Latex in Examples



Thanks to me

Examples in this book is updated every week.

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```
\label{eq1} $$ \left\{ eq1 \right\} \left\{ eq1 \right\}
```

CORRECT paste code from examples

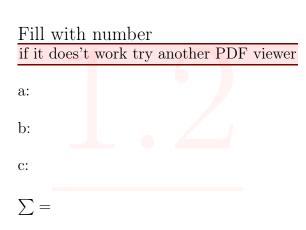
Math Tips

1.1 Auto-resizing equation

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

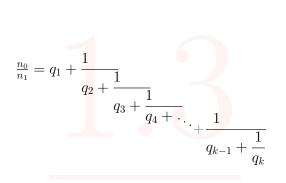
```
\begin{equation*} \label{eq1} $$\operatorname{dot}_{-4 \text{ to } 0.5...} $$\det{\rho}=\left(x^3\right)_{45a^9-23b}$$ \end{equation*}
```

1.2 Form for simplest calculation



```
documentclass{article}
usepackage{hyperref}
begin{document}
\begin{Form}
\noindent%
Fill with number\\
\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\mwd{35pt}
\begin{document}
         \label{eq:frac} $$ \prod_0 {n_1} = q_1 + \frac{n_0}{n} = q_1 + \frac{makebox[mywd][l]}{n} $$
                               \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{mywd}][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

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

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

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

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

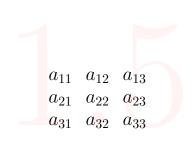
$$x_{ij} = \alpha_{ij}\delta T$$

$$(1.1)$$

```
\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

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

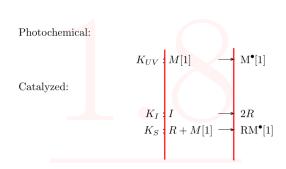
$$= \frac{1}{2}\pi r^2$$
(1.2)
$$\begin{bmatrix} \text{begin}\{\text{equallow}\} \\ \text{A \& = \frac} \\ \text{end}\{\text{split}\} \\ \text{end}\{\text{equallow}\} \\ \end{bmatrix}$$

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

1.7 Array as a fraction

$$I-IV-V^{egin{array}{c} 6-4 \\ 4-3 \\ 6-4 \\ I-IV-V^{4-3}-I-cadence \\ I-IV-V^{rac{6-4}{4-3}}-I-cadence \\ 6-4 \\ I-IV-V^{4-3}-I-cadence \\ \end{array}$$

1.8 Aligning equations inbetween text



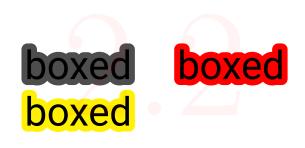
Text, Symbols

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}
```

2.5 Bullets Style

32		33	3-	34	><	35	×	36	%	37	2	38	0	39	4
40	+	41	•	42	•	43	12.	44	ð	45	L	46	€2	47	⊕
48	0	49	09	50	••	51	/	52	~	53	×	54	×	55	Х
56	×	57	+	58	+	59	+	60	٠	61	+	62	Ŷ	63	t
64	Ð	65	*	66	+	67	-1-	68	*	69	•	70	+	71	
72	*	73	*	74	0	75	*	76	*	77	*	78	食	79	*
80	À	81	*	82	*	83	*	84	*	85	*	86	*	87	*
88	*	89	*	90		91	*	92	*	93	*	94	*	95	*
96	*	97	0	98	0	99	*	100		101	*	102	0	103	*
104	*	105	*	106	*	107	*	108	•	109	0	110	•	111	
112		113		114		115	•	116	•	117	•	118	٠	119	•
120	- 1	121	- 1	122		123	6	124	•	125	"	126	,,		
		161	9	162	:	163	•	164	¥	165	*	166		167	20
168	*	169	+	170	٧	171	•	172	1	173	2	174	(3)	175	4
176	(5)	177	6	178	7	179	8	180	9	181	00	182	0	183	0
184	•	185	0	186	6	187	(6)	188	0	189	0	190	•	191	•
192	1	193	2	194	3	195	4	196	(5)	197	6	198	7	199	8
200	9	201	00	202	0	203	0	204	0	205	0	206	0	207	0
208	0	209	0	210	Θ	211	0	212	→	213		214	\leftrightarrow	215	1
216	`*	217	-	218	,	219	->-	220	→	221	→	222	→	223	-
224	-	225	-	226	¥	227	>	228	>	229	•	230	-	231	•
232	•	233	⇨	234	r\$	235	4	236	÷	237	٥	238	٥	239	₽
		241	\Rightarrow	242	0	243	30+	244	٠,	245	>+	246	4"	247	*,
248	>	249	*	250	->	251	•+	252	3+	253	3+	254	⇒		

```
\documentclass{article}
\usepackage{pifont}

\begin{document}
\begin{itemize}
    \item[\ding{51}] Code 51
    \item[\ding{56}] Code 56
    \item[\ding{43}] Code 43
    \item[\ding{118}] Code 118
    \item[\ding{170}] Code 170
\end{itemize}
\ding{46} \ding{70} \ding{57} \ding{98} \ding{96}
\end{document}
```

Code, listings, minted ...

3.1 Code listing using <u>minted</u> in <u>beamer</u>



```
documentclass{beamer}
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

```
/**

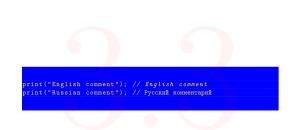
* Prints Hello World.

**/
#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
\lst@basicstyle
    \ifodd\value{lstnumber}%
         \color{#1}%
         \color{#2}%
         \rlap{\hspace*{\lst@numbersep}%
         \label{linewidth} $$ \operatorname{\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!");
\end{lstlisting}
\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,
begin\{lstlisting\}\% <<<<<<< add "/"
print("English comment"); // English comment
print("Russian comment"); // %here can be russian words
end{lstlisting}\% <<<<<< add "/"
\end{document}
```

3.4 Listing with minted



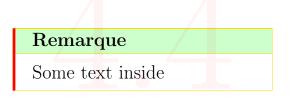
```
\documentclass{article}
\usepackage[many]{tcolorbox}
\tcbuselibrary{minted}
\newtcblisting{mylisting}{
colframe=cyan,
colback=cyan!10,
listing only,
listing engine=minted,
minted language=cpp,
minted options={fontsize=\small,linenos,numbersep=3mm},
}
\begin{document}
\begin{mylisting}
some code
\end{mylisting}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

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.



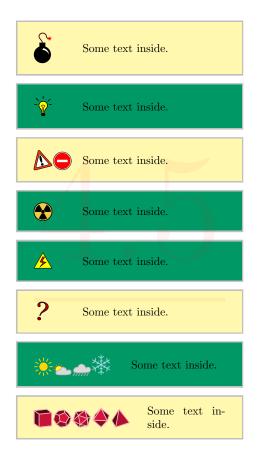
a command was also created to make a new cell view in the table

```
\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



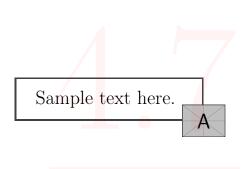
```
documentclass{article}
 usepackage{geometry}
\geometry{
paperwidth=8cm,
paperheight=14cm,
\frac{\text{margin}=0.5\text{cm}}{}
 usepackage{xcolor}
usepackage[most]{tcolorbox}
usepackage[tikz]{bclogo}
 newtcolorbox\{framedd\}[1][]{
 colframe=lightgray,
  colback=yellow!40!white,
 enhanced jigsaw,
 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}
 \begin{array}{l} \label{lem:colback=blue!40!green} \ \ \ \ \ \ \ \ \ \ \end{array}
   \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}
\define color {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=\{\ \ | below, text=black, anchor=east\}
at ([xshift=-5.5pt]interior.base west) {\{Huge \text{textbf}\{!\}\};\},
breakable,pad at break=1mm,
\#1,
code = {\left\{ \begin{array}{l} \textbf{(before upper=} \\ \end{array} \right.} \\
    \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}
$\scalebox{setcellgapes}{5pt}$
$\left\{ \operatorname{document} \right\}$
$\left\langle \left\langle \left$
\center
\makegapedcells
$\operatorname{begin}\{\operatorname{tabular}\}\{ c c c c \}$
\hline
$1\&1\&1\&1\$ \hline
1&1&1&1\\\ \hline
$1\&1\&1\&1\$ \hline
$\ensuremath{\operatorname{lend}}$
$\ensuremath{\mbox{\ensuremath{\mbox{end}}}$
$\ensuremath{\operatorname{Nend}} \{ \operatorname{document} \}$

4.9 Martix made of table

```
d_{n+1} = \begin{bmatrix} a_{1,1} & \dots, a_{1,n} & 0 \\ a_{1,1} & \dots, a_{1,n} & 0 \\ \dots & \dots & \dots \\ a_{1,1} & \dots, a_{1,n} & 0 \\ a_{1,1} & \dots, a_{1,n} & 0 \\ \dots & \dots & \dots \\ a_{1,1} & \dots, a_{1,n} & 0 \end{bmatrix} = 0
```

```
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 & \
& \mbox{multicolumn}{3}{||}{\dotfil|} & \
& $a \{1,1\}$ & $\\dots, a \{1,n\}$ & 0 & \\
d_{n+1} & & & & & = \frac{\pi}{pm \ 2ad_n} = 0 \ 
& $a \{1,1\}$ & $\\dots, a \{1,n\}$ & 0 & \\
& a_{1,1} & \cdot dots, a_{1,n} & 0 & \
& $a_{1,1}$ & $\\dots, a_{1,n}$ & 0 & \\
\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}
$\operatorname{begin}\{\operatorname{document}\}$
$\left\{ \operatorname{landscape}\right\}$
$\label{longtable} $$ \left[@{} *{2} \right] m{.15} \operatorname{paperwidth} *{1} \left[m{.40} \right] $$$
\hookrightarrow paperwidth}} @{}}
\endfirsthead
\endhead
\toprule
lem:lem:lem:lem:lem:lem:lem:lem:lem:lem:
midrule
1 & test & $\lceil 50 \rceil \setminus$
midrule
$2a \& test \& \lipsum[50] \setminus$
2b & test & $\lceil 50 \rceil \setminus$
\bottomrule
$\ensuremath{\ensuremath{end\{longtable\}}}$
$\ensuremath{\ensuremath{end\{landscape\}}}$
$\ensuremath{\setminus} \mathrm{end}\{\mathrm{document}\}$
L.

4.12 If table is not wide enough

	Item1	Item2	Item3
Group	1 0.8	0 <mark>.</mark> 1	0.1
Group:	20.1	0.8	0.1
Group:	30.1	-0.1	0.8
Group ²	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}

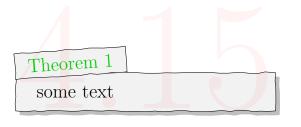
\usepackage{lipsum}
\begin{document}
\left[ \frac{\text{begin}}{\text{minipage}} \right] = \frac{0.58}{\text{textwidth}}
text text text
end{minipage}
hspace{0.2cm}
 \operatorname{begin}\{\min_{m=0}^{m} \{0.40 \setminus \text{textwidth}\}
\left( \frac{c|c|c}{c|c|} \right)
\hline
1 & 22 & 333 & \\ \hline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

4.15 Hand Drawn tcolorbox



```
documentclass{article}
usepackage[most]{tcolorbox}
\usepackage{emerald}
usetikzlibrary{decorations.pathmorphing}
usetikzlibrary{shadows}
tikzset{decoration={random steps,segment length=2mm,
    \rightarrow amplitude=0.6pt}}
\newtcbtheorem{mytheo}{Theorem}{
 coltitle=green!80!black,
 colback=lightgray!20,
 colbacktitle=lightgray!20,
 fonttitle=\bfseries\ECFAugie,
 enhanced,
 attach boxed title to top left={yshift=-0.18cm,xshift=-0.5mm},
 boxed title style={
    tikz={rotate=4,transform shape},
   frame code={
      \draw[decorate,fill=lightgray!20] (frame.south west) rectangle
          \hookrightarrow (frame.north east);
   } },
 frame code={
    \draw[decorate,fill=lightgray!20,drop shadow] (frame.north east
        \hookrightarrow ) rectangle (frame.south west);
 },}{th}
\begin{document}
\left\{ \frac{mytheo}{} \right\} 
content...
\end{mytheo}
\end{document}
```

4.16 Halfframed boxes

Title 1 some text in the first box some text in the first box

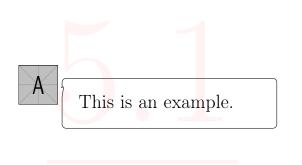
some text in the second box some text in the first box

Title 3
some text in the third box blabla some text in the first box some text in the first box

```
documentclass{beamer}
   usepackage[english]{babel}
   usepackage[T1]{fontenc}
   usepackage[utf8]{inputenc}
   usepackage{tikz}
   usepackage{tcolorbox}
   usetikzlibrary{calc}
   tcbuselibrary{skins,breakable,raster}
   makeatletter
   definecolor{myred}{RGB}{209,23,23}
  definecolor{myorange}{RGB}{255,153,51}
   definecolor{mypurple}{RGB}{102,0,102}
   definecolor{mygrey}{RGB}{200,200,200}
\newtcolorbox{mybox}[2]{\%}
empty,
coltitle = #1,
title = #2,
overlay = {
 \draw[mygrey,line width=1pt]
(frame.north west)--(frame.north east)--(frame.south east)--(frame.
               \hookrightarrow south west)--(frame.north west);
 \frac{1}{\text{draw}}
($(frame.north west)!0.33!(frame.south west)$)
--(frame.north west)
--($(frame.north west)!0.33!(frame.north east)$);
  \frac{\mathrm{draw}}{\#1,\mathrm{line \ width=1pt}}
($(frame.south east)!0.33!(frame.south west)$)
--(frame.south east)
--(\$(frame.south east)!0.33!(frame.north east)\$);\}
 \text{tcbset}\{\text{marktext/.style} = \{\%\}
      overlay = \{ \\ node[rotate = 90, text = black, anchor = north east] at (
                      \hookrightarrow frame.north west){#1};},
      code = \{ setbox \setminus z@= \setminus color@hbox \#1 \setminus color@endbox \setminus tcbdimto \setminus above \#1 \setminus color@endbox \setminus above \#1 \setminus abov
                      \hookrightarrow myheight{\wd\z@+3mm}},
      minimum for equal height group=\tcb@ehgid:\myheight, }}
  makeatother
  \begin{document}
  \begin{frame}
 \begin{tcbraster}[%
             raster columns=3,
             raster equal height=rows
              \begin{mybox}{myred}{Title 1}
             some text in the first box
              \end{mybox}
              some text in the second box
              \ensuremath{\operatorname{end}} {\operatorname{mybox}}
             \begin{mybox}{mypurple}{Title 3}
             some text in the third box blabla
              \ensuremath{\operatorname{end}}
  \end{tcbraster}
 \end{frame}
   end{document}
```

Figures

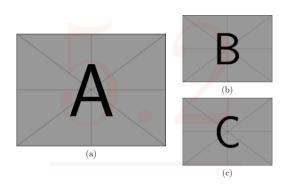
5.1 Comment to figure



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

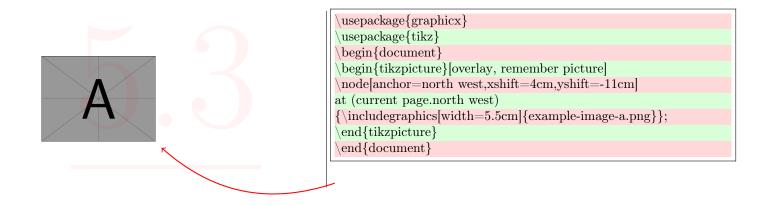
\begin{document}
\begin{tikzpicture}
\node [anchor=south west] at (0, 0) (cartoon) {\includegraphics[width]
\display= .15\textwidth, height=.15\textwidth]{example-image-a}};
\node [anchor=north west, rectangle callout, draw=black,
callout absolute pointer=(cartoon.east),
rounded corners=3pt, text width=0.7\textwidth,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

5.2 Positioning $1 \mid 2$

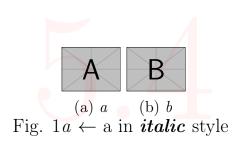


```
documentclass{article}
usepackage{graphicx}
usepackage{subfig}
begin{document}
\operatorname{begin}\{\operatorname{figure}\}[\operatorname{htp}]
centering
\operatorname{begin}\{\operatorname{tabular}\}\{@\{\}c@\{\}\}
\operatorname{subfloat}\left(\operatorname{includegraphics}\left(\operatorname{width=0.5}\left(\operatorname{linewidth}\right)\right)\right) = \operatorname{constant}\left(\operatorname{width=0.5}\left(\operatorname{width=0.5}\right)\right)
end{tabular}\qquad % some space
\left( \frac{c@{}}{c@{}}\right)
\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\} \}
label{1a}
end{subfigure}%
\operatorname{begin}\{\operatorname{subfigure}\}\{.25\setminus\operatorname{textwidth}\}
centering
\includegraphics[width=.715\linewidth]{example-image-b}
caption{ \textit{b} }
\langle label\{1b\} \rangle
\end{subfigure}
\caption{ }
\label{fig1}
end{figure}
Fig. \rf{1a} $\leftarrow$ a in \textbf{\text{textit}\{italic}}$ style
\end{document}
```

5.5 Wrapfigure

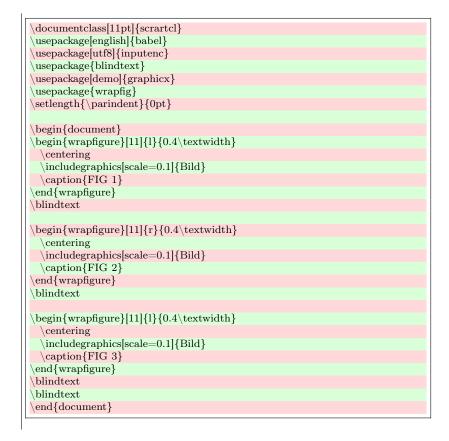
5.6 Figures in landscape mode







Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. There is no need for special content, but the length of words should be written in of the original language. There is no need for special content, but the length of words should match the language. The special content is special content, but the length of words should be written in of the original language. There is no need for special content, but the length of words should match the language. Hello, here is some text without a meaning. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn" Kjiff - not at all! A blind text like this gives you information about the selected fout, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. Here is no need for special content, but the length of words should match the language, Helio, here is some text without a meaning. This text should show that a printed text will look like at this place. If you read this text, you will get the place of the pl



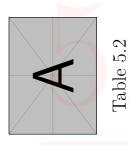




Table 5.3

```
usepackage{graphicx}
usepackage{lipsum}
\begin{document}
ppppppp
\begin{figure}[htb]
  hfill
  \text{rotatebox}\{90\}\{\%
     \begin{minipage}{0.45\linewidth}
       \\ \\ \label{linewidth} $$ \left( \text{width} = \left( \text{linewidth} \right) \left( \text{example-image-a} \right) \right) $$
       \caption{Caption1}
       \label{fig:First}
    \end{minipage}
  }\hfill
  \text{rotatebox}\{90\}\{\%
     \begin{minipage}{0.45\linewidth}
       \include graphics [width=\linewidth] {example-image-b}
       \caption{Caption2}
       \label{fig:First}
     \end{minipage}
  }\hfill\strut
\end{figure}
```

\end{document}

 $documentclass[12pt]{report}$

Numbering, enumeration, itemizing

6.1 Numbering in few columns

```
\documentclass{article}
\usepackage{multicol}

\begin{document}
\begin{multicols}{2}\% change to have more columns}
\begin{enumerate}
\item c
\item g
\item d
\item f
\end{enumerate}
\end{multicols}
\end{document}
```

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

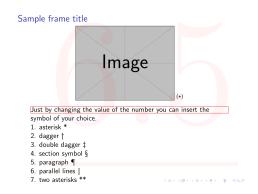
```
documentclass{article}
  usepackage{tikz}
 \displaystyle \left( \operatorname{definecolor} \{\operatorname{amethyst} \} \{\operatorname{rgb} \} \{0.6, 0.4, 0.8\} \right)
 definecolor{applegreen}{rgb}{0.55, 0.71, 0.0}
 \definecolor{arylideyellow}{rgb}{0.91, 0.84, 0.42}
  definecolor{asparagus}{rgb}{0.53, 0.66, 0.42}
 definecolor{atomictangerine}{rgb}{1.0, 0.6, 0.4}
  \label{low} $$ \define color {bananayellow} {rgb} {1.0, 0.88, 0.21} $$
 \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}
\\ \noindent \n
              \hookrightarrow cyan,arylideyellow,asparagus,atomictangerine,bananayellow,brightgreen
             \hookrightarrow ,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}
```

6.4 Leveled arabic enumeration

- (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}{\theenumi}
\rdet{renewcommand{\labelenumii}{\labelenumii}}
makeatletter
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}
```

6.5 Change footnote symbol



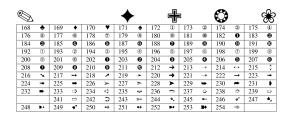
```
\documentclass{beamer}
\renewcommand{\thefootnote}{ (\finsymbol{footnote}))}

\begin{document}
\begin{frame}
\frametitle{Sample frame title}
\begin{figure}
\includegraphics[width=0.5\linewidth]{example-image}\footnote[1]{image}
\to description}
\end{figure}
\end{figure}
\end{footnote}
\end{document}
```

6.6 Bullets Style

32		33	\$ -	34	><	35	÷	36	%<	37	22	38	O	39	3
40	+	41	(2)	42	•	43	838.	44	ě	45	Ł	46	67	47	⊜
48	Ø.	49	C9+	50	•	51	/	52	~	53	×	54	×	55	Х
56	×	57	+	58	+	59	+	60	٠	61	t	62	9	63	t
64	Ð	65	φ	66	+	67	-1-	68	*	69		70	+	71	¢
72	*	73	女	74	0	75	*	76	*	77	*	78	食	79	×
80	٦'n	81	*	82	*	83	*	84	*	85	*	86	*	87	*
88	*	89	*	90		91	*	92	*	93	*	94	*	95	*
96	*	97	0	98	0	99	*	100	⊕	101	*	102	0	103	*
104	*	105	*	106	*	107	*	108	•	109	0	110		111	
112		113		114		115	•	116	▼	117	+	118	*	119	•
120	- 1	121	- 1	122	- 1	123	•	124	•	125	"	126	**		
		161	9	162	•	163	Ŧ	164	¥	165	>	166	ě	167	24

- ✓ Code 51
- **X** Code **5**6
- Code 43
- **❖** Code 118
- **♥** Code 170



```
\documentclass{article}
\usepackage{pifont}

\begin{document}
\begin{itemize}
\item[\ding{51}] Code 51
\item[\ding{56}] Code 56
\item[\ding{43}] Code 43
\item[\ding{118}] Code 118
\item[\ding{170}] Code 170
\end{itemize}
\par
\ding{46} \ding{70} \ding{57} \ding{98} \ding{96}
\end{document}
```

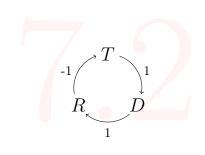
Plots, tikz, pie charts ...

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}
```

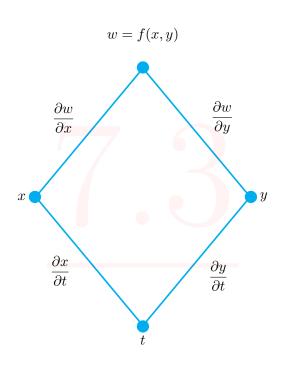
7.2 Circled arrows with text



```
\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) {$R$};
\node (k) at (210:1cm) from node[midway, right] {{\footnotesize 1}};
\draw (70:1cm) arc (70:-10:1cm) node[midway, below] {{\footnotesize 1}};
\draw (190:1cm) arc (190:110:1cm) node[midway, left] {{\footnotesize 1}};
\draw (190:1cm) arc (190:110:1cm) node[midway, left] {{\footnotesize -1}};
\end{tikzpicture}
\end{document}
```

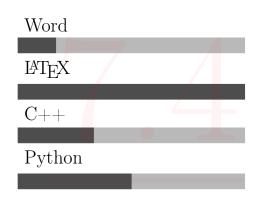
7.3 Diamond with text



```
\documentclass[a4paper,14pt]{extreport}
 \label{lem:condition} \\ \text{usepackage[left=1.5cm,right=1.5cm,top=1.5cm,bottom=2cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,right=1.5cm,top=1.5cm,bottom=2cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,right=1.5cm,top=1.5cm,bottom=2cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,right=1.5cm,top=1.5cm,bottom=2cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,right=1.5cm,bottom=2cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,right=1.5cm,bottom=2cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,right=1.5cm,bottom=2cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,right=1.5cm,bottom=2cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,bottom=2cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,bottom=2cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,bindingoffset=0]} \\ \\ \text{vsepackage[left=1.5cm,bi

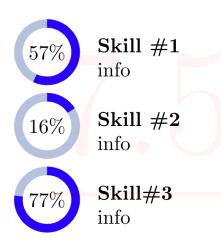
→ cm]{geometry}
 \usepackage{amsmath}
  usepackage{tikz}
 \usetikzlibrary{shapes.geometric}
 \begin{document}
 \begin{tikzpicture}
 \node[diamond,font=\small,
line width=0.4mm,scale=0.7,
          draw = cyan, minimum width = 7.5cm, %text = red,
          minimum height = 9cm] (d) at (0,0) { };
                 \node [above=0.5cm] (a) at (d.90) \{w = f(x,y)\};
                 \node [above=0.5cm,right=0.1cm] (b) at (d.45) {\frac{\partial w}{(d.45) }}
                                \hookrightarrow partial y\$;
                  → 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)  {$\dfrac{\partial x}{\}}
                                \hookrightarrow partial t}$};
                  \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}
```

7.4 Levels of skills



```
\documentclass{report}
\usepackage[T1]{fontenc}
\usepackage{tikz}
\usepackage{xcolor}
\label{eq:color} $$ \define color{white}{RGB}{255,255,255}$
\definecolor{gray}{HTML}{4D4D4D}
\definecolor{maingray}{HTML}{B9B9B9}
\newcommand\skills[1]{
    \begin{tikzpicture}
         \int [count=i] \x/y in {\#1}{
              \frac{\text{draw[fill=maingray,maingray]}}{(0,i)} rectangle (6,i+0.4);
              \frac{\text{draw}[\text{fill}=\text{white,gray}](0,\text{i}) \text{ rectangle }(\text{y},\text{i}+0.4);}
              \node[above right] at (0, i+0.4) \{ x \};
    \end{tikzpicture}
\begin{document}
\left\{ b/2 \right\}
\left\{ a/1 \right\}
\end{document}
```

7.5 Round levels of skills



```
documentclass[svgnames]{article}
usepackage{tikz}
\usetikzlibrary{calc}
usepackage{siunitx}% only to force percentages to be integers
\usepackage{enumitem}
\let\realItem\item% save for later use
\newcommand\percentageItem[1][10]{\%}
 \ensuremath{\ensuremath{\text{likz}[baseline]}}
    \node[minimum width=4em] at (0,0) {\num[round-mode=places,round-
          \rightarrow precision=0]{#1}\%};
    \draw[thick,line width=1.5mm,Blue](90:5mm)
          arc [radius=5mm, start angle=90, delta angle=-#1*3.6];
    \draw[thick,line width=1.5mm,LightSteelBlue](90-#1*3.6:5mm)
          arc [radius=5mm, start angle=90-#1*3.6, end angle=-270];
   }}]%
\nnewlist{achievements}{itemize}{1}
setlist[achievements]{
 before=\let\item\percentageItem,%make \item = \percentageItem
 leftmargin = *,
 label=\{\},
 item sep = 3mm,\\
\begin{document}
\begin{achievements}
 \label{lem:condition} $$ \widetilde{57}\det {Skill \#1}\in \mathbb{Skill \#2}\in \mathbb{Skill \#2}\in \mathbb{Skill \#2} $$
  \end{achievements}
\end{document}
```

7.6 Huge margin line





```
\documentclass{article}
\usepackage[margin=3cm]{geometry}
\usepackage{tikz}

\begin{document}
\tikz[overlay, remember picture] \draw[line width=2.5mm] ([xshift=1cm, yshift
\( \times = -1 cm] current page.north west) rectangle ([xshift=-1cm, yshift=1cm]
\( \times \tiver{current} \) current page.south east);

Text
\( \tiver{lil} \)
Text
```

7.7 Aligning anything to a corer

Find me

```
\documentclass[14pt]{extreport}
\usepackage{tikz}
\usepackage{qrcode}

\begin{document}
\begin{tikzpicture}[remember picture,overlay]
\node[anchor=north west,yshift=0pt,xshift=0pt]%
at (current page.north west)
{\qrcode[height=0.5cm]{https://github.com/AnMnv/eBook}% <--- put here

→ anything
};
\end{tikzpicture}
\end{document}
```

Highlighting

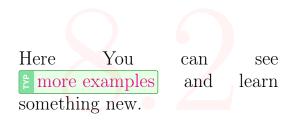
8.1 Words highlighting 1

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

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

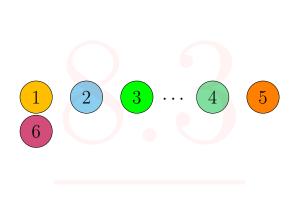
```
\documentclass{article}
\usepackage{tcolorbox}
\newtcbox{\mybox}[1][red]{on line,
\arc=0pt,outer \arc=0pt,colback=#1!10!\white,colframe=#1!50!\black,
\boxsep=0pt,left=1pt,right=1pt,top=2pt,\bottom=2pt,
\boxrule=0pt,\bottomrule=1pt,\toprule=1pt}
\newtcbox{\xmybox}[1][red]{\no line,
\arc=7pt,colback=#1!10!\white,colframe=#1!50!\black,
\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



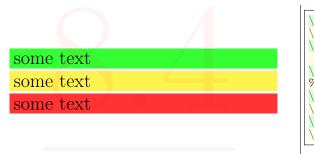
```
\usepackage[many]{tcolorbox}
\newtcbox{\mylib}{enhanced,nobeforeafter, tcbox raise base, boxrule=0.4pt,
\times top=0mm, bottom=0mm,
\text{right=0mm, left=4mm, arc=1pt, boxsep=2pt, before upper={\vphantom{dlg}
\top \}, colframe=green!50!black, coltext=green!25!black, colback=green
\top !10!white, overlay={\begin{tcbclipinterior} \fill[green!75!blue!50!
\top \text{white} (frame.south west) rectangle node[text=white,font=\sffamily\
\top \text{bfseries}\tiny,rotate=90] {TYP} ([xshift=4mm]frame.north west);\
\top \text{end{tcbclipinterior}}}
\text{begin{document}}
\text{mylib{recieve}}
\text{end{document}}
```

8.3 Colored circles



```
usepackage{tikz}
   usepackage[framemethod=TikZ]{mdframed}
  usepackage{xcolor}
  usetikzlibrary{calc}
  makeatletter
 \newlength{\mylength}
  xdef\CircleFactor{1.1}
 \operatorname{setlength} \operatorname{dimexpr} f@\operatorname{size} \operatorname{pt}
  \newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\newsavebox{\new
 \hookrightarrow WL1/}#1}}\setlength\mylength{\dimexpr\CircleFactor\dimexpr\ht\
                  → mybox+\dp\mybox\relax\relax}\tikzset{mystyle/.style={circle,#1,
                  → minimum height={\mylength}}} \tikz[baseline=(char.base)]
  node[mystyle] (char) {\#2};
 makeatother
 \label{lem:definecolor} $$\det{\{\rm rgb}\{1.0,\,0.75,\,0.0\}$$}
\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}
```

8.5 Circle text in points to other text

your comment here

This is just some text that I will repeat for this section again and again. This is just some text that I will repeat for this section again and again.



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)]
         \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={%
{\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

```
Leons ipsum deler sit mer, conecteure ralpiciong ell: Us perus offer workfallung via policia and via the process of the control of the contro
```

```
\documentclass[a4paper]{article}
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[pages=some]{background}% change "some" to "all" to see WM on 
\( \to \) all pages
\usepackage{lipsum}
\usepackage{lipsum}
\usepackagevalue{color=green, opacity=0.3, scale=10, contents={A n M n V 
\( \to \) }}
\usepackage{lipsum}
\usepackage{lipsum}
\usepackage{lipsum}
\usepackage{lipsum}
\usepackagevalue{lipsum}{color=green, opacity=0.3, scale=10, contents={A n M n V 
\( \to \) }}
\usepackage{lipsum}
\usepackage{lipsum}{loor=green, opacity=0.3, scale=10, contents={A n M n V 
\( \to \) }}
\usepackage{lipsum}{lipsum[1-5]}
\usepackage{lipsum}{lipsum[1-5]}
\underset{lipsum}{lipsum[1-5]}
\underset{lipsum}{lipsum[1-5]}
\underset{lipsum}{lipsum[1-5]}
\underset{lipsum}{lipsum[1-5]}
\underset{lipsum}{lipsum[1-5]}
\underset{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{lipsum}{
```

9.5 Full page of Watermarks



```
documentclass[12pt]{book}
usepackage{graphicx}
usepackage[pages=some]{background}
usepackage{lipsum}
newcommand\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] $$
     \includegraphics[width=5cm]{logo.jpeg}\hfill% YOUR IMAGE
     \includegraphics[width=5cm]{logo.jpeg}\hfill% YOUR IMAGE
     \includegraphics[width=5cm]{logo.jpeg}\hfill}
newlength{drop}
backgroundsetup{ scale=1, angle=45, opacity=.3,
 contents = \{\%
     \left[ \frac{minipage}{1.5} \right]
     \DupImage \setminus [2ex]
\DupImage \setminus [2ex]
     \DupImage\\
                     [2ex]
      \square DupImage \setminus [2ex]
      DupImage \setminus [2ex]
      \square DupImage \square [2ex]
      \square DupImage \square [2ex]
     \square 
      \langle DupImage \rangle \langle [2ex] \rangle
     \square \left( \operatorname{DupImage} \right) 
\begin{document}
drop=0.1\textheight \BgThispage \lipsum[1-8]
end{document}
```

9.6 Generating QR code



9.7 Gradient QR code



```
documentclass{article}
  usepackage{qrcode}[]
  usepackage{tikz}
  usetikzlibrary {fadings, shadings}
 \newcounter{fadcnt}\setcounter{fadcnt}{0}
 newcommand\fadingtext[3][]{%
 stepcounter{fadcnt}
     \verb|\begin{tikzfadingfrompicture}| [name=fading \ letter\\ \verb|\thefadcnt|]
            \node[text=transparent!0,inner xsep=0pt,outer xsep=0pt,#1] {#3};
     \end{tikzfadingfrompicture}%
      \begin{tikzpicture}[baseline=(textnode.base)]
           (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 path\ picture\ bounding\ box}{north\ east}}\%
 pgfgetlastxy\pathwidth\pathheight%
 \pgfinterruptpicture%
        \endpgfinterruptpicture%
 \label{lem:pgfpoint} $$ \operatorname{pgfpointanchor}\{ path \ picture \ bounding \ box \} \{ center \} \} \% $$
 \protect\operatorname{pgftransformxscale}{\operatorname{pathwidth}/(\operatorname{wd} \protect\operatorname{wd})}\%
 \protect{\box\shbox}\%
 \pgfdeclarehorizontalshading{rainbow}{10bp}{color(0bp)=(violet);
                                 color(1.6667bp) = (blue);
                                 color(3.3333bp) = (cyan);
                                 color(5bp)=(green);
                                 color(6.6667bp)=(yellow);
                                 color(8.3333bp)=(orange);
                                 color(10bp)=(red)}
 \pgfdeclareverticalshading{rainbow vertical}{10bp}{color(0bp)=(violet);
                                 color(1.6667bp) = (blue);
                                 color(3.3333bp) = (cyan);
                                 color(5bp)=(green);
                                 color(6.6667bp)=(yellow);
                                 color(8.3333bp)=(orange);
                                 color(10bp)=(red)}
 begin{document}
 \label{lem:conditional} $$ \arrowvertex = 0.5] \ upper \ left=red, \ upper \ right=green, \ lower \ left=blue, lower \ lower \ left=blue, lower \ lowe
              \hookrightarrow right=yellow}{\qrcode[height=5cm]{https://github.com/AnMnv/
→ https://github.com/AnMnv/eBook}}
\fint fadingtext[scale=0.5]{path picture shading=rainbow_vertical}{\qrcode[height=0.5]{path picture shading=rainbow_vertical}}{\qrcode[height=0.5]{path picture shading=rainbow_vertical
                  \rightarrow =5 \text{cm} \{ \text{https://github.com/AnMnv/eBook} \} 
\end{document}
```

9.8 Lobsrets



```
documentclass[14pt]{extreport}
usepackage[left=1.5cm,right=3cm,top=1.5cm,
bottom=1.5cm,bindingoffset=0cm]{geometry}
\usepackage{loblib}
begin{document}
 lob{1}  lob{12}
\left\{ \log\{2\} \right\} \left\{ \log\{20\} \right\}
\left\{ \log\{3\} \right\} \left\{ \log\{21\} \right\}
\left\langle \operatorname{lob}\left\{ 4\right\} \right\rangle \left\langle \operatorname{lob}\left\{ 22\right\} \right\rangle
\langle lob\{5\} \ \langle lob\{28\} \rangle \langle lob\{6\} \ \langle lob\{32\} \rangle \langle lob\{32\} \rangle
 \left(\log\left\{7\right\}\right)\left(\log\left\{33\right)\right)
 lob{8} \lob{74}
 lob{9} \ lob{76}
 vspace*{2cm}
hspace*{-2.8cm}
 definecolor{shadow}{rgb}{0.85,0.85,0.85}
lobwatermark
\end{document}
```

LobLib documentation on GitHub in LobLib-package folder.

Origins of the package https://github.com/bryce-evans/LobLib

However, to print lobsters put objects folder and loblib.sty from the LobLib-package folder into the same directory with your .tex file.