

HEC MONTRÉAL

Writing with
`\title{LATEX}`

Advanced Notions

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Writing with `\title{LATEX}`

Part Two : Advanced Notions
HEC Montréal Edition, revised and extended (english version)

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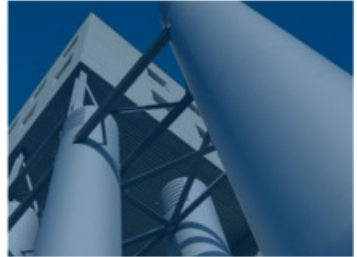
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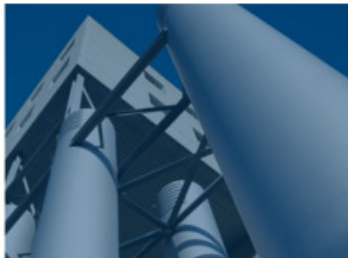
Floats



Floats

It was already said that the strength of $\text{T}_{\text{E}}\text{X}$ and \LaTeX is typography and that it was better to let the systems do their work automatically.

Tables and figures (images and graphics) are an excellent example of the systems' power.



Tables

Introduction

- Building tables in \LaTeX can be tricky.
- There isn't one, nor two, but many ways to build tables.
- \LaTeX provides two environments : `tabular` and `tabular*`.

```
\begin{tabular}{columns}  
  cell1 & cell2 & cell3 \\  
  cell4 & cell5 & cell6 \\  
  cell7 & cell8 & cell9  
\end{tabular}
```

```
\begin{tabular*}{width}{columns}  
  cell1 & cell2 & cell3 \\  
  cell4 & cell5 & cell6 \\  
  cell7 & cell8 & cell9  
\end{tabular*}
```

- We will also take a look at a third environment, `tabularx`, provided by its eponymic package.
- `tabularx`'s syntax is the same as `tabular`'s.

Tables

Building

Let's take a look at the last frame's tables :

```
\begin{tabular}{columns}  
  cell1 & cell2 & cell3 \\  
  cell4 & cell5 & cell6 \\  
  cell7 & cell8 & cell9  
\end{tabular}
```

```
\begin{tabular*}{width}{columns}  
  cell1 & cell2 & cell3 \\  
  cell4 & cell5 & cell6 \\  
  cell7 & cell8 & cell9  
\end{tabular*}
```

Tables

Building

Let's take a look at the last frame's tables :

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\begin{tabular}{columns}  
  cell1 & cell2 & cell3 \\  
  cell4 & cell5 & cell6 \\  
  cell7 & cell8 & cell9  
\end{tabular}
```

```
\begin{tabular*}{width}{columns}  
  cell1 & cell2 & cell3 \\  
  cell4 & cell5 & cell6 \\  
  cell7 & cell8 & cell9  
\end{tabular*}
```

- We define the **number of cells** and their **horizontal alignment** in the `columns` argument.
 - Possible options are `l` (*left*), `c` (*center*), and `r` (*right*).
 - We define a fixed-width column with `p{width}`.
 - `tabularx` also takes the `X` option, which adjusts cell width according to the table width.
 - The `|` symbol is used to insert a vertical line between cells.

Tables

Building

Let's take a look at the last frame's tables :

```
\begin{tabular}{columns}  
  cell1 & cell2 & cell3 \\  
  cell4 & cell5 & cell6 \\  
  cell7 & cell8 & cell9  
\end{tabular}
```

```
\begin{tabular*}{width}{columns}  
  cell1 & cell2 & cell3 \\  
  cell4 & cell5 & cell6 \\  
  cell7 & cell8 & cell9  
\end{tabular*}
```

- A table's **width** depends of the environment :
 - `tabular` : table width = content width ;
 - `tabular*` and `tabularx` : width determined by the `width` argument.

Tables

Building

Let's take a look at the last frame's tables :

```
\begin{tabular}{columns}  
  cell1 & cell2 & cell3 \\  
  cell4 & cell5 & cell6 \\  
  cell7 & cell8 & cell9  
\end{tabular}
```

```
\begin{tabular*}{width}{columns}  
  cell1 & cell2 & cell3 \\  
  cell4 & cell5 & cell6 \\  
  cell7 & cell8 & cell9  
\end{tabular*}
```

- Cells from a specific **row** are separated by the & symbol.
- A row ends with `\\`, **except for the last row**.
- A horizontal line can be inserted between rows with `\hline` .
- The `\multicolumn{cols}{pos}{text}` command is used to merge cells in a row.
 - `cols` : a cell's column span;
 - `pos` : horizontal alignment (l,c,r);
 - `text` : cell content.

Tables

Example

```
\begin{tabularx}{X|rrr|r|rrr}{\textbf{Teams} & \multicolumn{7}{c}{\textbf{Statistics}} \\ \hline \hline NFC North & W & L & T & PCT & PF & PA & Net Pts \\ \hline Minnesota Vikings & 13 & 3 & 0 & .813 & 382 & 252 & 130 \\ Detroit Lions & 9 & 7 & 0 & .563 & 410 & 376 & 34 \\ Green Bay Packers & 7 & 9 & 0 & .438 & 320 & 384 & -64 \\ Chicago Bears & 5 & 11 & 0 & .313 & 264 & 320 & -56 \\ \end{tabularx}
```

| Teams | Statistics | | | | | | |
|-------------------|------------|----|---|------|-----|-----|---------|
| NFC North | W | L | T | PCT | PF | PA | Net Pts |
| Minnesota Vikings | 13 | 3 | 0 | .813 | 382 | 252 | 130 |
| Detroit Lions | 9 | 7 | 0 | .563 | 410 | 376 | 34 |
| Green Bay Packers | 7 | 9 | 0 | .438 | 320 | 384 | -64 |
| Chicago Bears | 5 | 11 | 0 | .313 | 264 | 320 | -56 |

Floating tables

- The `tabular`, `tabular*` and `tabularx` insert tables in a document where they have been written in the text.
- \LaTeX can determine the best place to insert tables with the `table` environment.

```
\begin{table}[location]  
  \begin{tabularx}{\textwidth}{lccc}  
    ...  
  \end{tabularx}  
  \caption{text}  
\end{table}
```

Floating tables

- The `tabular`, `tabular*` and `tabularx` insert tables in a document where they have been written in the text.
- \LaTeX can determine the best place to insert tables with the `table` environment.

```
\begin{table}[location]  
  \begin{tabularx}{\textwidth}{lccc}  
    ...  
  \end{tabularx}  
  \caption{text}  
\end{table}
```

- The optional `location` argument takes one or more of the following options :
 - t** Table inserted on *top* of the page
 - b** Table inserted at the *bottom* of the page
 - p** Table inserted in a reserved *page*
 - h** Table inserted *here*, meaning it's inserted where it was written in the text
- Use `\caption` to insert a caption below of above a table.
- `\listoftables` generates a list of all the table environments inserted in the text.

Floating tables

```
\begin{table}  
  \begin{tabularx}{\textwidth}{X|rrr|r|rrr}  
    Teams & W & L & T & PCT & PF & PA & Net Pts \\ \hline  
    Minnesota Vikings & 13 & 3 & 0 & .813 & 382 & 252 & 130 \\ \hline  
    Detroit Lions & 9 & 7 & 0 & .563 & 410 & 376 & 34 \\ \hline  
    Green Bay Packers & 7 & 9 & 0 & .438 & 320 & 384 & -64 \\ \hline  
    Chicago Bears & 5 & 11 & 0 & .313 & 264 & 320 & -56 \\ \hline  
  \end{tabularx}  
  \caption{The NFL NFC North 2017 Season Statistics}  
\end{table}
```

| Teams | W | L | T | PCT | PF | PA | Net Pts |
|-------------------|----|----|---|------|-----|-----|---------|
| Minnesota Vikings | 13 | 3 | 0 | .813 | 382 | 252 | 130 |
| Detroit Lions | 9 | 7 | 0 | .563 | 410 | 376 | 34 |
| Green Bay Packers | 7 | 9 | 0 | .438 | 320 | 384 | -64 |
| Chicago Bears | 5 | 11 | 0 | .313 | 264 | 320 | -56 |

Tableau – The NFL NFC North 2017 Season Statistics

Inserting images

- To insert images in a \LaTeX document , we need three commands :

```
%% Preamble
\usepackage{graphicx}
\graphicspath{{dir1}{dir2}...}

%% Document body
\includegraphics[options]{imagefile}
```

Inserting images

- To insert images in a \LaTeX document , we need three commands :

```
%% Preamble
\usepackage{graphicx}
\graphicspath{{dir1}{dir2}...}

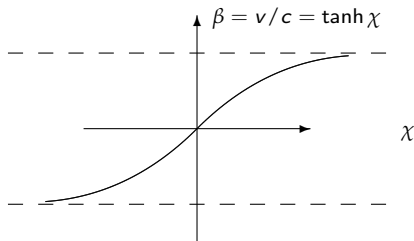
%% Document body
\includegraphics[options]{imagefile}
```

- The **graphicx** package must be loaded in the preamble.
- The `\graphicspath` command is used to specify in which directories the image files can be found.
- The `\includegraphics` command inserts the image in the document.
- The options from `\includegraphics` determine, among other things, the image's size, rotation, origin, etc. Refer to the [graphicx documentation](#) to see all available options.

Inserting graphics

We can draw graphics in \LaTeX with the `picture` environment¹.

```
\setlength{\unitlength}{1cm}
\begin{picture}(0,0)(-3,2)
\put(-1.5,0){\vector(1,0){3}}
\put(2.7,-0.1){$\chi$}
\put(0,-1.5){\vector(0,1){3}}
\multiput(-2.5,1)(0.4,0){13}
{\line(1,0){0.2}}
\multiput(-2.5,-1)(0.4,0){13}
{\line(1,0){0.2}}
\put(0.2,1.4)
{${\beta=v/c=\tanh\chi}$}
\qbezier(0,0)(0.8853,0.8853)
(2,0.9640)
\qbezier(0,0)(-0.8853,-0.8853)
(-2,-0.9640)
\end{picture}
```



For a more advanced usage of graphics, you can use the **TikZ PGF** package.

1. https://en.wikibooks.org/wiki/LaTeX/Picture#Plotting_graphs

Floating images and graphics

- As for tables, it is better to let T_EX and L^AT_EX determine where it is best to insert images and graphics.
- This can be done with the `figure` environment.

```
\begin{figure}[location]  
  \includegraphics[options]{file}  
  \caption{text}  
\end{figure}
```

```
\begin{figure}[location]  
  \begin{picture}(width,height)(x,y)  
    ...  
  \end{picture}  
  \caption{text}  
\end{figure}
```

Floating images and graphics

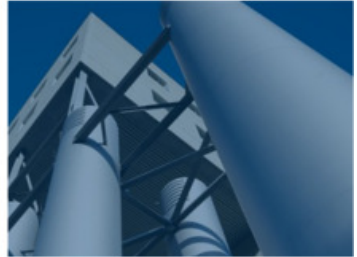
- As for tables, it is better to let T_EX and L^AT_EX determine where it is best to insert images and graphics.
- This can be done with the `figure` environment.

```
\begin{figure}[location]  
  \includegraphics[options]{file}  
  \caption{text}  
\end{figure}
```

```
\begin{figure}[location]  
  \begin{picture}(width,height)(x,y)  
    ...  
  \end{picture}  
  \caption{text}  
\end{figure}
```

- The optional `location` argument takes the options values as `table : t,b,p,h`.
- `\caption` inserts a captions below of above an image or graphic.
- `\listoffigures` generates a list of all the `figure` environments inserted in the text.

Maths



Maths in \LaTeX

Introduction

- Maths are **THE** reason why \TeX exists. \TeX exists because it is otherwise very difficult to render complex equations in a document.
- The *American Mathematical Society* supports \TeX and \LaTeX from the beginning. It has built numerous packages to facilitate the writing and rendering of maths.
- An **essential** package that you **have to use** is `amsmath`.
- \LaTeX takes care of all typographic conventions :
 - constants vs variables, equation layout and numbering ;
 - spaces between symbols and operators.
- To use maths in \LaTeX , you have to put it in “Math Mode”.

Math Modes

There is two ways of writing equations in \LaTeX :

- 1 “Inline”, directly in the text like $(a + b)^2 = a^2 + 2ab + b^2$ by placing the equation between \$ and \$.

“Inline”, directly in the text like $(a + b)^2 = a^2 + 2ab + b^2$ by placing the equations between $\backslash\$$ and $\backslash\$$.

- 2 In their own “paragraph”, separated from the text like

$$\int_0^{\infty} f(x) dx = \sum_{i=1}^n \alpha_i e^{x_i} f(x_i)$$

by using different types of environments.

In their own “paragraph”, separated from the text like

```
\begin{equation*}
\int_0^{\infty} f(x) \, dx =
\sum_{i=1}^n \alpha_i e^{x_i} f(x_i)
\end{equation*}
```

by using different types of environments.

Math Environments

L^AT_EX Standard Environments

There are several L^AT_EX environments you can use to write equations :

- One-line equations :

```
\begin{displaymath} equation ... \end{displaymath}
\begin{equation} equation ... \end{equation}
\begin{equation*} equation ... \end{equation*}
```

- Multiline equations :

```
\begin{eqnarray} equation ... \end{eqnarray}
\begin{eqnarray*} equation ... \end{eqnarray*}
```

Math Environments

\LaTeX Standard Environments

There are several \LaTeX environments you can use to write equations :

- One-line equations :

```
\begin{displaymath} equation \dots \end{displaymath}
\begin{equation} equation \dots \end{equation}
\begin{equation*} equation \dots \end{equation*}
```

- Multiline equations :

```
\begin{eqnarray} equation \dots \end{eqnarray}
\begin{eqnarray*} equation \dots \end{eqnarray*}
```

For multiline equations, you should use the **amsmath** package's environments. They are more versatile, easier to use and they give a better rendering of equations.

Math Environments

`amsmath` package's Environments

| | |
|----------------------------------|---|
| <code>multline, multline*</code> | For single equations too long to fit on one line. |
| <code>align, align*</code> | For multiple equations aligned on a single marker (usually the <code>=</code> sign). |
| <code>gather, gather*</code> | For multiple equations, horizontally centered. |
| <code>falign, falign*</code> | Like <code>align</code> , but separates both sides of the equation to fit the line width. |
| <code>alignat, alignat*</code> | The opposite of <code>falign</code> : no space separates both sides of the equation. |
| <code>split</code> | For single equations too long to fit on one line ; allows the alignment of the equation on a single marker. |

Math Environments

Examples

```
\begin{equation}  
a = b  
\end{equation}
```

$$a = b \quad (1)$$

```
\begin{equation*}  
a = b  
\end{equation*}
```

$$a = b$$

```
\begin{multline}  
a + b + c + d + e + f \\  
+ i + j + k + l + m + n  
\end{multline}
```

$$a + b + c + d + e + f$$

$$+ o + p + q + r + s + t \quad (2)$$

Math Environments

Examples

```
\begin{align}  
  a_1 &= b_1 + c_1 \\\br/>  a_2 &= b_2 + c_2 - d_2 + e_2  
\end{align}
```

$$a_1 = b_1 + c_1 \tag{3}$$

$$a_2 = b_2 + c_2 - d_2 + e_2 \tag{4}$$

```
\begin{gather}  
  a_1 = b_1 + c_1 \\\br/>  a_2 = b_2 + c_2 - d_2 + e_2  
\end{gather}
```

$$a_1 = b_1 + c_1 \tag{5}$$

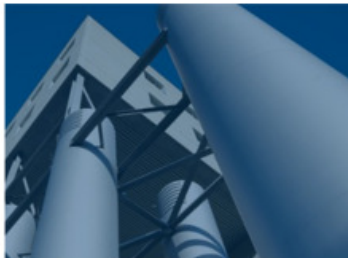
$$a_2 = b_2 + c_2 - d_2 + e_2 \tag{6}$$

Math Environments

Examples

```
\begin{equation}
\begin{split}
a &= b + c - d \\
&\phantom{=} + e - f \\
&= g + h \\
&= i
\end{split}
\end{equation}
```

$$\begin{aligned} a &= b + c - d \\ &\quad + e - f \\ &= g + h \\ &= i \end{aligned} \tag{7}$$



Symbols



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Main elements of Math Mode

- Basic math symbols : + - = < > / : ! ' | [] () { }
- Exponents are written with ^ . x^2 becomes x^2 .
- Indices are written with the underscore _ . a_n becomes a_n .
- Exponents and indices can be combined : x_i^k becomes x_i^k .
- Exponents and indices can be grouped with { and } . $A_{i_s, k^n}^{y_i}$ becomes $A_{i_s, k^n}^{y_i}$.

Fractions

- Fractions are written with `\frac{numerator}{denominator}` .

```
% Fraction size inside text  
Let $z_1 = \frac{x}{y}$ and  
$z_2 = xy$...
```

Let $z_1 = \frac{x}{y}$ and $z_2 = xy...$

Fractions

- Fractions are written with `\frac{numerator}{denominator}` .

```
% Fraction size inside text
Let $z_1 = \frac{x}{y}$ and
$z_2 = xy$...
```

Let $z_1 = \frac{x}{y}$ and $z_2 = xy...$

```
% Fraction size outside text
Let
\begin{equation*}
z_1 = \frac{x}{y}
\end{equation*}
and $z_2 = xy$...
```

Let

$$z_1 = \frac{x}{y}$$

and $z_2 = xy...$

Fractions

- Fractions are written with `\frac{numerator}{denominator}` .

```
% Fraction size inside text
Let $z_1 = \frac{x}{y}$ and
$z_2 = xy$...
```

Let $z_1 = \frac{x}{y}$ and $z_2 = xy...$

```
% Fraction size outside text
Let
\begin{equation*}
z_1 = \frac{x}{y}
\end{equation*}
and $z_2 = xy$...
```

Let

$$z_1 = \frac{x}{y}$$

and $z_2 = xy...$

```
% Combined sizes
Let
\begin{equation*}
z = \frac{\frac{x}{2} + 1}{y}.
\end{equation*}
```

Let

$$z = \frac{\frac{x}{2} + 1}{y}.$$

Roots

- Roots are written with `\sqrt[n]{arg}` .
 - The default root (if `n` as not been defined) is the square root.
 - The root sign is automatically fitted to `arg`.

```
\sqrt{2}
```

$$\sqrt{2}$$

```
\sqrt{625}
```

$$\sqrt{625}$$

```
\sqrt[3]{8}
```

$$\sqrt[3]{8}$$

```
\sqrt[n]{x + y + z}
```

$$\sqrt[n]{x + y + z}$$

```
\sqrt{\frac{x + y}{x^2 - y^2}}
```

$$\sqrt{\frac{x + y}{x^2 - y^2}}$$

Sums and Integrals

- Sums are written with `\sum`.
- Integrals are written with `\int`
- Lower and upper limits are written with indices (`_`) and exponents (`^`).

```
\sum_{i = 0}^n x_i
```

$$\sum_{i=0}^n x_i$$

```
\int_0^{10} f(x) \, dx
```

$$\int_0^{10} f(x) dx$$

- The **amsmath** package also provides the `\iint` and `\iiint` to generate multiple integrals like \iint and \iiint .

Functions, operators, etc.

Since in Math Mode letters are considered variables, we can't manually write functions. \LaTeX defines commands for these functions :

| | | | | | | |
|----------------------|--------------------|-------------------|----------------------|----------------------|--------------------|--------------------|
| <code>\arccos</code> | <code>\cosh</code> | <code>\det</code> | <code>\inf</code> | <code>\limsup</code> | <code>\Pr</code> | <code>\tan</code> |
| <code>\arcsin</code> | <code>\cot</code> | <code>\dim</code> | <code>\ker</code> | <code>\ln</code> | <code>\sec</code> | <code>\tanh</code> |
| <code>\arctan</code> | <code>\coth</code> | <code>\exp</code> | <code>\lg</code> | <code>\log</code> | <code>\sin</code> | |
| <code>\arg</code> | <code>\csc</code> | <code>\gcd</code> | <code>\lim</code> | <code>\max</code> | <code>\sinh</code> | |
| <code>\cos</code> | <code>\deg</code> | <code>\hom</code> | <code>\liminf</code> | <code>\min</code> | <code>\sup</code> | |

Functions, operators, etc.

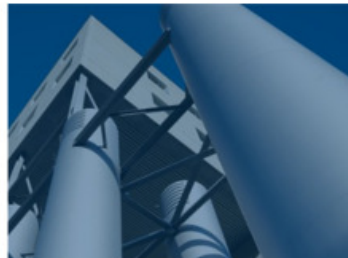
Since in Math Mode letters are considered variables, we can't manually write functions. \LaTeX defines commands for these functions :

| | | | | | | |
|----------------------|--------------------|-------------------|----------------------|----------------------|--------------------|--------------------|
| <code>\arccos</code> | <code>\cosh</code> | <code>\det</code> | <code>\inf</code> | <code>\limsup</code> | <code>\Pr</code> | <code>\tan</code> |
| <code>\arcsin</code> | <code>\cot</code> | <code>\dim</code> | <code>\ker</code> | <code>\ln</code> | <code>\sec</code> | <code>\tanh</code> |
| <code>\arctan</code> | <code>\coth</code> | <code>\exp</code> | <code>\lg</code> | <code>\log</code> | <code>\sin</code> | |
| <code>\arg</code> | <code>\csc</code> | <code>\gcd</code> | <code>\lim</code> | <code>\max</code> | <code>\sinh</code> | |
| <code>\cos</code> | <code>\deg</code> | <code>\hom</code> | <code>\liminf</code> | <code>\min</code> | <code>\sup</code> | |

There are also commands for **greek letters**, **text** and **spaces**, **continuation dots**, **calligraphic letters**, **binary operators** and **relations**, **arrows**, **accents** and many more !

Refer to the **amsmath** package documentation and the [Comprehensive \$\text{\LaTeX}\$ Symbol List](#) – 338 pages of pleasant reading! – to learn about all the functionalities.

Bibliographies and citations





Types of bibliographies

Manual bibliographies

- We can manually write our bibliography with the thebibliography environment.

```
\begin{thebibliography}{longest label}  
  \bibitem[label]{id_citation} Bibliographic entry #1  
  \bibitem[label]{id_citation} Bibliographic entry #2  
  [...]  
\end{thebibliography}
```

Manual bibliographies

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  \bibitem[label]{id_citation} Bibliographic entry #1  
  \bibitem[label]{id_citation} Bibliographic entry #2  
  [...]  
\end{thebibliography}
```

- Each bibliographic entry is written with the `\bibitem` command.
 - The `label` is what we'll find as reference in the text. If there is no label, \LaTeX will insert a sequential number.
 - `id_citation` is what is used to cite a bibliographic entry.
 - The `bibliographic` entry contains all information concerning the source.

Manual bibliographies

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```
\begin{thebibliography}{longest label}  
  \bibitem[label]{id_citation} Bibliographic entry #1  
  \bibitem[label]{id_citation} Bibliographic entry #2  
  [...]  
\end{thebibliography}
```

- Each bibliographic entry is written with the `\bibitem` command.
 - The `label` is what we'll find as reference in the text. If there is no label, \LaTeX will insert a sequential number.
 - `id_citation` is what is used to cite a bibliographic entry.
 - The `bibliographic` entry contains all information concerning the source.
- The `longest label` at the beginning of the environment is the longest of all labels found in the `bibitems`.
- The bibliography is inserted in the document where the `thebibliography` environment has been inserted in the code.

Manual bibliographies

Example

```
\begin{thebibliography}{99}
  \bibitem[Kopka and Daly, 2004]{kopkadaly:2004}
    Kopka, Helmut and Patrick W. Daly (2004).
    \newblock Guide to \LaTeX, Fourth Edition,
    \newblock Addison-Wesley,
    \newblock ISBN 978-0-321-17385-0, 597 p.
  \bibitem[Mittelbach et al., 2004]{mittelbach:2004}
    Mittelbach, Frank \emph{et al.} (2004).
    \newblock The \LaTeX\ Companion, Second Edition,
    \newblock Addison-Wesley,
    \newblock ISBN 978-0201362992, 1120p.
  \bibitem[Goossens and Mittelbach, 2007]{goossens:2007}
    Goossens, Michel and Franck Mittelbach (2007).
    \newblock The \LaTeX\ Graphics Companion, Second Edition,
    \newblock Addison-Wesley,
    \newblock ISBN 978-0321508928, 976p.
\end{thebibliography}
```

Automatic Bibliographies

An introduction to BiB_TE_X

- BiB_TE_X is a L^AT_EX auxiliary program (compiler) that automatically builds a bibliography using a database.
- It is the *de facto* standard system for building bibliographies.
- It is stable and simple to use.
- It usually is the only format accepted by scientific journals.
- You can export your bibliographic entries from **EndNote** to BiB_TE_X.
- You can download references in BiB_TE_X format from HEC_o, Google Scholar, ProQuest, Ebsco and many more databases found at the Library.

Compiling a document with BiBTeX

- In the previous training session, we have schematized a document's compilation as such :



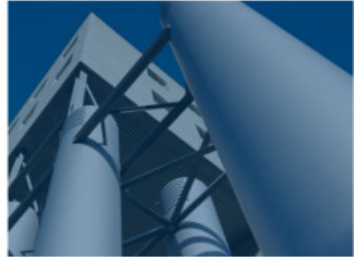
Compiling a document with BiBTeX

- In the previous training session, we have schematized a document's compilation as such :



- With BiBTeX, the compilation sequence changes :





Creating a Bibliography



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Creating a Database

The first thing to do is to create a database of references that is going to be stored in a .bib file.

% Example taken from bibliography.bib

```
@article{amaralcardiac2014,  
  author = {Amaral, Joice Anaize Tonon do and Nogueira, Marcela Leme and Roque, Adriano L  
    and Guida, Heraldo Lorena and Abreu, Luiz Carlos de and Raimundo, Rodrigo Daminello  
    and Vanderlei, Luiz Carlos Marques and Ribeiro, Vivian F and Ferreira, Celso and  
    Valenti, Vitor Engrácia},  
  title = {Cardiac autonomic regulation during exposure to auditory stimulation with classical  
    baroque or heavy metal music of different intensities},  
  journal = {Archives of the Turkish Society of Cardiology},  
  pages = {139-146},  
  ISSN = {1016-5169},  
  year = {2014},  
  type = {Journal Article}  
}  
  
@article{mobergfaster2009,  
  author = {Moberg, Marcus},  
  title = {Faster for the master!: exploring issues of religious expression and alternative  
    Christian identity within the Finnish Christian metal music scene},  
  year = {2009},  
  type = {Journal Article}  
}
```

natbib Package

- By default, \LaTeX only supports numerical citations.
- The citation format used in science in general, and at HEC Montréal particularly, is the *author, year* format.
- The **natbib** package allows the use of the *author, year* format.

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```
\documentclass[english , french]{hecthese}  
  
\usepackage[utf8]{inputenc}  
\usepackage[T1]{fontenc}  
\usepackage{babel}  
\usepackage[autolanguage]{numprint}  
\usepackage{icomma}  
\usepackage{natbib}  
\usepackage{hyperref}  
  
\begin{document}  
  content ...  
\end{document}
```

- natbib must **absolutely** be loaded **after** babel.

Inserting a Bibliography

- Before inserting our bibliography in our document, we have to tell BiB_TE_X in which bibliographic style we want our references to be displayed.

```
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- Not all bibliographic styles are compatible with the *author, year* citation format.
 - Use the `francais` style if you write in French ;
 - Use the `apalike` style if you write in English.

```
% Writing in French  
\bibliographystyle{francais}
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```
% Writing in English  
\bibliographystyle{apalike}
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```

- These two styles resemble most HEC Montréal's style.
- Once we have chosen our bibliographic style, we can insert our bibliography.

```
\bibliographystyle{apalike}
\bibliography{bibfile} % Name of .bib file between curly braces , with the file extension
```



Citations

Referring to sources

- There are three ways to cite bibliographic entries, two of them coming from the **natbib** package :

| | |
|---|------------------------------|
| <code>\cite[extra]{id_citation}</code> | Numerical citation |
| <code>\citet[extra]{id_citation}</code> | Inline citation |
| <code>\citep[extra]{id_citation}</code> | Citation between parentheses |

- The `id_citation` argument is what is used to identify a bibliographic entry.
- The optional `extra` argument allows us to insert extra information after the citation, e.g. a page number.
- We advise you to use the `\citet` and `\citep` commands, which are more descriptive.

Citation examples

Look at the following bibliographic entry :

```
\bibitem{jones99}  
F. J. Jones, H. P. Baker, and W. V. Toms, [...] 1999.
```

This is what each of the citation commands' output looks like :

Citation examples

Look at the following bibliographic entry :

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This is what each of the citation commands' output looks like :

```
I am so proud that someone thinks exactly  
like me\cite{jones99}\ldots
```

I am so proud that someone thinks exactly like me[1]...

```
I am so proud that someone thinks exactly  
like me\cite[p.22]{jones99}\ldots
```

I am so proud that someone thinks exactly like me[1,
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I am so proud that someone thinks exactly like me[1, p.22]...

```
I am so proud that \citet{jones99}
thinks exactly like me\ldots
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I am so proud that Jones et al., (1999) thinks exactly like me...

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I am so proud that \citet{jones99}
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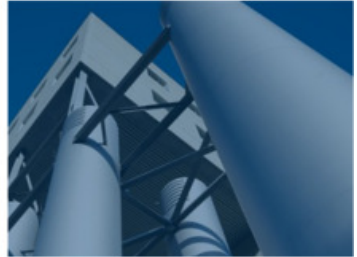
I am so proud that someone thinks exactly like me (Jones et al., 1999)...

```
I am so proud that someone thinks exactly
like me\citep[p.22]{jones99}\ldots
```

I am so proud that someone thinks exactly like me (Jones et al., 1999, p.22)...



Bibliography



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For those who still prefer the scent of ink



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-  [ShareL^AT_EX Documentation](#)
-  [T_EX - L^AT_EX Stack Exchange](#)
-  [L^AT_EX Community](#)
-  [Comprehensive T_EX Archive Network](#)
-  [UK List of TEX Frequently Asked Questions](#)
-  [Google...](#)

Questions and comments

TRAINING SESSION DOCUMENTATION

<http://bit.ly/enltxhec2>

TRAINING SESSION EVALUATION SURVEY

<http://bit.ly/enltxsurvey2>

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