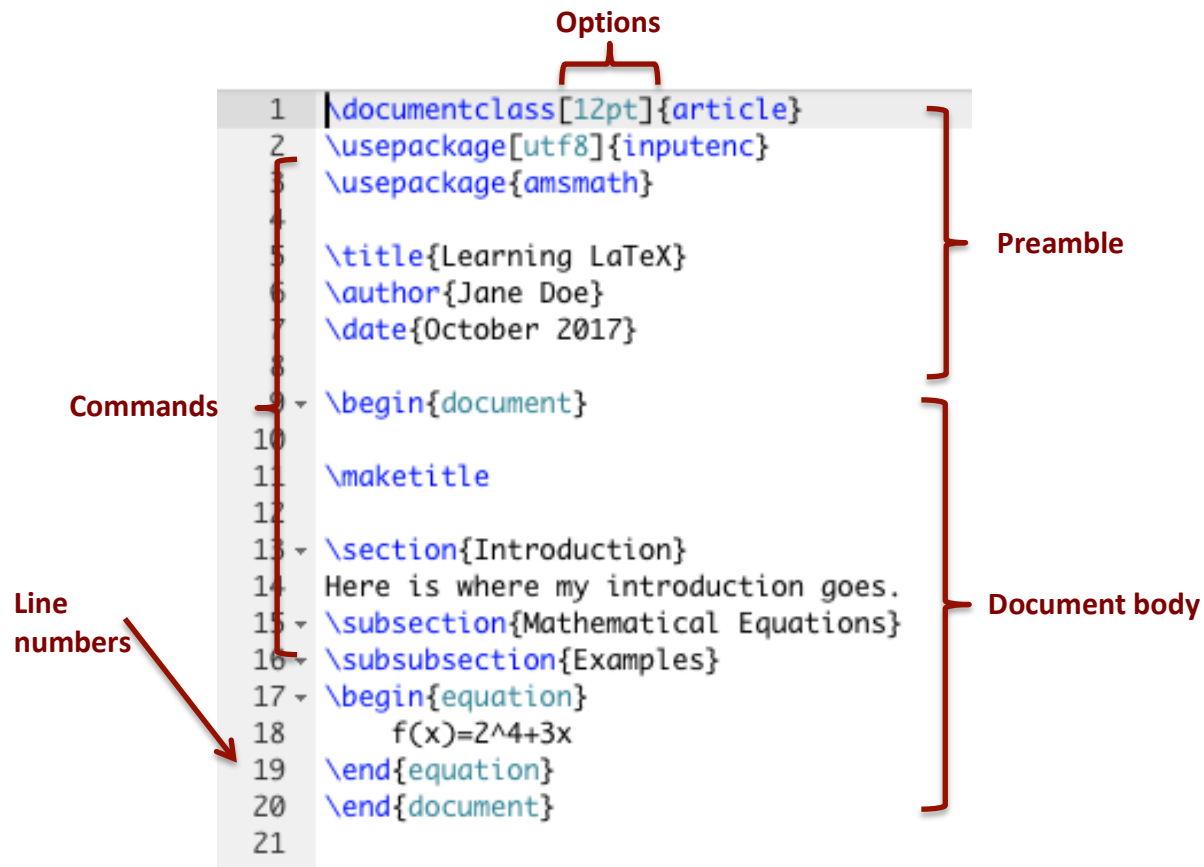


L^AT_EX Basics

- <https://www.sharelatex.com>
- <http://gradquant.ucr.edu/latex-resources>



Document Classes

Document class determines the overall layout of the document. To load a package, include the command `\documentclass{DocumentType}` in the preamble.

article	for articles and resumes
beamer	for presentation slides
report	for reports containing chapters
book	for books
letter	for letters

Packages

To load a package include in the preamble the command: `\usepackage{PackageName}`

amsmath	to write math symbols and equations
textgreek	to write Greek letters
gensymb	to write generic symbols (examples: ° ‰ Ω μ)
graphicx	to insert images
<code>\graphicspath{ {FolderName/} }</code>	to define a path for image files
listings	to add non-formatted programming text
mhchem	to write chemical formulas (Set option as [version=4])
geometry	to set up page layout, paper size, margins, etc.

Commands

<code>\title{Blank}</code>	to add a document title
<code>\author{Jane Doe and John Doe}</code>	to add authors
<code>\date{October 2017}</code>	to add a date
<code>\begin{document}</code> <code>\end{document}</code>	to define our document environment where the body goes
<code>\maketitle</code>	to insert title lines (document title, author(s), date, etc)
<code>\newpage</code>	to start a new page (similar to line break in MS Word)
<code>\pagenumbering{gobble}</code>	to remove the page number from the title page
<code>\pagenumbering{arabic}</code>	to add page numbers using Arabic numerals
<code>\pagenumbering{roman}</code>	to add page numbers using Roman numerals
<code>\begin{spacing}{2}</code> <code>\end{spacing}</code>	to set doublespacing
<code>\begin{center}</code> <code>\end{center}</code>	to center a text
<code>\begin{flushleft}</code> <code>\end{flushleft}</code>	to flush a text to the left
<code>\begin{flushright}</code> <code>\end{flushright}</code>	to flush a text to the right
<code>\begin{justify}</code> <code>\end{justify}</code>	to justify the text
<code>\begin{quote}</code> <code>\end{quote}</code>	to quote a text

<code>\section{SectionName}</code>	<i>becomes</i> "1 Section Name"	
<code>\section*{SectionName}</code>	<i>becomes</i> "Section Name"	
<code>\subsection{SubsectionName}</code>	<i>becomes</i> "1 Subsection Name"	
<code>\subsection*{SubsectionName}</code>	<i>becomes</i> "Subsection Name"	
<code>\textit{apple}</code>	to italicize the text	<i>apple</i>
<code>\textbf{apple}</code>	to make the text boldfaced	apple
<code>\textit{\textbf{apple}}</code>	to make the text both italicized and boldfaced	<i>apple</i>
<code>GGTCTCT\underline{TCTAGA}CACGGCC</code>	to underline text as in	GGTCTCT <u>TCTAGA</u> CACGGCC
<code>Apple1</code>	to introduce a superscript	Apple ¹
<code>Apple\textsubscript{1}</code>	to introduce a subscript	Apple ₁
<code>\textalpha</code>	to type Greek letter α	works with <code>\usepackage{textgreek}</code>
<code>\textbeta</code>	to type Greek letter β	works with <code>\usepackage{textgreek}</code>

Examples:

`\textit{Nf2}\textDelta` to type allele name *Nf2^Δ*

`\textit{Nf2}\textDelta;Wnt1-Cre` to type allele name *Nf2^{Δ;Wnt1-Cre}*

Comments

%Comments are written preceded with a % sign in the LaTeX code, and they do not appear in the compiled file.

Bullet Lists

```
\begin{itemize}
  \item Biology
  \item Chemistry
  \item History
\end{itemize}
```

...becomes

- Biology
- Chemistry
- History

```
\begin{enumerate}
  \item Biology
  \item Chemistry
  \item History
\end{enumerate}
```

...becomes

1. Biology
2. Chemistry
3. History

3

Item Lists

`\begin{description}`

`\item[Apple:]` The round fruit of a tree of the rose family, which typically has thin red or green skin and crisp flesh.

`\item[Banana:]` A long curved fruit that grows in clusters and has soft pulpy flesh and yellow skin when ripe.

`\item[Strawberry:]` A sweet soft red fruit with a seed-studded surface.

`\end{description}`

...becomes

Apple: The round fruit of a tree of the rose family, which typically has thin red or green skin and crisp flesh.

Banana: A long curved fruit that grows in clusters and has soft pulpy flesh and yellow skin when ripe.

Strawberry: A sweet soft red fruit with a seed-studded surface.

**Definitions are taken from <https://en.oxforddictionaries.com>.*

Generating Mathematical Equations

These commands are to be used with the amsmath package.

```
\begin{equation}
f(x)=x^3+2
\end{equation}
```

...becomes $f(x) = x^3 + 2$ (1)

```
\begin{equation}
2x^{34}
\end{equation}
```

...becomes $2x^3$ (2)

To make sure two formulas are aligned, we use the align command:

```
\begin{align}
f(x)=x^3+2 \\
f(x+4)=x^2+7
\end{align}
```

...becomes $f(x) = x^3 + 2$ (3)

$f(x + 4) = x^2 + 7$ (4)

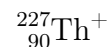
Generating Chemical Formulas

These commands are to be used with the mhchem package. Set option as [version=4].

`\ce{SO4^2-}`

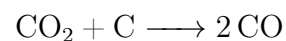
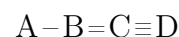


`\ce{^{227}_{90}Th+}`



`\ce{A\bond{-}B\bond{=}C\bond{#}D}` ...becomes

`\ce{CO2 + C -> 2CO}`



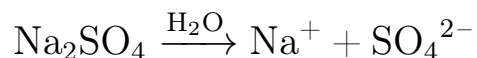
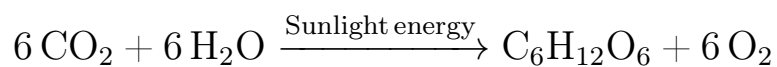
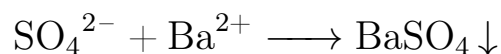
`\ce{SO4^2- + Ba^2+ -> BaSO4 v}`

`\ce{6CO2 + 6H2O ->[Sunlight energy] C6H12O6 + 6O2}`

`\ce{Na2SO4 ->[H2O] Na+ + SO4^2-}`

`\ce{(2Na+,SO4^2-) + (Ba^2+, 2Cl-) -> BaSO4 v + 2NaCl}`

...becomes



Inserting Images

```
\begin{figure}[h]  
\includegraphics[width=0.5\textwidth]{Google}\centering\  
\caption{Google logo.}  
\vspace{0.4in}  
\includegraphics[width=0.5\textwidth]{GHalloween}\centering\  
\caption{Google Halloween logo.}  
\vspace{0.4in}  
\includegraphics[width=0.5\textwidth]{GThanksgiving}\centering\  
\caption{Google Thanksgiving logo.}  
\end{figure}
```

...becomes



Figure 1: Google logo.



Figure 2: Google Halloween logo.



Figure 3: Google Thanksgiving logo.

Inserting Tables

```
\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\textbf{Fruit} & \textbf{Color} \\
Apple & Red \\
Banana & Yellow
\end{tabular}
\caption{Fruits}
\label{tab:Fruits}
\end{table}
```

...becomes

Fruit	Color
Apple	Red
Banana	Yellow

Table 1: Fruits

```
\begin{table}[h]
\centering
\begin{tabular}{|c|c|}\hline
\textbf{Fruit} & \textbf{Color} \\
Apple & Red \\
Banana & Yellow
\end{tabular}
\caption{Fruits again?}
\label{tab:Fruits again?}
\end{table}
```

...becomes

Fruit	Color
Apple	Red
Banana	Yellow

Table 2: Fruits again?

Generating Presentation Slides

```
\documentclass{beamer}
\usepackage{graphicx}
\graphicspath{{Images_PPT/}}
\begin{document}
\title{LaTeX Presentation}
\subtitle{GradQuant}
\author{Jane Doe}
\institute{University of California Riverside}
\maketitle
\end{document}
```

LaTeX Presentation
GradQuant

Jane Doe
University of California Riverside

October 20, 2017

```
\begin{frame}{Google Logo}
\includegraphics[width=0.75\textwidth]{GLogo.png}
\end{frame}
```

Google Logo



```
\begin{frame}{Bullet points}{Optional subtitle}
\begin{enumerate}
\item Apples
\item Bananas
\item Strawberries
\end{enumerate}
\end{frame}
```

Bullet points
Optional subtitle

1. Apples
2. Bananas
3. Strawberries









```
\begin{frame}{Blocks}
\begin{block}{Block Title}
You can also highlight sections of \alert{your presentation} in a block, with it's own title.
\end{block}
\end{frame}
```

Blocks

Block Title
You can also highlight sections of **your presentation** in a block, with it's own title.

Generating Resumes

Templates > CV or Resume

			
<p>Moderncv Oldstyle</p>	<p>Moderncv Casual</p>	<p>Moderncv Classic</p>	<p>Moderncv Banking</p>
			
<p>Europecv</p>	<p>Europecv</p>	<p>sc_cv</p>	<p>Classic Thesis Style - CV</p>