

Do It Yourself Tex

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<http://web.ncf.ca/en493/>

Il fait bon ne rien savoir: l'on apprend toujours.

--- French Proverb¹

Abstract

This package consists of a collection of annotated and easily modified (hence the title “Do It Yourself Tex”) forms and macro files, together with concrete examples which are intended to illustrate how *plain* XeTeX can be employed to typeset even quite complicated documents. Various files illustrate how to directly use fonts of a specified type and size, how to find Unicode glyphs and how to call them for use, how to import images, use colour etc.. Unicode tables of fonts and special glyphs (arrows, geometric shapes ...) are included and an HTML page provides direct links to font sources and further Unicode information.

A special section deals with right to left texts and the setting up of a unicode definition file which permits the input of a pointed (i.e. with the inclusion of vowel symbols) text from a Latin keyboard.

Contents

1. Raison d'être
2. Fonts and Unicode
 - Sources for Fonts and Unicode (HTML)
3. Forms and macro files
 - Images, colour and marginal notes
4. Text Samples
 - Octave (programming) manual
 - Genealogical texts
 - Canadian aboriginal syllabics
 - [N.B. Further examples are available at the above web site]
5. Right to Left Texts
 - Texts in Hebrew, Arabic and ancient semitic scripts

¹ Dournon, J.-Y. 1993. *Le Dictionnaire des proverbes et dictons de France*, Paris: Hachette, p.296

Do It Yourself Tex

6. Shell files

These include `photos2eps`, `reduce`, `bak` and `del` to quickly perform certain batch operations.

Raison d'être

I started off using plain \TeX in the 1980s and over the years I developed forms, shortcuts, font and font size definitions for use in my research books, teaching manuals, genealogical books etc.

In particular I would vary the font and the font sizes from text to text and even within a text. As an example, the present section headings are set in 14 point Libertine Roman Bold which is called by the command `\bffourteen`. This is defined in the macro file `[my_fonts.mac]` as:

```
\font\bffourteen = [ ... /MY-FONTS /LinLibertineRB.otf] at 14.0 pt
```

This definition leads to the unique directory MY-FONTS where I keep my fonts and also states the desired point size. As the need for a new font or font size arose, a simple copy and paste and a few changes sufficed to create the new definition.

The last paragraph illustrates some of the shortcuts that appear in the macro file `[format_XETEX.mac]`. Notice that where it reads “[`my_fonts.mac`]” there is a little space (in fact `\gl`) between the `[]` and “`my_fonts.mac`” and also before and after the underscore. Instead of writing the spacing commands I defined `\[, \]` and `\unl`. Further I defined `\bsl` so that I could quickly typeset the commands themselves.

At one point, I told myself that I should learn \LaTeX , but I became frustrated by the commands needed to change fonts and font sizes as well as spacings etc. It is obvious that there are some wonderful \LaTeX packages; however even for importing images (see Section 3) I found that I could do it myself by writing simple shortcuts that I could quickly modify during trials and for different purposes.

It was only last year I came across Petr Olšák's *OPmac -- macros for plain \TeX* and from it I learned how to create notes in the margin and a better way of creating tables. His manual inspired me to make my small contribution to the world of plain \TeX in the hope that it would prove useful.

My pedagogical philosophy (see e.g. the *Octave* manual in the *Text Samples* directory) has always been to aim for clarity by avoiding the most general form of a command and by providing real examples. To this effect I have often made the commands visible in the PDF output -- see `[images_colour_marginal-notes.pdf]` -- and by annotating other commands in the \TeX file.

A final point: since \XeTeX *directly* produces a PDF file (see the `\pdfpageheight` and `\pdfpagewidth` commands on `[FORM_PLAIN.tex]`) and can easily import images, everything that follows assumes the use of *plain* \XeTeX .

Do It Yourself Tex

Fonts and Unicode

XeTeX was created by Jonathan Kew in the 1990s with the idea of using Unicode based fonts. Thus, in order to facilitate the use of XeTeX, and avoid a great deal of searching for users, the directory FONTS+UNICODE contains an HTML page entitled *Sources_for Fonts and Unicode.html* which has direct links to various sites dealing with Unicode and sources of fonts. In addition there are two sub-directories; one with tables for a selection of fonts and the other some Unicode tables (e.g. arrows) which I generated.

Forms and Macro Files

[N.B. Because I work with so many TeX files I did not want to use the extension “.tex” for what I refer to as macro files. I decided to use the extension “.mac”. This, of course, can be changed to suit the user's taste.]

This directory contains the following macro files; additional information is given at the top of each file.

[format_XETEX.mac]. This contains a collection of shortcuts for spacings, special symbols, etc. that I created over the years, e.g. typing `\lbr` or `\lb` [= left brace] will produce: {.

[unicode_latin.mac]. These provide for the entry French and German accented letters without switching keyboards; e.g. typing `\ge` will produce the “e-grave” letter è. The same can be done for other languages.

[macros.mac]. These are macros with a specified text, e.g.
Typing `\infobox{This is an information box}` produces:

This is an information box

[ancestors.mac]. This is included to suggest how one can save a great deal of typing by using abbreviations for repeated items.

[additional.mac]. This contains `\printdate` and `\raggedleft` (for right to left texts).

[petr_olsak.mac]. This is a *verbatim* copy of Petr Olšák's *OPmac -- macros for plainTeX* which was renamed to clearly indicate the author. The directory also contains a copy of his manual, again with the title changed.

[my_fonts.mac]. This contains all the font definitions, e.g. `\bftwenty`

In addition the directory contains the following forms and texts.

Do It Yourself Tex

[FORM_PLAIN.tex]. This is an easily modifiable “good to go” form with all the inputs and dimensions present and in addition contains a sub-form for headers and numbering.

[letter_form.tex]. This letter form has a provision for automatically adding -- via PSTricks -- your signature.

[pstricks_examples.tex]. This illustrates how to use PSTricks to import and rotate images, adding marginal notes using [petr_olsak.mac] and adding colour via \color.

[calling_glyphs.tex]. This explains how to find glyphs and how to call them for use.

[font_size.tex]. This explains how to find the actual point values associated with a font at a given nominal value

A sub-directory contains the forms and macro files for right to left languages.

Text Samples

This section contains illustrative excerpts, with both the TeX and the corresponding PDF files, in three very different areas: a programming manual; a genealogical book and names written in Canadian aboriginal syllabics.

Right to Left Texts

A special, again ready to use form in this directory illustrates the use of the bi-directional command \bidi.

This section contains the following illustrative texts:

A Biblical text with both coded and imported Hebrew and the use of marginal notes to indicate the verse numbers and also a special feature in the text. In addition it illustrates how one switches from the right to left text to a left to right text.

A discussion of a fragment from the *Dead Sea Scrolls*. This file includes two imported images and the same text set -- via the importation of the Biblical text from a web source -- in four different fonts: “square” letters (i.e. the present day forms), two different ancient semitic letters and Samaritan (still in use).

A sample Arabic text with an imported portion of the *Quran* and the use of [petr_olsak.mac] to create a table.