Welcome to TEX! Now what?

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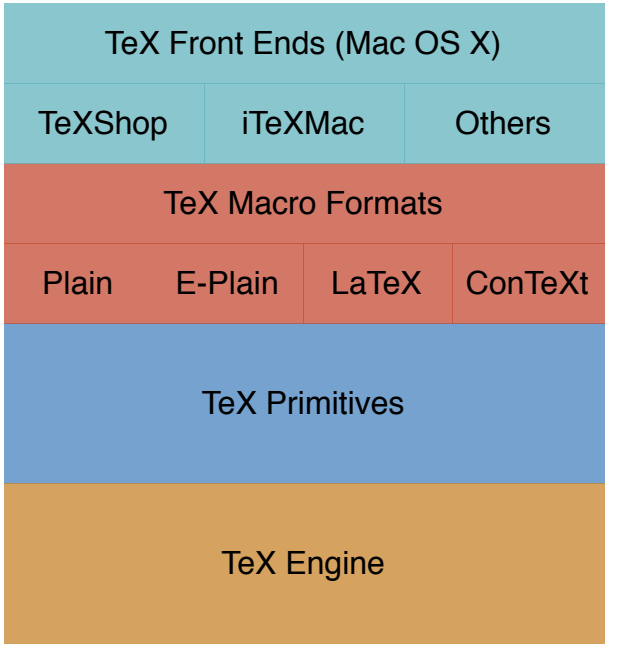
Everything in blue is a link. So click it.

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

TEX 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 TEX developer Donald Knuth.

TEX runs on literally all modern computer systems, from personal computers to massive mainframes, and, of course, on the Macintosh with Mac OS X. With few exceptions, documents created in TEX can be transported across operating systems and look the same, not matter where they are typeset.

TEX is a programming language with 300 "primitive" typesetting commands called "control sequences." Almost all users of TEX work with the so-called macro "formats" that sit on top of TEX to make it easier to use. Knuth, himself, developed the first format, calling it *Plain TEX*.



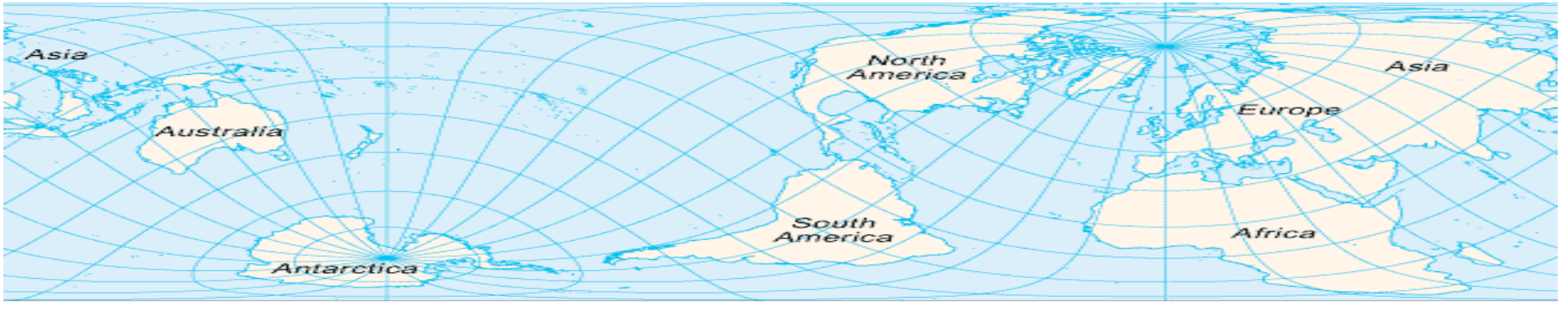
TEX for the World

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...

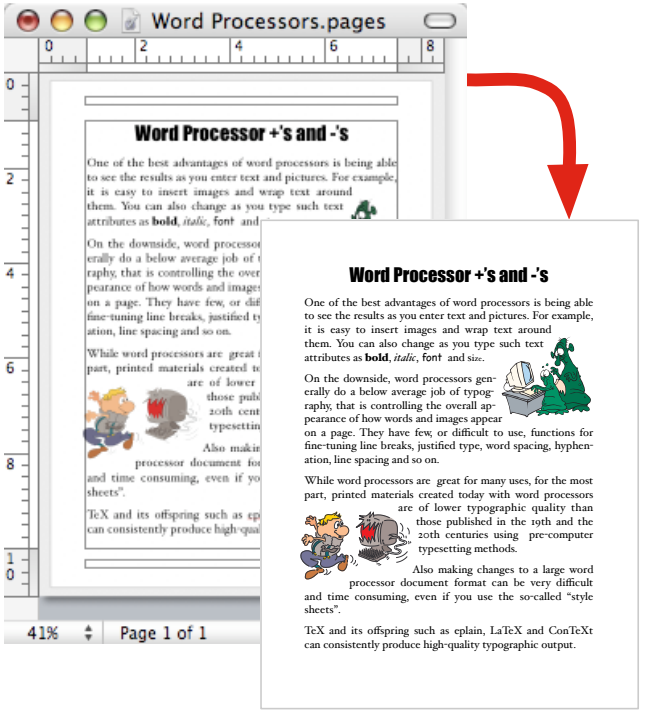


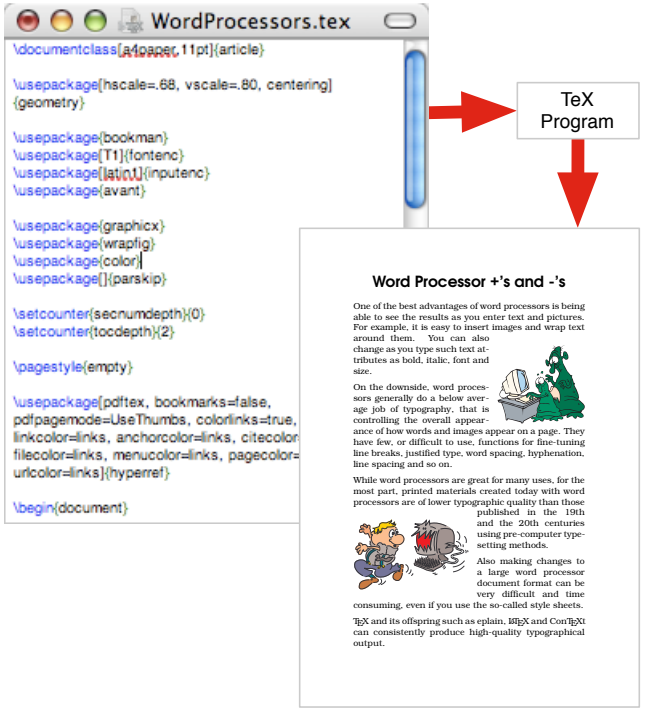
Document Processing vs. Word Processing

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

With a *word processor*—such as AppleWorks, Pages or Word—you see the results as you enter and format your content.

With a *document processor*, a separate program formats your content and commands into a separate output file, usually a PDF.





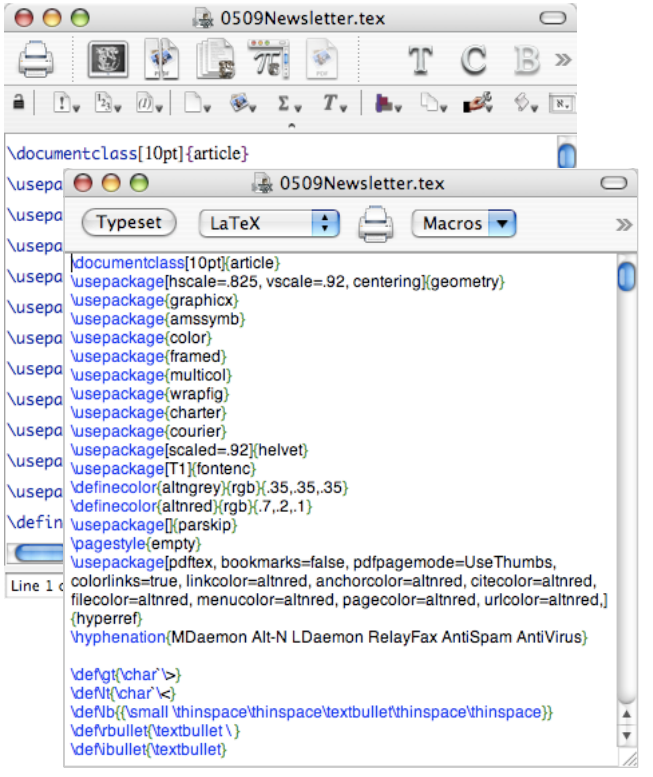
TEX Front Ends on Mac OS X

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 sequence commands and macro commands. When you want to see your finished document, you "typeset" through the front end program. Mac OS X has several TEX front ends, the most popular being TEXShop and iTEXMac. Each has is advantages.

TEXShop is very simple and easy to use. iTEXMac is more detailed and designed for experienced users with complex project needs. Newcomers tend to prefer TEXShop. Some later switch to iTEXMac.

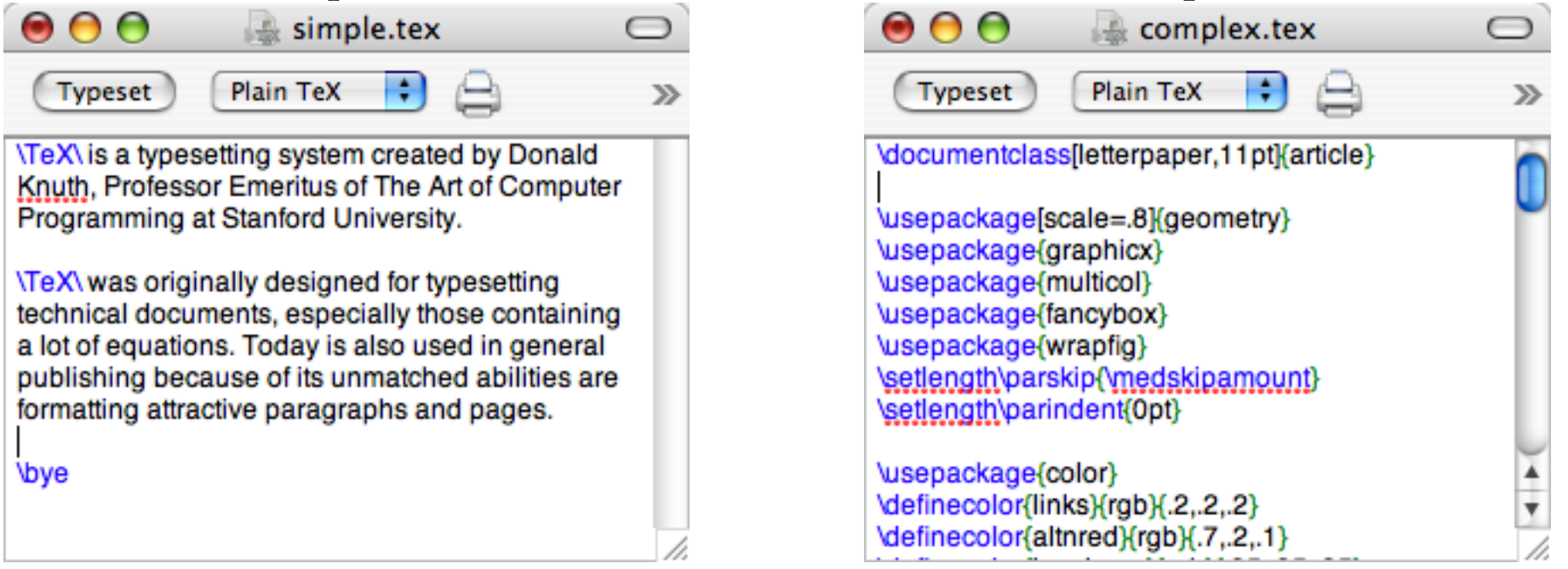
For information on other front ends go to the Mac-TeX web site and follow the "Front Ends" link.



About the Learning Curve

The effort needed to learn TEX is similar to that of learning a word processor. Learning and using TEX can be:

simple… or… **complex…**



…depending on your needs. In either case, or in between, TEX's overall ease-of-use is similar to the most popular word processors, plus you get tons better quality output.

LaTeX, ConTeXt, Eplain or DIY?

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 general or specialized uses. Formats can set margins, number sections and paragraphs, build tables of contents and define colors, as examples. Three popular formats are:

LaTeX
Originally designed mostly for technical publishing, including math equations, LaTeX also supports many add-on "packages" for both specialized and general applications.

ConTeXt
ConTeXt is aimed at general publishing. ConTeXt is very structured, allowing you to design a document and then add text, almost without regard to the document formatting.

Eplain
Eplain TeX extends Plain TeX with indexes and tables of contents, for example. Eplain is "style-neutral," without an underlying design influencing the structure of all documents.

All three, plus more, are included with the MacTeX installer. You can also do-it-yourself, creating your own macros and formats, a common practice for experienced users.

LaTeX Resources—Online

The most widely used TeX format—and a good place to start with TeX—LaTeX was originally developed by Leslie Lamport and later refined by thousands. Many "packages" provide extra functions. Numerous LaTeX resources include:

The Not So Short Introduction to LaTeX Summarizes the basic concepts and most commonly used control sequences. Updated fairly regularly in numerous languages.
http://www.tug.org/tex-archive/info/lshort/

LaTeX for Word Processor Users Cross references familiar word processor commands with the equivalent LaTeX control sequences.
http://www.tug.org/tex-archive/info/latex4wp/

Online Tutorials for LaTeX by India TUG For beginners, these cover lists, boxes, tables, floats, colors, footnotes, margin notes, bibliographies, math, tables of contents, indices...
http://www.tug.org.in/tutorials.html

Hypertext Help with LaTeX Reference information for experienced LaTeX users.
http://www.giss.nasa.gov/latex/

LaTeX Resources—Books

There are many books on LaTeX, including:

LaTeX: A Document Preparation System Definitive book by the original developer of LaTeX. ISBN: 0201529831.

Guide to LaTeX (4th Edition) Attempts to cover all aspects of LaTeX, including most of the packages. ISBN: 0321173856.

LaTeX Companion, The (2nd Edition) Provides guidance on basic formatting. Includes detailed help on packages for tabular and technical typesetting. ISBN: 0201362996.

The LaTeX Web Companion: Integrating TeX, HTML, and XML Discusses using TeX and LaTeX with the web and XML. Not a beginner's book, but some of the tools, such as TeX4ht, make TeX to HTML conversions easy. ISBN: 0201433117.

LaTeX Graphics Companion Describes techniques and tricks needed to illustrate LaTeX documents. ISBN: 0201854694.

ConTEXt Resources

ConTEXt is the another widely-used TEX format. Is very structured and modular, designed more for general publishing than LATEX. ConTEXt can work with XML source files. The primary developer of ConTEXt is Hans Hagen.

The best sources of information on ConTEXt are:

PRAGMA Advanced Document Engineering web site This web site is the home of ConTEXt. Here you can find documentation on using ConTEXt, plus updates.
http://www.pragma-ade.com/

ConTEXtWiki This wiki site include tutorials and tips by ConTEXt users.
http://wiki.contextgarden.net/

Mailing list for ConTEXt users You can get your ConTEXt questions answered here. Hans Hagen participates on this list.
http://www.ntg.nl/mailman/listinfo/ntg-context/

Plain TEX Resources

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

A Gentle Introduction to TEX Starts from the beginning and moves towards more complex usage. No previous knowledge of TEX is assumed.
http://ctan.tug.org/tex-archive/info/gentle/

TEX Reference Card Summarizes the most frequently used commands in Plain TEX.
http://refcards.com/refcards/tex/tex-refcard-letter.pdf

The TEXbook Definitive book on TEX and Plain TEX by Donald Knuth, the developer of TEX. This is most useful if you want to create macros and typeset equations. 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 TEX macros that expands on and extends the definitions of Plain TEX. It is included as part of the Mac-TEX installation.
http://www.tug.org/eplain/

Other TEX Resources

TUG The TEX Users Group (TUG) is the local user group (LUG) for TEX users in North America and any area or language not supported by a local users group. It is run by its members and supported mostly through annual dues.
http://www.tug.org/

Local Users Groups Because TEX has extraordinary support for languages, local users groups are available worldwide.
http://tug.org/usergroups.html

CTAN This is the Comprehensive TEX Archive Network, the authoritative collection of materials related to the TEX typesetting system. Here you can download information, programs and packages about TEX, LATEX, ConTEXt and more. . . .
http://www.ctan.org/

The TEX Showcase The show case contains examples of what you can do with TEX, macro packages such as LATEX and ConTEXt, plus related programs like METAPOST.
http://www.tug.org/texshowcase/

Fonts and XeTEX

Built-in Fonts

TEX comes with a set of fonts, separate from your system fonts. Using the fonts is fairly straight forward. Installing new fonts is complicated. There is a tutorial here:
http://homepage.mac.com/bkerstetter/

Fonts in ConTEXt

Using fonts in ConTEXt is fairly straight forward. You can download a fonts sampler from:
http://pragma-ade.com/specials/fonts/fontspecial-s.pdf

XeTEX from SIL

XeTEX, open source software from SIL, allows TEX and friends to use Macintosh system fonts by merging Unicode and Mac OS X font technologies into TEX. For more info:
http://tug.org/xetex

Mac-TEX Web Site & Mailing List

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

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

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