
Welcome to MacTeX! What's Next?

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Who? What? Where? When? Why? How?

$\text{T}_{\text{E}}\text{X}$ is a free, multilingual, open source typesetting system “for the creation of beautiful books—and especially for books that contain a lot of mathematics,” says $\text{T}_{\text{E}}\text{X}$ developer Donald Knuth.

$\text{T}_{\text{E}}\text{X}$ runs on all modern computer systems, including the Macintosh with Mac OS X. With few exceptions, documents created in $\text{T}_{\text{E}}\text{X}$ can be transported to all other operating systems and look the same, no matter where they are typeset.

Because $\text{T}_{\text{E}}\text{X}$ is a programming language with hundreds of typesetting commands, users of $\text{T}_{\text{E}}\text{X}$ work with macro “formats” designed to make $\text{T}_{\text{E}}\text{X}$ easier to use. Professor Knuth developed the first format, *Plain $\text{T}_{\text{E}}\text{X}$* .

AMSLaTeX
etex
ePlain
Plain TeX
infoTeX
AMSTeX
MusicTeX
RevTeX
latex
pdfetex
luatex
tex
xetex
pdftex
context
JadeTeX
XMLTeX
omegaleph



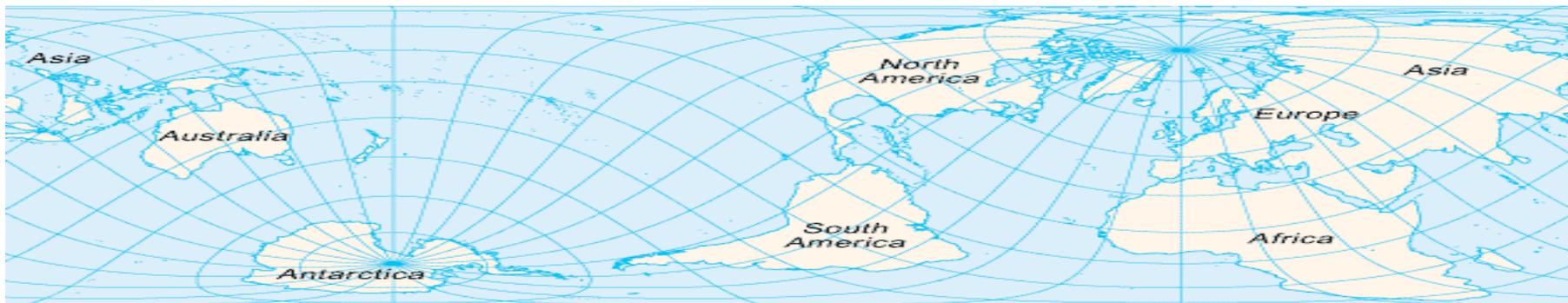
TEX for the World

TEX supports languages from around the world. It publishes from left-to-right, right-to-left and top-to-bottom. TEX languages include any with a writing system supported or supportable by fonts.

This means you can publish in almost any language. Where support for a language is unavailable or sketchy, if you ask, someone will probably help. It happens all of the time.

Supported languages include:

Arabic, Armenian, Bangla and Asamese, Basque, Bengali, Burmese, Casyl, Cherokee, Chinese, English, Japanese, Korean, Coptic, Croatian, Czech and Slovene, Cyrillic, Devanagari, Dutch, English, Epi-Olmec, Ethiopian, French, German, Greek, Gurmukhi, Hebrew, Hungarian, Icelandic, Indian, Inuktitut, Italian, Japanese, Korean, Latin, Malayalam, Manju, Mongolian, Polish, Portuguese, Romanian, Russian, Sanskrit, Sinhala, Slovene, Somali, Spanish, Swedish, Tamil, Telugu, Tibetan, Turkish, Ukrainian, Vietnamese. . .

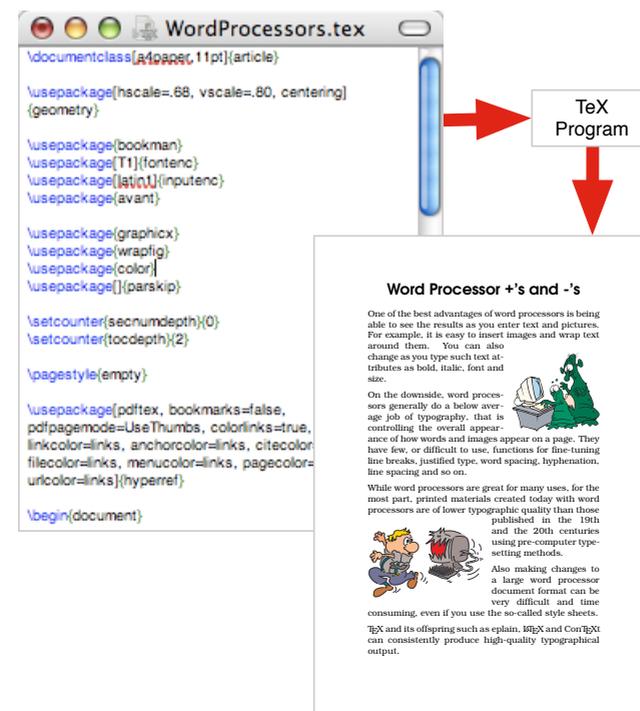
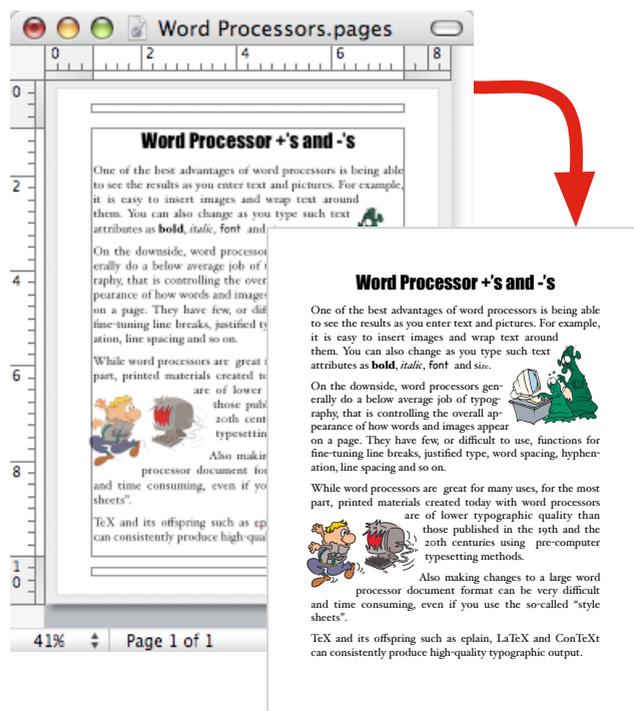


Document Processing vs. Word Processing

TeX is a document processing system, not a word processor.

A *word processor*—such as Pages or Word—shows you the results as you enter and format your content.

The TeX *document processor* typesets your content and commands into a separate output file, typically a PDF.



TEX Front Ends and Supporting Tools

You can run TEX from the Mac OS X terminal or—as most Mac OS X users do—through one of the front end programs.

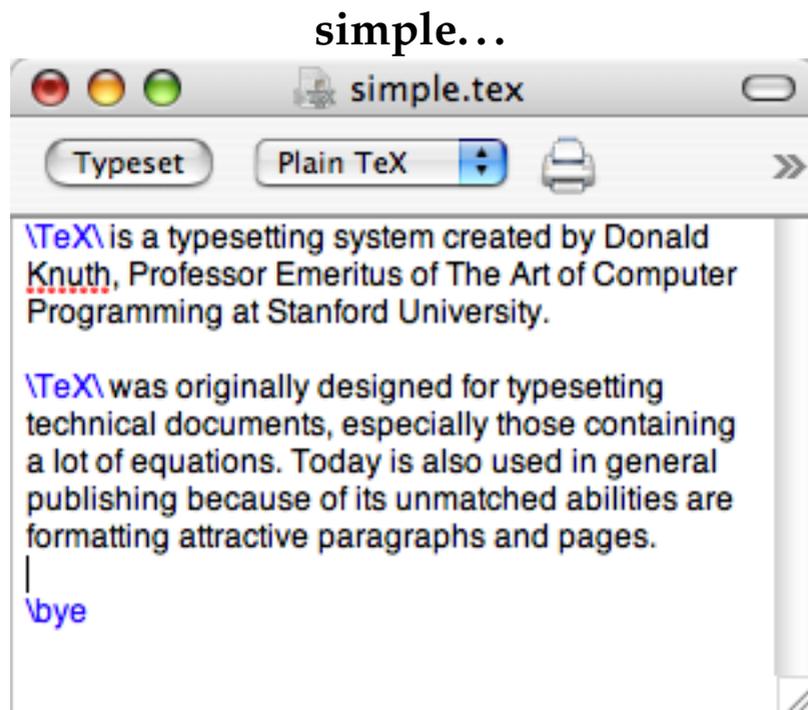
The TEX front end programs look like text editors where you type your content and your control sequences. When you want to review your document, you can “typeset” or “compile” your project by selecting a command. Mac OS X has several TEX front ends, with TeXShop being the most widely used by beginners.

There are also front end programs for maintaining TEX bibliographies and typesetting equations and phrases.

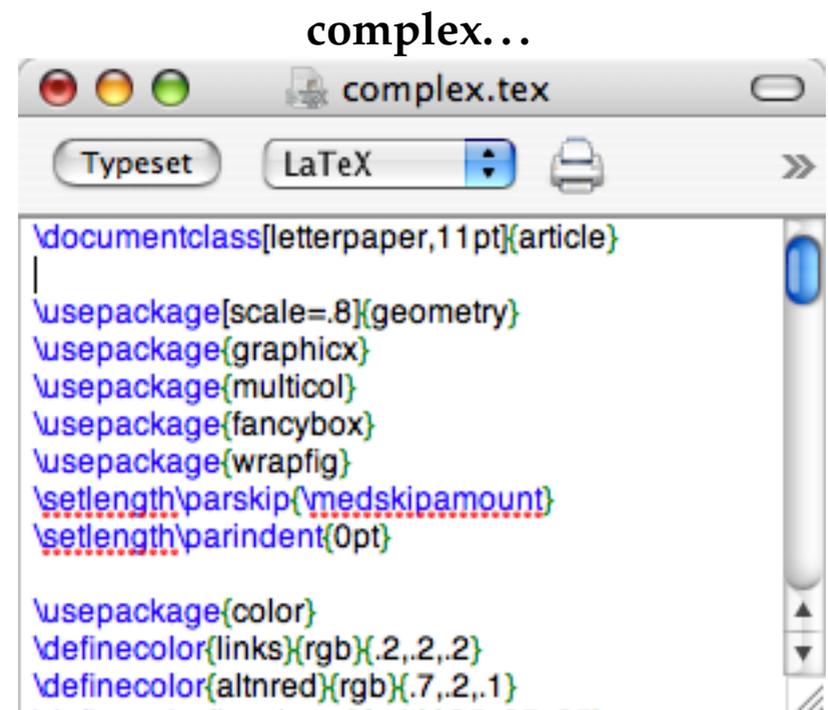
TeXtures TeXMaker
TextMate
BBedit SubEthaEdit
TeXWorks iTeXMac
TeXniScope TeXShop
TextWrangler LaTeXiT
EMacs for Mac
Skim BibDesk

About the Learning Curve

The effort needed to learn $\text{T}_{\text{E}}\text{X}$ is similar to that of learning a word processor. Learning and using $\text{T}_{\text{E}}\text{X}$ can be:



or...



...depending on your needs. While $\text{T}_{\text{E}}\text{X}$'s learning curve is similar to the most popular word processors, you get much better quality output.

TEX Formats

TEX includes hundreds of built-in formatting commands, called control sequences, such as `\sl` for *slanted* and `\bf` for **bold**. To ease marking up text, control sequences can be combined into “macros,” such as `\heading` for ***bold slanted***, for example. Groups of macros can be collected into “formats” for generalized or specialized uses. Formats can set margins, number sections and paragraphs, build tables of contents and define colors, as examples. Some popular formats are :

L^ATEX provides hundreds of add-on “packages” for scientific, technical and general publishing.

AMS-L^ATEX is L^ATEX enhanced for math publishing, formatting text and multiline equations to the standards of the American Mathematical society.

Eplain TEX extends Plain TEX with support for indexes, tables of contents and hyperlinks.

ConTEXt is very structured and intended for general publishing applications.

These and others are distributed with the MacTEX installer. Users can also create their own formats.

L^AT_EX Resources—Online

The most widely used T_EX format—and a good place to start—L^AT_EX was developed by Leslie Lamport and then refined by thousands of contributors by means of “packages” providing extra functions. Useful online starting places include:

The Not So Short Introduction to L^AT_EX Summarizes the basic concepts and most commonly used control sequences. Updated fairly regularly in numerous languages.

<http://www.ctan.org/get/info/lshort/english/lshort.pdf>

L^AT_EX for Word Processor Users Cross references familiar word processor commands with the equivalent L^AT_EX control sequences.

<http://www.ctan.org/tex-archive/info/latex4wp/latex4wp.pdf>

Online Tutorials for L^AT_EX by India TUG For beginners, these cover lists, boxes, tables, floats, colors, footnotes, margin notes, bibliographies, math, tables of contents, indices and more...

<http://www.tug.org/tutorials/tugindia/>

Hypertext Help with L^AT_EX Reference information for experienced L^AT_EX users.

<http://www.giss.nasa.gov/tools/latex/>

L^AT_EX Resources—Books

A few books, with others listed at <http://www.tug.org/books/>:

L^AT_EX: A Document Preparation System Definitive book by the developer of L^AT_EX. Leslie Lamport. ISBN: 0201529831.

Guide to L^AT_EX (4th Edition) Covers many L^AT_EX topics, including most packages. Helmut Kopka, Patrick W. Daly. ISBN: 0321173856.

The L^AT_EX Companion (2nd Edition) Basic guidance with details on tabular and technical typesetting. Frank Mittelbach, Miche Goossens, Johannes Braams, David Carlisle, Chris Rowley. ISBN: 0201362996.

The L^AT_EX Web Companion: Integrating TeX, HTML, and XML Good for working with Web publishing. Michel Goossens, Sebastian Rahtz, Eitan M. Gurari, Ross Moore, Robert S. Sutor. ISBN: 0201433117.

L^AT_EX Graphics Companion (2nd Edition) Techniques and tricks for illustrating L^AT_EX documents. Michel Goossens, et al. ISBN: 0321508920.

Math Into L^AT_EX, More Math Into L^AT_EX, 4th Edition Two books for developing skills for good math publishing. George Gratzer. ISBN's: 0817641319 and 0387322892.

Plain T_EX Resources

If you want to learn T_EX from the ground up, Plain T_EX is a technical place to start. Use it for a while, then modify and make your own macros. Resources include:

A Gentle Introduction to T_EX Starts from the beginning and moves toward more complex usage. No previous knowledge of T_EX is assumed.

<http://ctan.tug.org/get/info/gentle/gentle.pdf>

T_EX Reference Card Summarizes the most frequently used commands in Plain T_EX.

<http://refcards.com/docs/silvermanj/tex/tex-refcard-letter.pdf>

<http://refcards.com/docs/silvermanj/tex/tex-refcard-a4.pdf>

The T_EXbook Definitive book on T_EX and Plain T_EX by Donald Knuth, the developer of T_EX. This is an excellent book if you want to understand T_EX. Follow the instructions for multiple-pass reading. ISBN: 0201134489

<http://www-cs-faculty.stanford.edu/~knuth/books.html>

Eplain Macros Eplain is a set of T_EX macros that expands on and extends the definitions of Plain T_EX. It is included as part of the MacT_EX installation.

<http://www.tug.org/eplain/>

Other T_EX Resources

TUG The T_EX Users Group (TUG) is the local user group (LUG) for T_EX users in North America and any area or language not supported by a local users group. It is run by its members and supported mainly through annual dues.

<http://www.tug.org/> Web resources: <http://www.tug.org/interest.html>.

Local Users Groups Because T_EX has extraordinary support for languages, local users groups are available worldwide.

<http://tug.org/usergroups.html>

CTAN This is the Comprehensive T_EX Archive Network, the authoritative collection of materials related to the T_EX typesetting system. Here you can download information, programs and packages about T_EX, L^AT_EX, ConT_EXt and more...

<http://www.ctan.org/>

The T_EX Showcase The showcase contains examples of what you can do with T_EX, formats such as L^AT_EX and AMSL^AT_EX, many of the macros packages, plus related tools like MetaPost, TeX4ht (HTML conversion) and MusicTeX.

<http://www.tug.org/texshowcase/>

Fonts and XeTeX

Built-in Fonts

TeX comes with fonts separate from your system fonts. Using the fonts is fairly straight forward. Installing new fonts is complicated. There are no beginner-level tutorials on doing this, mostly because of the availability of XeTeX.

XeTeX

XeTeX—open source software developed by Jonathan Kew—allows TeX and friends to use Macintosh system fonts by merging Unicode and Mac OS X font technologies into TeX. XeTeX is included in the MacTeX installation. XeTeX is also available for Linux and Windows. More info: <http://tug.org/xetex>.



Bradley Hand **Gill Sans** Optima Papyrus

Arial Gentium Book **Impact** **Stone Sans**

Baskerville **Marker Felt** Hoefler Text Palatino Skia

Mac OS X T_EX/L^AT_EX Web Site & Mailing List

The Mac OS X T_EX/L^AT_EX web site is a primary source for finding information about running T_EX on a Macintosh. The web site was created and is maintained by Gary L. Gray and Joseph C. Slater as a service to the Macintosh T_EX community.

Here you can find information on T_EX software and instructions. You can also subscribe to the Mac-T_EX mailing list.

<http://www.esm.psu.edu/mac-tex/>

TeX Live and MacTeX

MacTeX is a complete installation of TeX Live, packaged for Mac OS X.

In addition to TeX Live, MacTeX installs:

- ⇒ Ghostscript
- ⇒ Conversion functions of ImageMagick
- ⇒ Latin Modern and TeX Gyre fonts in the OS X fonts folder
- ⇒ Several font end programs including TeXShop text editor for TeX, L^AT_EX_iT equation editor, BibDesk bibliography manager and Excalibur spell checker

Options allow you to selectively install some of the packages.

The web site for MacTeX is:

<http://www.tug.org/mactex/>

The web site for TeX Live is:

<http://www.tug.org/texlive/>

Current Version of Welcome Doc

You can find the current version of this document at:

<http://www.tug.org/mactex/>

