

# COMP 2400 UNIX Tools

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# Technical Documentation Tool Requirements

- Integrates with version control system (text files)
- Free and open document standard (avoid vendor lock-in)
- Enables typesetting of mathematical formulas
- Enables generating common document formats (at least HTML and PDF)

⇒ Candidates: SGML/Docbook or Texinfo

# SGML & Docbook

- SGML is a precursor to HTML
- SGML is a standard for specifying any kind of text document
- Docbook is an application of SGML for writing technical documentation

# LaTeX

- LaTeX is an extension of the TeX typesetting language by Leslie Lamport
  - TeX was designed as a timeless format to produce high-quality books by Donald Knuth
- ⇒ LaTeX is **the** standard free software document preparation system in mathematics, physics and computer science

# LaTeX 101

```
\documentclass[12pt]{article}
\usepackage{amsmath,graphicx,verbatim}
\begin{document}
\begin{center}
{\large Introduction to CS} \\
\copyright 2007 by Author \\
\today
\end{center}
```

```
\section{Introduction}
```

In LaTeX, it is easy to write greek:  $\alpha$ ,  $\beta$ .  
The dollar starts the mathematical mode. Simple examples  
are  $a^b$  or even  $\sqrt[n]{\frac{a}{b^\delta}}$ .

An empty line starts a new paragraph.

```
\end{document}
```



# Using LaTeX

```
$ latex doc.tex           # => doc.dvi
$ xdvi doc.dvi           # displays doc.dvi
$ dvips -o doc.ps doc.dvi # => doc.ps
$ lpr doc.ps             # prints doc.ps
$ pdflatex doc.tex       # => doc.pdf
$ xpdf doc.pdf           # displays doc.pdf
```

# Texinfo

- Formatted text format for documenting programs
- Can output many formats: text, info, HTML, DVI, PDF, XML and DocBook
- Input is NOT LaTeX, but commands are similar

# Minimal Texinfo Document

```
\input texinfo @c -*-texinfo-*-
@setfilename infoname.info
@settitle name-of-manual version
@copying
Copyright @copyright{} years copyright-owner.
@end copying
@titlepage
@title name-of-manual-when-printed
@author author
@insertcopying
Published by ...
@end titlepage
@contents
@ifnottex
@node Top
@top title
@end ifnottex
@menu
* First Chapter:: Getting started ...
@end menu
@node First Chapter
@chapter First Chapter
```



# Important Texinfo Directives

- `@c` comment
- `@node` link target
- `@code{source code}`
- `@command{command name}`
- `@math{a+b}`
- `@bye`

# More Directives

- `@chapter`, `@section`, `@subsection`, `@appendix`
- `@emph{emphasizing}`
- `@code{sample-code}`

# Nodes

- Node is a text segment, starts with `@node` and ends with the next `@node` – no nesting!
- Syntax: `@node Name, Next, Previous, Up`
- `Next, Previous` and `Up` can be omitted if `@node` is immediately followed by `@chapter` or `@section`
- Can refer to any node using `@xref{Name}`

# Anchors

- Mark using `@anchor{anchor-name}`
- Reference using `@xref{anchor-name, ,link-name}`

# Menus

Menus must be located at the end of a node.

```
@menu
```

```
Description of the menu
```

```
* Menu Entry Using Node Name:: Description
```

```
* Menu Text Entry: Node Name. Description
```

```
@end menu
```

# Lists and Tables

- `@item` is used for each item in the list/table
- `@itemize @bullet` starts a bullet-list
- `@end itemize` ends the list
- `@enumerate` starts an enumeration
- `@table` starts two-column table

# Indices

- `@findex Entry text` – add entry to function index
- Predefined indices include “fn” (functions, `@findex`), “tp” (types, `@tindex`) and “vr” (variables, `@vindex`)
- Use `@printindex fn` to generate the function index

# Texinfo and autotools

- Get `texinfo.tex` and `mdate-sh` from web
- Write `myapp.texi` Texinfo documentation
- Extend `doc/Makefile.am` with:

```
DISTCLEANFILES = myapp.cps  
info_TEXINFOS = myapp.texi  
myapp_TEXINFOS = myapp.texi
```



# Writing Technical Documentation

- Be precise: better no documentation than inaccurate documentation
- Be concise: say what needs to be said once and only once, and only say what needs to be said
- Order matters:
  - High-level overview, then low-level details
  - Define concepts before using them

# Questions

