Welcome to T\(\text{E}\)X! Now what?

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Everything in blue is a link. So click it.

\(\text{T}_{\text{E}}\text{X}\) 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 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 \(\text{T}_{\text{E}}\text{X}\) can be transported across operating systems and look the same, not matter where they are typeset.

\(\text{T}_{\text{E}}\text{X}\) is a programming language with 300 “primitive” typesetting commands called “control sequences.” Almost all users of \(\text{T}_{\text{E}}\text{X}\) work with the so-called macro “formats” that sit on top of \(\text{T}_{\text{E}}\text{X}\) to make it easier to use. Knuth, himself, developed the first format, calling it \textit{Plain} \(\text{T}_{\text{E}}\text{X}\.\)
\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 Apple-Works, 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 its 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:

<table>
<thead>
<tr>
<th>simple...</th>
<th>or...</th>
<th>complex...</th>
</tr>
</thead>
</table>
| \TeX{} is a typesetting system created by Donald Knuth, Professor Emeritus of The Art of Computer Programming at Stanford University. \TeX{} was originally designed for typesetting technical documents, especially those containing a lot of equations. Today is also used in general publishing because of its unmatched abilities are formatting attractive paragraphs and pages. | | \documentclass[letterpaper,11pt]{article} \usepackage[graphicx] \usepackage[hyphenation]{altsyn} \usepackage{parskip} 
\setlength\parindent{0pt} \usepackage{enumitem} \definecolor{links}{rgb}{.2,.2,2} \definecolor{alttext}{rgb}{.7,.2,1} |

...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, Con\TeXt, Eplain or DIY?**

\TeX includes hundreds of built-in formatting commands, called control sequences, such as \texttt{\textbackslash s l} for \emph{slanted} and \texttt{\textbackslash b f} for \bf. To ease marking up text, control sequences can be combined into “macros,” such as \texttt{\textbackslash heading} for \bf \textit, 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:

\begin{itemize}
  \item **\LaTeX**
  Originally designed mostly for technical publishing, including math equations, \LaTeX also supports many add-on “packages” for both specialized and general applications.
  \item **Con\TeXt**
  Con\TeXt is aimed at general publishing. Con\TeXt is very structured, allowing you to design a document and then add text, almost without regard to the document formatting.
  \item **Eplain**
  Eplain extends Plain \TeX with indexes, tables of contents and hyperlinks, plus more. It is “style-neutral,” not forcing a typographical style on all documents.
\end{itemize}

All three, plus more, are included with the Mac\TeX 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/
There are many books on \LaTeX, including:


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


\textbf{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.

\textbf{\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.


**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 T\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, Con\TeXt 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 Con\TeXt, plus related programs like METAPOST.
http://www.tug.org/texshowcase/
Fonts and Xe\TeX{}

**Built-in Fonts**
\TeX{} comes with a set of fonts, separate from your system fonts. Using the fonts is fairly straightforward. Installing new fonts is complicated. There is a tutorial here: http://tug.org/mactex/fonts/

**Fonts in Con\TeX{}t**
Using fonts in Con\TeX{}t is fairly straightforward. You can download a fonts sampler from: http://pragma-ade.com/specials/fonts/fontspecial-s.pdf

**Xe\TeX{} from SIL**
Xe\TeX{}, 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{}. Xe\TeX{} is a Mac OS X system only and is not currently portable to other operating systems. 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/
i-Installer and i-Packages

While you received this document with a CD used to install \TeX, you can keep your installation current through i-Installer, included with your installation of \TeX for Mac OS X. Using the i-Installer allows you to keep your version of \TeX current by updating over the Internet. Updating with i-Installer downloads only what is necessary and usually does not require a complete download. For smaller updates a dial-up connection may provide sufficient bandwidth. Larger updates may require a DSL or better connection for satisfactory speed because of the size of the files—a complete installation could be more than 70 megabytes in size. For most people, updating is required only to fix bugs, of which \TeX has almost none. Updating once a year or less is probably adequate for most users.

The major mind behind this distribution of \TeX is Gerben Wierda, developer of i-Installer and most of the i-Packages used to install and update \TeX plus other software from Internet sources.

Information about Gerben’s \TeX distribution and the i-Installer are available through: http://www.rna.nl/tex.html