Using LaTeX

A Primer for Linguists

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What Will This Talk Cover?

1 Introduction

2 LaTeX Commands

3 Time-Savers

4 LaTeX Frontends

5 Compiling LaTeX

6 Conclusion

What is LaTeX ?

LaTeX is a markup language used for typesetting documents.

1. Write up your document in plain text
2. Add short commands to tell the computer how to format the document
3. When you're finished, the document is compiled and output as a PDF

How does the output look?

LaTeX follows rules to writing nice-looking documents, including:

- Wide Margins
- Indentation
- Image placement
- Ligatures and kerning

LaTeX knows everything in the Style Guide!

Typesetting of LaTeX - Ligatures



Figure: Microsoft Word



Figure: LaTeX

(images taken from http://nitens.org/taraborelli/latex)

Things I don't like about Word

- Sometimes the bullets print funny when converting the document
- I can't write in IPA easily and have it match the rest of my text
  - ɛksplənefən
  - ai wɪɬ nat dʒʊdʒ yu

Figure: Microsoft Word

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Figure: LaTeX

Writing LaTeX commands

LaTeX commands are not difficult. Primarily, they consist of:

Short Commands Perform this command over a few words

```
\command{some text}
```

Section Commands Perform this command over a small bit of text

```
\begin{command}
block of text
\end{command}
```

Document-wide Commands Perform this command throughout the document unless I later tell you to stop

```
\command document of text
```

Sample Commands

Emphasized Text `\emph{Emphasized Text}`

Bold Text `\textbf{Bold Text}`

Long Quote `\begin{quote}`

Double-spacing `\doublespacing`

Centering `\centering`

But before we get carried away...

Creating a new LaTeX document

Any LaTeX document will need a header and a body.

The Header tells the document what it is.

The Body is where your content goes.

Headers

For my linguistics projects, my headers generally look like this:

```
\documentclass[a4paper,12pt]{report}
\usepackage{tipa,graphicx,setspace,mircotype}
\usepackage[left=2in,right=1in]{geometry}

\usepackage{fancyhdr}
    \pagestyle{fancy}
    \rhead{s0675940}
    \lhead{shortened project name here}
    \cfoot{\thepage}

\title{project name here}
\author{Denise Wood \and s0675940}
\date{date that the project is due}
```

Headers

Setting the margins is also in the header.
The default of LaTeX is roughly 1-inch-wide margins.

Narrow Margins `\usepackage{fullpage}`

Specific Margin Widths

```
\usepackage[left=2in,right=1in]{geometry}
```

Body

After the headers, all of the content of the document goes between document tags.

```
\begin{document}
All of the content of your document goes here
\end{document}
```

Example LaTeX Body — Markup

```
\section*{The use of -ing versus -in'?}
This section covers variations in realisations
of word-final $\langle -ing \rangle$ in English.

Recent studies in varieties of English
show that there is a strong correlation between
the use of the \textipa{/In/} variant in the
lower classes, such as in Norwich, England and
Chicago, USA \cite[168]{Meyerhoff}.
```

Example LaTeX Document — Output

The use of -ing versus -in'?

This section covers variations in realisations of word-final $\langle -ing \rangle$ in English.

Recent studies in varieties of English show that there is a strong correlation between the use of the /ɪn/ variant in the lower classes, such as in Norwich, England and Chicago, USA [Meyerhoff, 2006, 168].

Images

Include in the header:

```
\usepackage{graphicx}
```

Include in the document:

```
\begin{figure}[htbp]
   \includegraphics{UoE_crest.png}
   \caption{University of Edinburgh Crest}
   \label{edcrest}
\end{figure}
```

To later cite this image:

```
See figure: \ref{edcrest}
```

Images



Figure 16: University of Edinburgh Crest

See figure: 16

Time-Savers

Reason #1 for using LaTeX is:

IT'LL SAVE YOU TIME!

(And look more professional when you've finished)

Lists

```
\begin{enumerate}
 \item Enumerated List
\end{enumerate}
```

1. Enumerated List

```
\begin{itemize}
 \item Itemized List
     \subitem Subcategory
\end{itemize}
```

- Itemized List
  - Subcategory

```
\begin{description}
 \item[Word] Explanation
\end{description}
```

Word Explanation

International Phonetic Alphabet

Requires the tipa package: `\usepackage{tipa}`

- Orthography: Explaining Phonetics
  - `Orthography: Explaining Phonetics`
- Citation Form: /ˌɛkspl'ɛɪnɪŋ fʌ'nɛtɪks/
  - `Citation Form: \textipa{/""Ekspl"EInINf2"nEtIks/}`
- Connected Speech:[ɛksplɛɪnənfnɛrɪks]
  - `Connected Speech: \textipa{[EksplEIn@nfnERIks]}`

Glosses

Requires the linguex package: `\usepackage{linguex}`

```
\ex. Hola, mi amigo\\
   Hello my friend \\

\ex. Bonjour, mon ami\\
    Hello my friend\\
```

(1) Hola, mi amigo
Hello my friend

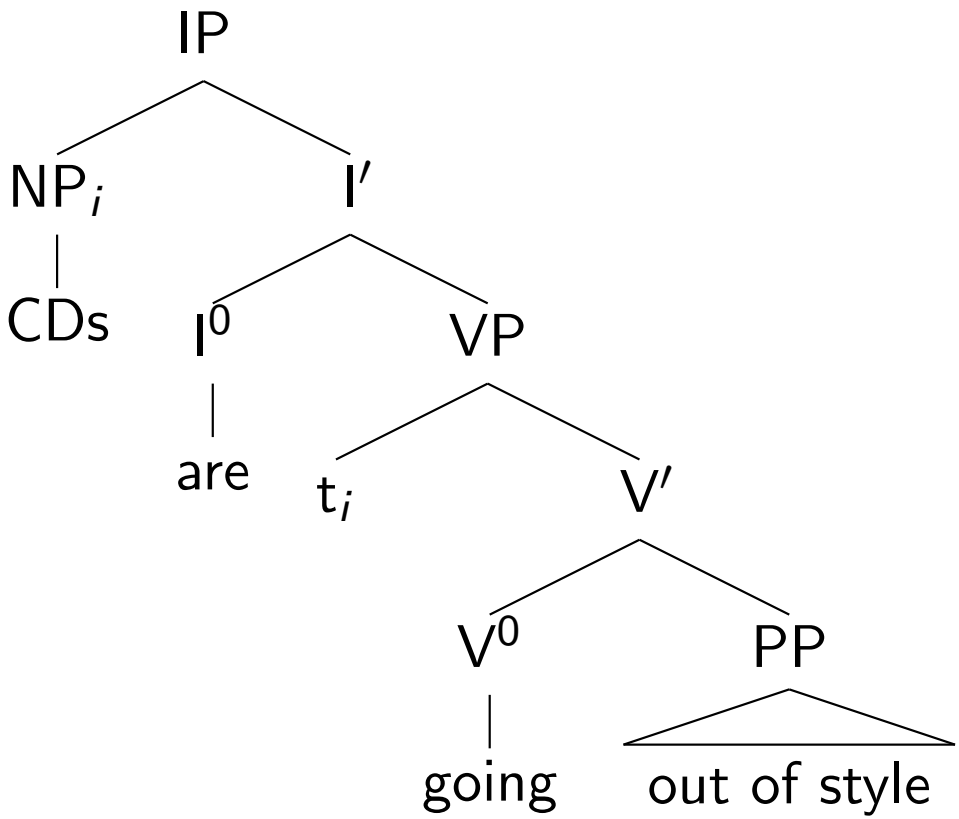
(2) Bonjour, mon ami
Hello my friend

Tree diagrams

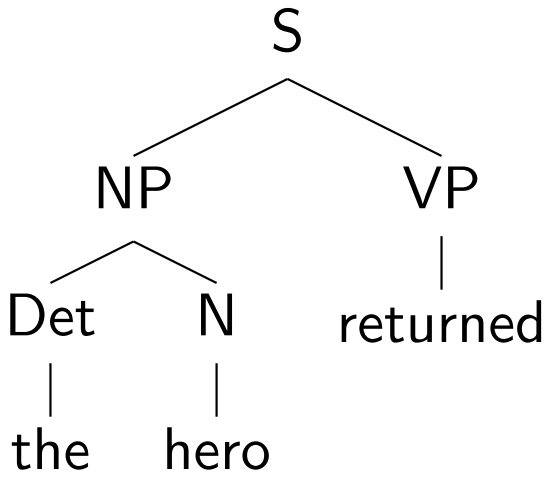
Requires the qtree package

```
\usepackage{qtree}
```

```
\Tree [.IP
[ CDs ].NP_i[.I\1
[ are ].I^0 [.VP t_i [
[ going ].V^0
\qroof{out of style}
.PP ].V\1 ].VP ].I\1 ]
```



Tree diagrams - a simpler example



Standard bracket notation: $[_S[_{NP}[_{Det}\,the][_N\,hero]][_{VP}\,returned]]$

```
\Tree [.S [.NP [ the ].Det [ hero ].N ] [ returned ].VP ]
```

Tables

	/ɪn/	/ɪŋ/	TOTAL
Adjective	7	5	12
Expletive	3	0	3
Noun	6	4	10
Verb	69	35	104
TOTAL	85	44	129

Table: Usage if /ɪn/ or /ɪŋ/ by Part of speech

- Tables in LaTeX are automatically adjusted to fit the contents of the table
- Tables will also centre themselves on the page rather than be inline

Tables

```
\begin{table}
\begin{tabular}{l|ccr}
          &\textipa{/In/} &\textipa{/IN/}  &TOTAL \\
\hline
Adjective & 7             & 5              & 12   \\
Expletive & 3             & 0              & 3    \\
Noun      & 6             & 4              & 10   \\
Verb      & 69            & 35             & 104  \\
TOTAL     & 85            & 44             & 129  \\
\end{tabular}
  \caption{Usage if \textipa{/In/} or
           \textipa{/IN/} by Part of speech}
  \label{POS}
\end{table}
```

Automatic Reference Pages

LaTeX can create Reference pages with simple commands

- Title page `\maketitle`
- Tables of Contents `\tableofcontents`
- Bibliography `\bibliography{mybibliography.bib}`
- Bibliography Style `\bibliographystyle{jmb}`

Automatic Reference Pages - Title Pages

Variations in Realisations of
Word-Final ⟨*−ing*⟩ in Scots English

Denise Wood s0675940

20 March 2008

The realisations of the morpheme ⟨*ing*⟩ is one of the more widely studied linguistic segments in the English Language The two common forms Present Day English forms are /ɪn/ and /ɪŋ/. Quite often, with the use of /ɪŋ/

Automatic Reference Pages - Bibliography

Bibliography

[Daly, 2007] Daly, M. (2007). *Nottingham Modern Languages Publications Archive,* .

[Hazen, 2006] Hazen, K. (2006). *Encyclopedia of Language and Linguistics* chapter IN/ING Variable. Oxford: Elsevier.

[Labov, 1989] Labov, W. (1989). *Language Variation and Change*, chapter The Child as Linguistic Historian. Cambridge University Press.

[Meyerhoff, 2006] Meyerhoff, M. (2006). *Introducing Sociolinguistics.* Routledge.

[Trudgill, 2000] Trudgill, P. (2000). *Sociolinguistics: An introduction to language and society* Penguin Books fourth edition

Including Other Documents

In the main document:

```
\input{filename}
```

In the document to be included:

Document Contents

Including Other Documents

```
\section{Results}
\input{results.tex}

\appendix
\section{Transcription}
I have taken the extra steps of transcribing the
dialogue for ease of reference. The transcription
follows below:

\input{transcription.tex}
```

LaTeX frontends

For writing LaTeX , any text editor will do with some form of LaTeX compiler is necessary to compile it.

There are many frontends and compilers available:

- LyX (any OS)
- MikTeX with WinEdt (Windows XP, Vista)
- TeXShop (Mac OSX)
- Kile (Linux, KDE)
- And Many Others!

MikTeX with WinEdt (Windows)

MikTeX and WinEdt are available on the University computers.

For a how-to guide on using WinEdt, check their website at
`www.winedt.com`
Click on Winedt and TeX for a step-by-step guide

WinEdt for Windows

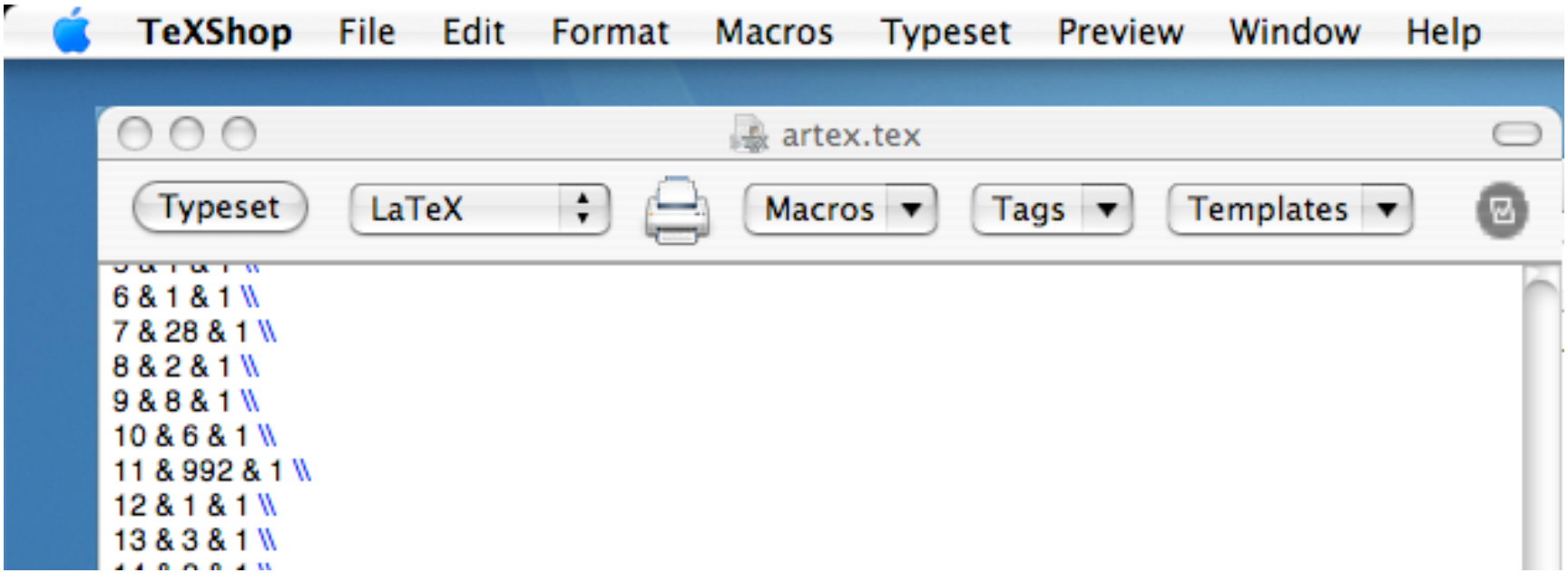


TeXShop

TeXShop is available for Mac users

For a how-to guide on using TeXShop, check their website at **www.uoregon.edu/ koch/texshop**

TeXShop for Mac

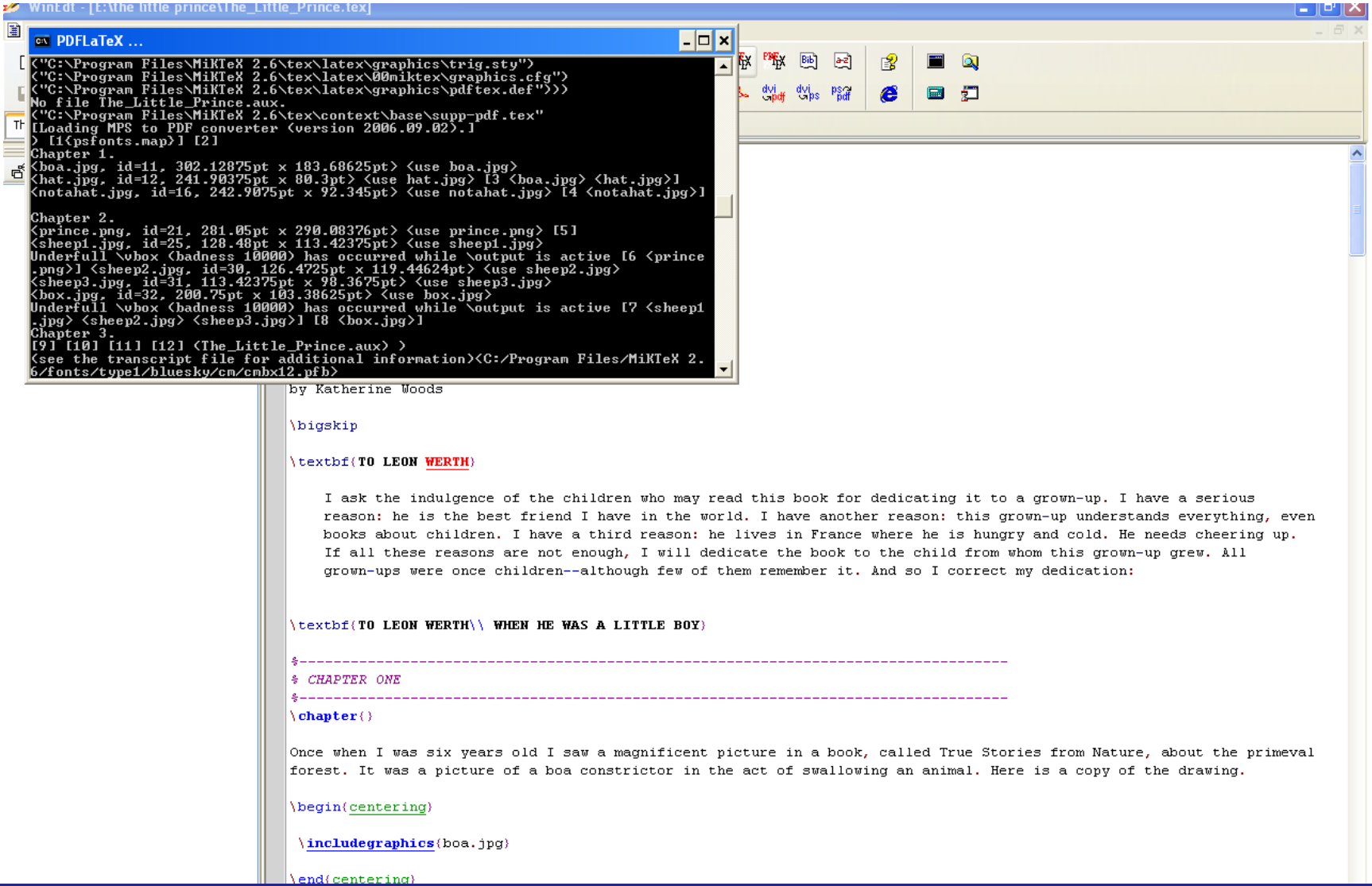


Compling LaTeX

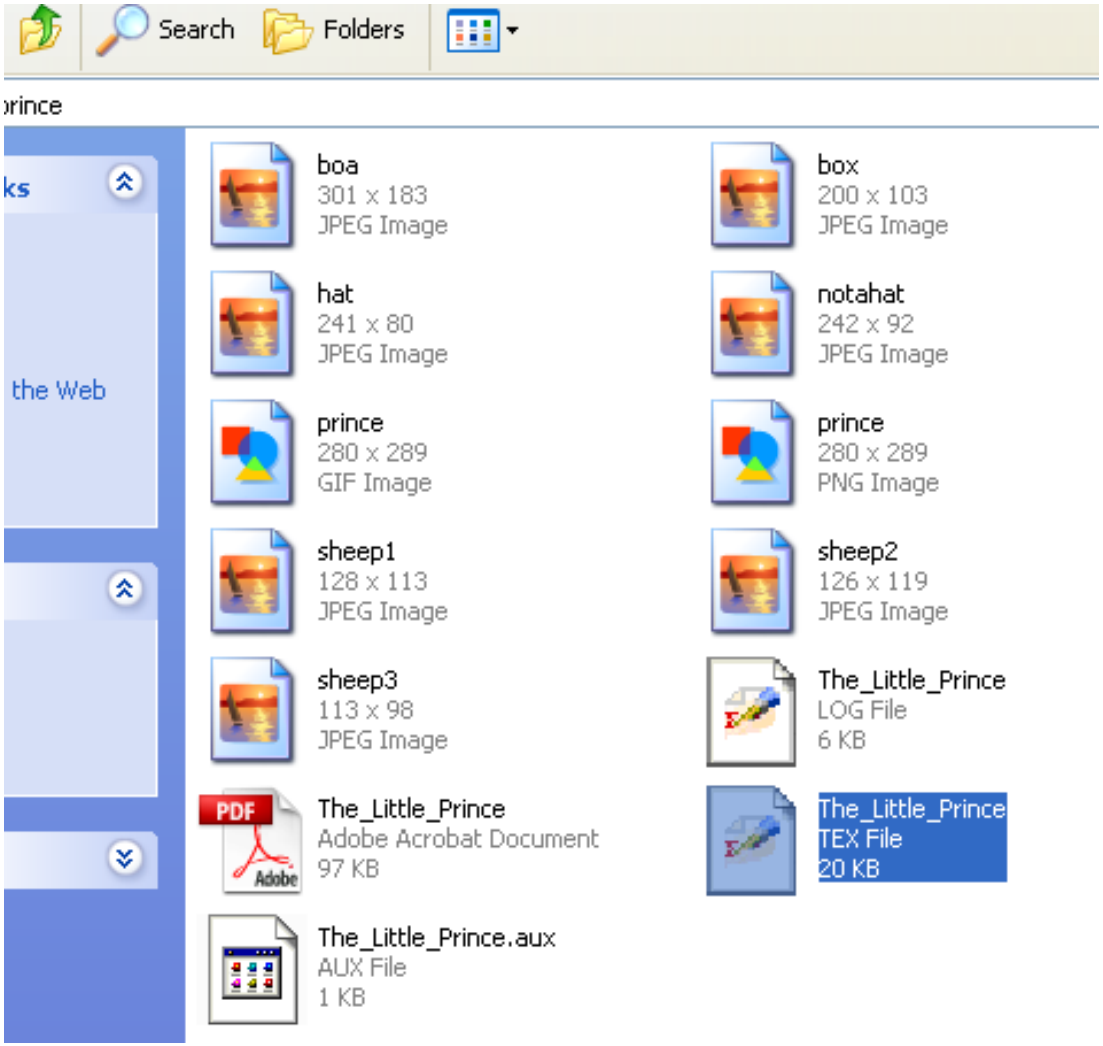
Some notes about compiling:

- You must compile the LaTeX code twice to match up references
- Different frontends have different ways of compiling - use PDF LaTeX
- Don't worry about problems compiling - there IS a solution

Run PDF LaTeX



Files Created



LaTeX errors

There are 3 different types of problems that LaTeX will notify you about:

1. Errors - LaTeX will not compile
2. Warnings - LaTeX will compile - maybe ignore
3. Badboxes - LaTeX will compile - can be ignored

When in doubt - query "LaTeX (problem)". The internet is your friend.

Resources

LaTeX cheat-sheet: `http://stdout.org/ winston/latex/latexsheet-a4.pdf`

TIPA chart: `www.ling.ohio-state.edu/events/lcc/tutorials/tipachart/tipachart.pdf`

Tipa Manual: `http://home.uchicago.edu/ jkirby/latex/tipaman.pdf`

Trees tutorial: `www.ling.upenn.edu/advice/latex/qtree/qtreenotes.pdf`

Linguex Manual: `http://mirror.cps.cmich.edu/ctan/macros/latex/contrib/linguex/linguex-doc.pdf`

Conclusion

If you have any questions about LaTeX or this presentation, feel free to ask now or e-mail me at:

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If you'd like a copy of these slides, just send me an e-mail.

Thanks for listening!