

L^AT_EXday, afternoon session

Mastering L^AT_EX

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Afternoon session outline

- making a bibliography in \LaTeX
- summarising exercise
- presentation of other \LaTeX editors
- defining macros as new commands
- easily drawing graphics with TikZ
- making \LaTeX presentations with beamer

BibTeX presentation

BibTeX is a bibliography managing format.

The bibliography *database* is located in an external file (`.bib`) and the bibliography is inserted in the document with the help of:

```
\bibliographystyle{plain}
\bibliography{<biblio-name>}
```

You can refer to the an entry of the bibliography with the command

```
\cite{article_id} [3]
```

It is possible to include several `.bib` files: `\bibliography{biblio1,biblio2}`

Adding new entries to the bibliography

Several types of entry available: article, book, booklet, inproceedings, manual, pdhthesis, techreport, unpublished, misc...

Example of a .bib file:

```
@book{goossens93,
author   = "Goossens, Michel and Mittlebach, Frank",
title    = "The Latex Companion",
year     = "1993",
publisher = "Addison-Wesley",
address  = "Reading, Massachusetts"
}
```

```
@article{greenwade93,
author   = "Unknown",
title    = "Title",
year     = "1993",
journal  = "Journal name",
volume   = "14",
number   = "3",
pages    = "342--351"
}
```

Entry types

- `phdthesis` and `mastersthesis` : Ph.D. and Master thesis
 - required fields: `author`, `title`, `school`, `year`
- `inproceedings` : conference article
 - required fields: `author`, `title`, `booktitle`, `year`
- `article` : journal article
 - required fields: `author`, `title`, `journal`, `year`
- `book` : book
 - required fields: `author/editor`, `title`, `publisher`, `year`
- `techreport` : technical report
 - required fields: `author`, `title`, `institution`, `year`
- `misc` : miscellaneous document
 - No field required

Bibliography styles

The bibliography style is specified with the command:

```
\bibliographystyle{<style>}
```

A bibliography style file (.bst) is often provided by the conference or journal.

It is also possible to use *abbrv-fr* or *alpha-fr* styles.

Bibliography managers

Most of the bibliography databases can export their data in BibTeX (PubMed, Google Scholar ...).

Using a bibliography manager can be handy:

- JabRef
- Mendeley
- Zotero

The screenshot shows the JabRef application window. The main window displays a list of 22 bibliographic entries. The selected entry (row 22) is detailed in the bottom panel.

#	Entrytype	Author	Title	Year	Journal	Owner	Timestamp	Bibtekey
1	Article	Milesi-Ferretti et al.	Electoral Systems and Public Spending	2002	The Quarter...	Dong-wook...	2012.06.11	Milesi-Ferra...
2	Article	Besley and Coate	Centralized versus Decentralized Provision of Local P...	2003	Journal of P...	Dong-wook...	2012.06.12	Besley2003
3	Article	Jacoby and Schneider	Variability in State Policy Priority: An Empirical Analysis	2001	The Journal ...	Dong-wook...	2012.06.13	Jacoby2001
4	Techrep.	Lessmann	Regional Inequality and Decentralization - An Empirica	March		Dong-wook...	2012.06.22	Lessmann...
5	Book	Beramendi and Anderson	Democracy, Inequality, and Representation	2008		Dong-wook...	2012.06.29	Beramendi...
6	Article	Deaton and Paxson	Intertemporal Choice and Inequality	1994	The Journal ...	Dong-wook...	2012.06.19	Deaton1994
7	Article	Diermeier and Feddersen	Cohesion in Legislatures and the Vote of Confidence	1998	The Americ...	Dong-wook...	2012.06.20	Diermeier1...
8	Book	Fujita et al.	The Spatial Economy: Cities, Regions, and Internation...	1999		Dong-wook...	2012.06.26	Fujita1999
9	Article	Giannetti	The Effects of Integration on Regional Disparities: Co...	2002	European E...	Dong-wook...	2012.06.26	Giannetti20...
10	Book	Gopal	Decentralization in Client Countries: An Evaluation of I...	2008		Dong-wook...	2012.06.22	Gopal2008
11	Article	Jacoby and Schneider	A New Measure of Policy Spending Priorities in the Am...	2009	Political Ana...	Dong-wook...	2012.06.25	Jacoby2009
12	Techrep.	Lessmann	Fiscal Decentralization and Regional Disparity: Evlden...	2009		Dong-wook...	2012.06.25	Lessmann2...
13	Article	Nahuis and Parikh	Factor Mobility and Regional Disparities: East, West...	2004	European N...	Dong-wook...	2012.06.19	Nahuis2004
14	Article	Ontveros and Varadi	Electoral Systems, Poverty and Income Inequality	2005	Luxembour...	Dong-wook...	2012.06.18	Ontveros
15	Article	Persson et al.	Comparative Politics and Public Finance	2000	Journal of P...	Dong-wook...	2012.06.20	Persson2000
16	Article	Persson and Tabellini	Constitutions and Economic Policy	2004	Journal of E...	Dong-wook...	2012.06.21	Persson2004
17	Article	Persson and Tabellini	The Size and Scope of Government: Comparative Polit...	1999	European E...	Dong-wook...	2012.06.18	Persson1999
18	Book	Pontusson and Rueda	Democracy, Inequality, and Representation: A Compa...	2008		Dong-wook...	2012.06.18	Pontusson2...
19	Article	Pruithomme	The Dangers of Decentralization	1995	The World B...	Dong-wook...	2012.06.25	Pruithomm...
20	Techrep.	Rodriguez-Pose and Gill	Is there a global link between Regional Disparities an...	Febru...		Dong-wook...	2012.06.28	Rodriguez...
21	Article	Rudra	Openness, Welfare Spending, Inequality in the Develo...	2004	Internationa...	Dong-wook...	2012.06.14	Rudra2004
22	Inbook	Shugart and Carey	Presidents and Assemblies: Constitutional Design an...	1992		Dong-wook...	2012.06.20	Shugart1992

The bottom panel shows the details for the selected entry (row 22):

- Chapter: 8
- Pages:
- Title: Presidents and Assemblies: Constitutional Design and Electoral Dynamics
- Publisher: Cambridge: Cambridge University Press
- Year: 1992
- Editor: Matthew S. Shugart and John M. Carey

Download at <http://jabref.sourceforge.net/>

Mendeley

Mendeley Desktop

Documents Collections Sync

My Library La Part de l'introduction: ...

MY LIBRARY

All Documents Edit Settings

★	📁	Auteurs	Titre	Year	Published in	Added
★	📁	Bourdieu, Pierre	L'objectivation participante	2003	Actes de la recherche ...	mai 15
★	+	Bourdieu, Pierre	Un art moyen	1965		oct. 7
★	+	Bourdieu, Pierre	L'habitus en sociologie entre objectivisme et subjectivisme	1980	Le sens Pratique	juin 3
★	+	Bourdieu, Pierre	Système de mode			janv. 1
★	📁	Bourree, Fabrice	Compte-rendu "La presse féminine, Que sait-je, 1963"			06/08
★	📁	Boxer, Marilyn	"Women's studies" aux États-Unis : trente ans de succès et de conte...	2001	Clio n°13	sept. 6
★	📁	Boyer, Valérie	Proposition de loi sur la retouche	2009		06/08
★	+	Brachel-Cham...	Nouvelles des archives. Let archives du groupe Galeries Lafa...	2008	Entreprises et histoire	nov. 1
★	📁	Branche, Rapha...	Pour une histoires des genres	2002	Vingtème Siècle n°75	août 1
★	📁	Brandon, Ruth	La guerre de la beauté : comment l'Oréal et Helena Rubinstein ont c...	2011		avr. 25
★	+	Brennen, Bonn...	Travail de l'information, histoire et matériau photographique : analy...	2002	Terrains & Travaux n°3	août 1
★	📁	BRUHN, Matthias	Age of the Agency : Photography as Concept , as Licence , as Cont...	2010		août 1
★	+	Brunet, François	Théorie et politique des images : W.J.T. Mitchell et les études de vi...	2005	Etudes anglaises n...	sept. 6
★	+	Bruno, Pierre	Presse jeunes et identités féminines	2003	La lettre de l'enfance ...	06/08
★	+	Buck-Morss, S...	Voir le capital : Théorie critique et culture visuelle	2010		16/11
★	+	Butler Flora, C...	The Passive Female : her comparative image by class and ...	1971	Journal of Marriage a...	août 1
★	+	Butler, Judith	Trouble dans le genre : pour un	2005		sept. 6

1 of 466 documents selected

Details Notes

Type: Magazine Article

Authors: P. Bruno

View research catalog entry for this paper

Publication: *La lettre de l'enfance et de l'adolescence n°51*

Year: 2003

Pages: 55-60

Abstract:

But de l'article : montrer qu'en fonction des publics visés, la presse ado construit des modèles en adéquation avec le groupe social visé Article très intéressant

Tags: adolescent; culture; modè; presse féminine

Keywords:

City:

Month:

URL: www.cainm.info/revue-lettre-de-l-enfance-et-de-l-ado...

Add URL...

Catalog IDs DOI:

Download at <http://www.mendeley.com/>

The screenshot displays a Zotero library window with two main panes. The top pane shows a PDF of a research article titled "JCI - Herpes simplex encephalitis in children with autosomal recessive and dominant TRIF deficiency". The article text is visible, discussing the pathogenesis of HSE and the role of TRIF mutations. The bottom pane shows a search results table with columns for Title, Creator, and a list of items.

JCI - Herpes simplex encephalitis in children with autosomal recessive and dominant TRIF deficiency

which the vast majority of cases are a consequence of primary infection with HSV-1 (7-9). The pathogenesis of HSE, first described in 1941, remained elusive until the demonstration of an underlying role in this devastating disease, in at least some children, of autosomal recessive (AR) UNC-93B deficiency in 2006, autosomal dominant (AD) TLR3 deficiency in 2007, and, more recently, AD TNF receptor-associated factor 3 (TRAF3) and AR TLR3 deficiencies (10-13). Fibroblasts from patients with UNC-93B, TLR3, and TRAF3 deficiencies do not respond to stimulation with TLR3 agonists or infection with HSV-1 or vesicular stomatitis virus (VSV). HSE, together with other infectious diseases, was also reported in 2 children with mutations in STAT-1 and NEMO (14-15). These genetic deficiencies thus highlighted the importance of the TLR3-dependent production of IFN- ω / β and IFN- λ after infection of the CNS with HSV-1 (6, 16, 17). In fibroblasts from patients with UNC-93B, TLR3, and TRAF3 deficiency (10-12) and in IPS-derived CNS cells (M. Lafaille, unpublished observations), impaired IFN production has been shown to result in enhanced viral replication and higher levels of cell death.

However, most cases of childhood HSE remain unexplained. We hypothesize that HSE is a genetically heterogeneous disease, involving a collection of single-gene inborn errors of immunity to HSV-1 in the CNS during the course of primary infection (18). Specifically, we hypothesize that mutations in genes controlling the TLR3 pathway may predispose children to HSE. Human TLR3-mediated immune responses are initiated by dsRNA intermediates *in vivo* or via their synthetic analog polyinosinic-polycytidylic acid [poly(I:C)] *in vitro*, leading to the induction of IFN- β via the NF- κ B, IRF3, and AP-1 pathways (19). A principal candidate gene for HSE encodes the Toll/IL-1R (TIR) domain-containing adaptor inducing IFN- β (TRIF) protein, also known as TIR domain-containing adaptor molecule 1 (TICAM-1), due to its role as the sole adaptor of TLR3 (20-23). However, this molecule also serves as an adaptor for the MyD88-independent pathway downstream from TLR4 (24-26), raising the possibility that TRIF mutations may confer a distinct phenotype. A recent report has also shown TRIF to be involved in the detection of cytosolic dsRNA via the DEX/D1-box helicase complex DDX1-DDX36 (27). After TLR3 activation, TRIF is thought to act as a molecular platform for subsequent signaling events, recruiting TRAF3, TAK1-binding kinase 1 (TBK1), NF- κ B-activating kinase-associated protein 1, receptor-interacting protein 1 (RIP1), and IFN regulatory factor 3 (IRF3), in particular (28, 29). Mice lacking TRIF do not respond to poly(I:C), display impaired IPS-induced inflammatory cytokine production, and show increased susceptibility to mouse CMV and vaccinia virus infections (28, 28). Given the key role of TRIF in the TLR3 pathway demonstrated in mice, our previous demonstration of the role of the TLR3-IFN pathway in preventing the spread of HSV-1 to the CNS, and despite the potential involvement of human TRIF in TLR4 and helicase responses, we focused our candidate gene approach on TRIF by sequencing the TRIF gene in a cohort of children with HSE.

Results

Homozygous TRIF nonsense mutation in patient 1. A patient (P1) born to consanguineous Saudi parents presented HSE at the age

Title	Creator	
Genome-wide identification of microRNA targets in human ES cells reveals a role for	Kucharski et al.	1
Herpes simplex encephalitis in children with autosomal recessive and dominant TRIF	Sancho-Shimizu et al.	1
JCI - Herpes simplex encephalitis in children with autosomal recessive and dominant		
<i>In vivo</i> clonal analysis reveals self-renewing and multipotent adult neural stem cell ch...	Benaguid et al.	2
JCI - Herpes simplex encephalitis in children with autosomal recessive and dominant		
Herpes simplex encephalitis (HSE) incidence is about 1 in 250,000 individual		
JCI - Herpes simplex encephalitis in children with autosomal recessive and domina...		
Neuronal activity reshapes the Chk1 methylation landscape in the adult brain	Cao et al.	
Neuronal chromatin dynamics of imprinting in development and disease	Leung et al.	
O ₂ -induced reprogramming is required for adult brain neural stem cell differentia...	Deindl et al.	
One carbon metabolism disturbances and the C6277T MTHFR gene polymorphism in C...	Paça et al.	
Recurrent copy number variations in human induced pluripotent stem cells	Martins-Taylor et al.	
Role of DNMT3B in the regulation of early neural and neural crest specifiers	Martins-Taylor et al.	
Surround modulation of neuronal responses in V1 is as stable over time as responses...	Paça et al.	

Bibliographie

 TikZ and PGF Examples sut T_EXample.net.

<http://www.texample.net/tikz/examples/>.

 WikiBooks LaTe_X/Presentations.

<https://en.wikibooks.org/wiki/LaTeX/Presentations>.

 M. GOOSSENS et F. MITTLEBACH :

The Latex Companion.

Addison-Wesley, Reading, Massachusetts, 2 édn, 1993.

 V. LOZANO :

Tout ce que vous avez toujours voulu savoir sur L^AT_EX sans jamais oser le demander.

In Libro Veritas, 2008.

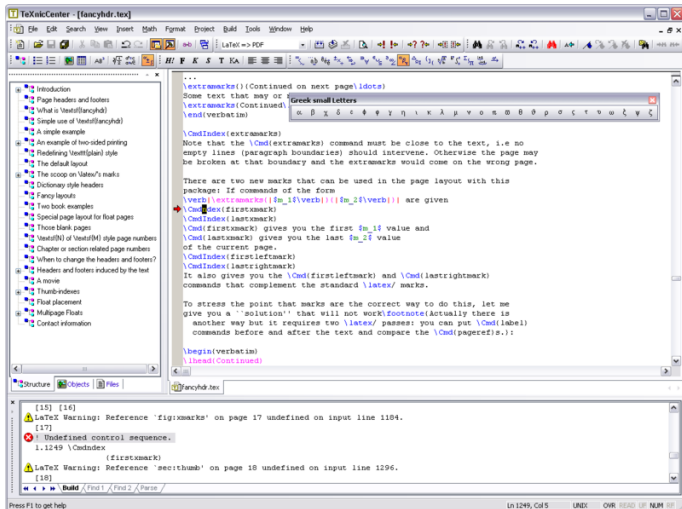
 N.-A. MAGUIS :

Rédigez des documents de qualité avec L^AT_EX.

SimpleIT, 2010.

Summarising exercise.

TeXniccenter



Download at <http://www.texniccenter.org/>

5.1.6 Sums and Integrals

Sum \sum and integral \int signs are very often decorated with one or more sets of “limits”, which are placed in LyX (as in TeX) as superscripts and subscripts. Sum will automatically place their “limits” over and under the symbol in displaystyle, but will move them to the side when inlined, such as $\sum_{n=0}^{\infty} \frac{1}{n!} = e$, versus

$$\sum_{n=1}^{\infty} \frac{x^n}{n} = \ln\left(\frac{1}{1-x}\right).$$

Integral signs, however, will not by default move the limits to directly over and under the integral sign in displaystyle, as in $\int_a^x f(t) dt = F(x)$, versus

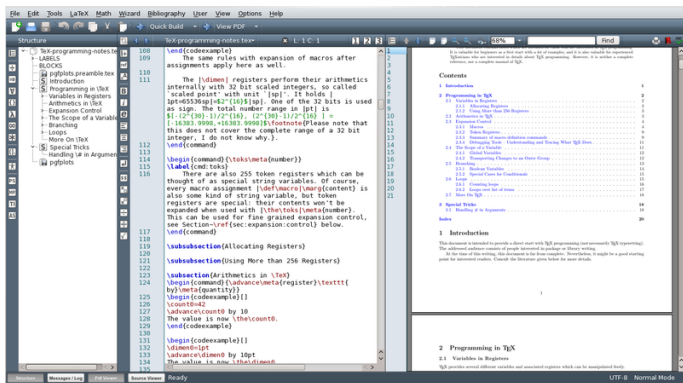
$$\int_{-\infty}^{\infty} \frac{dx}{1+x^2} = \pi.$$

Both symbols will be automatically re-sized when placed in display mode. In display mode, the placement of the limits (directly above and below, or offset to the right from the sign) can be changed by placing the cursor in front of the sign and hitting M-m l. Exactly what change occurs

Font: Default

Download at <http://www.lyx.org/>

Texmaker



Download at <http://www.xmlmath.net/texmaker/>

Simple command definition

- Reusability
- Simplification

```
\newcommand{\langle commandname \rangle}{\langle Body of the command \rangle}
```

Every time the created command is invoked, it is replaced by its body.

Example:

```
\newcommand{\ltsname}{Labeled transition system}
```

Creates a command called `\ltsname`
which writes: “Labeled transition system”.

Result:

Let $\$D\$$ be a `\ltsname`.

Let D be a Labeled transition system.

Commands with arguments

```
\newcommand{\langle commandname \rangle}[\langle n \rangle]{\langle Body with #1, ..., #n \rangle}
```

Up to 9 **mandatory** arguments for a command can be specified, and referenced with #1, #2, #3, etc.

Example:

```
\newcommand{\abs}[1]{\left|#1\right|}
```

Creates a command `\abs{xxx}`

which represents the absolute value of its argument: “ $|xxx|$ ”.

```
\begin{equation}
  \abs{\sum n} \leq
  \sum \abs{n}
\end{equation}
```

$$\left| \sum n \right| \leq \sum |n| \quad (1)$$

Commands with an optional argument

```
\newcommand{\langle\commandname\rangle}[\langle n \rangle][\langle Default value \rangle]{\langle Body with #1, ..., #n \rangle}
```

It is possible to set the first (and only the first) argument as **optional**, by defining its value in case it is not specified.

In this case, the first argument is written between brackets.

Example:

```
\newcommand{\lts}[1][n]{\left(Q^{#1},q^{#1},A_{#1},\rightarrow_{#1}\right)}
```

Creates a command which can be used with an argument: `\lts[xxx]`
or without: `\lts` in which case the default value `n` is used.

```
\begin{equation}
  \lts[3]
\end{equation}
```

$$\left(Q^3, q^3, A_3, \rightarrow_3\right) \quad (2)$$

```
\begin{equation}
  \lts
\end{equation}
```

$$\left(Q^n, q^n, A_n, \rightarrow_n\right) \quad (3)$$

PGF/TikZ: vector graphics in \LaTeX

What are PGF/TikZ ?

- PGF is a **complete** and **complicated** language for vector graphics,
- TikZ is a **simpler** overlay language to use PGF.

They allow to draw complex figures easily. Pros:

- The figures are **integrated** to the \LaTeX document (no external file),
- Everybody loves vector graphics: always smooth, even for printing,
- Very **rich**, a lot of existing **examples** available.

Cons:

- Still **difficult** to get used to,
- May **slow** the compilation down,
- May create **heavy** PDF files that take time to render.

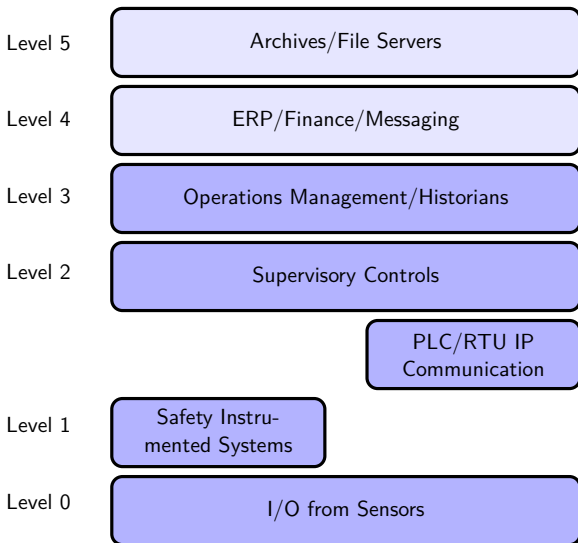


Figure : Architecture Model — TExample.net [1]

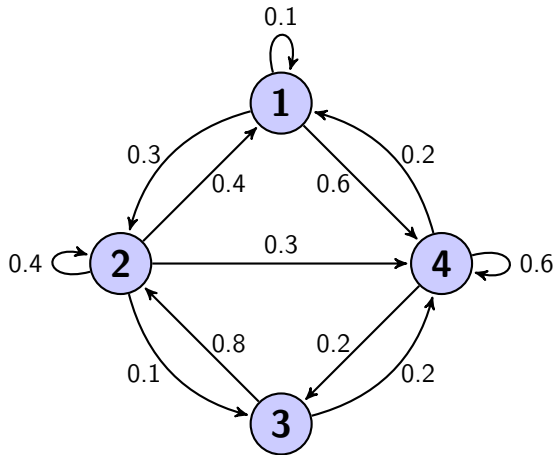


Figure : A Simple Graph — TExample.net [1]

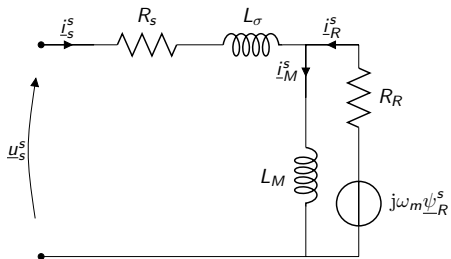


Figure : Electrical Circuit — TExample.net [1]

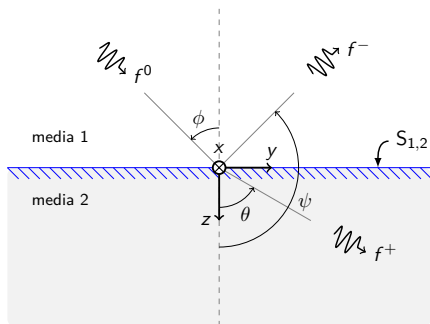


Figure : Oblique Incidence — TExample.net [1]

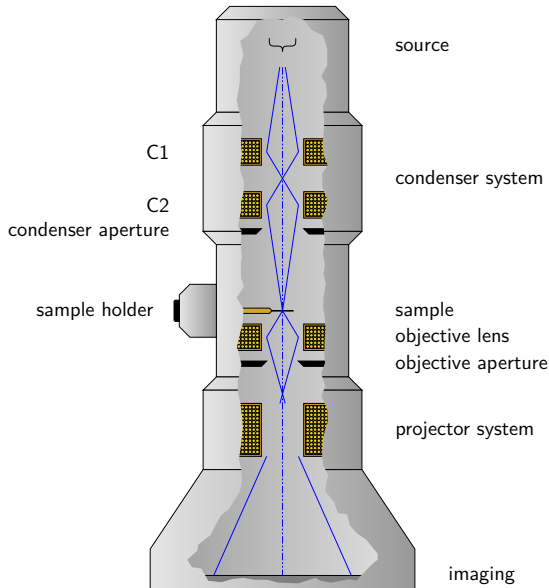


Figure : Transmission Electron Microscope System — TExample.net [1]

Preamble

TikZ must be loaded as a package in the preamble: `\usepackage{tikz}`

All TikZ related libraries must also be loaded in the preamble with:

`\usetikzlibrary{libraries}`, allowing to use:

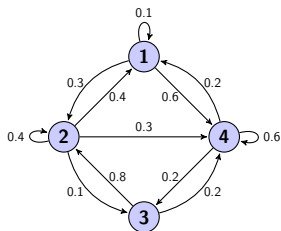
- new arrow shapes (`arrows`),
- shades (`shadings`),
- line styles (`decorations.pathmorphing`),
- etc.

Crating a figure

Inside the document, define a TikZ picture with the environment `tikzpicture`, usually encapsulated in a `figure`:

```
\begin{figure}
  \begin{tikzpicture}
    ...
    ...   % Content of the picture
    ...
  \end{tikzpicture}
  \caption{...}
  \label{...}
\end{figure}
```

Image description with TikZ



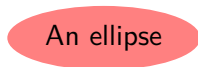
A TikZ picture is made of elements defined with commands:

```
\command[parameters] ... rest of the command ... ;
```

for example, this graph is made of nodes (the blue circles). Between the nodes are edges (the arrows). On these edges are labels (like “0.3”) which are also nodes.

All of them are defined with the TikZ commands `\node` and `\path`.

Example: a simple graph



A node is defined with command `\node`:

```
\node[options] (<name>) {<label>};
```

One can specify:

- the internal name (`name`),
- the printed label `{label}`,
- the shape (`circle`, `ellipse`, `square...`), the type of line, the background color, the position (absolute or relative to the other nodes)...

```
\node[circle, fill=yellow, draw] (circ) {1};
```

```
\node[ellipse, fill=red!50, right of=circ, node distance=3cm]
(ellipse) {An ellipse};
```

```
\node[diamond, fill=blue!50, draw=blue, thick] at (-2, 0) (emptydiamond) {};
```

Example: a simple graph



An edge can be defined between two nodes with:

```
\path[options] (origin) edge (target);
```

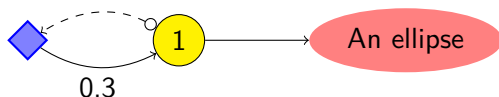
One can define:

- the (*origin*) and the (*cible*) using their internal names,
- the type of arrow tip (\rightarrow , $\circ\rightarrow$, $-$), the curvature (`bend right`), the type of line (`thick`, `dashed`)...

```
\path[->] (circ) edge (ellipse);
```

```
\path[o->, bend right, dashed] (circ) edge (emptydiamond);
```

Example: a simple graph



A label can be placed on an edge by creating a node alongside this edge. This is achieved with the keyword `node`:

```
\path[->, bend right] (emptydiamond) edge
  node[below] (arrowback) {0.3}
  (circ);
```

Note that this new node acts as a normal node and can be referenced (as an origin or target for an edge, for instance).

Reuse, reuse, reuse!

In order to produce great figures with TikZ, it is best to look for examples to use them as a basis and modify.

for this:  **Internet!** 

The best resource is probably the TExample website, where a section is dedicated to TikZ [1] at: <http://texample.net/tikz/examples/>.

Furthermore, it is possible to:

- define custom themes for similar pictures,
- use the available libraries for common diagrams or shapes (UML, electrical schematics...),
- define \LaTeX commands for the repeated parts.

What is Beamer?

Beamer is a \LaTeX class.

Common points:

- **structuring** (parts, sections, sub-sections; no chapters),
- text formatting,
- inclusion of **figures** and **mathematical formulas**, etc.

Main differences:

- additional structuring into **frames**,
- new commands to handle **transitions** and animations,
- different layout rendering (fonts, arrangement).

You can reuse your math/figures from your articles from your \LaTeX articles.
Still produces a universally readable PDF (contrary to PPTX or Keynote).

Document definition

Beamer is a \LaTeX class:

```
\documentclass[options]{beamer}
```

Amongst the `options`:

- `t`, `c` or `b` to vertically align the text at the top, center or bottom of each frame by default,
- `xpt` to set the font size to `x` (ex: `9pt`),
- `handout` to produce a printable presentation (without transitions/animations).

Then comes the preamble, then the content, as before inside inside:

```
\begin{document}
...
... % The frames come here
...
\end{document}
```

Definition of a frame

Each frame comes into an environment called `frame`:

```
\begin{frame}[\langle options \rangle]
...
...   % Content of the frame
...
\end{frame}
```

The optional `options` may contain:

- `t`, `c` or `b` to change the vertical alignment for this frame only,
- `plain` in order not to produce the header and footer for this frame only,
- `shrink` to gain some space if there is a lot of text,
- `fragile` if the frame contains some source code (like here).

Properties of a frame

Title, subtitle, header, footer, and so on

A title and a subtitle can be defined for a frame:

```
\frametitle{\textit{Title of the frame}}  
\framesubtitle{\textit{Subtitle of the frame}}
```

Furthermore, depending on the theme used, some information show in the header and footer of each frame:

- the current section,
- the title of the presentation, the authors and their institute,
- the numbering of the frame,
- etc.

Inside a frame

The content of a frame is regular \LaTeX , that is:

- lists,
- figures (containing tables, complex figures, images...),
- text and mathematical equations,
- etc.

The content can also be encapsulated into blocks:

```
\begin{exampleblock}{Title of the block}
  Content of the bloc (lists, equations, text...)
\end{exampleblock}
```

Title of the block

Content of the bloc (lists, equations, text...)

By default, 3 kinds of blocks : `block`, `alertblock` and `exampleblock`.

Theme example : Madrid

Normal block (neutral)

Content of the bloc (lists, equations, text...)

Alert block

If we suppose :

$$1 + 1 = 0 \tag{1}$$

then we can prove anything.

Example block

For instance :

- Everything true is also false, and conversely,
- $x = y$ for all x and all y ,
- my cat and myself are the same person.

Animations

One can define static animations inside Beamer presentations.

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- They consist in apparitions...

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Animations

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- They consist in apparitions...
- ...or vanishings.

Animations in fact produce duplicates of the same frame, where some parts are not printed. Note that the printed numbering is not affected.

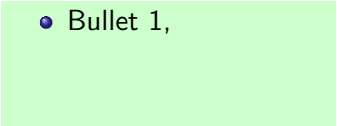
The `handout` option of the `\documentclass` allows to remove these animations to keep only the final frame.

Successive apparitions

With command `\pause` or `\pause[x]`

Example with `\pause`:

```
\begin{itemize}
  \item Bullet 1,
  \pause
  \item Bullet 2,
  \pause
  \item Bullet 3.
\end{itemize}
```



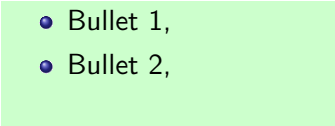
• Bullet 1,

Successive apparitions

With command `\pause` or `\pause[x]`

Example with `\pause`:

```
\begin{itemize}
  \item Bullet 1,
  \pause
  \item Bullet 2,
  \pause
  \item Bullet 3.
\end{itemize}
```

- 
- Bullet 1,
 - Bullet 2,

Successive apparitions

With command `\pause` or `\pause[x]`

Example with `\pause`:

```
\begin{itemize}
  \item Bullet 1,
  \pause
  \item Bullet 2,
  \pause
  \item Bullet 3.
\end{itemize}
```

- Bullet 1,
- Bullet 2,
- Bullet 3.

Fine-tuning animations

Command `\only`<pages>{content}: apparition without prior placeholder

```
| Text 1,  
|  
| \only<2->{Text 2 without placeholder,}  
|  
| Text 3.
```

Text 1,
Text 3.

Command `\uncover`<pages>{content}: apparition with prior placeholder

```
| Text 1,  
|  
| \uncover<3->{Text 2 with placeholder,}  
|  
| Text 3.
```

Text 1,
Text 3.

Fine-tuning animations

Command `\only<pages>{content}`: apparition without prior placeholder

```
| Text 1,  
|  
| \only<2->{Text 2 without placeholder,}  
|  
| Text 3.
```

Text 1,
Text 2 without placeholder,
Text 3.

Command `\uncover<pages>{content}`: apparition with prior placeholder

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| Text 1,  
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| \uncover<3->{Text 2 with placeholder,}  
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Fine-tuning animations

Command `\only`<pages>{content}: apparition without prior placeholder

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Text 1,
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Text 3.

Command `\uncover`<pages>{content}: apparition with prior placeholder

```
| Text 1,  
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| \uncover<3->{Text 2 with placeholder,}  
|  
| Text 3.
```

Text 1,
Text 2 with placeholder,
Text 3.

Fine-tuning animations

Other commands may use an optional `<pages>` argument.

Example: `\item<pages>`

```
\begin{itemize}
  \item<1,2> First bullet
  \item<3-> Second bullet
  \item<2-> Third but not last bullet
\end{itemize}
```

- First bullet

Another example: most commands of TikZ also accept the `<pages>` syntax.

Fine-tuning animations

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Example: `\item<pages>`

```
\begin{itemize}
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- First bullet
- Third but not last bullet

Another example: most commands of TikZ also accept the `<pages>` syntax.

Fine-tuning animations

Other commands may use an optional `<pages>` argument.

Example: `\item<pages>`

```
\begin{itemize}
  \item<1,2> First bullet
  \item<3-> Second bullet
  \item<2-> Third but not last bullet
\end{itemize}
```

- Second bullet
- Third but not last bullet

Another example: most commands of TikZ also accept the `<pages>` syntax.

Themes

There exist many predefined themes allowing to modify the layout and colors of a Beamer presentation.

A **main theme** is called with `\usetheme{theme}` and changes the layout (title, header, footer, font, shape of the bullets...).

Examples: `Warsaw`, `Madrid`, `Copenhagen`, `CambridgeUS`...

A **color theme** is called with `\usecolortheme{theme}` and only affects the color palette (background, font, blocks, header, footer...).

Examples: `beaver`, `dolphin`, `dove`, `fly`...

It is also possible to customize most of these characteristics and even create a brand new theme.

Refer to the [L^AT_EX Wikibook \[2\]](#) for a list of the default themes and customizable parameters.

Theme example : CambridgeUS

Normal block (neutral)

Content of the bloc (lists, equations, text...)

Alert block

If we suppose:

$$1 + 1 = 0 \tag{4}$$

then we can prove anything.

Example block

For instance:

- Everything true is also false, and conversely,
- $x = y$ for all x and all y ,
- my cat and myself are the same person.

Theme example : Madrid

Normal block (neutral)

Content of the bloc (lists, equations, text...)

Alert block

If we suppose :

$$1 + 1 = 0 \tag{1}$$

then we can prove anything.

Example block

For instance :

- Everything true is also false, and conversely,
- $x = y$ for all x and all y ,
- my cat and myself are the same person.

Exemple de thème : ECN

Bloc normal (neutre)

Contenu du bloc (listes, équations, maths, ...)

Bloc d'alerte

Si on suppose :

$$1 + 1 = 0 \tag{1}$$

alors on peut prouver n'importe quoi.

Bloc d'exemple

Par exemple :

- Tout ce qui est vrai est aussi faux, et inversement,
- $x = y$ pour tout x et tout y ,
- mon chat et moi ne formons qu'une seule personne.

Theme example : Custom theme

Normal block (neutral)

Content of the bloc (lists, equations, text...)

Alert block

If we suppose:

$$1 + 1 = 0 \tag{1}$$

then we can prove anything.

Example block

For instance:

- Everything true is also false, and conversely,
- $x = y$ for all x and all y ,
- my cat and myself are the same person.

Exercise

Here is the skeleton of a simple presentation:

```

\documentclass{beamer}

\usepackage[french]{babel}
\usepackage[utf8]{inputenc}

\usetheme{Madrid}
\usecolortheme{default}

\title{Présentation de ma thèse}
\author{Prénom Nom}
\institute[LDC]{Laboratoire des Chatons}

\begin{document}

\begin{frame}
  \maketitle
\end{frame}

% A partir d'ici,
% entrez ce que vous voulez...
\section{À propos de moi}

\begin{frame}
  \frametitle{Ce que j'aime}
  \begin{itemize}
    \item Les chatons,
    \pause
    \item le jus de raisin,
    \pause
    \item etc.
  \end{itemize}
\end{frame}

\end{document}

```