

Lecture 7: \LaTeX and Writing

Yi Chen

ShanghaiTech University

2021

What is L^AT_EX?

- What's L^AT_EX? A typesetting programme developed in the 1980s by Leslie Lamport.
- What's the difference from Microsoft Word?
 - Microsoft Word—What You See Is What You Get
 - L^AT_EX—What You Think Is What You Get
 - Similar to the relationship between Microsoft Excel and Stata.

\LaTeX versus Word

Can I stick to Word for my entire life without learning \LaTeX ? Of course you can!

- The advantage of \LaTeX over Word is mainly on the intensive margin, not the extensive margin.
 - Your paper won't be accepted because you use \LaTeX . Nor will be rejected because you use Word.
 - The *marginal benefit* is not that huge.
- But I personally strongly recommend because ... The *marginal cost* is also not large.

Word

sequence (in any order). Formally, we say that a rule $I_a \Rightarrow I_b$ occurs in a sequence $s = \langle I_1, I_2, \dots, I_n \rangle$ if and only if there exists an integer k such that $1 \leq k < n$, $I_a \subseteq \bigcup_{i=1}^k I_i$ and $I_b \subseteq \bigcup_{i=k+1}^n I_i$.

Latex

same sequence (in any order). Formally, we say that a rule $I_a \Rightarrow I_b$ occurs in a sequence $s = \langle I_1, I_2, \dots, I_n \rangle$ if and only if there exists an integer k such that $1 \leq k < n$, $I_a \subseteq \bigcup_{i=1}^k I_i$ and $I_b \subseteq \bigcup_{i=k+1}^n I_i$.

Word

5. Experimentation

We have implemented the RuleGen and TRuleGrowth sequential rule mining algorithms, and the Predictor framework in Java.

Experiments were carried with two public click-stream datasets commonly used in the sequential pattern mining literature. The first dataset is **Kosarak** (<http://fimi.cs.helsinki.fi/data/>). It contains 990,000 sequences of click-stream data from an online news portal. To make the experiment faster, we only used the first 50,000 sequences of Kosarak. Each sequence has an average length of 7.97 items from 21,144 different items. The second dataset is **BMSWebView1** (BMS). It contains 59,601 sequences of click-stream data from an e-commerce website (<http://www.ecn.purdue.edu/KDDCUP/>). BMS differs from Kosarak in that sequences

Latex

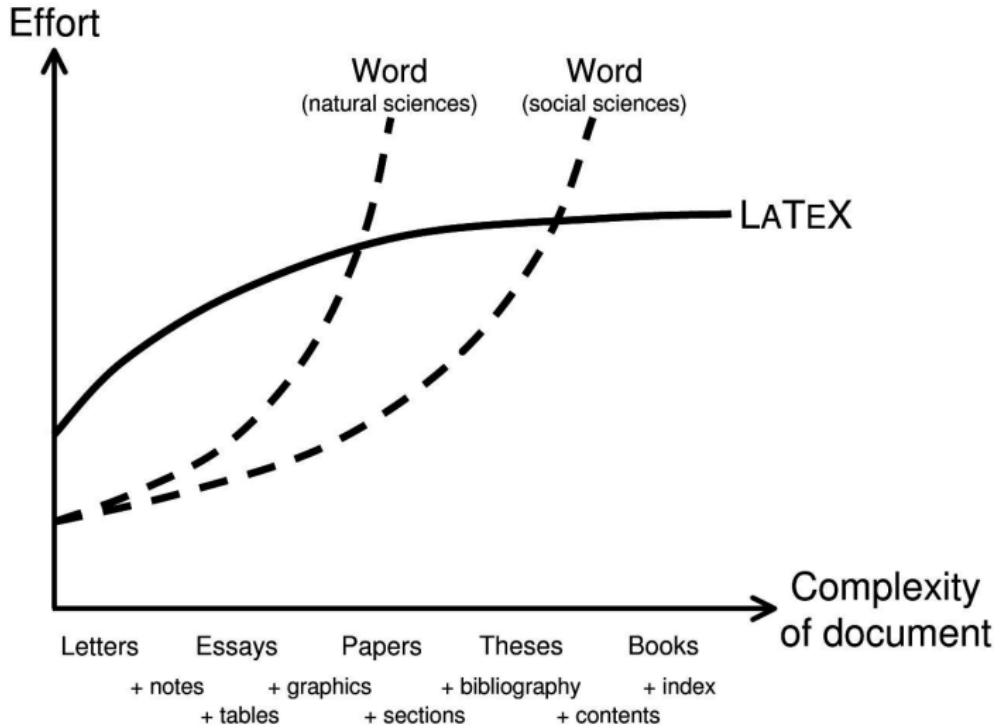
5 Experimentation

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Main Advantages of L^AT_EX

- High quality professional looking output (especially for mathematics).
- Accurate control.
- The language emphasises the logical structure of the document under preparation.
 - When your thesis has many chapters.
 - When your paper has many tables and figures
- Once you know some basic knowledge and have your own template, typesetting would become much faster.



Software Recommendation

- CTeX package (<http://www.ctex.org/HomePage>)
 - Easy installation; no configuration needed
- More Advanced: Sublime Text 3 + MikTeX/TeX Live + Sumatra PDF
- Online editor: <https://www.overleaf.com/>
- Softwares between L^AT_EX and Word (e.g., LyX and Scientific Workplace)
 - Produce a “What You See Is What You Get” version of L^AT_EX.
 - Personally I strongly recommend skipping this step.
 - *If you run after two hares, you will catch neither.*
 - Often, it is surprisingly tedious to make some small adjustments to the document.
 - At the beginning, you can use them to type the mathematical formula.

LaTeX, Evolved

The easy to use, online, collaborative LaTeX editor

The screenshot shows the Overleaf LaTeX editor interface. On the left, a file tree displays various LaTeX files and images. The main area shows a LaTeX code editor with a specific line highlighted. To the right is a preview window showing a black background with a small image of a galaxy and some text. Below the preview is a section titled "Introduction". At the bottom, there are several registration and login options.

Get started now

email@example.com [Register](#)

I'd like emails about product offers and company news and events.

or

[Register using Google](#) [Register using ORCID](#)

Overleaf is used by over 3,900,000 students and academics at 3,600 institutions worldwide

Menu

Source Rich Text

Rishi Shah's Résumé

Recompile

Resume for Fr...

```
1 // Medium Length Professional CV
2 // LaTeX Template
3 // Version 2.0 (8/3/13)
4 
5 
6 // This template has been downloaded from:
7 // http://www.LaTeXTemplates.com
8 //
9 // Original author:
10 // Rishi Shah
11 //
12 // Important note:
13 // This template requires the resume.cls file to be in the same directory as the
14 // .tex file. The resume.cls file provides the resume style used for structuring the
15 // document.
16 //
17 ///////////////////////////////////
18
19 // PACKAGES AND OTHER DOCUMENT CONFIGURATIONS
20 //
21 //
22
23 \documentclass{resume} % Use the custom resume.cls style
24
25 \usepackage[margin=0.75in,top=0.6in,right=0.75in,bottom=0.6in]{geometry} % Document margins
26 \usepackage{tikz}\tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
27 \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
28 \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
29 \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
30 \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
31 \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
32 \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
33 \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
34
35 // EDUCATION SECTION
36 //
37 //
38
39 \begin{document}
40
41 // \begin{rSection}{Education}
42 // \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
43 // \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
44 // \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
45 // \tikz[remember picture]\tikzset{mystyle/.style={inner sep=0pt,outer sep=0pt}}
```

RISHI SHAH

156 Kasturi, Balasinagar, Sangli 416416
(+91)9975808780 | rishishah105@gmail.com

EDUCATION

Vermata Jijabai Technological Institute, Mumbai August 2018 - Present
Master in Technology
Department of Structural Engineering

Maharashtra Institute of Technology, Pune July 2013 - June 2017
Bachelor of Engineering, Civil.
Overall Percentage: 68.14

CARRIER OBJECTIVE

To work for an organization which provides me the opportunity to improve my skills and knowledge to grow along with the organization objective.

PROJECTS

Dynamic Analysis of Buckling Restrained Braces
The project aims at designing and fabrication of two Buckling Restrained Braces which were analyzed under dynamic loading. As alternative for conventional braces, these BRBs are also beneficial for seismic retro-fitting in RCC and steel structures.

Indirect Model Analysis of Structures
Presented a Seminar on Indirect Model Analysis, explaining the method to compute response of Prototype from the Influence lines obtained from Model. Use of Muller Bresla Principle in Indirect Model Analysis and the Similitude between prototype and model.

Microtunnelling
Presented a seminar on Micro-Tunneling, explaining its advantages over conventional method of drainage laying systems. Analysis considering direct and indirect cost of micro tunneling was also discussed.

TECHNICAL STRENGTHS

Modeling and Analysis	AutoCAD, Revit, StaadPro
Software & Tools	MS Office, LaTeX

WORK EXPERIENCE

SJ Contracts, Pune June 2016
Site Engineer

D:\LyXGit\Master\lib\doc\UserGuide.lyx - LyX

File Edit View Insert Navigate Document Tools Help

Standard Additional Math UserGuide

Sum (Σ) and integral (\int) operators are very often decorated with limits. These limits can be entered in LyX by entering them as you would enter a super- or subscript, directly after the symbol. The sum operator will automatically place its "limits" over and under the symbol in displayed formulas, and to the side in inline formulas, as in $\sum_{n=0}^{\infty} \frac{1}{n!} = e$, versus

$$\sum_{n=0}^{\infty} \frac{1}{n!} = e$$

Integral signs, however, will place the limits to the side in both formula types.

All operators with limits will be automatically re-sized when placed in display mode. The placement of the limits can be changed by placing the cursor directly behind the operator and using the menu **Edit > Math > Change Limits Type** or entering **Alt+M L**.

Certain other mathematical expressions also have this "moving limits" feature, such as **Math > Limits**

$$\lim_{x \rightarrow \infty} f(x),$$

which will place the $x \rightarrow \infty$ underneath the "lim" in display mode. In inline formulas it looks like this: $\lim_{x \rightarrow \infty} f(x)$.

Note that the lim-function was entered as the function macro **\lim**. Have a look at section **Ref: subsec:Functions** for an explanation of function macros.

5.1.7 Math Symbols

Font: Default

5.1.6. Operators with Limits

Sum (\sum) and integral (\int) operators are very often decorated with limits. These limits can be entered in LyX by entering them as you would enter a super- or subscript, directly after the symbol. The sum operator will automatically place its “limits” over and under the symbol in displayed formulas, and to the side in inline formulas, as in $\sum_{n=0}^{\infty} \frac{1}{n!} = e$, versus

$$\sum_{n=0}^{\infty} \frac{1}{n!} = e$$

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Certain other mathematical expressions also have this “moving limits” feature, such as

$$\lim_{x \rightarrow \infty} f(x),$$

which will place the $x \rightarrow \infty$ underneath the “lim” in display mode. In inline formulas it looks like this: $\lim_{x \rightarrow \infty} f(x)$.

Note that the lim-function was entered as the function macro **\lim**. Have a look at section 5.1.9 for an explanation of function macros.

Learning L^AT_EX

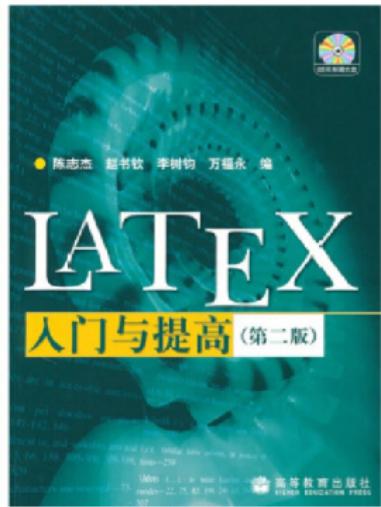
What are the most difficult parts when learning L^AT_EX?



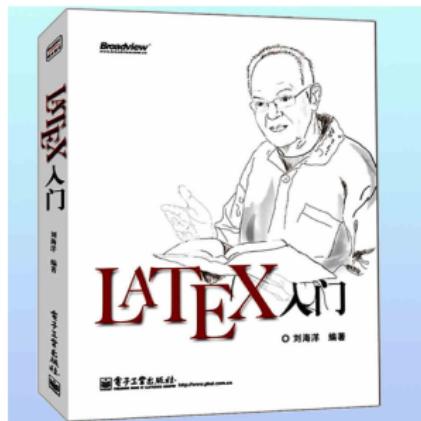
Personally experience:

- “Planning” to learn L^AT_EX—six years
- When forced to use L^AT_EX to compile my Ph.D. thesis—six hours.

Correct Way of Learning LATEX



+



Correct Way of Learning LATEX



Correct Way of Learning L^AT_EX

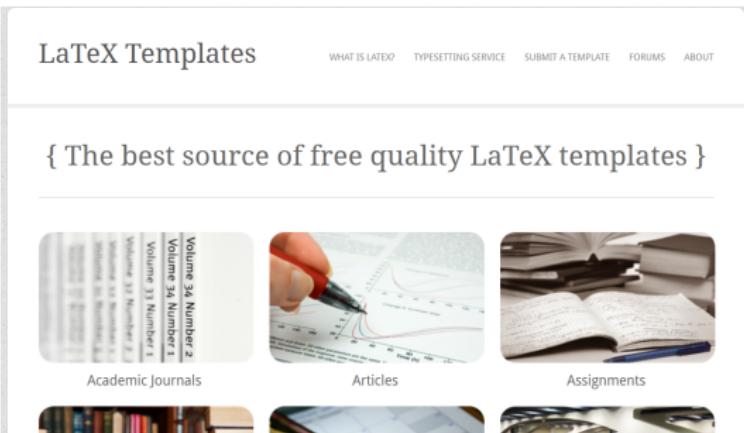
LaTeX Templates

WHAT IS LATEX · TYPESETTING SERVICE · SUBMIT A TEMPLATE · FORUMS · ABOUT

{ The best source of free quality LaTeX templates }

Volume 34 Number 2
Volume 34 Number 1
Volume 33 Number 1
Volume 32 Number 2
Volume 32 Number 1
Volume 31 Number 2
Volume 31 Number 1
Volume 30 Number 2
Volume 30 Number 1
Volume 29 Number 2
Volume 29 Number 1
Volume 28 Number 2
Volume 28 Number 1
Volume 27 Number 2
Volume 27 Number 1
Volume 26 Number 2
Volume 26 Number 1
Volume 25 Number 2
Volume 25 Number 1
Volume 24 Number 2
Volume 24 Number 1
Volume 23 Number 2
Volume 23 Number 1
Volume 22 Number 2
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Volume 19 Number 1
Volume 18 Number 2
Volume 18 Number 1
Volume 17 Number 2
Volume 17 Number 1
Volume 16 Number 2
Volume 16 Number 1
Volume 15 Number 2
Volume 15 Number 1
Volume 14 Number 2
Volume 14 Number 1
Volume 13 Number 2
Volume 13 Number 1
Volume 12 Number 2
Volume 12 Number 1
Volume 11 Number 2
Volume 11 Number 1
Volume 10 Number 2
Volume 10 Number 1
Volume 9 Number 2
Volume 9 Number 1
Volume 8 Number 2
Volume 8 Number 1
Volume 7 Number 2
Volume 7 Number 1
Volume 6 Number 2
Volume 6 Number 1
Volume 5 Number 2
Volume 5 Number 1
Volume 4 Number 2
Volume 4 Number 1
Volume 3 Number 2
Volume 3 Number 1
Volume 2 Number 2
Volume 2 Number 1
Volume 1 Number 2
Volume 1 Number 1

Academic Journals Articles Assignments



Correct Way of Learning L^AT_EX

LaTeX Templates

WHAT IS LATEX? TYPESetting SERVICE SUBMIT A TEMPLATE FORUMS ABOUT

{ The best source of free quality LaTeX templates }

The screenshot shows the LaTeX Templates homepage. At the top, there's a navigation bar with links for "WHAT IS LATEX?", "TYPESetting SERVICE", "SUBMIT A TEMPLATE", "FORUMS", and "ABOUT". Below the navigation, a large banner says "{ The best source of free quality LaTeX templates }". Underneath the banner, there are two main categories: "Academic Journals" and "Articles". Each category has a small thumbnail image: the "Academic Journals" image shows a stack of papers with a red pen writing on one; the "Articles" image shows a stack of papers with a red pen writing on one.

Volume 34, Number 2
Volume 34, Number 1
Volume 33, Number 6
Volume 33, Number 5
Volume 33, Number 4
Volume 33, Number 3
Volume 33, Number 2
Volume 33, Number 1

Academic Journals

Volume 34, Number 2
Volume 34, Number 1
Volume 33, Number 6
Volume 33, Number 5
Volume 33, Number 4
Volume 33, Number 3
Volume 33, Number 2
Volume 33, Number 1

Articles

Google

Correct Way of Learning L^AT_EX

LaTeX Templates

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Google

"VERY" brief introduction to L^AT_EX (< 100 pages) + template + Google

- Reading Material 7.1 + 7.2 for a head start.

Templates for L^AT_EX

- English: <http://www.latextemplates.com/>
- Chinese: <http://www.latexstudio.net/>

John SMITH

PERSONAL DATA

Place and Date of Birth:
Address:
Phone:
Email:

Canada (28 November 1987)
123 Broadway City, State, Canada
(+1) 212 555-1234
johnsmith@email.com

WORK EXPERIENCE

Current	1 st year Analyst at Loewen Inc., London Communication Internships
JUL 2010 - OCT 2011	Summer Intern at Amex Inc., Chicago Assisted in the analysis of consumer spending trends and research on new derivatives on a wide array of consumer goods. Also assisted in the development of new products, managed financial and secondary market risk management.
JAN-MAR 2011	Computer Technician at IBM-Milano, Italy Handled the IT needs and helped to solve computer problems by using common sense and other components off and on again.

EDUCATION

JULY 2012	Master of Commerce in Finance, The University of California, Berkeley GPA: 3.8/4.0 Thesis: "Money is the Root of All Evil - Or is it?" Advisor: Prof. James Barba
JULY 2011	Undergraduate Degree in Business Studies Major: Commerce Specialization: The University of California, Berkeley Honors: Graduated in: Honorable paperworks; Golden Section Member GPA: 3.2/4.0
JULY 2008	Exchange Semester at University of Southern California, Los Angeles GPA: 3.8/4.0

June Classes "B", Prof. Masters | Final Grade: 100/100

SCHOLARSHIPS AND CERTIFICATES

Jan. 2010 Faculty of Science Masters Scholarship
June 2010 Growth: 250 (GDP) x 300 (GP) percentile; rank: 8,000 (99th percentile)

LANGUAGES

English: Fluent
French: Monolingual
Spanish: Basic knowledge

Plasmati Graduate CV

This CV/Résumé template is perfect for students or early-career graduates with relatively little work experience. The layout is concise and best suited to few entries per section. The inclusion of grade tables on the last page of the template provides a measure of academic success in lieu of work experience and makes this template ideal for a graduate school application or the first several jobs out of college/university. The template could also be adapted for an individual with more work experience but be careful not to fill it out to much longer than two pages.

[Full Template Description and Download](#)

```
149 %
150 %-----%
150 % COMPUTER SKILLS
151 %
151 %-----%
152
153 \section{Computer Skills}
154
155 \begin{tabular}{rl}
156 Basic Knowledge: & \textsc{php}, \textsc{sql}, \textsc{html}, Access, \textsc{Linux},\\
157 ubuntu, {\fb \LaTeX}\setmainfont[SmallCapsFont=Fontin SmallCaps]{Fontin-Regular} \\
158 Intermediate Knowledge: & \textsc{vba}, Excel, Word, PowerPoint\\
159 \end{tabular}
160
161 %
161 %-----%
162 %
162 %-----%
162 % INTERESTS AND ACTIVITIES
163 %
163 %-----%
164
165 \section{Interests and Activities}
166
167 Technology, Open-Source, Programming\\
168 Paradoxes in Decision Making, Psychoanalysis, Behavioural Finance\\
169 Football, Travelling
```

This new learning style require you to ask questions to yourself and find the answers from the internet.

- Example: Special characteristics in \LaTeX
- [https://artofproblemsolving.com/wiki/index.php/LaTeX: Symbols](https://artofproblemsolving.com/wiki/index.php/LaTeX:Symbols)



beamer remove page number



All

Images

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More

Settings

Tools

About 1,810,000 results (0.70 seconds)

[beamer - Removing page number from title frame without changing ...](https://tex.stackexchange.com/.../removing-page-number-from-title-frame-without-ch...)

[https://tex.stackexchange.com/.../removing-page-number-from-title-frame-without-ch... ▾](https://tex.stackexchange.com/.../removing-page-number-from-title-frame-without-ch...)

5 answers

Apr 13, 2017 - bloodworks gives the simplest solution. However, if you want to retain exactly the formatting for the title page, but just not have the page number information, then ...

Beamer : remove the number page of the first slide - TeX - LaTeX ... Jun 8, 2017

Suppress output of **slide numbers** for slides without number for ... Dec 2, 2015

page numbering - turn off frame number in certain slides using the ... Apr 15, 2015

Removing the page numbering on some pages of **beamer** - TeX ... Sep 6, 2014

[More results from tex.stackexchange.com](https://tex.stackexchange.com/.../removing-page-number-from-title-frame-without-ch...)

[Beamer : remove the number page of the first slide - TeX - LaTeX ...](https://tex.stackexchange.com/.../beamer-remove-the-number-page-of-the-first-slide?...)

<https://tex.stackexchange.com/.../beamer-remove-the-number-page-of-the-first-slide?... ▾>

1 answer

up vote 2 down vote. { \setbeamertemplate{footline}{} \begin{frame} \titlepage \end{frame} }.

share|improve this answer. answered Jun 8 '17 at 14:36. samcarter.

[latex - Remove the slide count from Beamer footer - Stack Overflow](https://stackoverflow.com/questions/.../remove-the-slide-count-from-beamer-footer)

[https://stackoverflow.com/questions/.../remove-the-slide-count-from-beamer-footer ▾](https://stackoverflow.com/questions/.../remove-the-slide-count-from-beamer-footer)

2 answers

Feb 25, 2010 - \documentclass{beamer} %#comment out the Boadilla theme and uses only the header bar ... \setbeamertemplate{page number in head/foot}{}

latex - Ignoring page numbers in backup slides Feb 26, 2013

tex - How to Remove Footers of LaTeX Beamer Templates? Nov 17, 2011

How to hide footer (or footline) in a particular slide in Beamer ... Apr 20, 2011

Hiding the presentation controls in LaTeX beamer presentation ... Jun 10, 2010

[More results from stackoverflow.com](https://stackoverflow.com/questions/.../remove-the-slide-count-from-beamer-footer)

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2 Answers

[active](#)[oldest](#)[votes](#)

6

If you like you can simply change the file `beamerouterthemefolines.sty` which might be not that of a good idea. So instead you simply take the code of the footline into your `.tex` file and delete the line for the frame numbers or, as I did, simply turn it into a comment. So you copy the exact part from `beamerouterthemefolines.sty` into your `.tex` file:

```
\documentclass{beamer}
%comment out the Boadilla theme and uses only the header bar
%usetheme[]{Boadilla}
\usetheme[secheader]{Boadilla}

%make sure to change this part, since it is predefined
\defbeamertemplate*{footline}{folines theme}
\setbeamertemplate{footline}
{
\leavevmode%
\hbox{%
\begin{beamercolorbox}[wd=.333333\paperwidth,ht=2.25ex,dp=1ex,center]{author in head/footer}
\usebeamertfont{author in head/footer}\insertshortauthor\insertshortinstitute
\end{beamercolorbox}%
\begin{beamercolorbox}[wd=.333333\paperwidth,ht=2.25ex,dp=1ex,center]{title in head/footer}
\usebeamertfont{title in head/footer}\insertshorttitle
\end{beamercolorbox}%
\begin{beamercolorbox}[wd=.333333\paperwidth,ht=2.25ex,dp=1ex,right]{date in head/footer}
\usebeamertfont{date in head/footer}\insertshortdate{}\hspace*{2em}
\end{beamercolorbox}%
}%
%turning the next line into a comment, erases the frame numbers
%\insertframenumber{} / \inserttotalframenumber\hspace*{2ex}

\end{beamercolorbox}%
\vskip0pt%
}
```

[share](#) [improve this answer](#)

edited Feb 24 '10 at 20:29

answered Feb 23 '10 at 19:57



Outline of the \LaTeX Lecture

- Given the time restriction, it is not possible (also not necessary) to introduce all the details about \LaTeX .
- Instead, I first introduce all the fragments to produce a standard research manuscript. Then walk through a template that I am currently using.
- Typeset is important.
 - Just imagine how the referee feels if he sees an ugly manuscript...
- Typeset is not that important.
 - As researchers, our top priority should still be analysis and writing, not typesetting.
 - “Decent” is enough for us in most cases. If your manuscript is accepted by the journal, expert will work on the typesetting.

Outline

- 1 Text
- 2 Math
- 3 BibTeX
- 4 Tables and Figures
- 5 Some Useful Website for Writing

Outline

1 Text

2 Math

3 BibTeX

4 Tables and Figures

5 Some Useful Website for Writing

Example 1: Multiple spaces and enters

\LaTeX automatically adjusts spaces between words and lines.

Input:

```
multiple space useless
```

```
told           you           useless
```

```
if \ you \ \ insist
```

Output:

```
multiple space useless
```

```
told you useless
```

```
if you insist
```

Input:

hello

world

hello

\newline

\newline

world

Output:

hello

world

hello

world

Example 2: Special Characteristics

Some specifical characteristics are used in the typesetting program, you need special way of calling them. (add a backslash in most cases, sometimes need math environment)

Comment in \LaTeX : begin a line with %

Input:

```
$\backslash$backslash\$ \& \% \{ \} \^ \_ \# \$
```

Output:

```
\ & % { } ^_ # $
```

Example 3: Quotes, Dashes, Dots and Accents

Input:

"bad quote" "good quote"; use \ldots instead of ...

some author's names involve accented letters,
such as \^a, \'e and \^o

Output:

"bad quote" "good quote"; use ... instead of ...

some author's names involve accented letters, such as ã, é and ô

Input:

- (known as an hyphen) between the elements of compound words \\
- (known as an en-dash) for ranges ‘‘3–7’’ \\
- (known as a em-dash) punctuation for digressions in a sentence---though how it differs from a parenthetical comment I have never known---which is why you don't see it much

Output:

- (known as an hyphen) between the elements of compound words
- (known as an en-dash) for ranges “3–7”
- (known as a em-dash) punctuation for digressions in a sentence—though how it differs from a parenthetical comment I have never known—which is why you don't see it much

Read <https://www.thepunctuationguide.com/index.html>

Example 4: Lists

There are three types of lists: bullet points, number, and description

Input:

```
\begin{enumerate}
\item Lists can be nested
\item Bullet list
    \begin{itemize}
        \item Bullet
    \end{itemize}
\item Description list
    \begin{description}
        \item[text] Description
    \end{description}
\end{enumerate}
```

Output:

- ① Lists can be nested
- ② Bullet list
 - Bullet
- ③ Description list

text Description

Example 5: Fonts

Input:

```
{\Huge Huge}  
\textbf{Bold}  
\textit{italics}  
\underline{underline}  
\textcolor{red}{color}
```

Output:

Huge **Bold** *italics* underline color

Basic colour names available in L^AT_EX

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



Colour names available with the dvipsnames option

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

Outline

1 Text

2 Math

3 BibTeX

4 Tables and Figures

5 Some Useful Website for Writing

Example 1: Math Environment

There are two types of math environment, in-line math and displayed.

Input:

In-line math: `$y = x + \epsilon$`. Text X in math mode `X`

Output:

In-line math: $y = x + \epsilon$. Text X in math mode X

Input:

```
\begin{equation}
y = x + \epsilon
\end{equation}
\begin{equation*}
y = x + \epsilon
\end{equation*}
\[ y = x + \epsilon \]
```

Output:

$$y = x + \epsilon \quad (1)$$

$$y = x + \epsilon$$

$$y = x + \epsilon$$

Example 2: A more complicated example

The example equation (2) includes: text mode, greek, subscripts, bold math, cross-referencing

Input:

```
\begin{equation}
\Delta \text{TFR}_{p,t} = \beta I \left( \Delta
    \text{Y\_After}_{p,t} > 0 \right) + \gamma \Delta
    \mathbf{X}_{p,t} + \text{Prov}_p + \text{Year}_t
    + \varepsilon_{p,t}. \label{Eq:TFR}
\end{equation}
```

Output:

$$\Delta \text{TFR}_{p,t} = \beta I (\Delta \text{Y_After}_{p,t} > 0) + \gamma \Delta \mathbf{X}_{p,t} + \text{Prov}_p + \text{Year}_t + \varepsilon_{p,t}, \quad (2)$$

Input:

`$\mathbf{\backslash beta}$ does not work for Greek letters,
use $\boldsymbol{\backslash alpha}$.`

Do use text mode in a formula for words,
`$\textit{different}$ instead of $different$.`

Output:

`fi` does not work for Greek letters, use `α` .

Do use text mode in a formula for words, `different` instead of `different`.

Example 3: Bracketing

Input:

```
\[
\sum_{k=1}^{\infty} \left[ \frac{1}{2} \right]^k = 1
\]
```

looks better than

```
\[
\sum_{k=1}^{\infty} [ \frac{1}{2} ]^k = 1
\]
```

Output:

$$\sum_{k=1}^{\infty} \left[\frac{1}{2} \right]^k = 1$$

looks better than

$$\sum_{k=1}^{\infty} \left[\frac{1}{2} \right]^k = 1$$

Example 4: Long Equations

Use `\\\` to start a new line. Use `&=&` to determine where to align.

Input:

```
\begin{eqnarray*}
\sum_{k=1}^{\infty} \left[ \frac{1}{2} \right]^k &=& 0.5 + 0.5^2 + 0.5^3 + \dots \\
&=& 0.5 + 0.25 + 0.125 \\
&=& 1
\end{eqnarray*}
```

Output:

$$\begin{aligned} \sum_{k=1}^{\infty} \left[\frac{1}{2} \right]^k &= 0.5 + 0.5^2 + 0.5^3 + \dots \\ &= 0.5 + 0.25 + 0.125 + \dots \\ &= 1 \end{aligned}$$

Outline

1 Text

2 Math

3 BibTeX

4 Tables and Figures

5 Some Useful Website for Writing

Introduction to BibTeX

- What is BibTeX? Reference management software for formatting lists of references.
- Critical disadvantages of managing reference manually.
 - Tedious.
 - Very easy to make mistakes (e.g., correspondence between text and references).
 - Changes of format in different journals.
- Software management (BibTeX/EndNote)
 - Scattering information (authors/year/journal/...) + format (.bst) → references
 - library + cross reference → ONLY cited articles show up in the reference

Software Recommendations

- BibTeX versus other reference management software, such as EndNote.
 - Pro: integrate well with L^AT_EX (Endnote need to export references in BibTeX format every time you make a change.)
 - Cons: does not work well with Microsoft Word.
- JabRef is a free software providing Endnote style of managing .bib files.
 - One entry is composed of many lines. You do not wish to manage .bib files in WinEdt.
 - Limited function in “management.”

File Edit Search Groups View BibTeX Quality Tools Options Help

FamilyPlanning.bib BibTeX

#	entrytype	author/editor	title	year	journal/booktitle	issuetitle	ranking
02	Article	Modigliani and Cao	The Chinese Saving Paradox and the Life-Cycle Hypothesis	2014	Journal of Economic Literature	Modigliani2014	
03	Article	Modigliani and Wisswall	Testing the Quantity-Quality Model of Fertility Estimation using Unrestricted Family Size Models	2016	Quantitative Economics	Modigliani2016	
04	Article	Moretti	Estimating the Social Return to Higher Education: Evidence from Longitudinal and Repeated Cross-...	2004	Journal of Econometrics	Moretti2004A	
05	Article	Moretti	Women's Education, Spillovers, and Productivity: Evidence from Plant-Level Production Functions	2004	American Economic Review	Moretti2004B	
06	Article	Narayan and Peng	An Econometric Analysis of the Determinants of Fertility for China, 1952-2000	2006	Journal of Chinese Economic and Business	Narayan2006	
07	Article	Nishimura and Zhang	Pay-As-You-Go Public Pensions with Endogenous Fertility	1992	Journal of Public Economics	Nishimura1992	
08	Book	of P.R. China and Department	Compilation of Statistics on National Family Planning (in Chinese)	1983		Commission1983	
09	Book	Peng	Encyclopedia of Chinese Family Planning (in Chinese)	1997		Peng1997	
10	Book	Population and of P.R. China	History of Chinese Population and Family Planning (in Chinese)	2007		Commission2007	
71	Article	Porter	How do Sex Ratios in China Influence Marriage Decision and Intra-Household Resource Allocation?	2016	Review of Economics of the Household	Porter2016	
72	Article	Poston Jr et al.	Sex Preference and the Sex Ratio at Birth in China: A Provincial Level Analysis	1997	Social Biology	Poston1997	
73	Article	Poston and Gu	Socioeconomic Development, Family Planning, and Fertility in China	1987	Demography	Poston1987	
74	TechReport	Qian	Quantity-Quality and the One Child Policy: The Only-Child Disadvantage in School Enrollment in Rural...	2009		Qian2009	
75	Article	Qin et al.	Does the One-Child Policy Impair Children's Human Capital in Urban China? A Regression Disc...	2017	Journal of Comparative Economics	Qin2017	
76	Article	Rao	The Rising Price of Husband: A Heteric Analysis of Down Increases in Rural India	1993	Journal of Political Economy	Rao1993	
77	Article	Romer	Increasing Returns and Long-Run Growth	1986	Journal of Political Economy	Romer1986	
78	Article	Rosenzweig and Zhang	Do Population Control Policies Induce More Human Capital Investment? Twins, Birth Weight and Co...	2009	The Review of Economic Studies	Rosenzweig2009	
79	InCollection	Sacerdote	Peer Effects in Education: How Much They Work, How Big Are They and How Much Do We Know Thu...	2011		Sacerdote2011	
80	Article	Schaefer	Bumps, Busts, and Fertility: Testing the Becker Model Using Gender-Specific Labor Demand	2016	Journal of Human Resources	Schaefer2016	

Request fields Optional fields General Abstract Review { } BibTeX source

Article [selected] Article [disabled]

Abstract [disabled] Article [disabled]

author = {Franco Modigliani and Shu Lanyi Cao},
 title = {The Chinese Saving Paradox and the Life-Cycle Hypothesis},
 journal = {Journal of Economic Literature},
 year = {2014},
 volume = {52},
 number = {1},
 pages = {165-170},
 abstract = {China's per capita income ranks below 100th in the world. Its saving rate, however, has been one of the highest worldwide in recent decades. In this paper, we attempt to explain the saving paradox within the framework of the Life-Cycle Hypothesis developed by Franco Modigliani. The key LCH variable is income and population growth. Our results based on data we put together from official sources show that income growth has been the dominant factor behind the dramatic increases in China's saving rate, as predicted by the LCH. Demographic structure and inflation also had significant impact on the fluctuation of the saving rate.},
 url = {http://dx.doi.org/10.1257/jel.52.1.165}

Download Citation as BibTeX

- Almost all journals support downloading citation in BibTeX format.
- But different sources may provide slightly different types of citation (see the checklist later).
- Use one single source as often as you can. I would like to suggest Google Scholar.
 - Try Google “The Chinese Saving Puzzle and the Life-Cycle Hypothesis”
 - “Google Scholar Button” is a very useful Chrome extension.

< Results Journal of Econ... / Vol.

JOURNAL ARTICLE
The Chinese Saving Puzzle and the Life-Cycle Hypothesis

Franco Modigliani and Shi Larry Cao

 Journal of Economic Literature
Vol. 42, No. 1
pp. 145-170

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Modigliani, F., & Cao, S. (2004). The Chinese Saving Puzzle and the Life-Cycle Hypothesis. *Journal of Economic Literature*, 42(1), 145-170. Retrieved from http://www.jstor.org/stable/3217039

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Modigliani, Franco, and Shi Larry Cao. "The Chinese Saving Puzzle and the Life-Cycle Hypothesis." *Journal of Economic Literature* 42, no. 1 (2004): 145-70.
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e and the
sis

CAO¹

ng back at the postwar Chinese household savings, one finds that while Chinese were not so thrifty in the 1950s through the mid-1980s, they became more so in the 1990s and 2000s. In this paper, we attempt to explain this apparent paradox by examining the magnitude of the saving ratio's response to the life-cycle variable developed by Franco Modigliani and Shi Larry Cao. We find that the Chinese saving puzzle is not a puzzle after all, but rather a consequence of the dramatic changes in the Chinese economy and society over the past three decades. The Chinese saving puzzle is a result of the rapid economic growth and urbanization in China, which has led to a significant increase in the average income and wealth of the Chinese population. This has led to a shift in consumption patterns, with people saving more and spending less. This shift in consumption patterns has led to a decrease in the saving rate, which has been a concern for the Chinese government. The Chinese government has taken steps to encourage saving, such as increasing the interest rates on savings accounts and providing incentives for saving. However, the Chinese saving puzzle remains a challenge for the Chinese government, as it needs to find a balance between encouraging saving and promoting consumption.

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CC Laffargue, E Yu - *China Economic Review*, 2011 - Elsevier
In a stimulating paper, Modigliani and Cao (2004) concluded that most of the huge increase in the household saving rate in China since 1975, the 'Chinese saving puzzle', can be explained by the life-cycle hypothesis. Their analysis is based on the estimation of reduced form equations. However, a structural model of their hypothesis would impose constraints on these equations. For not taking them into account, their test of the life-cycle hypothesis ...
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MLA Modigliani, Franco, and Shi Larry Cao. "The Chinese saving puzzle and the life-cycle hypothesis." *Journal of economic literature* 42.1 (2004): 145-170.

APA Modigliani, F., & Cao, S. L. (2004). The Chinese saving puzzle and the life-cycle hypothesis. *Journal of economic literature*, 42(1), 145-170.

Chicago Modigliani, Franco, and Shi Larry Cao. "The Chinese saving puzzle and the life-cycle hypothesis." *Journal of economic literature* 42, no. 1 (2004): 145-170.

Harvard Modigliani, F. and Cao, S.L., 2004. The Chinese saving puzzle and the life-cycle hypothesis. *Journal of economic literature*, 42(1), pp.145-170.

Vancouver Modigliani F, Cao SL. The Chinese saving puzzle and the life-cycle hypothesis. *Journal of economic literature*. 2004 Mar 1;42(1):145-70.

BibTeX EndNote RefMan RefWorks

```
@article{modigliani2004chinese,
    title={The Chinese saving puzzle and the life-cycle hypothesis},
    author={Modigliani, Franco and Cao, Shi Larry},
    journal={Journal of economic literature},
    volume={42},
    number={1},
    pages={145--170},
    year={2004},
    publisher={American Economic Association}
}
```

BibTeX Checklist

- Quotation mark in the title. (also other special characteristics)
- Caption in the title.
- Authors separate by “and”, not comma.
- Authors’ names involve accented letters.
- Caption in abbreviations, such as “NBER.” Use brace, e.g. {{NBER} Working Paper}.
- Consistent page style. Also use double hyphen instead of single hyphen.
- Delete unnecessary items that you do not wish to show, e.g., month in *achicago* style.

Overall principle: read the reference carefully and see what makes you uncomfortable.

Outline

- 1 Text
- 2 Math
- 3 BibTeX
- 4 Tables and Figures
- 5 Some Useful Website for Writing

Elements of a Table/Figure

Threepart Table:

- Caption (label)
- Main context
- Note

See the example template for details.

Generating Regression Table Using -estout-

The standard component of -estout- is essentially the same as that of -outreg2-.

If you wish to skip Excel, you need to prepare following elements in Stata:

- Additional statistics (with -estadd-)
- First column
- Headers
- Multiple groups
- Multiple panels

See [Stata example](#) to see how to generate the tables from the last lecture with -estout-.

Generating Tables for Summary Statistics

Personally, I don't recommend spend too much time on learning Stata commands to generate *summary statistics tables*.

- You should be able to hand-generate any table by now.
- Higher cost: Summary tables can take more flexible forms than regression tables.
- Lower benefit: Summary tables are used less frequently. (only first few tables + figures for description)
- Checkout <http://tabout.net.au/docs/home.php> if you are interested in -tabout-

Typing Chinese in L^AT_EX, from Global to Local

- The most global
 - \documentclass[11pt,a4paper]{ctexart}
- Not so global
 - \usepackage{ctex}
- Local

```
\documentclass{article}
\usepackage{CJKutf8}
\usepackage[utf8]{inputenc}

\begin{document}
\begin{CJK}{UTF8}{gbsn}
文章内容。
\end{CJK}
\end{document}
```

- Be careful with encoding for Chinese. ANSI (default for WinEdt) or UTF8?

Homework 4 Prepare Your CV

- Prepare your CV in *Chinese* with L^AT_EX.
 - You need it anyway in the future.
- Turn together with Homework 3.

Outline

- 1 Text
- 2 Math
- 3 BibTeX
- 4 Tables and Figures
- 5 Some Useful Website for Writing

Some Quick Words about Writing

- There is no need to emphasize the importance of writing.
- A typical Chinese Ph.D. student in the United States:
Calculating > Reading >>>>> Writing > Speaking
- Writing requires two types of skills
 - Language skill: choice of word, grammar, clarity of expression, et al.
(Reading Material 7.3. Most Common Habit by Chinese Graduate Students)
 - Writing skill: organization of the paper, what to write, how to interpret your results, et al.
- Professional proofreading service helps to overcome the weakness of the first skill, but not the second skill!
 - Senior Chinese researchers, even some native speakers, use the proofreading services before submission.
- But obviously you cannot always rely on such services, e.g., daily emails.

“Pitfalls” for Beginners

- Show what readers want to know, not what you have done.
- The quality of the paper is not proportional to its length.
 - Conditional on the same sets of information, the more concise the better.
- Research paper is not fiction (although economists often use the word “story” . . .), you don’t need many twists and foreshadowings.

Several Useful Websites

- Merriam-Webster Dictionary
(<https://www.merriam-webster.com/>)
 - Noun or verb? Countable or uncountable? Transitive or Intransitive?
 - Search following words: headquarter, headquarters, research, study

- Merriam-Webster Thesaurus
(<https://www.merriam-webster.com/thesaurus>)
 - Use one word repeatedly looks naive.
 - Synonyms of “use”: apply, employ, exploit, utilize

- Google & Netspeak (<http://www.netspeak.org/>) & Linggle (<http://linggle.com/>)
 - Many people “create” their own unique usage of words. Just check how others are writing!
 - Check out <http://www.netspeak.org/#examples>
 - Type “children born ? ”
- Google Book Ngram (<https://books.google.com/ngrams>)
 - Works very similar to Netspeak, more emphasise on comparing.
 - Type “life-cycle model, life cycle model” and “life-cycle, life cycle”
- Online grammar checkers, such as Grammarly (<https://app.grammarly.com/>)
 - Obviously, you should not expect too much from a free online tool...
- Proofreading is very expensive! Learn from your editors!