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# Welcome to MacT<sub>E</sub>X! What's Next?

- ⇒ [Who? What? Where? When? Why? How?](#)
- ⇒ [T<sub>E</sub>X for the World](#)
- ⇒ [Document Processing vs. Word Processing](#)
- ⇒ [T<sub>E</sub>X Front Ends and Supportive Tools](#)
- ⇒ [About the Learning Curve](#)
- ⇒ [T<sub>E</sub>X Formats](#)
- ⇒ [L<sup>A</sup>T<sub>E</sub>X Resources](#)
- ⇒ [Plain T<sub>E</sub>X Resources](#)
- ⇒ [Other T<sub>E</sub>X Resources](#)
- ⇒ [Fonts and XeT<sub>E</sub>X](#)
- ⇒ [Mac OS X T<sub>E</sub>X/L<sup>A</sup>T<sub>E</sub>X Web Site & Mailing List](#)
- ⇒ [T<sub>E</sub>XLive and MacT<sub>E</sub>X](#)
- ⇒ [Current Version of Welcome Doc](#)



Everything in [blue](#) is a link. So click it.

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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



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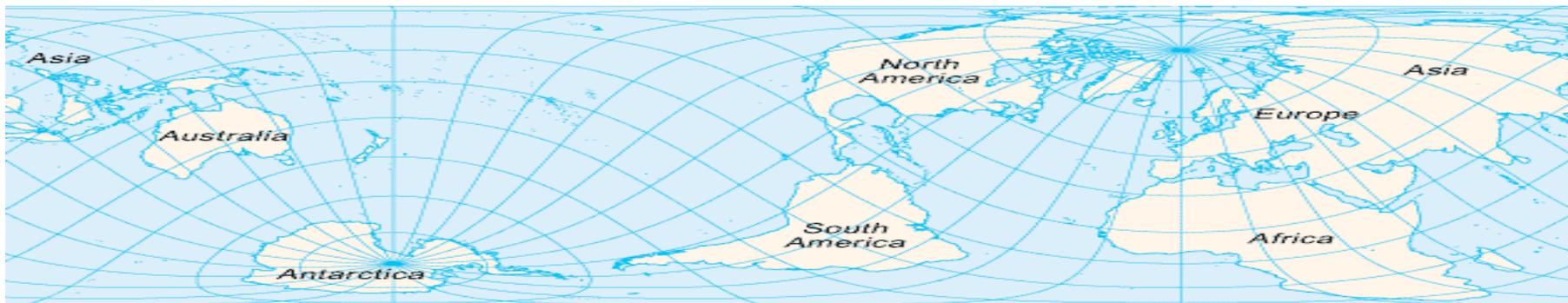
# TEX for the World

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. . .

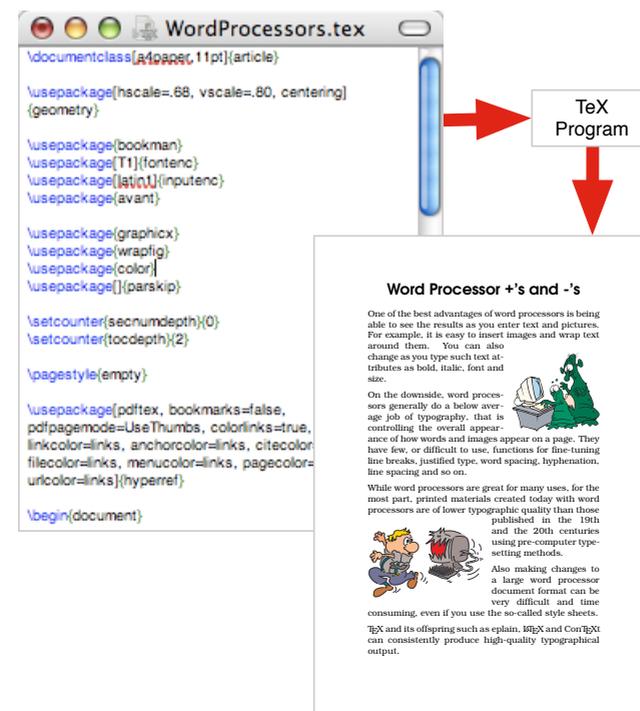
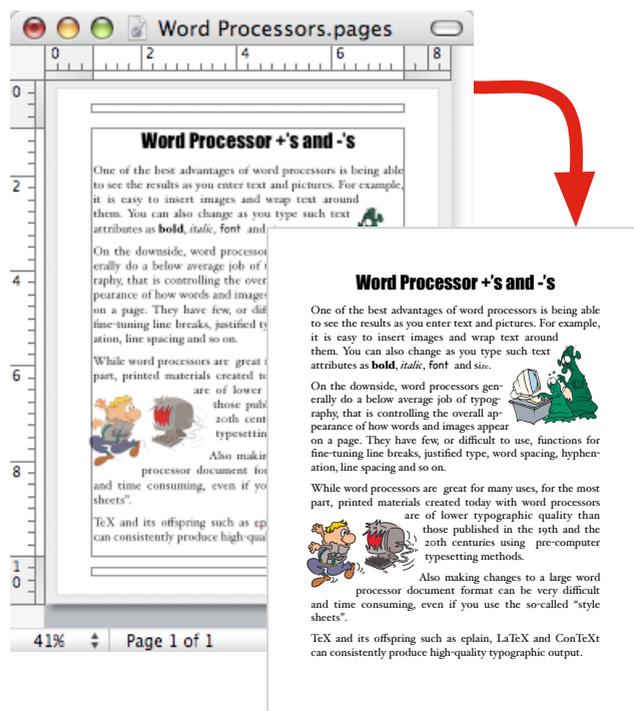


# Document Processing vs. Word Processing

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.



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# 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.

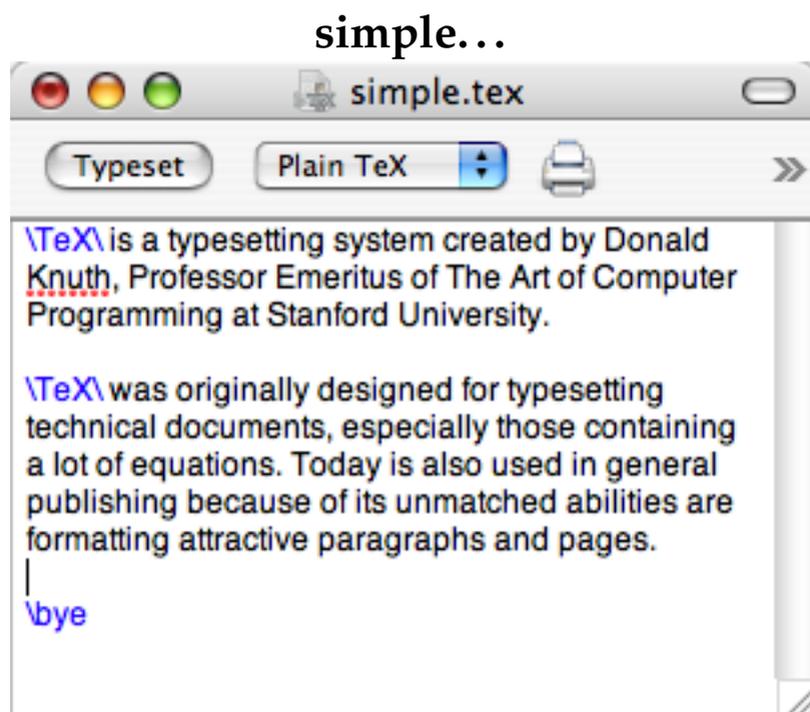
TeXtures      TeXMaker  
TextMate  
BBedit      SubEthaEdit  
TeXWorks      iTeXMac  
TeXniScope      TeXShop  
TextWrangler      LaTeXiT  
EMacs for Mac  
Skim      BibDesk

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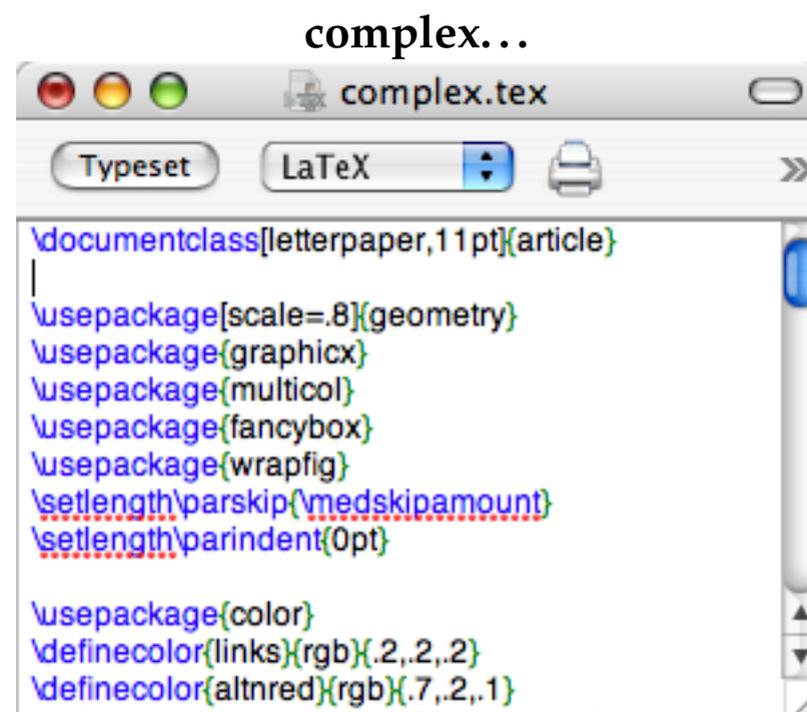
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# About the Learning Curve

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.

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# 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<sup>A</sup>T<sub>E</sub>X** provides hundreds of add-on “packages” for scientific, technical and general publishing.

**AMS-L<sup>A</sup>T<sub>E</sub>X** is L<sup>A</sup>T<sub>E</sub>X 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.

**ConT<sub>E</sub>Xt** 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.

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# L<sup>A</sup>T<sub>E</sub>X Resources—Online

The most widely used T<sub>E</sub>X format—and a good place to start—L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X** 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<sup>A</sup>T<sub>E</sub>X for Word Processor Users** Cross references familiar word processor commands with the equivalent L<sup>A</sup>T<sub>E</sub>X control sequences.

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

**Online Tutorials for L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X** Reference information for experienced L<sup>A</sup>T<sub>E</sub>X users.

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

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# L<sup>A</sup>T<sub>E</sub>X Resources—Books

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

**L<sup>A</sup>T<sub>E</sub>X: A Document Preparation System** Definitive book by the developer of L<sup>A</sup>T<sub>E</sub>X. Leslie Lamport. ISBN: 0201529831.

**Guide to L<sup>A</sup>T<sub>E</sub>X (4th Edition)** Covers many L<sup>A</sup>T<sub>E</sub>X topics, including most packages. Helmut Kopka, Patrick W. Daly. ISBN: 0321173856.

**The L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X Graphics Companion (2nd Edition)** Techniques and tricks for illustrating L<sup>A</sup>T<sub>E</sub>X documents. Michel Goossens, et al. ISBN: 0321508920.

**Math Into L<sup>A</sup>T<sub>E</sub>X, More Math Into L<sup>A</sup>T<sub>E</sub>X, 4th Edition** Two books for developing skills for good math publishing. George Gratzer. ISBN's: 0817641319 and 0387322892.

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# Plain T<sub>E</sub>X Resources

If you want to learn T<sub>E</sub>X from the ground up, Plain T<sub>E</sub>X 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<sub>E</sub>X** Starts from the beginning and moves toward more complex usage. No previous knowledge of T<sub>E</sub>X is assumed.

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

**T<sub>E</sub>X Reference Card** Summarizes the most frequently used commands in Plain T<sub>E</sub>X.

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

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

**The T<sub>E</sub>Xbook** Definitive book on T<sub>E</sub>X and Plain T<sub>E</sub>X by Donald Knuth, the developer of T<sub>E</sub>X. This is an excellent book if you want to understand T<sub>E</sub>X. 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<sub>E</sub>X macros that expands on and extends the definitions of Plain T<sub>E</sub>X. It is included as part of the MacT<sub>E</sub>X installation.

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

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# Other T<sub>E</sub>X Resources

**TUG** The T<sub>E</sub>X Users Group (TUG) is the local user group (LUG) for T<sub>E</sub>X 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<sub>E</sub>X has extraordinary support for languages, local users groups are available worldwide.

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

**CTAN** This is the Comprehensive T<sub>E</sub>X Archive Network, the authoritative collection of materials related to the T<sub>E</sub>X typesetting system. Here you can download information, programs and packages about T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X, ConT<sub>E</sub>Xt and more...

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

**The T<sub>E</sub>X Showcase** The showcase contains examples of what you can do with T<sub>E</sub>X, formats such as L<sup>A</sup>T<sub>E</sub>X and AMSL<sup>A</sup>T<sub>E</sub>X, many of the macros packages, plus related tools like MetaPost, TeX4ht (HTML conversion) and MusicTeX.

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

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# 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

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# Mac OS X T<sub>E</sub>X/L<sup>A</sup>T<sub>E</sub>X Web Site & Mailing List

The Mac OS X T<sub>E</sub>X/L<sup>A</sup>T<sub>E</sub>X web site is a primary source for finding information about running T<sub>E</sub>X 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<sub>E</sub>X community.

Here you can find information on T<sub>E</sub>X software and instructions. You can also subscribe to the Mac-T<sub>E</sub>X mailing list.

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

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# 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<sup>A</sup>T<sub>E</sub>X<sub>i</sub>T 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/>

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# Current Version of Welcome Doc

You can find the current version of this document at:

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

