1 What is this thing you Earth people call PDCMAC?

1.1 Introduction

PDCMAC is a collection of \TeX\ definition files (macro files) which may be useful for setting documents using plain \TeX\ (‘plain’ here meaning \TeX\ formats following similar conventions to those of Appendix B of the \TeXbook, as opposed to more complex formats like \LaTeX). This package is much less powerful than \LaTeX\ 2e; it is intended to be a simpler solution to simpler requirements. Because it is less complex, the macro code should be more readily adapted by other \TeX\ hackers.

The package includes a font-selection system, an output routine, general formatting macros, and ‘style files’ which input the other files and set the format for documents.

The name ‘PDCMAC’ is pronounced ‘p-d-c-mac’. In file names where case matters it is always written in all-lower-case. The fairly consistent use of a ‘pdc-’ or ‘ma-’ prefix in this and other names is intended to prevent these files clashing with files from other packages. (The ‘ma-’ files are part of the Malvern package.)

1.2 Conventions in this guide

Contents and names of computer files, and commands to be typed literally are printed in this distinctive font. Placeholders to be filled in with real file names etc. are written in this italic font.

1.3 Copying

The PDCMAC files are copyright © 1990–1995 P. Damian Cugley. They may be used in documents, and distributed as a complete package as per the GNU General Public Licence (reproduced at the end of this document).

The \text files generated by the \texttt{dtx} files are like ‘object files’; you should not distribute them without their source files (the \texttt{dtx} files).

Do not modify the generated \text files; if you must modify the macros, do this by editing the \texttt{dtx} files and running them through \TeX\ again. If you must distribute modified versions (instead of persuading me to modify my copies), help reduce the proliferation of incompatible versions by doing the following:

- describe the modifications clearly in the printed documentation;
- say who modified them in the header comments in the definition files, and change the version identifier;
- use a different name for the modified definition files.

The last point is so that documents using the unmodified versions can coexist with the ones using modified ones.

1.4 Feedback

I am very interested to hear from people who find a use for this package. Please send comments and suggestions, or reports of bugs, to the address above. If you find PDCMAC useful or amusing, please send me a pretty postcard. Thanks.
2 Unpacking and installing the files

2.1 Unpacking

Two common formats for archives are

- (on Unix) tar files, compressed using GNU zip (gzip), and
- (on MS-DOS) PKZIP-style archives.

Compressed tar files will have names like pdcmac-1.0.tar.gz or pdcmac10.tgz (the latter form is required by ISO-9660\(^1\) file systems). Unpack the package with something like

```
 zcat pdcmac10.tgz | tar -xf -
```

This generates a new directory called pdcmac-1.0.

PKZIP archives unpack files into the current directory, so they are unpacked like this:

```
 md pdcmac
 cd pdcmac
 unzip a:\pdcmac10.zip
```

assuming the zipfile is so named.

There is a list of the files in the release in the appendix.

2.2 Generating the macro files

The macro files are packaged with their documentation in \texttt{dtx}\(^2\) files; run plain TEX on each of the \texttt{dtx} files in turn to generate the macro files and the printed documentation. The resulting definition files have almost no comments in them; instead you must read the \texttt{dtx} files or the printed documentation.

The macro files are written in the current working directory. They are identical to the code lines in the printed documentation (they are generated from the same text in the \texttt{dtx} files).

There is a file \texttt{pdcmando.tex} which reads all of the \texttt{dtx} files in turn except \texttt{pdcsty.dtx} and produces one large (70+ pages) document as well as all their macro files. This is most useful if you want to make a printed listing rather than keeping \texttt{dvi} files for reading online.

2.3 Installing the files

The definition (\texttt{tex}) files belong in a directory where \LaTeX{} can find them. In the new soon-to-be-standardized file name conventions

\(^{1}\) ISO 9660 is the standard for CD-ROM file systems. Its file names are like MS-DOS file names: a sequence of 8-letter components followed by a '.', and three-letter suffix. ISO 9660 names use capital letters, but on case-sensitive operating systems these are usually transliterated to lower-case.

\(^{2}\) The \LaTeX{} \texttt{2e} distribution uses the file name suffix \texttt{dtx} for files with a similar function. Unlike the \LaTeX{} system, the \texttt{dtx} files for PDCMAC produce the printed documentation and unpack the macro files themselves using a single macro file \texttt{pdccode.tex} and a single run through plain \LaTeX{}; there are no \texttt{drv} or \texttt{ins} files.
TWG-TDS 0-61\textsuperscript{3} this is the directory $\texttt{texmf/tex/plain/pdcmac/}$.
On older systems, the files go with all the other macro files.
With TWG-TDS 0-61 the documentation goes in $\texttt{texmf/doc/plain/pdcmac/}$.
If you do not have a directory for documentation, the documentation files might as well go in the \TeX\ inputs directory as well.

2.4 Configuration on Unix systems
There is a \texttt{configure} script and makefile template included, which allows the process of unpacking to be run automatically on Unix systems.\textsuperscript{4} The remainder of this section assumes you are installing PDPCM on a Unix system.

2.5 Running \texttt{configure}
Start by running a Bourne Shell on the \texttt{configure} script, by typing `\texttt{sh configure}'. This examines your file system and attempts to guess suitable directories in which to put macro and documentation files. The \texttt{configure} script understands options listed in Table 1.

\begin{table}[h]
\centering
\begin{tabular}{|l|l|}
\hline
\textbf{Option} & \textbf{Meaning} \\
\hline
-h, --help & Print a summary of options \\
-n, --no-create & Create \texttt{config.status} but don’t run it to make \texttt{makefile}. \\
-t \texttt{dir} & Says where to find a \TeX\ directory hierarchy. For example, `-t /usr/texmf' or `-t/usr/local/lib/tex3.14/tex'. The \texttt{configure} script will often guess correctly without this option. \\
--texmf=dir & Specifies the parent of the \TeX\ directory, for example, `-p/usr' or `-p/usr/local/lib'. This is for compatibility with the GNU coding standards. \\
-p \texttt{dir} & Specify that the \TeX\ directory uses some approximation to the TWG-TDS 0-61 file name conventions. This should not be necessary as \texttt{configure} will usually guess correctly. \\
--prefix=dir & \\
--with-tds & \\
\hline
\end{tabular}
\caption{Options for \texttt{configure}. Other options are ignored.}
\end{table}

The configuration process creates a script \texttt{config.status} which records the configuration; running \texttt{config.status} generates a file \texttt{makefile}\textsuperscript{5} from the template \texttt{makefile.in}.

The \texttt{config.status} script has one option `-r (or --recheck), which re-runs \texttt{configure} with the same arguments as were used to generate \texttt{config.status}; any options following `-r are passed to \texttt{configure}.

\footnotesize
\textsuperscript{4} The configuration system is based on the GNU Coding Standards, but was written by hand rather than using Autoconf.
\textsuperscript{5} Usually a makefile is called \texttt{Makefile}, but I wanted to make the package proof against file name munging from being copied onto MS-DOS discs.
2-6 Running make

Now you can use the `make` command to unpack and install all the files. Do `make` to generate all the definition files and documentation. Then `make install` to copy the macros into \TeX's macros directory and the documentation into \TeX's documentation area (assuming there is one). The standard targets which the makefile understands are listed in Table 2.

<table>
<thead>
<tr>
<th>Command</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>make all</td>
<td>Generate all the definitions files and dvi files</td>
</tr>
<tr>
<td>make install</td>
<td>Generate the definition files and copy them in to \TeX's macro area.</td>
</tr>
<tr>
<td></td>
<td>Also copy the dvi files into \TeX's documentation area, if possible.</td>
</tr>
<tr>
<td>make uninstall</td>
<td>Delete all the files that <code>make install</code> would install.</td>
</tr>
<tr>
<td>make mostlyclean</td>
<td>Delete some files but not as many as <code>make clean</code>.</td>
</tr>
<tr>
<td>make clean</td>
<td>Delete files from the current directory that are normally created by</td>
</tr>
<tr>
<td></td>
<td><code>make all</code>. Don't delete files that could be built using the makefile</td>
</tr>
<tr>
<td></td>
<td>but which come with the distribution.</td>
</tr>
<tr>
<td>make distclean</td>
<td>Delete some more files, including those made by configuration. If you</td>
</tr>
<tr>
<td></td>
<td>have unpacked the files and generated the macro files without creating</td>
</tr>
<tr>
<td></td>
<td>any other files, this should leave only the files in the distribution.</td>
</tr>
<tr>
<td>make realclean</td>
<td>Delete files deleted <code>make distclean</code> and any others that can be re-</td>
</tr>
<tr>
<td></td>
<td>built using the makefile.</td>
</tr>
<tr>
<td>make TAGS</td>
<td>Generate a tags table file for Emacs.</td>
</tr>
<tr>
<td>make dist</td>
<td>Make a tarfile and zipfile for the package.</td>
</tr>
</tbody>
</table>

3 Using PDCMAC style files for your documents

Normally a document will start by reading one of the style files, which in turn load the various definition files. The style files are intended to be more-or-less compatible with each other. I have arbitrarily divided the style files into 'leaflets' and 'docs'.

3-1 Leaflet styles

A leaflet is only a few pages, so does not need a table of contents or division into large units. There is still a `\section` command, but it is designed for smaller divisions than the `\section` command used in 'docs' (in a leaflet, `\section` produces a heading with prominence similar to that produced by `\subsec` in a doc).

A leaflet-style document has no front matter, and so should start with some sort of heading for the title.

\input pdccmlft
\majorheadline{title} \noheadlinetrue
  \text{commands to generate the title at the top of the first page}
  \text{text of the document, perhaps using `\section' commands}
3 Using PDCMAC style files for your documents

§3 Doc styles

\bye

A doc is something larger than a leaflet but smaller than a book. It has a table of contents and numbered sections and subsections, with section titles being reproduced in the headline. There is no provision for cross-references and automatic bibliography (which require an aux file and at least two passes through \TeX).

Sections may be grouped into larger divisions I have called parts. Parts are numbered independently of sections, in upper-case roman numerals. (There is no special reason for not numbering sections within parts; I just prefer to have fewer levels of numbering, so we get ‘§12-6’ instead of ‘Subsection 4-1-6’.)

\input pdccmdoc
\part{title} —or— \majorheadline{title}
\section{title}
contents of section
more sections
\frontmatter
front matter
\endfrontmatter
\bye

3-3 Front matter

The front matter of the document—the title page, preface, forword, etc.—must be printed last, with the table of contents at the end of the front matter; this is so that the table of contents may be accumulated during the \TeX-ing of the file. The front matter starts with \frontmatter and may contain \section commands. Such sections will be unnumbered and will not appear in the table of contents.

For a short document, a separate title page is probably excessive, and an abstract may be preferable to a preface. In this case the first page after \frontmatter could have the title of the document (with author etc.) followed by an abstract, any copyright information (or other small print), and the contents (generated by \endfrontmatter). In other words, something like this:

\frontmatter
commands to print the title, etc.
\abstract
the text of the abstract
\endabstract
copyright information, etc.
\endfrontmatter

\footnote{6 It has a benefit for people reading the document with a browser: page 1 of the document is the first page of the DVI file, which makes selecting a given page easy, and the table of contents is at the very end, so the browser’s ‘go to last page’ command can be used to find the table of contents quickly.}
For a longer document, there will be a separate title page and perhaps a preface.

\frontmatter
\titlepage
   \textit{commands to print the title, etc.}
\splittitlepage
   \textit{print copyright information, etc.}
\endtitlepage
\section{Preface}
   \textit{text of preface, etc.}
\endfrontmatter

The macro \splittitlepage marks the division between the title page (title recto, page i) and the back of the title page (title verso, page ii), which is where copyright information goes. When formatting for one-sided printing, the copyright information belongs on the title recto, because the title verso will be blank, so \splittitle instead does \vfill.

3.4 New symbols

Several new symbols common to Malvern A and PostScript fonts are added (listed in Table 3). Approximations built from other glyphs are available in Computer Modern documents.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|}
\hline
\& & \texttt{\cents} & \pounds & \yen & \texttt{\florin} \\
\texttt{\currenciesymbol} & \texttt{\lguillemet} & \texttt{\rguillemet} & \texttt{\gbdecimal} \\
\texttt{\permil} & \texttt{\registered} & \texttt{\orda} & \texttt{\ordo} \\
\texttt{\section} & \texttt{\S} & \texttt{\P} & \texttt{\dag} & \texttt{\ddag} \\
\hline
\end{tabular}
\caption{New symbols}
\end{table}

The symbols in the last row are ‘new’ in the sense that they will change according to the current font when using Malvern or PostScript fonts.

The maths symbols in Table 4 will be in the current \texttt{\rm} font (fam 0) in PostScript documents.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|}
\hline
< & < & > & > & \_ & \_ \\
\texttt{\backslash} & \texttt{\setminus} & \sim & \texttt{\mid} & \texttt{\mid} \\
\textbullet & \texttt{\{[]} & \texttt{\}} & \texttt{\rbrace} \\
\hline
\end{tabular}
\caption{Maths symbols taken from Adobe’s latin character set}
\end{table}
4 Appendix

4·1 File suffixes

In this document, ‘a foo file’ refers to a file of the type conventionally given a name ending in ‘-.foo’ (using lower case because \TeX\ file names are always given in lower case). This table lists some conventional file name suffixes used for files in this package.

**Table 5** File suffixes used in this package

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Origin</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unix</td>
<td>Manual page for a program, in \texttt{nroff} format.</td>
</tr>
<tr>
<td>def</td>
<td>\LaTeX\ 2e</td>
<td>Definitions used by macro files but not expected to be referred to directly in user documents.</td>
</tr>
<tr>
<td>dtx</td>
<td>\LaTeX\ 2e</td>
<td>Documented \TeX\ macros—a file which combines macro definitions with their printed documentation.</td>
</tr>
<tr>
<td>fig</td>
<td>Fig</td>
<td>A picture file in Fig’s undocumented format.</td>
</tr>
<tr>
<td>fnt</td>
<td>PDCMAC</td>
<td>Font list—a list of fonts used in a document, generated by the PDCFSEL macros.</td>
</tr>
<tr>
<td>in</td>
<td>GNU</td>
<td>Template for a configuration file—when using the \texttt{configure} script, the file \texttt{foo} is generated from the template \texttt{foo.in}.</td>
</tr>
<tr>
<td>tex</td>
<td>\TeX\</td>
<td>(1) A plain \TeX\ document. (2) A plain \TeX\ definition file.</td>
</tr>
<tr>
<td>tgz</td>
<td>GNU</td>
<td>A Unix \texttt{tar} archive, compressed with GNU \texttt{zip}. (Same as \texttt{tar.gz}).</td>
</tr>
<tr>
<td>txt</td>
<td>traditional</td>
<td>Plain ASCII text, readable on the terminal.</td>
</tr>
<tr>
<td>zip</td>
<td>?PKZIP</td>
<td>An MS-DOS PKZIP archive.</td>
</tr>
</tbody>
</table>

4·2 List of files

Here is a list of files supplied with the package. A list of the files generated from these—the definition files, used in documents—form the next section.

All the names are chosen so that they may be copied onto, say, an ISO 9660\textsuperscript{7} or MS-DOS file system and back to a sensible file system without the names being changed.

**Table 6** Files supplied in the package

<table>
<thead>
<tr>
<th>File</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>\texttt{readme.txt}</td>
<td>Brief description of the package.</td>
</tr>
<tr>
<td>\texttt{configure}</td>
<td>A shell script used to automatically configure the makefile for Unix systems. (This is an unavoidable exception to the rule that names are ISO-9660-compatible.)</td>
</tr>
</tbody>
</table>

\textsuperscript{7} See note 1 on page 2.
copying.tex A copy of the GNU General Public Licence, in \TeX{}able form.
copying.txt A copy of the GNU General Public Licence.
dtxtags Shellscript for making tag files in \texttt{etags}(1) format.
dttxtags.1 A Unix manual entry for \texttt{dtxtags}.\footnote{This (and three more shellscripts used in the makefile) are not intended to be installed anywhere, but I included manual pages just in case they are—or in case the installer is curious as to what these scripts do.}
fig2epsf A Unix shellscript that converts figures from Fig’s format into Encapsulated PostScript Format (EPSF) version 3.0 files. It uses \texttt{fig2dev} (from the TransFig package) to do most of the work. (It munges the PostScript code produced by \texttt{fig2dev} 2.1.4.1 so that it will print and will work with Ghostview.)
fig2epsf.1 A Unix manual page for \texttt{fig2epsf}.
install.txt Installation hints.
makefile.in Template from which the configuration process generates a makefile, used by Unix’s \texttt{make} command to automate compilation and installation. Should be called \texttt{Makefile.in} but that’s not ISO-9660-compliant.
magrmac.dtx Documentation for Malvern Greek macros. This replaces the file \texttt{magrmac.tex} included in Malvern release 1.2.
magrman.tex Brief user manual for \texttt{magrmac.tex}. This replaces the version distributed with Malvern 1.2. It requires some Malvern G fonts.
oput01.eps oput02.eps Diagrams for \texttt{pdcoput5.dtx}.\footnote{The second edition of the \textit{PostScript Language Reference Manual} says these should be called ‘\texttt{-.epsf}’, but such names are not ISO-9660-compliant, so I have switched to ‘\texttt{-.eps}’.}
oput01.fig oput02.fig Source code for the above figures (Fig format).
pd cadobe.dtx Source code and documentation for \texttt{pd cadobe.tex}.
pd code.dtx Source code and documentation for \texttt{pd code.tex}.
pd code.tex Macros used by \texttt{dtx} files. This file has to be included because \texttt{pd code.dtx} can’t be \TeX{}-ed without it.

\texttt{pd code2.tex} An experimental variation allowing multiple simultaneous code files.
pd cfmt2.dtx Source code and documentation for formatting macros.
pd cfsel.dtx Source code and documentation for font selection macros.
pd guide.dvi A copy of the user guide, already run through \TeX{}.
pdg ui de.tex This user guide for PDCMAC.
pdclmaa.dtx Source code and documentation for \texttt{pdclmaa.tex}.
pdcmacvnr.tex Version number for the whole package.
pd cmisc.dtx Source code and documentation for some small macro files.
pdcmondo.tex Makes a combined listing of all the \texttt{dtx} files (except \texttt{pd c sty.dtx}).
pdconput5.dtx Source code and documentation for an output routine.
pdcsty.dtx  Source code and documentation for style files (pdccmdoc.tex, ma55doc.tex, etc.).

pinstall  A Unix shellscript that substitutes for the install command on systems which don’t have GNU install.\footnote{I am not going to bother trying to make a makefile that will work with all the different versions of install, since there is no easy way to tell them apart and they are mutually incompatible.}

pinstall.1  A Unix manual page for pinstall.

pmkdir  A Unix shellscript used to create a directory. Unlike plain mkdir, it creates parent directories of the specified directory if they do not exist. This would be called pmkdirhier but that name is not ISO-9660-compliant.

pmkdir.1  A Unix manual page for pmkdir.

version.txt  List of the version identifiers of the dtx files and the shellscripts that come with the package.

4.3  List of definition files

The following files are the ones that are intended to go in the \TeX inputs area and to be used in documents. Here a \textit{macro file} is simply a file of \TeX definitions; a \textit{style file} is a higher-level definition file that specifies most of the things that affect the style of a document (layout, fonts, macros, etc.). Style files start by reading a bunch of macro files.

\begin{table}[h]
\centering
\begin{tabular}{|l|l|}
\hline
\textbf{File} & \textbf{Contents} \\
\hline
ma55doc.tex & Style file for short documents with Malvern 55 as the text font. A table of contents and page headlines are generated automatically. \\
ma55lft.tex & Style file for very short documents with Malvern 55 as the text font. ‘Leaflet’-class documents have no table of contents. \\
magrmac.tex & Macros for typesetting in Greek with Malvern fonts (or any font with the Malvern G encoding). There is a brief user’s guide in magrman.tex. \\
pdcadobe.tex & Support for fonts with the Adobe Standard Roman and Adobe Symbol repertoires\footnote{The \textit{repertoire} of an encoding scheme is the set of characters/glyphs it includes. Since PostScript fonts may be easily re-encoded, repertoire is more significant then the actual encoding.} in the \texttt{dvi} file, and ISO 8859–1 (Latin-1) conventions in the manuscript file. The output encoding actually used is that variation on \TeX Text generated by the \texttt{afm2tfm} that comes with DVIPS. Newer \TeX systems should instead use PostScript fonts with (a subset of) the 1990 Cork encoding.\footnote{Variously called ‘DC’, ‘EC’, ‘T1’, and ‘\TeX Extended Text—Latin’, and described in \textit{TUGboat} 10#4.} This file actually combines two functions: (1) making the various symbols available via commands like \texttt{\textbackslash pounds} and (2) making Latin-1 characters\texttt{}.
\hline
\end{tabular}
\caption{Files generated from the dtx files.}
\end{table}
in the manuscript produce corresponding characters in the output. Described in `pdcadobe.dtx`.

**pdcmdoc.tex**  
Style file for short documents with Computer Modern Roman as the text font. A table of contents and page headlines are generated automatically.

**pdcmlft.tex**  
Style file for very short documents with Computer Modern Roman as the text font. ‘Leaflet’-class documents have no table of contents.

**pdcfmt2.tex**  
Macros for formatting text—bulleted and numbered lists, syntax descriptions, verbatim text, headings, etc. Most of the facilities used by the style files come from this file.

**pdcfsel.tex**  
Macros for selecting fonts. Fonts are organized into *fontsets* (selected with macros with names like \texttt{\textbackslash bodyfonts}) in which fonts are selected with nicknames like \texttt{\textbackslash it}, \texttt{\textbackslash bf} (specified at the start of the document using template macros).

**pdchyex.tex**  
Some random British English hyphenation exceptions (developed while I was using American English hyphenation patterns). You may not want to use this. Described in `pdcmisc.dtx`.

**pdcimth.tex**  
Make letters in maths formulas come out in text italic instead of math italic. Useful if the body font isn’t CMR, or if multiple-letter identifiers are used. Described in `pdcmisc.dtx`.

**pdcl1maa.tex**  
Support for documents with using the ISO 8859–1 (Latin-1) character set in the manuscript file and fonts with Malvern A encoding in the *dvi* file. Described in `pdcl1maa.dtx`.

**pdcmsub.tex**  
Define some Malvern A and PostScript glyphs (like \texttt{Y}, \texttt{@}) by over-printing CM glyphs. Described in `pdcmisc.dtx`.

**pdcmigr.tex**  
Make Greek capitals in maths mode use math italic (fam 1) letters instead of letters from the roman font. Especially useful when there are no Greek caps in the roman font. Described in `pdcmisc.dtx`.

### 4.4 Obsolete files

The following macro files were included with the Malvern 1.0 distribution, but were not intended to be installed. Nevertheless they appear to have been copied into some older versions of the Unix\TeX{} distribution. They are obsolete, and their successors have new names (intended to reduce the chance of accidental clashes). I’d appreciate people removing them from their \TeX{} systems.

```
formac.tex parmac.tex utils.tex ssoutput.tex
ldfonts.tex malvern.tex cmdoc.tex
```

The following documents are similarly obsolete and should not be in the macros directory anyway.

```
aboutmalvern.tex latexfmv.tex
```

The following macro files have the new-style names, but are superseded by PDCMAC 1.0 files. You are not required to remove then
if you have documents using them. Fortunately, they appear not to have been absorbed by the Unix\TeX{} distribution anyway.

```
pdcfmt.tex  pdcpars.tex  pdcutil.tex  pdcoput.tex
```

The new versions will have the major number of their version ID appended to their names (e.g., `pdcfmt2.tex`), and this way new and old versions may coexist, allowing older documents to still be processed by \TeX{}. The functionality of `pdcpars.tex` and `pdcfmt.tex` have been taken over by `pdcfmt2.tex`.

### 4.5 GNU General Public License\(^\text{13}\)

Version 2, June 1991

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**P D C M A C User Guide**

Edition 1 for Release 1.0.01

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Abstract  
PDCMAC is a collection of macro files intended to be useful with TeX formats with similar conventions to those described in the *TeXbook*. This document describes how to unpack the files and use them in TeX documents.

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