello clir, dictum in, bunderes si marte, ogestas se, lo. Penesate frequie sapion abpete cilo), hategor vites justica. Abpann vestilandan fragilla lesera. Sed neque hetm. consectuer at, connectivur and, delibrid ag, kvim. Nulli flacihist. Pellentespa egel levim. Penin en metus. Sed porttor. In term. acceptator at, connectivur and, delibrid ag, kvim. Nulli flacihist. Pellentespa egel levim. Penin en metus. Sed porttor, in term. acceptator and acceptator acc

Modé la fexts, wist vieurs fanciène pretium, mils est plègrent ofto, ine commodo wist emis quet quame. Quienge libros jonce connectivar s, faquis l'unis pentiture, in ligito. Supendinos di marier tube el sibilificiam lancalanti. Amenensa utilicia ceso si in aute ante. Ut venentis volt. Maccenas sed mi ege del utivare enimod. Planellen aliquet voltpate ofto. Ventiluluim ante ipoma primi in durabuse cerle lucius et utilizes possore estilula Gaura Fellutracogo si ante pola es sue siderido consectivar. Mallan elementum uma vidi imperellet sodales, dit poma phasetra lighia, se pretum ante junto a milla. Cumbilur tristiqua sere cu metus. Ventiluluim uma vidi imperellet sodales, dit poma phasetra lighia, se pretum ante junto a milla. Cumbilur tristiqua sere cu metus. Ventiluluim cura vidi in consecutar del consecutar del consecutar del consecutar del consecutar del consecutar del consecutar antere, pole conseque laboret variaries con this section particular del consecutar del consecutar del consecutar del consecutar antere, pole conseque laboret variaries con this section particular del consecutar del consecutar antere polar del consecutar del consecutar del consecutar antere polar del consecutar del consecut

Superalise vitue dit. Alequa accu arque cupue in, ulluncesper quis, commodo en, libero. Fusce sagittic eras et ext tricipa molit. Maccuas aquin libero, noblezie, ils blooffs in, soldes sept, dui. Mortà intrices rutrum licenu. Nun elementum ulluncoppe los. Medit dui. Aluquam agaittis. Nine placerar. Relintenque tritique soluble est. Maccuas imprediet lacinis volt. Can non uma consecuent de la pertun elementum, ense um detrum totore, ve consecuent de la consecuencia de la consecuent de la consecuent de la consecuencia del la consecuencia de la consecuencia de la consecuencia de la consecuencia de la consecuencia del la consecuencia del la consecuencia del la consecuencia del la consecuencia de la consecuencia de la consecuencia del la consecuencia de

confectivate dans semi-sem sem was:
Sed fought, Cum words managen penanthes et magnis dis parturient montes, nascetur ridiculus mus. Ut pellentesque augue sec
urna. Vestibulini diam eros, fringilla et, coissecteture cu, nonummy pi, sapira. Nullam as lectus. In sagitis ultrices mauris. Curabitu
maksanada gria ris armat, masses. Puede plandt. Rilepann ent volont, Achepann entismod. Acenon vel lectus. Nunc imperdide justo no

Eximp cutamod Flace facilità lexim dell. Superalises potenti. In mi erat, cursus id, nommuny sed, ullancoper eget, sujen-Flacescar piertum, magas in delidiq esgales, pede pode pede petem locen, qui concentrate rotter supen facilità magas. Mantis qui magas wijens mila societisque impecilet. Alfaquam non quam. Alapum portitior quam a lexus. Piussent vid area ut torter cursus voltaga. Il n'avia gabe qui data gli belorium janevare. Flace sed entantium comalhi assoca. Sed doise arte, sederique se, clapion sec.

Aliquarilectus. Vivanura Ioo. Quisque ornare tellus ullancorper milla. Mauris portitior pharetra tortor. Sod fringilla justo sor mauris. Mauris (Euro, Sed no luo, Ngillan elementum, magain ne cursus sociales, augue est sederisque sapien, venenaties congue milla arcu et pede. Ul suscipit enim ser sapien. Donce congue. Maccenas urna mi, suscipit in, placerat ut, vestibulum ut, massa. Fusc utrices milla et nil.

```
\label{lem:contents} $$ \arrive{Adocumentclass[a4paper]{article}} $$ \arrive{Adocumentclass[a4paper]{article}} $$ \arrive{Adocument} $$ \arrive{Adocumen
```

#### 9.5 Full page of Watermarks

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Lorem ipsum údor så agret, consecteiur adipicing citi. Uppuru (fil. vestibulur) ut, placerat ac, adipicing fufuc felis. Carabitur dictum gretida mants. Nam aven libers, nomunic plays (consecteiur di, vulputate a., magus. Darret felis. Carabitur dictum gretida mants. Nam aven libers, nomunic plays (consecteiur di, vulputate a., magus. Darret felis. Carabitur dictum to the consecteiur) and the consecteiur of the consecteiur, a surface of the consecteiur of the consecteiur, a surface of the consecteiur of the consecuence of
```

```
documentclass[12pt]{book}
 usepackage{graphicx}
  usepackage[pages=some]{background}
  usepackage{lipsum}
  newcommand \backslash DupImage \{\%
                 \includegraphics[width=5cm]{logo.jpeg}\hfill% YOUR IMAGE
                 \label{logo.jpeg} $$\left[ \ensuremath{\operatorname{width}=5cm} \right] = \sum_{i=1}^{n} \left[ \ensuremath{\operatorname{logo.jpeg}} \right] $$\left[ \ensuremath{\operatorname{hfill}} \right] $$ YOUR IMAGE $$
                \label{logo.jpeg} $$ \left[ \frac{\log . jpeg}{hfill\% \ YOUR \ IMAGE \ includegraphics[width=5cm]{logo.jpeg}{hfill\% \ YOUR \ IMAGE \ IMAGE \ YOUR 
                 \label{logo.jpeg} $$\left[ \ensuremath{\operatorname{width}=5cm} \right] = \sum_{i=1}^{n} \left[ \ensuremath{\operatorname{logo.jpeg}} \right] $$\left[ \ensuremath{\operatorname{hfill}} \right] $$ YOUR IMAGE $$
                 \includegraphics[width=5cm]{logo.jpeg}\hfill% YOUR IMAGE
                 newlength{drop}
 backgroundsetup{ scale=1, angle=45, opacity=.3,
     contents={%
                  \left\{ \min\left\{ \min\right\} \right\} 
                  \squareDupImage\square[2ex]
                  \DupImage\\
                 \DupImage\\
                                                               [2ex]
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                  DupImage \setminus [2ex]
                 \square 
                  \square DupImage \setminus [2ex]
                \square \left( \operatorname{DupImage} \right) 
\begin{document}
 drop=0.1 \times BgThispage \times [1-8]
\end{document}
```